**APPENDIX 2-5: Rejected ECOTOX Bibliography**

DIAZINON (Updates Oct-Dec. 2006)

Papers that Were Excluded from ECOTOX

Abdel-Halim, K. Y., Salama, A. K., El-khateeb, E. N., and Bakry, N. M. (2006). **<04 Article Title>.**  *Chemosphere* 63: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Aberg, B. Plant Growth Regulators. XXXV. Benzodiazolyl-, Benzotriazolyl-, Benzothiazolyl-Alkyl-Carboxylic Acids and Some Related Compounds. Swed.J.Agric.Res. 8, 125-132. 1978.   
Rec #: 240  
Keywords: NO DURATION

Ageda, Saori, Fuke, Chiaki, Ihama, Yoko, and Miyazaki, Tetsuji (2006). **<04 Article Title>.**  *Legal Medicine* 8: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Allender, W. J. & Britt, A. G. Analyses of Liquid Diazinon Formulations and Breakdown Products: An Australia-Wide Survey. Bull.Environ.Contam.Toxicol. 53, 902-906. 1994. 22613.   
Rec #: 580  
Keywords: NO TOX DATA/SURVEY

Amato, J. R., Mount, D. I., Durhan, E. J., Lukasewycz, M. T., Ankley, G. T., & Robert, E. D. An Example of the Identification of Diazinon as a Primary Toxicant in an Effluent. Environ.Toxicol.Chem. 11[2], 209-216. 1992.   
Rec #: 460  
Keywords: EFFLUENT/MIXTURE

Anjum, F. & Siddiqui, M. K. J. In Vitro Inhibition of Fish (Tilapia mossambica) Brain Ca2+ -ATPase by Monocrotophos, Dimethoate, Diazinon and DDT. Indian J.Exp.Biol. 28, 488-489. 1990. 22612.   
Rec #: 420  
Keywords: IN VITRO

Anonymous . Diazinon. In: Tech.Bull., CIBA-BEIGY, Agric.Div., Ardsley, NY , 10 p. 1972.   
Rec #: 130  
Keywords: NO CITATION/REVIEW

Arienzo, M., Crisanto, T., Sanchez-Martin, M. J., & Sanchez-Camazano, M. Effect of Soil Characteristics on Adsorption and Mobility of (14C)Diazinon. J.Agric.Food Chem. 42[8], 1803-1808. 1994. 22610.   
Rec #: 550  
Keywords: NO SPECIES

Arienzo, M., Sanchez-Camazano, M., Sanchez-Martin, M. J., & Crisanto, T. Influence of Exogenous Organic Matter in the Mobility of Diazinon in Soils. Chemosphere 29[6], 1245-1252. 1994. 22611.   
Rec #: 560  
Keywords: NO SPECIES

Arzone, A. & Patetta, A. Researches on the Action of Azinphos-Methyl, Diazinon, Dithianon, Hexythiazox, Omethoate, and Propargite on Honeybees (Esame Dell'azione Sull'ape di Azinphosmethyl, Diazinon, Dithianon, Hexythiazox, Omethoate e Propargite. Apic.Mod. 80, 253-261 (POR) (ENG ABS). 1989.   
Rec #: 400  
Keywords: NON-ENGLISH

Azmi, M. Ahmed, Naqvi, S. N. H., Azmi, M. Arshad , and Aslam, M. (2006). **<04 Article Title>.**  *Chemosphere* 64: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Badawy, M. I., Ghaly, Montaser Y., and Gad-Allah, Tarek A. (2006). **<04 Article Title>.**  *Desalination* 194: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Bailey, H. C., Deanovic, L., Reyes, E., Kimball, T., Larson, K., Cortright, K., Connor, V., & Hinton, D. E. Diazinon and Chlorphyrifos in Urban Waterways in Northern California, USA. Environ.Toxicol.Chem. 19[1], 82-87. 2000.   
Rec #: 740  
Keywords: EFFLUENT

Beavis, C., Simpson, P., Syme, J., & Ryan, C. Chemicals for the Protection of Fruit and Nut Crops. Queensland Dep.of Primary Ind.Info.Ser.No.QI91004, Infopest: Chemicals for the Protection of Field Crops, Forage Crops, and Pastures, 2nd Edition, Brisbane, Queensland, Australia , 312 p. 1991.   
Rec #: 440  
Keywords: NO TOX DATA

Beavis, C., Simpson, P., Syme, J., & Ryan, C. Chemicals for the Protection of Ornamentals and Turf. Queensland Dep.of Primary Ind.Info.Ser.No.QI91003, Infopest: Chemicals for the Protection of Field Crops, Forage Crops, and Pastures, 2nd Edition, Brisbane, Queensland, Australia , 312 p. 1991.   
Rec #: 450  
Keywords: NO TOX DATA

Beavis, C., Simpson, P., Syme, J., & Ryan, C. Chemicals for the Protection of Vegetable Crops. Queensland Dep.of Primary Ind.Info.Ser.No.QI91005, Infopest: Chemicals for the Protection of Field Crops, Forage Crops, and Pastures, 2nd Edition, Brisbane, Queensland, Australia , 312 p. 1991.   
Rec #: 430  
Keywords: NO TOX DATA

Blank, R. H., Olson, M. H., Tomkins, A. R., Greaves, A. J., Waller, J. E., & Pulford, W. M. Phytotoxicity Investigations of Mineral Oil and Diazinon Sprays Applied to Kiwifruit in Winter-Spring for Armoured Scale Control. N.Z.J.Crop Hortic.Sci. 22[2], 195-202. 1994.   
Rec #: 530  
Keywords: MIXTURE

Bruneau, A. H., Watkins, J. E., & Brandenburg, R. L. Integrated Pest Management. In: D.V.Waddington, R.N.Carrow, and R.C.Shearman (Eds.), Agronomy No.32, Turfgrass, Am.Soc.of Agron.Inc., Crop Sci.Soc.of Am., Soil Sci.Soc.of Am.Inc., Madison, WI , 501-534. 1992.   
Rec #: 470  
Keywords: REVIEW

Burkhard, L. P. & Jenson, J. J. Identification of Ammonia, Chlorine, and Diazinon as Toxicants in a Municipal Effluent. Arch.Enivron.Contam.Toxicol. 25, 506-515. 1993. 22609.   
Rec #: 500  
Keywords: EFFLUENT

Caldas, E., Jardim, A., Ambrus, A., and Souza, L. C. (2006). **<04 Article Title>.**  *Food addit contam. 2006, feb; 23(2):148-58. [Food additives and contaminants.]: Food Addit Contam* <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Carpenter, W. J. & Dilley, D. R. A Benzothiadiazole Extends Cut Carnation Flower Life. Hortscience 8[4], 334-335. 1973.   
Rec #: 170  
Keywords: IN VITRO

Collins, W. J. German Cockroach Resistance: Propoxur Selection Induces the Same Resistance Spectrum as Diazinon Selection. Pestic.Sci. 7, 171-174. 1976.   
Rec #: 210  
Keywords: NO DURATION

Coste, Virginie, Puff, Nicolas, Lockau, Daniel, Quinn, Peter J., and Angelova, Miglena I. (2006). **<04 Article Title>.**  *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1758: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Cox, C. Diazinon: Ecological Effects and Environmental Contamination. J.Pestic.Reform 20[3], 14-20. 2000. Northwest Coalition for Alternatives to Pesticides/NCAP, P.O. Box 1393, Eugene, Oregon 97440, USA.   
Rec #: 760  
Keywords: REVIEW

Darvas, B., Jaszberenyi, J. C., Timar, T., & Fonagy, A. Toxic Activity of 2,2-Dimethyl-3,4-Dichloro and 2,2-Dimethyl-[1,2,3]-Selenadiazolo-Chromenes on Pieris brassicae and Leptinotarsa decemlineata Larvae. J.Pestic.Sci. 18[3], 277-280. 1993.   
Rec #: 520  
Keywords: NO DURATION

Delhom, N., Balanant, Y., Ader, J. C., & Lattes, A. High Performance Liquid Chromatographic Determination of Diazinon in Polymeric Matrix. J.Liq.Chrom.& Rel.Technol. 19[11], 1735-1743. 1996. 22607.   
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Keywords: NO SPECIES/NO TOX DATA

Do&#287 and An, S. (2006). **<04 Article Title>.**  *J Hazard Mater* 132: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Dutta, H. M., Munshi, J. S. D., Ray, P. K., Singh, N. K., & Motz, L. Normal and Diazinon Exposed Gill Structure Changes in Bluegills, Lepomis macrochirus: A Scanning Electron Microscopic Study. J.Morphol. 220, 343-344. 1994.   
Rec #: 540  
Keywords: ABSTRACT

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Rec #: 370  
Keywords: REVIEW

Endo, S., Mintarsih, T. H., & Kazano, H. Disappearance of Diazinon, Isoxathion and Cartap Applied to Rice Plant. Proc.Assoc.Plant Prot.Kyushu 31, 115-118 (JPN) (ENG ABS). 1985.   
Rec #: 350  
Keywords: NON-ENGLISH

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Rec #: 680  
Keywords: NO TOX DATA

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Rec #: 310  
Keywords: BACTERIA

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Rec #: 220  
Keywords: FATE

Fujii, Y. & Asaka, S. Metabolism of Diazinon in Fish Liver Preparations. Bull.Environ.Contam.Toxicol. 29, 455-460. 1982.   
Rec #: 330  
Keywords: IN VITRO/METABOLISM

Getzin, L. W. Metabolism of Diazinon and Zinophos in Soils. J.Econ.Entomol. 60, 505-508. 1967. 19266.   
Rec #: 60  
Keywords: METABOLISM

Getzin, L. W. & Rosefield, I. Persistence of Diazinon and Zinophos in Soils. J.Econ.Entomol. 50, 512-516. 1966. 19268.   
Rec #: 50  
Keywords: NO TOX DATA

Glass, P. W., Jordan, B. L., Mancini, J. L., & Mathews, J. WET Testing Faces Diazinon Dilemma. Water Environ.Technol. 29-30. 1995. 22606.   
Rec #: 610  
Keywords: EFFLUENT

Glotfelty, D. E., Schomburg, C. J., Mcchesney, M. M., Sagebiel, J. C., & Seiber, J. N. Studies of the Distribution, Drift, and Volatilization of Diazinon Resulting from Spray Application to a Dormant Peach Orchard. Chemosphere 21[10-11], 1303-1314. 1990.   
Rec #: 410  
Keywords: NO TOX DATA

Gomaa, H. M., Suffet, I. H., & Faust, S. D. Kinetics of Hydrolysis of Diazinon and Diazoxon. Residue Rev. 29, 171-190. 1969.   
Rec #: 100  
Keywords: NO SPECIES

Gomez-Gutierrez, Anna I., Jover, Eric, Bodineau, Laurent, Albaiges, Joan, and Bayona, Josep M. (2006). **<04 Article Title>.**  *Chemosphere* 65: <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Guinn, R., Coulter, J., & Dickson, K. Use of a Constructed Wetland to Reduce Diazinon Toxicity in a Municipal Wastewater Effluent. Proc.24th Water for Texas Conf., Texas Water Resour.Inst. 1995.   
Rec #: 590  
Keywords: EFFLUENT

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Rec #: 720  
Keywords: NO DURATION

Gunner, H. B. & Zuckerman, B. M. Degradation of `Diazinon' by Synergistic Microbial Action. Nature 217, 1183-1184. 1968. 19272.   
Rec #: 70  
Keywords: BACTERIA

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Rec #: 270  
Keywords: IN VITRO

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Hoffman, D. G., Emmerson, J. L., & Morton, D. M. Dose- and Age-Dependent Metabolic Disposition of the Herbicide 1-(5-Tert-Butyl-1,3,4-Thiadiazol-2-yl)-1,3-Dimethylurea in the Rat. Toxicol.Appl.Pharmacol. 33, 158 (ABS). 1975.   
Rec #: 200  
Keywords: ABSTRACT

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Rec #: 150  
Keywords: IN VITRO/METABOLISM

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Rec #: 380  
Keywords: METHODS/QSAR

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Iida, T., Senoo, S., Sato, Y., Nicolaus, B., Wakabayashi, K., & Boeger, P. Isomerization and Peroxidizing Phytotoxicity of Thiadiazolidine-Thione Compounds. Z Naturforsch Sect C Biosci 50[3/4], 186-192. 1995. 1722.   
Rec #: 600  
Keywords: NO DURATION

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Rec #: 30  
Keywords: REVIEW

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Rec #: 780  
Keywords: NO TOX DATA

Jenkins, D., Klein, S. A., Yang, M. S., Wagenet, R. J., & Biggar, J. W. The Accumulation, Translocation and Degradation of Biocides at Land Wastewater Disposal Sites: the Fate of Malathion, Carbaryl, Diazinon and 2,4-D Butoxyethyl Ester. Water Res. 12, 713-723. 1978.   
Rec #: 250  
Keywords: FATE/NO SPECIES

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Rec #: 620  
Keywords: IN VITRO/METABOLISM

Kolpin, D. W., Thurman, E. M., Lee, E. A., Meyer, M. T., Furlong, E. T., and Glassmeyer, S. T. ( **<04 Article Title>.**  *Sci total environ. 2006, feb 1; 354(2-3):191-7. [The science of the total environment.]: Sci Total Environ* <25 Page(s)>; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Kratzer, C. R. Transport of Diazinon in the San Joaquin River Basin, California. J.Am.Water Res.Assoc. 35, 379-395. 1999.   
Rec #: 730  
Keywords: EFFLUENT

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Rec #: 770  
Keywords: REVIEW

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Keywords: NO SPECIES

Ku, Y., Chang, J., Shen, Y., & Lin, S. Decomposition of Diazinon in Aqueous Solution by Ozonation. Water Res. 32, 1957-1963. 1998.   
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Keywords: NO SPECIES

Kuivila, K. M. Diazinon Concentrations in the Sacramento and San Joaquin Rivers and San Francisco Bay, California, January 1993. U.S.Geological Survey, Open-File Report 93-440 , 7. 1993. 22585.   
Rec #: 490  
Keywords: NO DURATION/SURVEY

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Keywords: SURVEY

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Malone, C. R. Effects of Diazinon Contamination on an Old-Field Ecosystem. Am.Midl.Nat. 82[1], 1-27. 1969.   
Rec #: 80  
Keywords: NO TOX DATA

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Margot, A. & Gysin, H. Diazinon, seine Zersetzungsprodukte und ihre Eigenschaften. Helv.Chim.Acta 40, 1562-1573 (GER). 1957.   
Rec #: 40  
Keywords: NON-ENGLISH

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Rec #: 230  
Keywords: REVIEW

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Rec #: 180  
Keywords: HUMAN HEALTH

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Rec #: 390  
Keywords: EFFLUENT

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Keywords: FISH/NO SOURCE

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Keywords: NON-ENGLISH

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Keywords: NO DURATION

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Rec #: 140  
Keywords: MIXTURE/NON-ENGLISH

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Keywords: NO SPECIES

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Keywords: ABSTRACT

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Rec #: 510  
Keywords: FATE/NO SPECIES/NO TOX DATA

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Rec #: 790  
Keywords: REVIEW

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Keywords: FATE/NO TOX DATA

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Keywords: ABSTRACT

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Keywords: HUMAN HEALTH

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Keywords: HUMAN HEALTH

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Database: CAPLUS  
Accession Number: AN 1992:475787  
Chemical Abstracts Number: CAN 117:75787  
Section Code: 60-6  
Section Title: Waste Treatment and Disposal  
CA Section Cross-References: 5  
Document Type: Journal  
Language: written in English.  
Index Terms: Standards (for pesticide wastewaters and wastewater treatment); Wastewater (from pesticide manuf., stds. for); Wastewater treatment (in pesticide manuf., stds. for); Herbicides; Insecticides; Pesticides (wastewater compn. and treatment in manuf. of, stds. for); Pyrethrins and Pyrethroids Role: MSC (Miscellaneous), PREP (Preparation) (wastewater compn. and treatment in manuf. of, stds. for); Quaternary ammonium compounds Role: MSC (Miscellaneous), PREP (Preparation) (benzyl-C12-16-alkyldimethyl, chlorides, wastewater compn. and treatment in manuf. of, stds. for)  
CAS Registry Numbers: 78-87-5; 95-57-8; 105-67-9; 120-83-2; 124-48-1; 156-60-5; 542-75-6 Role: OCCU (Occurrence) (of wastewater from pesticide manuf., stds. for); 56-23-5; 57-12-5 (Cyanide); 67-66-3; 71-43-2 (Benzene); 71-55-6; 74-87-3; 75-09-2; 75-25-2; 75-27-4; 75-35-4; 91-20-3 (Naphthalene); 100-41-4; 107-06-2; 108-88-3; 108-90-7; 108-95-2 (Phenol); 127-18-4; 7439-92-1 (Lead) Role: MSC (Miscellaneous) (of wastewater from pesticide manuf., stds. for); 7439-97-6DP (Mercury); 7440-31-5DP (Tin); 7440-38-2DP (Arsenic); 7440-43-9DP (Cadmium); 7440-50-8DP (Copper) Role: IMF (Industrial manufacture), PREP (Preparation) (pesticidal, wastewater from manuf. of, stds. for); 13684-56-5P Role: IMF (Industrial manufacture), PREP (Preparation) (wastewater compn. and treatment in manuf. of, stds. for); 51-03-6P (Piperonyl butoxide); 52-68-6P; 52-85-7P (Famphur); 55-38-9P (Fenthion); 56-38-2P (Parathion); 56-72-4P (Coumaphos); 58-36-6P (10,10'-Oxybisphenoxarsine); 58-89-9P (Lindane); 60-51-5P; 62-73-7P (Dichlorvos); 62-74-8P (Sodium monofluoroacetate); 63-25-2P (Carbaryl); 66-81-9P (Cycloheximide); 70-30-4P (Hexachlorophene); 72-20-8P (Endrin); 72-43-5P (Methoxychlor); 72-56-0P (Perthane); 74-83-9P (Methylbromide); 75-60-5DP (Cacodylic acid); 75-60-5P (Cacodylic acid); 75-99-0DP (Dalapon); 75-99-0P (Dalapon); 76-06-2P (Chloropicrin); 76-44-8P (Heptachlor); 78-34-2P (Dioxathion); 78-48-8P (DEF); 79-09-4P (Propionic acid); 81-81-2DP (Warfarin); 81-81-2P (Warfarin); 82-66-6P (Diphacinone); 82-68-8P (Pentachloronitrobenzene); 83-26-1P (Pindone); 83-79-4P (Rotenone); 85-34-7DP (Fenac); 85-34-7P (Fenac); 86-50-0P (Azinphos methyl); 87-86-5DP (Pentachlorophenol); 87-86-5P (Pentachlorophenol); 88-85-7P (Dinoseb); 91-53-2P (Ethoxyquin); 92-52-4P (Biphenyl); 92-84-2P (Phenothiazine); 93-65-2DP (MCPP); 93-65-2P (MCPP); 93-72-1DP; 93-72-1P; 93-76-5DP (2,4,5-T); 94-74-6DP (MCPA); 94-74-6P (MCPA); 94-75-7DP; 94-75-7P; 94-81-5DP (MCPB); 94-81-5P (MCPB); 94-82-6DP (2,4-DB); 94-82-6P (2,4-DB); 95-06-7P (Sulfallate); 95-50-1P (o-Dichlorobenzene); 96-12-8P (DBCP); 97-23-4P (Dichlorophene); 99-30-9P (Dichloran); 101-05-3P (Anilazine); 101-10-0DP; 101-10-0P (Cloprop); 101-21-3P; 106-46-7P; 106-93-4P (EDB); 112-56-1P (Lethane 384); 113-48-4P (MGK 264); 114-26-1P (Propoxur); 115-29-7P (Endosulfan); 115-32-2P; 115-90-2P (Fensulfothion); 116-06-3P (Aldicarb); 117-52-2DP; 117-52-2P (Coumafuryl); 117-80-6P (Dichlone); 120-36-5DP (Dichlorprop); 120-36-5P (Dichlorprop); 120-51-4P (Benzyl benzoate); 120-62-7P (Sulfoxide); 121-21-1P (Pyrethrin I); 121-29-9P (Pyrethrin II); 121-54-0P (Benzethonium chloride); 121-75-5P (Malathion); 122-14-5P (Fenitrothion); 122-34-9P (Simazine); 122-39-4P (Diphenylamine); 122-42-9P (Propham); 122-88-3DP; 122-88-3P; 123-33-1P (Maleic hydrazide); 124-58-3DP (Methylarsonic acid); 128-03-0P (Busan 85); 128-04-1P (Carbam S); 132-66-1DP (Naptalam); 132-66-1P (Naptalam); 133-06-2P (Captan); 133-07-3P (Folpet); 133-90-4DP (Chloramben); 133-90-4P (Chloramben); 134-31-6P; 134-62-3P (Deet); 136-45-8P (MGK 326); 137-26-8P (Thiram); 137-30-4P (Ziram); 137-42-8P (Vapam); 138-93-2P (Nabonate); 139-40-2P (Propazine); 140-41-0P (Monuron TCA); 141-66-2P (Dicrotophos); 142-59-6P (Nabam); 145-73-3DP (Endothall); 145-73-3P (Endothall); 148-79-8P (Thiabendazole); 150-50-5P (Merphos); 150-68-5P (Monuron); 155-04-4P; 298-00-0P (Parathion methyl); 298-02-2P (Phorate); 298-04-4P (Disulfoton); 299-84-3P (Ronnel); 300-76-5P (Naled); 301-12-2P (Oxydemeton methyl); 314-40-9P (Bromacil); 315-18-4P (Mexacarbate); 330-54-1P (Diuron); 330-55-2P (Linuron); 333-41-5P (Diazinon); 470-90-6P (Chlorfenvinphos); 502-55-6P (EXD); 510-15-6P (Chlorobenzilate); 533-74-4P (Dazomet); 534-52-1P (DNOC); 563-12-2P (Ethion); 569-64-2P (Malachite green); 575-89-3P (2,4,6-T); 584-79-2P (Allethrin); 640-19-7P (Fluoroacetamide); 709-98-8P; 732-11-6P (Phosmet); 741-58-2P; 759-94-4P (EPTC); 834-12-8P (Ametryn); 886-50-0P (Terbutryn); 944-22-9P (Fonofos); 950-37-8P (Methidathion); 957-51-7P (Diphenamid); 1071-83-6DP (Glyphosate); 1071-83-6P (Glyphosate); 1114-71-2P (Pebulate); 1134-23-2P (Cycloate); 1322-20-9P (Phenylphenol); 1399-80-0P (Hyamine 2389); 1563-66-2P (Carbofuran); 1582-09-8P (Trifluralin); 1610-18-0P (Prometon); 1689-84-5P (Bromoxynil); 1689-99-2P (Bromoxynil octanoate); 1861-32-1P (DCPA); 1861-40-1P (Benfluralin); 1897-45-6P (Chlorothalonil); 1912-24-9P (Atrazine); 1918-00-9DP (Dicamba); 1918-00-9P (Dicamba); 1918-02-1DP (Picloram); 1918-02-1P (Picloram); 1918-16-7P (Propachlor); 1929-77-7P (Vernolate); 1940-43-8P (Tetrachlorophene); 1982-47-4P (Chloroxuron); 1982-49-6P (Siduron); 2008-41-5P (Butylate); 2032-59-9P (Aminocarb); 2032-65-7P (Methiocarb); 2104-64-5P (Santox); 2164-17-2P (Fluometuron); 2212-67-1P (Molinate); 2227-17-0P (Dienochlor); 2303-17-5P (S-(2,3,3-Trichloroallyl) diisopropylthiocarbamate); 2310-17-0P (Phosalone); 2312-35-8P; 2425-06-1P (Captafol); 2439-01-2P; 2439-10-3P (Dodine); 2439-99-8P (Glyphosine); 2491-38-5P (Busan 90); 2593-15-9P (Etridiazole); 2675-77-6P (Chloroneb); 2686-99-9P (Landrin-1); 2921-88-2P (Chlorpyrifos); 3244-90-4P (Aspon); 3383-96-8P (Temephos); 3566-10-7P (Diammonium ethylenebisdithiocarbamate); 3689-24-5P (Sulfotepp); 3691-35-8P (Chlorophacinone); 4080-31-3P (Dowicil 75); 4849-32-5P (Karbutilate); 5333-99-3P (N-1-Naphthylphthalimide); 5598-13-0P (Chlorpyrifos methyl); 5902-51-2P (Terbacil); 5915-41-3P (Terbutylazine); 6317-18-6P (Nalco D 2303); 7166-19-0P (Giv-gard); 7287-19-6P (Prometryn); 7696-12-0P (Tetramethrin); 7700-17-6P (Crotoxyphos); 7779-27-3P (Vancide TH); 7786-34-7P; 8001-35-2P (Toxaphene); 8018-01-7P (Mancozeb); 8065-48-3P (Demeton); 9006-42-2P (Metiram); 10265-92-6P (Methamidophos); 10380-28-6P (Bioquin); 10453-86-8P (Resmethrin); 12122-67-7P (Zineb); 12407-86-2P (Landrin); 12427-38-2P (Maneb); 12789-03-6P (Chlordane); 13071-79-9P (TErbufos); 13171-21-6P (Phosphamidon); 13194-48-4P (Ethoprop); 13590-97-1P (Metasol DGH); 13684-63-4P (Phenmedipham); 14484-64-1P (Ferbam); 15299-99-7P (Napropamide); 15339-36-3P (Manganous dimethyldithiocarbamate); 15972-60-8P (Alachlor); 16752-77-5P (Methomyl); 17804-35-2P (Benomyl); 18530-56-8P (Norea); 19044-88-3P (Oryzalin); 21087-64-9P (Metribuzin); 21564-17-0P (TCMTB); 21725-46-2P (Cyanazine); 22224-92-6P (Fenamiphos); 22248-79-9P (Stirofos); 22781-23-3P (Bendiocarb); 22936-75-0P (Belclene 310); 23135-22-0P (Oxamyl); 23184-66-9P (Butachlor); 23564-05-8P (Thiophanate methyl); 23564-06-9P (Thiophanate ethyl); 23950-58-5P (Pronamide); 24579-73-5P (Propamocarb); 25057-89-0P (Bentazon); 25155-18-4P (Methylbenzethonium chloride); 25167-83-3DP (Tetrachlorophenol); 25167-83-3P (Tetrachlorophenol); 25311-71-1P (Isofenphos); 25606-41-1P (Propamocarb hydrochloride); 26002-80-2P (Phenothrin); 26530-20-1P (Octhilinone); 26952-23-8P (Dichloropropene); 27314-13-2P (Norflurazon); 30388-01-3P; 30560-19-1P (Acephate); 31512-74-0P (Busan 77); 33089-61-1P (Amitraz); 33820-53-0P (Isopropalin); 34014-18-1P (Tebuthiuron); 34375-28-5P; 35367-38-5P (Diflubenzuron); 35400-43-2P (Bolstar); 37924-13-3P (Perfluidone); 38527-90-1P (Sulprofos oxon); 39300-45-3P (Dinocap); 40487-42-1P (Pendimethalin); 40596-69-8P (Methoprene); 41198-08-7P (Profenofos); 42576-02-3P (Bifenox); 42874-03-3P; 43121-43-3P (Triadimefon); 50594-66-6DP (Acifluorfen); 50594-66-6P (Acifluorfen); 51026-28-9P (Busan 40); 51218-45-2P; 51235-04-2P (Hexazinone); 51395-10-9P (Copper EDTA); 51630-58-1P (Fenvalerate); 52645-53-1P (Permethrin); 53404-19-6P; 53404-62-9P (Metasol J 26); 53780-34-0DP (Mefluidide); 53780-34-0P (Mefluidide); 54460-46-7P (Cycloprate); 55283-68-6P (Ethalfluralin); 55285-14-8P (Carbosulfan); 55406-53-6P; 60168-88-9P (Fenarimol); 81990-33-2P (KN methyl) Role: MSC (Miscellaneous), PREP (Preparation) (wastewater compn. and treatment in manuf. of, stds. for) pesticide/ manuf/ wastewater;/ treatment/ wastewater/ pesticide

1991). Puget Sound pesticide reconnaissance survey, 1990.  
Chem Codes: Chemical of Concern: DMB,24DXY Rejection Code: NO SPECIES.  
  
The 1989-1990 Pesticide Reconnaissance Survey was conducted by the U.S. Environmental Protection Agency Region 10, Office of Coastal Waters and the Puget Sound Estuary Program to assess the extent and toxicological significance of water-soluble and sediment-bound pesticide residues present in Puget Sound drainages. Fifteen water samples and six sediment samples were collected from five drainage areas that empty into Puget Sound and analyzed for 33 different pesticide residues. Five pesticides were detected in at least one water sample: diazinon, 1,4-dichlorophenoxyacetic acid (2,4-D), dicamba, bromacil and diuron. The most commonly detected pesticide was 2,4-D which was detected in 13 water samples and concentrations from 0.077 to 0.70 micrograms/liter. Four pesticides for their degradation products were detected in at least one sediment sample: dichlobenil, pentachlorophenol, DDT/DDE/DDD and endosulfan I and II. Pentachlorophenol was detected in all six sediment samples at concentrations up to 33 micrograms/kg. Classification: Q5 01502 Methods and instruments  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

1991). Puget Sound pesticide reconnaissance survey, 1990.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: environmental monitoring  
Descriptors: pollution monitoring  
Descriptors: water sampling  
Descriptors: sediment samples  
Descriptors: INE, USA, Washington, Puget Sound  
Abstract: The 1989-1990 Pesticide Reconnaissance Survey was conducted by the U.S. Environmental Protection Agency Region 10, Office of Coastal Waters and the Puget Sound Estuary Program to assess the extent and toxicological significance of water-soluble and sediment-bound pesticide residues present in Puget Sound drainages. Fifteen water samples and six sediment samples were collected from five drainage areas that empty into Puget Sound and analyzed for 33 different pesticide residues. Five pesticides were detected in at least one water sample: diazinon, 1,4-dichlorophenoxyacetic acid (2,4-D), dicamba, bromacil and diuron. The most commonly detected pesticide was 2,4-D which was detected in 13 water samples and concentrations from 0.077 to 0.70 micrograms/liter. Four pesticides for their degradation products were detected in at least one sediment sample: dichlobenil, pentachlorophenol, DDT/DDE/DDD and endosulfan I and II. Pentachlorophenol was detected in all six sediment samples at concentrations up to 33 micrograms/kg.  
Other numbers: EPA/910/9-91/020  
Language: English  
English  
Publication Type: Report  
Environmental Regime: Marine; Brackish  
Classification: Q5 01502 Methods and instruments  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

2000). SUPPORT DOCUMENT FOR THE SARA SECTION 110 "SECOND 100" LIST (DRAFT). *EPA/OTS; Doc #110-881013*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

1979). UPDATE ON PROGRESS OF INFORMATION RELATING TO CHEMICAL FERTILIZER PLANT WITH ATTACHMENTS. *EPA/OTS; Doc #FYI-OTS-1278-0017*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

ABD-EL SAMEI HA, HANDY RD, BAYOMY MFF, MAHRAN HA, ABDEEN AM, and EL-ELAIMY EA (1999). Histopathological effects of chronic diazinon exposure and dietary modulation on selected haematopoietic tissues of the mouse. *ANNUAL CONGRESS OF THE BRITISH TOXICOLOGY SOCIETY, STOKE ON TRENT, ENGLAND, UK, APRIL 18-21, 1999.YHUMAN & EXPERIMENTAL TOXICOLOGY; 18* 533.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM HISTOPATHOLOGICAL EFFECTS OF CHRONIC DIAZINON EXPOSURE AND DIETARY MODULATION ON SELECTED HAEMATOPOIETIC TISSUES OF THE MOUSEYMEETING ABSTRACT MEETING POSTER MUS MUSCULUS MOUSE ANIMAL MODEL DIAZINON IMMUNOTOXICITY ORGANOPHOSPHATE PESTICIDE PROTEIN DIETARY INTAKE LIPID SPLEEN LYMPH NODES THYMUS LYMPHOCYTES RED CELLS EOSINOPHILS MONOCYTES NEUTROPHILS BASOPHILS IMMUNE SYSTEM NUTRITION TOXICOLOGY IMMUNE SYSTEM BLOOD AND LYMPHATICS Congresses/ Biology/ Animals/ Cytology/ Histocytochemistry/ Biochemistry/ Nutrition/ Nutritional Status/ Body Fluids/Chemistry/ Hematopoietic System/ Poisoning/ Animals, Laboratory/ Immunity/ Herbicides/ Pest Control/ Pesticides/ Muridae

ABDALLA, A. (1992). SUDAN THE SITUATION OF DESERT LOCUST TREE LOCUST AND GRASSHOPPERS IN THE SUDAN 1990-1991. *LOMER, C. J. AND C. PRIOR (ED.). BIOLOGICAL CONTROL OF LOCUSTS AND GRASSHOPPERS; WORKSHOP, COTONOU, BENIN, APRIL 29-MAY 1, 1991. XII+394P. C.A.B. INTERNATIONAL: WALLINGFORD, ENGLAND, UK; INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE: IBADAN, NIGERIA. ISBN 0-85198-779-6.; 0 (0). 1992. 97-98.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM SCHISTOCERCA-GREGARIA ANACRIDIUM-MELANORHODON BREEDING CONDITION SEASONALITY CROP DAMAGE INSECTICIDE PROPOXUR DIAZINON FENITROTHION TOKAR DELTA DARFUR KORDUFAN KADUGLI Congresses/ Biology/ Climate/ Ecology/ Meteorological Factors/ Biochemistry/ Diagnosis/ Genitalia/ Reproduction/ Poisoning/ Animals, Laboratory/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Plants/ Orthoptera

Abdel-Halim, K. Y., Salama, A. K., El-khateeb, E. N., and Bakry, N. M. ( Organophosphorus pollutants (OPP) in aquatic environment at Damietta Governorate, Egypt: Implications for monitoring and biomarker responses. *Chemosphere* In Press, Corrected Proof.  
 Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
The study was carried out from spring 1999 to spring 2001 to monitor the residue levels of organophosphorus pollutants (OPP) in aquatic environment of the drainage canal surrounding a pesticide factory at Damietta Governorate. Water, sediment, and fish samples were collected at six different seasonal periods. OPPs were analyzed by GLC and confirmed using GC-MS. Chlorpyrifos, chlorpyrifos-methyl, malathion, diazinon, pirimiphos-methyl and profenofos were detected in most samples. Chlorpyrifos was dominant in all water and sediment samples. It was ranged from 24.5 to 303.8 and 0.9 to 303.8 ppb in water and sediment samples, respectively. Diazinon level was slightly similar to chlorpyrifos in fish samples. Data based on the grand total concentration of OPP showed that the most polluted samples were collected either at spring 1999 or autumn 2000. They were 675.5 and 303.8 ppb in water samples and 43.0 and 52.2 ppb in fish collected at spring 1999 and autumn 2000, respectively. The obtained results are in parallel to that found in case of cholinesterase activity where the activity of both acetylcholinesterase (AChE) and butyrylcholinesterase (BuChE) was declined at these seasonal period. The activity levels of AChE and BuChE were found to be 77.18% and 59.67% of control at spring 1999 and 78.62% and 85.80% of control, at autumn 2000, respectively. Thus, AChE and BuChE could be used as biomarkers for tracing and biomonitoring OPP pollution. Organophosphorus/ Pollutants/ Monitoring/ Biomarker/ Cholinesterase

Abdelsalam, E. B. (1999). Neurotoxic Potential of Six Organophosphorus Compounds in Adult Hens. *Vet.Hum.Toxicol.* 41: 290-292.

EcoReference No.: 83898  
Chemical of Concern: DZ,CMPH,PPHD,DDVP,TCF,PSM; Habitat: T; Effect Codes: BCM,PHY; Rejection Code: NO ENDPOINT(ALL CHEMS).

Abdelsalam, E. B. and Ford, E. J. H. (1987). The effect of induced liver, kidney and lung lesions on the toxicity of levamisole and diazinon in calves. *Journal of Comparative Pathology* 97: 619-627.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Liver damage in calves, produced by the oral administration of the flukecide, carbon tetrachloride, increased the toxic effect of diazinon but not of levamisole, whereas the presence of a renal tubular lesion caused by mercuric chloride enhanced the toxicity of both commonly used anthelmintic compounds. The toxicity of diazinon was increased in calves with a lung lesion caused by oral dosing with tryptophan, an agent implicated in &lsquo;fog fever&rsquo; of cattle.

Abdelsalam, E. B. and Ford, E. J. H. (1986). Effect of pretreatment with hepatic microsomal enzyme inducers on the toxicity of diazinon in calves. *Research in Veterinary Science [RES. VET. SCI.]. Vol. 41, no. 3, pp. 336-339. 1986.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0034-5288  
Descriptors: Indexing in process  
Abstract: The pretreatment of calves with a single dose of 10 mg kg super(-1) dieldrin or 21 daily doses of 10 mg kg super(-1) phenobarbitone increased the toxicity of diazinon as reflected by the development of more severe clinical signs and greater depression in whole blood cholinesterase activity in the pretreated calves. Induction by dieldrin or phenobarbitone of the hepatic microsomal enzyme amidopyrine-N-demethylase was also accompanied by a concurrent rise in the liver carboxylesterase activity.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

Abou-Arab, A. A. K. and Abou Donia, M. A. (2001). Pesticide residues in some Egyptian spices and medicinal plants as affected by processing. *Food Chemistry* 72: 439-445.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO TOX DATA.  
  
Pesticide residues were determined in Egyptian spices and medicinal plants. For this purpose, a total of 303 samples, which represent 20 different plants were collected from sources in Egypt and several shipments All the collected samples were analyzed for the determination of organophosphorus and organochlorine residues. The obtained results showed the predominance of malathion in most of the analyzed samples. The detected concentrations of it in jews mallow, dill, celery, tea, caraway, chamomile and saffron exceeded the maximum permissible levels (MPLs), as did the concentrations of dimethoate in caraway and chamomile samples. Low levels of profenofos, pirmiphos-methyl, chloropyrifos. parathion and diazinon were determined in the analyzed samples. Residues of lindane, aldrin, dieldrin, DDT, chlordane and endrin in chamomile samples exceeded the MPLs. Residues of aldrin and dieldrin in karkade were higher than the MPLs, as was chlordane in peppermint. Residues were not detected in the watery extract when the medicinal plant was boiled in water. Also, immersing the plants in hot water transferred some pesticide residues to the aqueous extract.

Abou-Arab, A. A. K. and Abou Donia, M. A. (2001). Pesticide residues in some Egyptian spices and medicinal plants as affected by processing. *Food Chemistry* 72: 439-445.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Pesticide residues were determined in Egyptian spices and medicinal plants. For this purpose, a total of 303 samples, which represent 20 different plants were collected from sources in Egypt and several shipments All the collected samples were analyzed for the determination of organophosphorus and organochlorine residues. The obtained results showed the predominance of malathion in most of the analyzed samples. The detected concentrations of it in jews mallow, dill, celery, tea, caraway, chamomile and saffron exceeded the maximum permissible levels (MPLs), as did the concentrations of dimethoate in caraway and chamomile samples. Low levels of profenofos, pirmiphos-methyl, chloropyrifos. parathion and diazinon were determined in the analyzed samples. Residues of lindane, aldrin, dieldrin, DDT, chlordane and endrin in chamomile samples exceeded the MPLs. Residues of aldrin and dieldrin in karkade were higher than the MPLs, as was chlordane in peppermint. Residues were not detected in the watery extract when the medicinal plant was boiled in water. Also, immersing the plants in hot water transferred some pesticide residues to the aqueous extract.

ABOU-ARAB A AK (1999). Behavior of pesticides in tomatoes during commercial and home preparation.   
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Monitoring of pesticide residues in Egyptian tomatoes and its products was studied. The average contents of HCB, lindane, dieldrin, heptachlor epoxide and DDT derivatives were detected at levels 0.009, 0.003, 0.006, 0.008 and 0.083 mg/kg, respectively. On the other hand, the levels of dimethoate, profenofos and pirimiphos-methyl were 0.461, 0.206 and 0.114 mg/kg, respectively. In ketchup and paste samples, most organochlorine and organophosphorus pesticide residues were not detectable. The distr eling, were necessary to remove pesticide residues in the skin. Cooking of tomatoes (including processing tomato to paste) helped to eliminate most pesticide residues from contaminated tomatoes. Biochemistry/ Food Technology/ Poisoning/ Animals, Laboratory/ Biophysics/ Plants/Chemistry/ Plants

ABOU-ARAB AAK, KAWTHER, M. SOLIMAN, EL TANTAWY ME, BADEAA, R. ISMAIL, and KHAYRIA, N. (1999). Quantity estimation of some contaminants in commonly used medicinal plants in the Egyptian market. *FOOD CHEMISTRY; 67* 357-363.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. Pesticide residues, heavy metal contents and aflatoxins were estimated in five medicinal plants frequently used by both infants and adults (peppermint, chamomile, anise, caraway and tilio). Samples were collected from different sources in the Egyptian market. Results showed that malathion, dimethoate and profenofos predominated in most of the analysed samples. On the other hand, the lowest mean levels were detected with aldrin, dieldrin, chlordane and lindane. Chlorpyrifos, parathion, diazinon and endosulfan were not detectable in most of the samples under investigation. The results indicated that some of the collected samples contained some types of organophosphorus and orgnochlorine pesticide residues, within the limits of The Egyptian Organization for Standardization and Quality Control (EOS) maximum limits for pesticide residues on medicinal aromatic plants (1991) and Pharmeuropa (19 93). Heavy metal contents in the collected samples, i.e. Fe, Cu, Mn, Zn, Pb, Cd, Cr, Co, Sn and Ni,were found at different levels. The highest mean levels of Pb, Zn, Cu, and Fe were found in chamomile flower samples, while those of Cd, Cr and Mn, were detected in peppermint and of Ni, Co and Sn in caraway samples. The results also showed that the most frequently isolated fungi were penicillium sp., A. niger and Fusarium sp. Nevertheless, the finding of natural mycotoxin contamination was negative in all samples. Biochemistry/ Poisoning/ Animals, Laboratory/ Pharmacognosy/ Plants, Medicinal/ Herbicides/ Pest Control/ Pesticides/ Plants/ Mitosporic Fungi/ Plants/ Plants/ Coleoptera

Abu-Qare, A. W. and Abou-Donia, M. B. (2001). Inhibition and Recovery of Maternal and Fetal Cholinesterase Enzyme Activity Following a Single Cutaneous Dose of Methyl Parathion and Diazinon, Alone and in Combination, in Pregnant Rats. *J.Appl.Toxicol.* 21: 307-316.

EcoReference No.: 85502  
Chemical of Concern: DZ,MP; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(DZ).

Adachi, K., Ohokuni, N., and Mitsuhashi, T. (1984). Simple analytical method for organophosphorus pesticide determination in unpolished rice, using removal of fats by zinc acetate. *Journal of the Association of Official Analytical Chemists [J. ASSOC. OFF. ANAL. CHEM.]* 67: 798-800.  
Chem Codes: Chemical of Concern: DMT Rejection Code: METHODS.  
  
A rapid and simple method is developed for the determination of organophosphorus pesticides in unpolished rice. The new method incorporated acetonitrile-water (1 + 1) extraction, removal of fats by zinc acetate, and further cleanup on an activated charcoal chromatographic column. The higher fatty acids in the extract react rapidly with zinc acetate to form insoluble zinc carboxyltes, which precipitate. Additional interferences were cleaned up on an activated charcoal chromatographic column, and organophosphorus pesticides adsorbed on the activated charcoal were eluted with acetone-hexane. Dimethoate is not retained on the activated charcoal and must be extracted with dichloromethane from the first acetonitrile-water eluate. Pesticides are measured by flame photometric gas chromatography. Recoveries from 50 g unpolished rice samples fortified with 5-50 mu g diazinon, 6-30 mu g parathion, 8-40 mu g fenitrothion and IBP, 10-50 mu g dimethoate and fenthoate, 20-100 mu g malathion, ro 40-100 mu g EPN ranged from 75.7 to 95.8%. Classification: X 24221 Toxicity testing; X 24120 Food, additives & contaminants pesticides/ pesticides (organophosphorus)/ residues/ Oryza sativa/ zinc acetate/ determination

Adachi, K., Ohokuni, N., and Mitsuhashi, T. (1984). Simple analytical method for organophosphorus pesticide determination in unpolished rice, using removal of fats by zinc acetate. *Journal of the Association of Official Analytical Chemists [J. ASSOC. OFF. ANAL. CHEM.]. Vol. 67, no. 4, pp. 798-800. 1984.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0004-5756  
Descriptors: pesticides  
Descriptors: residues  
Descriptors: Oryza sativa  
Abstract: A rapid and simple method is developed for the determination of organophosphorus pesticides in unpolished rice. The new method incorporated acetonitrile-water (1 + 1) extraction, removal of fats by zinc acetate, and further cleanup on an activated charcoal chromatographic column. The higher fatty acids in the extract react rapidly with zinc acetate to form insoluble zinc carboxyltes, which precipitate. Additional interferences were cleaned up on an activated charcoal chromatographic column, and organophosphorus pesticides adsorbed on the activated charcoal were eluted with acetone-hexane. Dimethoate is not retained on the activated charcoal and must be extracted with dichloromethane from the first acetonitrile-water eluate. Pesticides are measured by flame photometric gas chromatography. Recoveries from 50 g unpolished rice samples fortified with 5-50 mu g diazinon, 6-30 mu g parathion, 8-40 mu g fenitrothion and IBP, 10-50 mu g dimethoate and fenthoate, 20-100 mu g malathion, ro 40-100 mu g EPN ranged from 75.7 to 95.8%.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24221 Toxicity testing  
Classification: X 24120 Food, additives & contaminants  
Subfile: Toxicology Abstracts

Adams, P. B. and Wong, J. A. L. (1991). The Effect of Chemical Pesticides on the Infection of Sclerotia of Sclerotinia minor by the Biocontrol Agent Sporidesmium sclerotivorum. *Phytopathology* 81: 1340-1343.

EcoReference No.: 70656  
Chemical of Concern: PNB,CBL,CHD,DZ; Habitat: T; Effect Codes: PHY; Rejection Code: TARGET(DZ).

Adlung, K. G. (1957). The Toxicity of Insecticidal and Acaricidal Agents to Fish (Zur Toxizitat Insektizider und Akarizider Wirkstoffe fur Fische). *Naturwissenschaften* 44: 471-472.

EcoReference No.: 935  
Chemical of Concern: DZ,HCCH,MLN,PYN,RTN; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL,FOREIGN(ALL CHEMS).

Adonaylo, V. N. and Oteiza, P. I. (1999). Pb2+ promotes lipid oxidation and alterations in membrane physical properties. *Toxicology* 132: 19-32.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Experimental evidence suggests that cellular damage mediated by oxidants could be involved in the pathology associated with lead (Pb) toxicity. We investigated the effect of Pb2+ on lipid oxidation in liposomes using different initiators. In the presence of Fe2+, Pb2+ (12.5-200 [mu]M) stimulated lipid oxidation in phosphatidylcholine:phosphatidylserine-containing liposomes, measured as 2-thiobarbituric acid-reactive substances (TBARS) and conjugated dienes. This stimulatory effect depended on the presence of membrane negative charges and on bilayer integrity. Pb2+ did not stimulate TBARS formation in the presence of 25 mM 2,2&prime;-azo-bis (2,4 dimethylvaleronitrile (AMVN) and 2,2&prime; azobis (2-amidinopropane) (AAPH). Pb2+ significantly stimulated TBARS production and NADH oxidation in the presence of photoactivated rose Bengal. The use of specific inhibitors indicated that several reactive oxygen species were involved in the pro-oxidant action of Pb2+. Pb2+ (12.5-200 [mu]M) caused membrane lateral phase separation and this effect was positively correlated with its capacity to stimulate Fe2+ and rose Bengal-initiated TBARS production. Pb2+ could bind to the membrane and act to stimulate lipid oxidation by causing changes in membrane physical properties. Through this mechanism Pb2+ would favor the propagation of lipid oxidation. By causing lateral phase separation and/or by increasing lipid oxidation rates, Pb2+ could be cytotoxic by altering membrane-related processes. Lead/ Lipid oxidation/ Iron/ Free radicals/ Phase separation

Ageda, Saori, Fuke, Chiaki, Ihama, Yoko, and Miyazaki, Tetsuji ( The stability of organophosphorus insecticides in fresh blood. *Legal Medicine* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
We investigated the stability of 14 organophosphorus insecticides: dichlorvos, fenitrothion, cyanophos, malathion, phenthoate, methidathion, dimethoate, thiometon, isoxathion, diazinon, trichlorfon, EPN, acephate and sulprofos, in fresh blood. The organophosphorus compounds, except for sulprofos, decomposed over time at 37 [deg]C, with varying decomposition speed for each compound. Methyl phosphate types (dichlorvos) decomposed most rapidly, followed by methyl thiophosphate types (fenitrothion and cyanophos) and methyl dithiophosphate types (methidathion, dimethoate and thiometon). Methyl thiophosphate types decomposed faster than ethyl thiophosphate types (isoxathion and diazinon). Of the five methyl dithiophosphate type insecticides (malathion, phenthoate, methidathion, dimethoate and thiometon), the compounds with a carboxylic ester bond (malathion and phenthoate) decomposed faster than the others. Compounds left standing at 37 [deg]C decomposed faster than those left standing at 4 [deg]C. Temperature has a great effect on the decomposition of organophosphorus insecticides in blood. However, the order of the decomposition speeds of each compound was approximately the same at different temperatures. In cases of suspected organophosphate poisoning, it should be considered that the blood concentration of the compound might decrease during the postmortem interval. Poisoning/ Organophosphates/ Stability/ Blood

AHMAD, M. (1990). The effect of PB and DEF synergists on the toxicities of endosulfan, diazinon and monocrotophos in Heliothis armigera. *J PLANT PROT TROP; 7* 117-122.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The synergistic effect of piperonyl butoxide and DEF was studied for endosulfan, diazinon and monocrotophos in Heliothis armigera (Hubner). Endosulfan was synergised around two-, four- and sevenfold with the application of PB, DEF and PB + DEF respectively at LD50 level. The toxicity of diazinon was mildly increased by PB (x2) at LD50 but not by DEF. Both the synergists were however found ineffective in synergising monocrotophos. Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Lepidoptera

Ahmad, M. H. and Vekataraman, G. S. (1973). Tolerance of Aulosira fertilissima to Pesticides. *Curr.Sci.* 42: 108 (ABS).  
Chem Codes: Chemical of Concern: MCPB,MCPA,HCCH,PRN,EN,CBL,DZ,PPN Rejection Code: ABSTRACT.

Akasu, T. and Karczmar, A. G. (1980). Effects of anticholinesterases and of sodium fluoride on neuromyal desensitization. *Neuropharmacology* 19: 393-403.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Desensitization of amphibian neuromyal junction was obtained by either repetitive, brief (2 msec) iontophoretic pulses of acetylcholine (ACh) or by a prolonged (40 sec) iontophoretic application of ACh. When ACh was applied repetitively, ACh potentials diminished gradually at a rate dependent on ACh pulse frequency; the recovery time constant amounted to approximately 7 sec following 30 sec of brief ACh pulses applied at 20 Hz. In the case of prolonged, 40 sec ACh pulses, repolarization occurred within the duration of the pulse. Subsequent test (2 msec) pulses of ACh showed a diminished endplate response.Anticholinesterase drugs, the organophosphorus tetraethylpyrophosphate (TEPP) and the carbamate, neostigmine, markedly accelerated desensitization. This occurred even when the iontophoretic current was decreased following anticholinesterase treatment in order to generate ACh potentials similar in amplitude to those recorded prior to the treatment. These and additional results indicated that anticholinesterases exert a direct, desensitizing effect independently of the possibility of their causing accumulation of iontophoretically applied ACh.Sodium fluoride (NaF) employed in concentrations of 0.1 to 5 mM, significantly delayed the onset of desensitization whether the latter was induced by repetitive or prolonged pulses of ACh; it also accelerated the recovery of the endplate from desensitization. At concentrations ranging from 0.05 to 2 mM, NaF also antagonized the acceleration of desensitization induced by either TEPP or neostigmine; in the combined presence of the anticholinesterase and NaF, the rate constant of desensitization approximated to that recorded under control conditions. This action by NaF was exerted after prolonged (30 min) TEPP treatment; thus, this effect was not due to the reactivating potential of NaF. Repetitive (at 50 Hz) indirect stimulation of the endplate produced progressive diminution of the EPP's, with a plateau occurring at 60 sec. This was concomitant with marked diminution of the response to test pulses of ACh and a slight decrease in the quantal content of the EPP's; thus, it was not due to diminution of the release of ACh. The rate of this phenomenon was markedly increased by anticholinesterases and markedly decreased by NaF.It is emphasized in the Discussion that the antidesensitizing action of NaF does not depend on its chelation of Ca2+ and that it may be due to the direct action of NaF on the recentor.

AKEY WC, RUSSELL, T., ALFORD, C., MORRISON, T., and DENNING, M. (1997). Will the toad croak? An endangered species decision case. *JOURNAL OF NATURAL RESOURCES AND LIFE SCIENCES EDUCATION; 26* 148-156.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. In 1992, the USEPA proposed a ban on the use of 43 pesticides in a large portion of Albany County, Wyoming. The ban was intended to protect the habitat of an endangered species, the Wyoming toad (Bufo hemiophyrs baxteri), as required by the Endangered Species Act of 1973. For many years, portions of Albany County that included Wyoming toad habitat had been routinely sprayed with insecticides to control mosquitoes. Residents were concerned that without adequate mosquito control, recreation, tourism, agriculture, public health, and property values could be impacted. A task force comprised of local residents of diverse backgrounds and viewpoints was appointed in 1992 by the governor of Wyoming and Albany County commissioners to consider how best to (i) protect the Wyoming toad and aid its recovery, and (ii) maintain effective mosquito control. The goal of the group was to submit an alternative proposal to the U.S. Fish and Wildlife Service and to the USEPA that would meet Conservation of Natural Resources/ Animals, Wild/ Conservation of Natural Resources/ Ecology/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Amphibia/ Anura

AKHTAR, S., MISBAHUDDIN, SIDDIQUI, P. MH, and BALOCH UK (1998). Effect of neem cake on persistence of diazinon and endosulfan in paddy soil. *PESTICIDE SCIENCE;* 52: 218-222.  
Chem Codes: Chemical of Concern: AZD Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Experiments were carried out to study the influence of two types of neem cake (solvent-extracted, NC-I and expeller-extracted, NC-II) on the persistence in soil of diazinon and endosulfan applied as commercial formulations. It was found that both types of neem cake applied at 10, 20 or 30 g ha-1 prolonged the period of degradation as compared with soils without neem cake amendment, and hence increased the persistence of the insecticides. There was little difference in the effect of the two types of neem cake. Treatment of the soil with insecticide 10 days after amendment with neem cake did not lead to any increase in persistence; for a good response, treatment of soil with insecticide and with neem cake must be done at the same time. Biochemistry/ Soil/ Herbicides/ Pest Control/ Pesticides

AKHTAR, S., MISBAHUDDIN, SIDDIQUI, P. MH, and BALOCH UK (1998). Effect of neem cake on persistence of diazinon and endosulfan in paddy soil. *PESTICIDE SCIENCE; 52* 218-222.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Experiments were carried out to study the influence of two types of neem cake (solvent-extracted, NC-I and expeller-extracted, NC-II) on the persistence in soil of diazinon and endosulfan applied as commercial formulations. It was found that both types of neem cake applied at 10, 20 or 30 g ha-1 prolonged the period of degradation as compared with soils without neem cake amendment, and hence increased the persistence of the insecticides. There was little difference in the effect of the two types of neem cake. Treatment of the soil with insecticide 10 days after amendment with neem cake did not lead to any increase in persistence; for a good response, treatment of soil with insecticide and with neem cake must be done at the same time. Biochemistry/ Soil/ Herbicides/ Pest Control/ Pesticides

Al-Attar, H. J. and Knowles, C. O. (1982). Diazinon Uptake, Metabolism, and Elimination by Nematodes. *Arch.Environ.Comtam.Toxicol.* 11: 669-673.

EcoReference No.: 46889  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(DZ).

AL-AZAWI AF (1986). FIRST REPORT ON THE SCREENING OF INSECTICIDES AGAINST DASYNEURA-OLEAE DIPTERA CECIDOMYIDAE AN IMPORTANT PEST OF OLIVE TREES IN IRAQ. *HORTSCIENCE* 21: 731.  
Chem Codes: Chemical of Concern: OMT Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT LEAF GALL DIAZINON 30 NOGOS 90 EKALUX 450 MOSTAQUICK 600 ANTHIO 700 FOLIMAT 1800 CROP INDUSTRY Congresses/ Biology/ Biochemistry/ Fruit/ Nuts/ Tropical Climate/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Fruit/ Nuts/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants/ Diptera

Al-Mohanna, F. A. and Hallett, M. B. (1990). &ldquo;Clamping&rdquo; actin in polymerized form in electropermeabilized neutrophils inhibits oxidase activation. *Biochemical and Biophysical Research Communications* 169: 1222-1228.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Electro-permeabilized neutrophils take-up small membrane-impermeant molecules into their cytoplasm, yet retain the ability to activate their oxidase and to transiently polymerize actin in response to f-met-leu-phe (fmlp). Using this system phalloidin was introduced into the cytosol in order to determine whether polymerization of actin affects oxidase activation. Cytosolic phalloidin prevented the depolymerization of actin following stimulation with fmlp, which was consequently &ldquo;clamped&rdquo; in the polymerized form during oxidase activation. Under these conditions oxidase activation was inhibited, the extent of inhibition being related to the level of polymerization at which the actin was &ldquo;clamped&rdquo;. It was concluded that the actin polymerization which accompanies stimulation with fmlp interacts with other intracellular signals to limit oxidase activation.

AL-SAMARIEE AI, SHAKER, K. AM, and AL-BASSOMY MA (1988). RESIDUE LEVELS OF THREE ORGANOPHOSPHORUS INSECTICIDES IN SWEET PEPPER GROWN IN COMMERCIAL GREENHOUSES. *PESTIC SCI; 22* 189-194.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM DIAZINON PIRIMIPHOS-METHYL CHLORPYRIFOS INFLORESCENCE FOOD RESIDUE Ecology/ Plants/ Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Anatomy & Histology/ Reproduction/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants

Alabaster, J. S. (1969). Survival of Fish in 164 Herbicides, Insecticides, Fungicides, Wetting Agents and Miscellaneous Substances. *Int.Pest Control* 11: 29-35 (Author Communication Used).

EcoReference No.: 542  
Chemical of Concern: 24DXY,ATZ,CMPH,DBN,DZ,PQT,SZ,ACL,DZM,TFN,TBT,PYZ,FUR,NaPCP,MCPP1; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

ALAEE, M., FANG, X., YOUNG, S., TODD, A., STRUGER, J., HARRIS, M., and BESTARI, K. (1998). THE ANALYSIS OF ORGANOPHOSPHOROUS PESTICIDES IN SURFACE WATER USING SOLID-PHASE DISK EXTRACTION AND GC-MS. *INTERNATIONAL ASSOCIATION FOR GREAT LAKES RESEARCH. 41ST CONFERENCE OF THE INTERNATIONAL ASSOCIATION FOR GREAT LAKES RESEARCH; MEETING, HAMILTON, ONTARIO, CANADA, MAY 18-22, 1998. 160P. INTERNATIONAL ASSOCIATION FOR GREAT LAKES RESEARCH: ANN ARBOR, MICHIGAN, USA.; 0* 137.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT MEETING POSTER SURFACE WATER ORGANOPHOSPHOROUS PESTICIDES POLLUTANT SOLID-PHASE DISK EXTRACTION GC-MS DIAZINON AZINPHOS-METHYL POLLUTION LABORATORY METHOD Congresses/ Biology/ Air Pollution/ Soil Pollutants/ Water Pollution

Alam, M. K. and Maughan, O. E. (1993). Acute Toxicity of Selected Organophosphorus Pesticides to Cyprinus carpio and Barilius vagra. *J.Environ.Sci.Health Part B* 28: 81-89.

EcoReference No.: 7219  
Chemical of Concern: DZ,MLN; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Albanis, T., Danis, T., Voutsa, D., and Kouimtzis, T. (1995). Evaluation of chemical parameters in Aliakmon River Northern Greece. Part III. Pesticides. *Journal of Environmental Science and Health Part a Environmental Science and Engineering & Toxic and Hazardous Substance Control* 30 : 1945-1956.  
Chem Codes: SZ,MTL Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A two-year survey on the water quality characteristics of Aliakmon liver in northern Greece is described. Pesticides were determined and their concentration levels were related to the flow characteristics of the river and the influence from agricultural activities. Eight herbicides, alachlor, atrazine, 2,4-D, EPTC, MCPA, metolachlor, simazine and trifluralin were identified in river waters at eight sampling stations. Four insecticides, diazinon, fenthion, lindane and methyl parathion were also detected in the same places. Peak concentrations of some pesticides were observed corresponding to their application in the fields. Episodic peaks in concentrations occur during the period from May to August. Highest concentrations were determined for the pesticides: alachlor (0.21 mug), atrazine (2.16 mug/L), MCPA (1.56 mug/L), methyl parathion (0.21 mugL), metolachlor (0.34 mug/L), simazine (0.34 mug/L) and trifluralin (0.55 mug/L).  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control  
KEYWORDS: Hominidae

Albanis, T A, Hela, D G, Sakellarides, T M, and Konstantinou, I K (1998). Monitoring of pesticide residues and their metabolites in surface and underground waters of Imathia (N. Greece) by means of solid-phase extraction disks and gas chromatography. *Journal Of Chromatography. A* 823: 59-71.  
Chem Codes: SZ,MLT,ADC,CBF,MTL Rejection Code: CHEM METHODS.  
  
Seasonal variations of pesticide residues in surface waters and ground waters of the Imathia area of Central Mecedonia (N. Greece) were determined for the period from May 1996 to April 1997. The sampling cruises included eight sites in rivers Aliakmon, Loudias, Tripotamos, Arapitsa and Canal-66, seven water springs in the mountain Vermion, seven rainfall water collection stations and one hundred underground points. Solid-phase extraction disks followed by gas chromatographic techniques with flame thermionic detection, electron capture detection and mass-selective detection were used for the monitoring of various pesticides their transformation products in environmental waters. The most commonly encountered pesticides in underground waters, were alachlor, atrazine, desethylatrazine (DEA), metolachlor, molinate, propanil, simazine, carbofuran, diazinon and parathion methyl. The above compounds including propazine, trifluralin, malathion, parathion ethyl, lindane, alpha-benzene hexachloride (alpha-BHC), beta-BHC, 4,4'-DDE and heptachlor were determined in river waters. The higher concentrations in underground waters were measured during the period from May to August, 1996, following seasonal application and diminished significantly during the autumn and winter. Water pollution by triazine and chloroacetanilides was highest in the estuarine areas; showing that many of these compounds are transported significant distances from their application sites. The major inputs of atrazine, alachlor, simazine and metolachlor occurred in May and June just after their application. Atrazine, DEA, diazinon and metolachlor were also detected in spring waters at concentration levels below 0.006 microgram/l. Finally, atrazine, DEA, carbofuran, simazine, diazinon, parathion ethyl and parathion methyl were detected in rainfall water samples collected in the agricultural area of Imathia (central part of the plain). [Journal Article; In English; Netherlands] http://www.sciencedirect.com/science/article/B6WVB-45D8421-VS/2/db661a366def736d1b8d569dc8273b5e

Albanis, T. A., Lambropoulou, D. A., Sakkas, V. A., and Hela, D. (2003). Monitoring of priority pesticides using SPME (solid phase microextraction) in river water from Greece.  
Chem Codes: CBF Rejection Code: METHODS/SURVEY.  
  
A solid phase microextraction (SPME) method was applied for the extended monitoring survey of priority pesticides for the European Union, for 12 months, in Kalamas River water samples (Epirus region in northwestern Greece) to determine their concentration levels and seasonal variations. For this purpose, polydimethylsiloxane-coated fiber has been utilized. The samples were screened using gas chromatography with flame thermionic detection. Detections were confirmed by gas chromatography-mass spectroscopy (MS). The most frequently detected pesticides were some of the more commonly used herbicides such as EPTC, trifluralin, atrazine, desethylatrazine, terbuthylazine, alachlor and insecticides such as carbofuran, diazinon, disulfoton, methyl parathion, ethyl parathion, fenthion and ethion. Concentrations of individual compounds ranged from 0.050 to 0.3 mu g/L. Greater pesticide concentrations occurred during application seasons. A comparison with a well established SPE (C18-disks) procedure was performed for the samples of high season application (May-September) to confirm the effectiveness of the SPME technique. The results demonstrate the suitability of the SPME method for routine screening multi-residue analysis in natural waters. Greece, Epirus, Kalamas R. Water Pollution. Pesticides. Surveys. Data Collections. Seasonal Variations. Chemical Analysis. Analytical Methods. Gas Chromatography. Mass Spectrometry. Pollutant Identification. Pollution (Water). Survey. Seasons. Chemical analysis (see also Individual techniques). Spectrometry (Mass). Greece, Epirus, Kalamas R. Conference: 3. World Water Congress of the International Water Association, Melbourne (Australia), 7-12 Apr 2002  
ISSN: 1606-9749  
Language: English  
Subfile: Water Resources Abstracts; Aqualine Abstracts

Albanis, T. A., Pomonis, P. J., and Sdoukos, A. T. (1986). Organophosphorus and carbamates pesticide residues in the aquatic system of Ioannina basin and Kalamas River (Greece). *Chemosphere. Vol. 15, no. 8, pp. 1023-1034. 1986.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0045-6535  
Descriptors: pesticide residues  
Descriptors: pollution monitoring  
Descriptors: pollution levels  
Descriptors: pesticides  
Descriptors: residues  
Descriptors: agricultural pollution  
Descriptors: organophosphorus compounds  
Descriptors: Greece, Kalamas R.  
Abstract: Organophosphorus and carbamates pesticide residues have been monitored in the aquatic system of Ioannina basin an its natural outlet, Kalamas River, for the period September 1984, to October 1985. The concentrations of detected molecules of azinphos-methyl, parathion-methyl, diazinon, carbofuran and carbaryl were found to follow a seasonal fluctuation with maxima during summer and minima during winter months. The results are discussed in relation to the amounts of those pesticides used for farming as well as the seasonal rainfall in the vicinity of Ioannina basin.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: D 04801 Pollution monitoring and detection  
Classification: X 24136 Environmental impact  
Classification: Q2 02443 Monitoring and surveillance  
Classification: Q1 01501 General  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: H SE5.1 BASIC APPROACHES, CONCEPTS, AND THEORY  
Subfile: Health & Safety Science Abstracts; Pollution Abstracts; ASFA 1: Biological Sciences & Living Resources; ASFA 2: Ocean Technology Policy & Non-Living Resources; Toxicology Abstracts; Ecology Abstracts

Albanis, T. A., Pomonis, P. J., and Sdoukos, A. Th. (1986). Organophosphorous and carbamates pesticide residues in the aquatic system of ioannina basin and Kalamas river(Greece). *Chemosphere* 15: 1023-1034.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Organophosphorus and carbamates pesticide residues have been monitored in the aquatic system of Ioannina basin and its natural outlet, Kalamas river, for the period September 1984, to October 1985. The concentrations of detected molecules of azinphos-methyl, parathion-methyl, diazinon, carbofuran and carbaryl were found to follow a seasonal fluctuation with maxima during summer and minima during winter months. The results are discussed in relation to the ammounts of those pesticides used for farming as well as the seasonal rainfall in the vicinity of Ioannina basin.

Albanis, Triantafyllos A. and Hela, Dimitra G. (1995). Multi-residue pesticide analysis in environmental water samples using solid-phase extraction discs and gas chromatography with flame thermionic and mass-selective detection. *Journal of Chromatography A* 707: 283-292.  
Chem Codes: SZ,MLT,ADC,CBF Rejection Code: CHEM METHODS.  
  
A multi-residue analysis for 25 pesticides was developed as a rapid screening method for organic contaminants in river, lake and sea water samples. Gas chromatography with flame thermionic detection (GC-FTD) and mass selective detection (GC-MSD) using two different capillary columns, DB-1 and HP-5, was employed for the identification of 25 selected pesticides belonging to triazines, organophosphorus compounds and substituted ureas, carbamates, anilides, anilines and amides. The extraction of various natural waters spiked with pesticide mixtures was affected with C18 Empore solid-phase extraction discs and filter-aid glass beads. The triazine compounds (atrazine, simazine, propazine, prometryne and cyanazine) were recovered from distilled and underground water samples at relative high levels (73.5-105%) compared with the river waters (39.9-80.5%), lake water (54.6-81.8%) and marine water (38.6-79.9%). The organophosphorus compounds studied (monocrotophos, terbufos, diazinon, methyl parathion, ethyl parathion, malathion and ethion) were also recovered from distilled and underground water samples at relatively high levels (62.4-118%) compared with river waters (27.3-98.9%), lake water (41.0-85.2%) and marine water (33.4-81.3%). The substituted ureas (monuron, diuron and linuron), substituted anilines and anilides (trifluralin, propanil, propachlor and alachor), carbamates (EPTC and carbofuran) and other compounds (molinate, picloram, captan and MCPA isooctyl ester) were recovered at the same level as triazines. Confirmation of pesticide identity was performed by using GC-MS in the selected-ion monitoring mode. http://www.sciencedirect.com/science/article/B6TG8-4007DWM-4F/2/07a7e8a5a1a83e00d9c58414f048116f

Albert, A. (1981). Selective Toxicity: The Physio-chemical Basis of Therapy. *6th Edition, The Chaucer Press Ltd., Bungay, Suffolk, England*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Alexander, J. P. (1983). Probable diazinon poisoning in peafowl: A clinical description. *Veterinary Record [VET. REC.]. Vol. 113, no. 19-20, 470 p. 1983.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT.  
  
ISSN: 0042-4900  
Descriptors: Indexing in process  
Descriptors: Pavo cristatus  
Abstract: Diazinon toxicity in livestock is well recognised. This occurrence was in a group of mixed age ornamental peafowl allowed free range in the palace grounds of the ruler of Oman, Sultan Qaboos. Initially two young birds of approximately four months old were found dead overnight and the next day a further one young and two adult birds were ill. Investigation uncovered the fact the diazinon granules (basudin 10G; Ciba-Geigy, Basle) has been spread to control wireworms in the lawns; the manager of the gardens also stated that; "if the granules could be easily seen, then the product was being applied far too heavily". It could not be ascertained whether birds were eating granules directly or eating affected insects.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24120 Food, additives & contaminants  
Subfile: Toxicology Abstracts

Ali, Mezher A., Hough, Leslie, and Richardson, Anthony C. (1992). Thio and epidithio derivatives of methyl [beta]-lactoside. *Carbohydrate Research* 216: 271-287.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Treatment of methyl [beta]-lactoside with triphenylphosphine-carbon tetrabromide in pyridine gave the 3&prime;,6&prime;-anhydro-6-bromo-6-deoxy derivative, from which 6-thio derivatives were prepared, and methyl 3&prime;,4&prime;-O-isopropylidene-[beta]-lactoside gave the 6,6&prime;-dibromo-6,6&prime;-dideoxy derivative. A dibromide was prepared also from methyl 4&prime;,6&prime;-O-benzylidene-[beta]-lactoside by bromination with Ph3P-CBr4, acetylation, and then treatment with N-bromosuccinimide. Various 6,6&prime;-dithio derivatives were prepared from the 6,6&prime;-dibromide by nucleophilic substitution reactions. Reaction of the 6,6&prime;-dibromide with thiourea led to the 6,6&prime;-epidithio derivative and, with potassium trithiocarbonate, the bridged 6,6&prime;-trithiocarbonate was formed. The 6,6&prime;-dibromo derivative underwent selective nucleophilic substitution to give a variety of 6&prime;-bromo-6-thio derivatives. Likewise, with azide, the 6-azide was formed first, followed by the 6,6&prime;-diazide and the product of elimination, the 6-azido-5&prime;-ene. Raney nickel-mediated desulphuration of the various 6,6&prime;-dithio derivatives afforded methyl 6,6&prime;-dideoxy-[beta]-lactoside, and desulphuration of the 6&prime;-bromo-6-thio derivatives could be accomplished without reductive dehalogenation to give methyl 6&prime;-bromo-6,6&prime;-dideoxylactoside.

ALI, S., HAQ, R., KHALIQ, M., and SHAKOORI AR (1997). Use of ultra-violet spectrophotometry for determination of insecticides and aromatic hydrocarbon pollutants. *PUNJAB UNIVERSITY JOURNAL OF ZOOLOGY; 12* 31-34.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. Insecticides and other aromatic hydrocarbons are major pollutants in our environment. Their biodegradation studies involve determination of the quantity of these compounds, their residues or intermediates left over during the process. Their determinations involve high cost instruments and tedious preparations. In the present report UV absorption picture of some aromatic hydrocarbons (phenol and sodium benzoate) and insecticides (diazinon, chlorfenvinphos, fenitrothion, chlorpyriphos, methyl parathion, monocrotophos, profenophos, methomidophos and dichlorvos) was taken which showed a definite pattern of absorption ranges and the wavelength scans indicated a specific wavelength at which the absorption was maximum. These UV absorption spectra were indicated to be useful and economical for evaluation of the pesticides and determination of their biodegradation. Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Allen Miller, J. and Oehler, Delbert D. (1988). A reservoir neckband system for delivery of organophosphorus insecticides to cattle. *Journal of Controlled Release* 8: 73-78.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Because of the problem of pyrethroid resistance in the horn fly, alternatives to the controlled-release insecticidal ear tags are being explored. In laboratory studies, the rate of 5 selected organophosphorus insecticides from polymeric reservoirs of 10 different compositions was determined. Based on the results of the laboratory studies, chlorfenvinphos, diazinon, and crotoxyphos were loaded into thin-walled poly(vinyl chloride) reservoirs and fabricated into neckbands for cattle. In field trials, reservoir neckbands containing chlorfenvinphos, diazinon and crotoxyphos provided 91%, 88% and 53% control of horn flies, respectively.

Allender, W. J. and Britt, A. G. (1994). Analyses of Liquid Diazinon Formulations and Breakdown Products: An Australia-Wide Survey. *Bull.Environ.Contam.Toxicol.* 53: 902-906.  
Chem Codes: EcoReference No.: 45840  
Chemical of Concern: DZ Rejection Code: NO TOX DATA/SURVEY.

Allison, D. T. (1977). Use of Exposure Units for Estimating Aquatic Toxicity of Organophosphate Pesticides. *EPA-600/3-77-077, U.S.EPA, Duluth, MN* 25 p. (U.S.NTIS PB-272796).

EcoReference No.: 9931  
Chemical of Concern: DZ; Habitat: A; Effect Codes: GRO,MOR,REP; Rejection Code: NO CONTROL,ENDPOINT(DZ).

Altuntas, I., Kilinc, I., Orhan, H., Demirel, R., Koylu, H., and Delibas, N. (2004). The effects of diazinon on lipid peroxidation and antioxidant enzymes in erythrocytes in vitro. *Human & Experimental Toxicology [Hum. Exp. Toxicol.]. Vol. 23, no. 1, pp. 9-13. Jan 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0960-3271  
Descriptors: Enzymes  
Descriptors: Antioxidants  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Erythrocytes  
Descriptors: Lipid peroxidation  
Abstract: Diazinon is one of the most widely used organophosphate insecticides (OPI) in agriculture and public health programs. The aim of this study was to investigate how an OPI, diazinon, affects lipid peroxidation (LPO) and the antioxidant defense system in vitro. For this purpose, two experiments were carried out. In experiment 1, the effects of various concentrations of diazinon on LPO and the activities of superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and catalase (CAT) in erythrocytes were studied. Each diazinon concentration was incubated with a previously prepared erythrocyte samples at +4 degree C for 0, 60 and 180 min. After incubation, the malondialdehyde (MDA) levels and the activities of SOD, GSH-Px and CAT were determined. In experiment 2, in order to determine the direct effect of diazinon on the activities of SOD, GSH-Px and CAT, the erythrocytes were haemolysed and incubated with the various concentrations of diazinon at +4 degree C for 0, 60 and 180 min. In experiment 1, MDA levels and the activities of SOD and GSH-Px increased with increasing diazinon concentration and incubation period, but CAT activity remained unchanged. In experiment 2, SOD activity was significantly decreased, and GSH-Px activity was significantly increased. From these results, it can be concluded that in vitro administration of diazinon results in the induction of erythrocyte LPO and changes the activities of antioxidant enzymes, suggesting that reactive oxygen species may be involved in the toxic effects of diazinon.  
DOI: 10.1191/0960327104ht408oa  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

Amato, J. R., Mount, D. I., Durhan, E. J., Lukasewycz, M. T., Ankley, G. T., and Robert, E. D. (1992). An Example of the Identification of Diazinon as a Primary Toxicant in an Effluent. *Environ.Toxicol.Chem.* 11: 209-216.  
Chem Codes: EcoReference No.: 13557  
Chemical of Concern: DZ Rejection Code: MIXTURE.

Anderson, B. G. (1960). The Toxicity of Organic Insecticides to Daphnia. *In: C.M.Tarzwell (Ed.), Biological Problems in WAter Pollution, Trans.2nd Seminar, April 20-24, 1959, Tech.Rep.W60-3, U.S.Public Health Service, R.A.Taft Sanitary Engineering Center, Cincinnati, OH* 94-95.

EcoReference No.: 2157  
Chemical of Concern: DZ,MLN; Habitat: A; Effect Codes: BEH; Rejection Code: NO ENDPOINT(DZ).

Anderson, B. S., De Vlaming, V., Larsen, K., Deanovic, L. S., Birosik, S., Smith, D. J., Hunt, J. W., Phillips, B. M., and Tjeerdema, R. S. (2002). Causes of ambient toxicity in the Calleguas Creek Watershed of southern California. *Environmental Monitoring and Assessment [Environ. Monit. Assess.]. Vol. 78, no. 2, pp. 131-151. 1 Sep 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0167-6369  
Descriptors: Pesticides  
Descriptors: Water pollution  
Descriptors: Contamination  
Descriptors: Chlorpyrifos  
Descriptors: Watersheds  
Descriptors: Toxicity testing  
Descriptors: Chemical analysis  
Descriptors: Water quality measurements  
Descriptors: Diazinon  
Descriptors: Ammonia  
Descriptors: Bioassays  
Descriptors: Catchment areas  
Descriptors: Toxicity (see also Lethal limits)  
Descriptors: Water quality (Natural waters)  
Descriptors: Crustaceans (Cladocera)  
Descriptors: Algae (Green)  
Descriptors: Fish (Cyprinid) (Minnow or carp family)  
Descriptors: Water Pollution Sources  
Descriptors: Water Pollution Effects  
Descriptors: Ecological Effects  
Descriptors: Toxicity  
Descriptors: Data Collections  
Descriptors: Spatial Distribution  
Descriptors: Temporal Distribution  
Descriptors: Pollution effects  
Descriptors: Water quality  
Descriptors: Zooplankton  
Descriptors: Phytoplankton  
Descriptors: Freshwater fish  
Descriptors: Ceriodaphnia dubia  
Descriptors: Pimephales promelas  
Descriptors: Selenastrum capricornutum  
Descriptors: USA, California, Callegcias Creek  
Descriptors: USA, California, Calleguas Creek  
Abstract: A combination of toxicity tests, chemical analyses, and Toxicity Identification Evaluations (TIEs) were used to investigate receiving water toxicity in the Calleguas Creek watershed of southern California. Studies were conducted from 1995 through 1999 at various sites to investigate causes of temporal variability of toxicity throughout this system. Causes of receiving water toxicity varied by site and species tested. Investigations in the lower watershed (Revolon Slough, Santa Clara Drain, Beardsley Wash) indicated that toxicity of samples to the cladoceran Ceriodaphnia dubia was due to elevated concentrations of the organophosphate pesticide chlorpyrifos, while causes of intermittent toxicity to fathead minnows (Pimephales promelas) and the alga Selanastrum capricornutum were less clear. Investigations at sites in the middle and upper reaches of the watershed (Arroyo Simi and Conejo Creek) indicated that the pesticide diazinon was the probable cause of receiving water toxicity to Ceriodaphnia. Elevated ammonia was the cause of toxicity to fathead minnows in the upper watershed sites. Results of these and previous studies suggest that biota are impacted by degraded stream quality from a variety of point and non-point pollution sources in the Calleguas Creek watershed. Water quality resource manager's efforts to identify contaminant inputs and implement source control will be improved with the findings of this study.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: X 24136 Environmental impact  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: AQ 00003 Monitoring and Analysis of Water and Wastes  
Classification: SW 3030 Effects of pollution  
Classification: Q5 01504 Effects on organisms  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: SW 3020 Sources and fate of pollution  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts; Toxicology Abstracts

Anderson, B. S., Hunt, J. W., Phillips, B. M., Nicely, P. A., Gilbert, K. D., De Vlaming, V., Connor, V., Richard, N., and Tjeerdema, R. S. (2003). Ecotoxicologic Impacts of Agricultural Drain Water in the Salinas River, California, USA. *Environ.Toxicol.Chem.* 22: 2375-2384.  
Chem Codes: Chemical of Concern: PPB,CPY,DZ Rejection Code: EFFLUENT.

Anderson, B. S., Hunt, J. W., Phillips, B. M., Nicely, P. A., Gilbert, K. D., DeVlaming, V., Connor, V., Richard, N., and Tjeerdema, R. S. ( 2003). Ecotoxicologic impacts of agricultural drain water in the Salinas River, California, USA. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 22, no. 10, pp. 2375-2384. Oct 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0730-7268  
Descriptors: Pesticides  
Descriptors: Watersheds  
Descriptors: Diazinon  
Descriptors: turbidity  
Descriptors: Community structure  
Descriptors: Pollution effects  
Descriptors: Pore water  
Descriptors: Sediments  
Descriptors: chlorpyrifos  
Descriptors: Toxicity  
Descriptors: Agriculture  
Descriptors: Ecosystem disturbance  
Descriptors: Drainage  
Descriptors: Agricultural Runoff  
Descriptors: Drainage Water  
Descriptors: Rivers  
Descriptors: Macroinvertebrates  
Descriptors: Sediment Contamination  
Descriptors: Crustaceans  
Descriptors: Interstitial Water  
Descriptors: Amphipods  
Descriptors: Agricultural Watersheds  
Descriptors: Acute Toxicity  
Descriptors: Toxicity tests  
Descriptors: Zoobenthos  
Descriptors: Sediment pollution  
Descriptors: Agricultural pollution  
Descriptors: Community composition  
Descriptors: Sediment-water interface  
Descriptors: Mortality causes  
Descriptors: River water  
Descriptors: Lethal limits  
Descriptors: Sediment chemistry  
Descriptors: Ceriodaphnia dubia  
Descriptors: Hyalella azteca  
Descriptors: Azteca  
Descriptors: USA, California, Salinas R.  
Abstract: The Salinas River is the largest of the three rivers that drain into the Monterey Bay National Marine Sanctuary in central California (USA). Large areas of this watershed are cultivated year-round in row crops, and previous laboratory studies have demonstrated that acute toxicity of agricultural drain water to Ceriodaphnia dubia is caused by the organophosphate (OP) pesticides chlorpyrifos and diazinon. We investigated chemical contamination and toxicity in waters and sediments in the river downstream of an agricultural drain water input. Ecological impacts of drain water were investigated by using bioassessments of macroinvertebrate community structure. Toxicity identification evaluations were used to characterize chemicals responsible for toxicity. Salinas River water downstream of the agricultural drain was acutely toxic to the cladoceran Ceriodaphnia dubia, and toxicity to C. dubia was highly correlated with combined toxic units (TUs) of chlorpyrifos and diazinon. Laboratory tests were used to demonstrate that sediments in this system were acutely toxic to the amphipod Hyalella azteca, a resident invertebrate. Toxicity identification evaluations (TIEs) conducted on sediment pore water suggested that toxicity to amphipods was due in part to OP pesticides; concentrations of chlorpyrifos in pore water sometimes exceeded the 10-d mean lethal concentration (LC50) for H. azteca. Potentiation of toxicity with addition of the metabolic inhibitor piperonyl butoxide suggested that sediment toxicity also was due to other non-metabolically activated compounds. Macroinvertebrate community structure was highly impacted downstream of the agricultural drain input, and a number of macroinvertebrate community metrics were negatively correlated with combined TUs of chlorpyrifos and diazinon, as well as turbidity associated with the drain water. Some macroinvertebrate metrics were also correlated with bank vegetation cover. This study suggests that pesticide pollution is the likely cause of ecological damage in the Salinas River, and this factor may interact with other stressors associated with agricultural drain water to impact the macroinvertebrate community in the system.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3030 Effects of pollution  
Classification: AQ 00008 Effects of Pollution  
Classification: Q5 01504 Effects on organisms  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Water Resources Abstracts; Aqualine Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Pollution Abstracts

Anderson, B. S., Hunt, J. W., Phillips, B. M., Nicely, P. A., Vlaming, V. de, Connor, V., Richard, N., and Tjeerdema, R. S. (2003). Integrated assessment of the impacts of agricultural drainwater in the Salinas River (California, USA). *Environmental Pollution* 124: 523-532.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
The Salinas River is the largest of the three rivers that drain into the Monterey Bay National Marine Sanctuary in central California. Large areas of this watershed are cultivated year-round in row crops and previous laboratory studies have demonstrated that acute toxicity of agricultural drainwater to Ceriodaphnia dubia is caused by the organophosphate (OP) pesticides chlorpyrifos and diazinon. In the current study, we used a combination of ecotoxicologic tools to investigate incidence of chemical contamination and toxicity in waters and sediments in the river downstream of a previously uncharacterized agricultural drainage creek system. Water column toxicity was investigated using a cladoceran C. dubia while sediment toxicity was investigated using an amphipod Hyalella azteca. Ecological impacts of drainwater were investigated using bioassessments of macroinvertebrate community structure. The results indicated that Salinas River water downstream of the agricultural drain is acutely toxic to Ceriodaphnia, and toxicity to this species was highly correlated with combined toxic units (TUs) of chlorpyrifos and diazinon. Laboratory tests were used to demonstrate that sediments in this system were acutely toxic to H. azteca, which is a resident genus. Macroinvertebrate community structure was moderately impacted downstream of the agricultural drain input. While the lowest macroinvertebrate abundances were measured at the station demonstrating the greatest water column and sediment toxicity and the highest concentrations of pesticides, macroinvertebrate metrics were more significantly correlated with bank vegetation cover than any other variable. Results of this study suggest that pesticide pollution is the likely cause of laboratory-measured toxicity in the Salinas River samples and that this factor may interact with other factors to impact the macroinvertebrate community in the system. Chlorpyrifos/ Diazinon/ Toxicity/ Sediments/ Macroinvertebrates

Anderson, J. F. and Wojtas, M. A. (1986). Honey bees (Hymenoptera: Apidae) contaminated with pesticides and polychlorinated biphenyls. *Journal of economic entomology [j. Econ. Entomol.]* 79: 1200-1205.  
Chem Codes: Chemical of Concern: MOM Rejection Code: SURVEY.  
  
Abstract: Multiple pesticides were simultaneously present in dead honey bees, Apis mellifera L., or in brood comb in 28 of 55 poisoned apiaries in Connecticut in 1983-85. Methyl parathion (Penncap-M), carbaryl, and endosulfan were each detected in 34, 33, and 13 of the apiaries, respectively. Less frequently detected pesticides were methomyl, chlordane, diazinon, captan, and malathion. Health of colonies poisoned with methyl parathion only or methyl parathion in combination with other insecticides was often severely affected, whereas colonies affected by carbaryl only or carbaryl plus insecticides other than methyl parathion often recovered. Arocolor 1248 and 1260 (polychlorinated biphenyls) were detected in dead bees, brood comb, honey comb, or honey. Detectable quantities of polychlorinated biphenyls less than or equal to 0.80 ppm were in 4 of 71 honey samples.

Anderson, T. D. and Lydy, M. J. \*. (2002). Increased toxicity to invertebrates associated with a mixture of atrazine and organophosphate insecticides. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 21, no. 7, pp. 1507-1514. Jul 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0730-7268  
Descriptors: Atrazine  
Descriptors: Invertebrata  
Descriptors: Toxicity  
Descriptors: Organophosphates  
Descriptors: Mortality  
Descriptors: Lethal dose  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Methyl parathion  
Descriptors: Diazinon  
Descriptors: Toxicity testing  
Descriptors: Hyalella azteca  
Descriptors: Musca domestica  
Abstract: This study examined the joint toxicity of atrazine and three organophosphate (OP) insecticides (chlorpyrifos, methyl parathion, and diazinon) exposed to Hyalella azteca and Musca domestica. A factorial design was used to evaluate the toxicity of binary mixtures in which the lethal concentration/lethal dose (LC1/LD1, LC5/LD5, LC15/LD15, and LC50/LD50) of each OP was combined with atrazine concentrations of 0, 10, 40, 80, and 200 mu g/L for H. azteca and 0, 200, and 2,000 ng/mg for M. domestica. Atrazine concentrations ( greater than or equal to 40 mu g/L) in combination with each OP caused a significant increase in toxicity to H. azteca compared with the OPs dosed individually. Acetylcholinesterase (AChE) activity also was examined for the individual OPs with and without atrazine treatment. Atrazine in combination with each of the OPs resulted in a significant decrease in AChE activity compared with the OPs dosed individually. In addition, H. azteca that were pretreated with atrazine ( greater than or equal to 40 mu g/L) were much more sensitive to the OP insecticides compared with H. azteca that were not pretreated with atrazine before being tested. Topical exposure to atrazine concentrations did not significantly increase OP toxicity to M. domestica. The results of this study indicate the potential for increased toxicity in organisms exposed to environmental mixtures.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 5000 LAND POLLUTION  
Classification: X 24131 Acute exposure  
Classification: Z 05183 Toxicology & resistance  
Subfile: Pollution Abstracts; Toxicology Abstracts; Entomology Abstracts

Anees, M. A. (1974). Changes in Starch-Gel Electrophoretic Pattern of Serum Proteins of a Freshwater Teleost Channa punctatus (Bloch), Exposed to Sublethal and Chronic Levels of Three Organophosphorus Insecticides. *Ceylon J.Sci.Biol.Sci.* 11: 53-57 (Used 5648 As Reference).

EcoReference No.: 5988  
Chemical of Concern: DMT,DZ,MP; Habitat: A; Effect Codes: BCM; Rejection Code: NO ENDPOINT(ALL CHEMS).

Anees, M. A. (1978). Haematological Abnormalities in a Freshwater Teleost, Channa punctatus (Bloch), Exposed to Sublethal and Chronic Levels of Three Organophosphorus Ins. *Int.J.Ecol.Environ.Sci.* 4: 53-60.

EcoReference No.: 6960  
Chemical of Concern: DMT,DZ,MP; Habitat: A; Effect Codes: BCM,CEL; Rejection Code: NO ENDPOINT(ALL CHEMS).

Anees, M. A. (1978). Hepatic Pathology in a Fresh-Water Teleost Channa punctatus (Bloch) Exposed to Sub-lethal and Chronic Levels of Three Organophosphorus Insecticides. *Bull.Environ.Contam.Toxicol.* 19: 524-527.

EcoReference No.: 6099  
Chemical of Concern: DMT,DZ,MP; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Anees, M. A. (1976). Intestinal Pathology in a Freshwater Teleost, Channa punctatus (Bloch) Exposed to Sub-lethal and Chronic Levels of Three Organophosphorus Insecticides. *Acta Physiol.Latinoam.* 26: 63-67.

EcoReference No.: 6100  
Chemical of Concern: DMT,DZ,MP; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(ALL CHEMS).

Angelidis, M. O., Markantonatos, P. G., Bacalis, N. C., and Albanis, T. A. (1996). Seasonal fluctuations of nutrients and pesticides in the basin of Evrotas river, Greece. *Journal of Environmental Science and Health Part a Environmental Science and Engineering & Toxic and Hazardous Substance Control* 31 : 387-410.  
Chem Codes: SZ,MTL,CBF Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Water and sediment samples from several stations along the Evrotas river, were collected for one year period, from August 1991 to August 1992, and were analysed for nutrients (Total N, NO3-N and Total P) and pesticides. Higher nutrient concentrations were detected in the part of the river which is flowing through the plain of Sparta and is receiving industrial and domestic effluents, as well as the runoff from the agricultural land of the area. The industrial effluents (orange juice plants) and the agricultural land runoff, seem to play the major role during winter and spring, while the discharge of domestic septage (cesspools contents) in the reduced water flow, appears to be an important source of nutrient pollution during summer, In the water and sediments of the river were detected the herbicides alachlor, atrazine, amitrol and simazine, the insecticides azinphos ethyl, carbofuran, diazinon, dicofol, endosulfan, fenthion, methyl parathion, as well as the fungicide c  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

Angelidis, M. O., Markantonatos, P. G., Bacalis, N. C., and Albanis, T. A. (1996). Seasonal fluctuations of nutrients and pesticides in the basin of Evrotas River, Greece. *J. ENVIRON. SCI. HEALTH, PART A: ENVIRON. SCI. ENG. TOXIC HAZARD. SUBST. CONTROL. Vol. A31, no. 2, pp. 387-340. 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0360-1266  
Descriptors: nutrients  
Descriptors: pesticides  
Descriptors: water sampling  
Descriptors: rivers  
Descriptors: industrial wastewater  
Descriptors: seasonal variations  
Descriptors: domestic wastewater  
Descriptors: agricultural runoff  
Descriptors: nutrient concentrations  
Descriptors: industrial effluents  
Descriptors: pollution monitoring  
Descriptors: nutrients (mineral)  
Descriptors: river water  
Descriptors: Greece, Evrotas R.  
Abstract: Water and sediment samples from several stations along the Evrotas River, were collected for one year period, from August 1991 to August 1992, and were analysed for nutrients (Total N, NO sub(3)-N and Total P) and pesticides. Higher nutrient concentrations were detected in the part of the river which is flowing through the plain of Sparta and is receiving industrial and domestic effluents, as well as the runoff from the agricultural land of the area. The industrial effluents (orange juice plants) and the agricultural land runoff, seem to play the major role during winter and spring, while the discharge of domestic septage (cesspools contents) in the reduced water flow, appears to be an important source of nutrient pollution during summer. In the water and sediments of the river were detected the herbicides alachlor, atrazine, amitrol and simazine, the insecticides azinphos ethyl, carbofuran, diazinon, dicofol, endosulfan, fenthion, methyl parathion, as well as the fungicide captan. In the river water, the highest concentrations of herbicides atrazine, simazine and alachlor were found in summer (August 1991). The same herbicides as well as the insecticides azinphos ethyl, diazinon, dicofol, fenthion and methyl parathion, were found in significant amounts in the riverine sediments.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: Q5 01505 Prevention and control  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts

Anjum, F. and Siddiqui, M. K. J. (1990). In Vitro Inhibition of Fish (Tilapia mossambica) Brain Ca2+ -ATPase by Monocrotophos, Dimethoate, Diazinon and DDT. *Indian J.Exp.Biol.* 28: 488-489.  
Chem Codes: EcoReference No.: 45841  
Chemical of Concern: DZ,DMT,DDT Rejection Code: IN VITRO.

ANJUM, F. and SIDDIQUI, M. KJ (1990). In vitro inhibition of fish (Tilapia mossambica) brain calcium-ATPase by monocrotophos, dimethoate, diazinon and DDT. *INDIAN J EXP BIOL; 28* 488-489.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. Fish brain Ca2+-ATPase was most sensitive to DDT followed by dimethoate > monocrotophos > diazinon. It is suggested that these organophosphorus pesticides besides inhibiting acetylcholinesterase also inhibit Ca2+-ATPase during neurotoxicological events. Biochemistry/ Nucleic Acids/ Purines/ Pyrimidines/ Amino Acids/ Peptides/ Proteins/ Minerals/ Enzymes/Physiology/ Diagnosis/ Nervous System/ Nervous System/Physiology/ Nervous System/Metabolism/ Nervous System Diseases/Pathology/ Poisoning/ Animals, Laboratory/ In Vitro/ Tissue Culture/ Herbicides/ Pest Control/ Pesticides/ Fishes

Anon. (1999). Diazinon Sources in Runoff From the San Francisco Bay Region. *Watershed Protection Techniques [Watershed Prot. Tech.]. Vol. 3, no. 1, pp. 613-616. Apr 1999.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 1073-9610  
Descriptors: Water Pollution Sources  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Watershed Management  
Descriptors: Pesticides  
Descriptors: Diazinon  
Descriptors: Toxicity  
Descriptors: Ecological Effects  
Descriptors: Path of Pollutants  
Descriptors: Runoff  
Descriptors: Insecticides  
Descriptors: Water pollution  
Descriptors: Watersheds  
Descriptors: River basin management  
Descriptors: Pollution detection  
Descriptors: Ceriodaphnia dubia  
Descriptors: INE, USA, California, San Francisco Bay  
Abstract: Diazinon is a common broad spectrum insecticide that is widely applied by homeowners and pest control professionals alike. In California alone, diazinon is contained in over 200 different pesticide formulations. The primary use for diazinon is for general insect control, with the most common targets being ants, fleas, ticks, grubs and spiders. It is often the insecticide of choice to deal with fire ant problems in the South. There are several reasons why watershed managers are concerned about the use of diazinon. To begin with, diazinon is highly toxic to aquatic life at exceptionally low levels. Toxicologists have found that diazinon causes mortality in the popular bioassay organism, Ceriodaphnia dubia (water flea) at exposure levels as low as 300 parts per trillion. In addition, diazinon is very soluble and therefore very mobile in the urban environment. Although it eventually breaks down in the environment, diazinon has a half-life of about 40 days in surface waters. In addition, diazinon is typically sprayed as a concentrate on a spot basis near foundations, driveway cracks, sidewalk crevices and other impervious surfaces.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Marine  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: SW 3030 Effects of pollution  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Water Resources Abstracts

ANON (1985). REPORT OF THE WORKING GROUP OF THE PLANNING COMMISSION ON PESTICIDES INDUSTRY FOR THE SEVENTH FIVE YEAR PLAN. *PESTICIDES (BOMBAY); 19 (9). 1985 (RECD. 1986). 11-20.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM AGRICHEMICAL SUPPLY INDUSTRY AGRICHEMICAL SERVICE INDUSTRY AGRIBUSINESS INDIA Grasses/Growth & Development/ Soil/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides

Anonymous (1972). Diazinon. *In: Tech.Bull., CIBA-BEIGY, Agric.Div., Ardsley, NY* 10 p.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO CITATION/REVIEW.

Anonymous ( Occupational Safety And Health Guidelines For Chemical Hazards. Supplement Iv-Ohg.  
Chem Codes: CHLOR Rejection Code: HUMAN HEALTH.  
  
revised occupational safety and health guidelines were provided for the following chemicals: benzidine (92875), tert-butyl-chromate (1189851), calcium-oxide (1305788), synthetic camphor (76222), carbaryl (63252), chlorobenzene (108907), o-chlorobenzylidene-malononitrile (2698411), chloropicrin (76062), decaborane (17702419), and portland cement. new guidelines were presented for: calcium-carbonate (471341), calcium-cyanamide (156627), calcium-hydroxide (1305620), calcium-silicate (1344952), caprolactam (105602) dust and vapor, captafol (2425061), captan (133062), carbofuran (1563662), carbon-tetrabromide (558134), carbon-tetrachloride (56235), carbonyl-fluoride (353504), catechol (120809), cellulose (9004346), cesium-hydroxide (21351791), chloroacetyl-chloride (79049), chlorodifluoromethane (75456), chloropentafluoroethane (76153), chlorpyrifos (2921882), o-chlorostyrene (2039874), 2-chloro-6-trichloromethyl-pyridine (1929824), o-chlorotoluene (95498), clopidol (2971906), cobalt-carbonyl (10210681), cobalt-hydrocarbonyl (16842038), crufomate (299865), cyanogen (460195), cyanogen-chloride (506774), cyclohexylamine (108918), cyclonite (121824), cyclopentane (287923), diazinon (333415), 2-n-dibutylaminoethanol (102818), dichloroacetylene (7572294), 1,3-dichloropropene (542756), 2,2-dichloropropionic-acid (75990), dicrotophos (141662), dicyclopentadiene (77736), dicyclopentadienyl-iron (102545), diethanolamine (111422), diethylenetriamine (111400), diethyl-phthalate (84662), dinitolmide (148016), dipropyl-ketone (123193), disulfiram (97778), diuron (330541), endosulfan (115297), ethion (563122), ethylene-glycol (107211), and ethylidene-norbornene (16219753). dcn-230737/ niosh publication/ biological monitoring/ chemical industry workers/ personal protective equipment/ respiratory protection/ toxic materials/ air quality monitoring/ medical screening/ hazardous waste cleanup

ANONYMOUS (1999). This meeting contains abstracts of 42 papers, written in English, covering chemical studies of toxic substances and experimental studies in animals and tissue culture, including enzymology. *JOURNAL OF HEALTH SCIENCE; 45 (1). 1999. P.1-P.42.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. This meeting contains abstracts of 42 papers, written in English, covering chemical studies of toxic substances and experimental studies in animals and tissue culture, including enzymology. Congresses/ Biology/ Biochemistry/ Coenzymes/ Comparative Study/ Enzymes/ Poisoning/ Animals, Laboratory/ Animals

Antharavally, B., Tepp, W., and DasGupta, B. R. \*. (1998). Status of Cys residues in the covalent structure of botulinum neurotoxin types A, B, and E. *Journal of Protein Chemistry [J. Protein Chem.]. Vol. 17, no. 3, pp. 187-196. Apr 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0277-8033  
Descriptors: Botulism  
Descriptors: Toxins  
Descriptors: Neurotoxins  
Descriptors: Disulfide bonds  
Descriptors: Cysteine  
Descriptors: Clostridium botulinum  
Abstract: Clostridium botulinum neurotoxin (NT) serotypes A, B, and E have 9, 10, and 8 Cys residues, respectively, as deduced from nucleotide sequences. Each of the 150-kDa NTs has at least one disulfide; but type B, like types A and E, may have two disulfides. Using two different chemical reagents, we studied the status of the Cys residues in these three proteins after (i) the final anion exchange chromatographic step in their purification (fresh NT), (ii) 24 hr storage at 8 degree C, (iii) precipitation with ammonium sulfate (precipitated NT), and (iv) dissolving the precipitated NT in 6 M guanidine-HCl. In all three NT serotypes the number of Cys residues titrated with 5,5'-dithiobis-2-nitrobenzoic acid (DTNB) as free -SH groups varied, depending upon the absence or presence of EDTA added to the chromatography buffer, storage condition, age, and presence of the denaturant. Titration of 9.5-10 and 5.4-6.0 -SH groups in fresh NTs type B and E, respectively, indicated total and partial absence of disulfide bonds. Fewer titratable -SH groups in the precipitated NT than in the fresh NT suggested formation of disulfide and/or inaccessibility of the -SH groups due to protein's conformational change(s). When the precipitated NTs were dissolved in 6 M guanidine times HCl, in the absence of any added reducing agent, all Cys residues of types B and E, and 6.4-8.3 Cys in type A NT were titratable with DTNB. Iodoacetamide modification of precipitated NT types A, B, and E carboxymethylated 4, 2, and 2 Cys residues, respectively; these numbers rose to 6, 9.4, and 8 when these proteins were carboxymethylated after dissolving in 6 M guanidine-HCl in the absence of any added reducing agent. We propose that -S-S- cleavage mediated by the -SH/-S-S- exchange observed in vitro after unfolding the NTs (also unfolded by 2 M guanidine-HCl or urea) possibly mimicks a similar exchange process inside the endosomes, where the NTs are thought to undergo conformational changes, resulting in the reductive cleavage of the interchain disulfide between the 50-kDa light and 100-kDa heavy chain, which in turn releases the light chain and allows its egress out of the endosomes into the cytosol.  
Language: English  
English  
Publication Type: Journal Article  
Classification: J 02822 Biosynthesis and physicochemical properties  
Classification: X 24171 Microbial  
Subfile: Toxicology Abstracts; Microbiology Abstracts B: Bacteriology

Antinolo, A., Carrillo-Hermosilla, F., Corrochano, A. E., Fernandez-Baeza, J., Lanfranchi, M., Otero, A., and Pellinghelli, M. A. ( 1999). Synthesis of new oxy and thiolate [hydro-tris(pyrazol-1-yl)borato] titanium and zirconium(IV) complexes. Molecular structure of [Ti(HB(3,5-Me2pz)3)Cl3]. *Journal of Organometallic Chemistry* 577: 174-180.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Titanium/ Zirconium/ Pyrazolylborates/ Pyridine/ Pyrimidine/ Dynamic behavior The complexes [M(HB(3,5-Me2pz)3)Cl2(LL)] (pz=pyrazolyl, M=Ti, LL=2-oxy-6-methylpyridine, 2,4-dimethyl-6-oxypyrimidine; M=Zr, LL=4,6-dimethyl-2-thiolatepyrimidine) have been prepared by the reaction of the starting materials [M(HB(3,5-Me2pz)3)Cl3] (M=Ti, Zr) and one equivalent of the lithium salt or the protic form of the corresponding hydroxy or thiolato pyridine or pyrimidine. The complexes were characterized by spectroscopic methods. While the titanium complexes are rigid in solution, the zirconium complex is fluxional at room temperature, although limiting static spectra can be obtained at low temperature. The variable temperature 1H-NMR spectra indicate that a mechanism involving interchange of both nitrogen atoms of pyrimidine, in the coordination sphere of the zirconium atom, can explain this dynamic behavior. In addition, the molecular structure of the starting material [Ti(HB(3,5-Me2pz)3)Cl3] has been determined by X-ray diffraction methods.

APLADA-SARLIS, P., MALATOU PT, MILIADIS GE, and LIAPIS KS (1997). Residues of organophosphorous and organochlorine pesticides in raw agricultural products of plant origin imported in Greece. *ANNALES DE L'INSTITUT PHYTOPATHOLOGIQUE BENAKI; 18* 41-52.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. In 360 raw agricultural products imported in our country from countries non members of the European Union (245 of them were potatoes originating from Egypt) chemical analyses were performed for the determination of organophosphorus and organochlorine pesticide residues. In 14% of the samples, residues of organophosphorus and organochlorine pesticides were detected, while 1.7% of the samples contained residues above the Maximum Residue Limits (MRLs) which have been established from European Union or other International Organizations. The analytical methods used include gas-chromatography and GC-Mass spectrometry, and were assessed for efficiency, accuracy, repeatability as well as for the succeeded sensitivity of the above pesticides. Biophysics/Methods/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides

Applegate, V. C., Howell, J. H., Hall, A. E. Jr., and Smith, M. A. (1957). Toxicity of 4,346 Chemicals to Larval Lampreys and Fishes. *Spec.Sci.Rep.Fish.No.207, Fish Wildl.Serv., U.S.D.I., Washington, D.C.* 157 p.

EcoReference No.: 638  
Chemical of Concern: 24DXY,DZ,HCCH,MLN,MP,ACL,NAA,NYP,CST,Cu,RTN,NaN3,Ni,CuS,PCP,NaPCP,NaCr,DBAC,Zn,ATZ,Cd,NaID,Pb,As,DCB; Habitat: A; Effect Codes: BEH,MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Appleton, Henry T. and Nakatsugawa, Tsutomu (1972). Paraoxon deethylation in the metabolism of parathion. *Pesticide Biochemistry and Physiology* 2: 286-294.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Monoethyl paraoxon has been shown to be a major in vivo urinary metabolite of parathion with several rat strains. The metabolite was identified by radiometric, chromatographic, and infrared analyses. Rats given monoethyl paraoxon excreted only a portion of the dose whereas practically all diethyl phosphoric acid was recovered in the urine. Degradation of O,O-diethyl phosphate triesters by O-dealkylation may be more prevalent than previously believed.

Areekul, S. (1987). Toxicity to Fishes of Insecticides Used in Paddy Fields and Water Resources. I. Laboratory Experiment. *Kasetsart J.20(2):164-178(1986)(THI)(ENG ABS) /C.A.Sel.-Environ.Pollut.* 12: 106-190732T.

EcoReference No.: 283  
Chemical of Concern: CBL,CPY,DS,DZ,MLN,PRT,ADC,HPT,PPX,FNT; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Arias, Hugo Ruben (2000). Localization of agonist and competitive antagonist binding sites on nicotinic acetylcholine receptors. *Neurochemistry International* 36: 595-645.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Identification of all residues involved in the recognition and binding of cholinergic ligands (e.g. agonists, competitive antagonists, and noncompetitive agonists) is a primary objective to understand which structural components are related to the physiological function of the nicotinic acetylcholine receptor (AChR). The picture for the localization of the agonist/competitive antagonist binding sites is now clearer in the light of newer and better experimental evidence. These sites are located mainly on both [alpha] subunits in a pocket approximately 30-35 A above the surface membrane. Since both [alpha] subunits are identical, the observed high and low affinity for different ligands on the receptor is conditioned by the interaction of the [alpha] subunit with other non-[alpha] subunits. This molecular interaction takes place at the interface formed by the different subunits. For example, the high-affinity acetylcholine (ACh) binding site of the muscle-type AChR is located on the [alpha][delta] subunit interface, whereas the low-affinity ACh binding site is located on the [alpha][gamma] subunit interface. Regarding homomeric AChRs (e.g. [alpha]7, [alpha]8, and [alpha]9), up to five binding sites may be located on the [alpha][alpha] subunit interfaces. From the point of view of subunit arrangement, the [gamma] subunit is in between both [alpha] subunits and the [delta] subunit follows the [alpha] aligned in a clockwise manner from the [gamma]. Although some competitive antagonists such as lophotoxin and [alpha]-bungarotoxin bind to the same high- and low-affinity sites as ACh, other cholinergic drugs may bind with opposite specificity. For instance, the location of the high- and the low-affinity binding site for curare-related drugs as well as for agonists such as the alkaloid nicotine and the potent analgesic epibatidine (only when the AChR is in the desensitized state) is determined by the [alpha][gamma] and the [alpha][delta] subunit interface, respectively. The case of [alpha]-conotoxins ([alpha]-CoTxs) is unique since each [alpha]-CoTx from different species is recognized by a specific AChR type. In addition, the specificity of [alpha]-CoTxs for each subunit interface is species-dependent.In general terms we may state that both [alpha] subunits carry the principal component for the agonist/competitive antagonist binding sites, whereas the non-[alpha] subunits bear the complementary component. Concerning homomeric AChRs, both the principal and the complementary component exist on the [alpha] subunit. The principal component on the muscle-type AChR involves three loops-forming binding domains (loops A-C). Loop A (from mouse sequence) is mainly formed by residue Y93, loop B is molded by amino acids W149, Y152, and probably G153, while loop C is shaped by residues Y190, C192, C193, and Y198. The complementary component corresponding to each non-[alpha] subunit probably contributes with at least four loops. More specifically, the loops at the [gamma] subunit are: loop D which is formed by residue K34, loop E that is designed by W55 and E57, loop F which is built by a stretch of amino acids comprising L109, S111, C115, I116, and Y117, and finally loop G that is shaped by F172 and by the negatively-charged amino acids D174 and E183. The complementary component on the [delta] subunit, which corresponds to the high-affinity ACh binding site, is formed by homologous loops. Regarding [alpha]-neurotoxins, several snake and [alpha]-CoTxs bear specific residues that are energetically coupled with their corresponding pairs on the AChR binding site. The principal component for snake [alpha]-neurotoxins is located on the residue sequence [alpha]1W184-D200, which includes loop C. In addition, amino acid sequence 55-74 from the [alpha]1 subunit (which includes loop E), and residues [gamma]L119 (close to loop F) and [gamma]E176 (close to loop G) at the low-affinity binding site, or [delta]L121 (close to the homologous region of loop G) at the high-affinity binding site, are involved in snake [alpha]-neurotoxin binding. The above expounded evidence indicates that each cholinergic molecule binds to specific residues which form overlapping binding sites on the AChR.Monoclonal antibodies have been of fundamental importance in the elucidation of several aspects of the biology of the AChR. Interestingly, certain antibodies partially overlap with the agonist/competitive antagonist binding sites at multiple points of contact. In this regard, a monoclonal antibody directed against the high-affinity ACh binding site ([alpha][delta] subunit interface) induced a structural change on the AChR where the low-affinity ACh locus ([alpha][gamma] subunit interface) approached to the lipid membrane.The [alpha] subunits also carry the binding site for noncompetitive agonists. Noncompetitive agonists such as the acetylcholinesterase inhibitor (-)-physostigmine, the alkaloid galanthamine, and the opioid derivative codeine are molecules that weakly activate the receptor without interacting with the classical agonist binding sites. This binding site was found to be located at K125 in an amphipathic domain of the extracellular portion of the [alpha]1 subunit. Interestingly, the neurotransmitter 5-hydroxytryptamine (5-HT) also binds to this site and enhances the agonist-induced ion flux activity. This suggests that 5-HT may act as an endogenous modulator (probably as co-agonist) of neuronal-type AChRs. The enhancement of the agonist-evoked currents elicited by noncompetitive agonists seems to be physiologically more important than their weak agonist properties.

Arienzo, M., Crisanto, T., Sanchez-Martin, M. J., and Sanchez-Camazano, M. (1994). Effect of Soil Characteristics on Adsorption and Mobility of (14C)Diazinon. *J.Agric.Food Chem.* 42: 1803-1808.  
Chem Codes: EcoReference No.: 45843  
Chemical of Concern: DZ Rejection Code: NO SPECIES.

Arienzo M., Sanchez-Camazano M., Crisanto Herrero T., and Sanchez-Martin M. J. (1993). Effect of organic cosolvents on adsorption of organophosphorus pesticides by soils. *Chemosphere* 27: 1409-1417.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
A study was conducted to describe the adsorption and mobility of diazinon and acephate in soils from aqueous medium and mixtures of methanol-water and hexane-water. Pesticide adsorption from aqueous system was related to organic matter content (viz. diazinon), and to content and composition of clay mineral fraction (viz. acephate). In the methanol-water systems, the adsorption of diazinon and acephate by soils decreases. In the hexane-water mixtures the adsorption of diazinon decreases, whereas the adsorption of acephate increases.

Arienzo M., Sanchez-Camazano M., Sanchez-Martin M. J., and Crisanto T. (1994). Influence of exogenous organic matter in the mobility of diazinon in soils. *Chemosphere* 29: 1245-1252 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The mobility of diazinon (O,O-diethyl-O-2-isopropyl-6-methylpyrimidin-4-yl phosphorothioate) in soil columns modified with three organic amendments and with hexadecyltrimethylammonium bromide was studied. Based on the percolation curves and residual pesticide partitioning in the columns, all four amendments reduced leaching of the pesticide from soil. The effect was found to be related to the nature and carbon content of the amendments, the presence of soluble fractions in them and the soil texture.

Arienzo, M., Sanchez-Camazano, M., Sanchez-Martin, M. J., and Crisanto, T. (1994). Influence of Exogenous Organic Matter in the Mobility of Diazinon in Soils. *Chemosphere* 29: 1245-1252.  
Chem Codes: EcoReference No.: 45842  
Chemical of Concern: DZ Rejection Code: NO SPECIES.

Armstrong, Victoria T., Brzustowicz, Michael R., Wassall, Stephen R., Jenski, Laura J., and Stillwell, William (2003). Rapid flip-flop in polyunsaturated (docosahexaenoate) phospholipid membranes. *Archives of Biochemistry and Biophysics* 414: 74-82.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The transbilayer movement (flip-flop) of 7-nitrobenz-2-oxa-1,3-diazol-4-yl phosphatidylethanolamine (NBD-PE) in phosphatidylcholine (PC) membranes containing various acyl chains was measured by dithionite quenching of NBD fluorescence. Of specific interest was docosahexaenoic acid (DHA), the longest and most unsaturated acyl chain commonly found in membranes. This molecule represents the extreme example of a family of important fatty acids known as omega-3s and has been clearly demonstrated to alter membrane structure and function. One important property that has yet to be reported is the effect of DHA on membrane phospholipid flip-flop. This study demonstrates that as the number of double bonds in the fatty acyl chains comprising the membrane increases, so does the rate of flip-flop of the NBD-PE probe. The increase is particularly marked in the presence of DHA. Half-lives t1/2 of 0.29 and 0.086 h describe the process in 1-stearoyl-2-docosahexaenoylphosphatidylcholine and 1,2-didocosahexaenoylphosphatidylcholine, respectively, whereas in 1-stearoyl-2-oleoylphosphatidylcholine t1/2=11.5 h. Enhanced permeability to dithionite with increasing unsaturation was also indicated by our results. We conclude that PC membranes containing DHA support faster flip-flop and permeability rates than those measured for other less-unsaturated PCs. Docosahexaenoic acid/ Flip-flop/ Lipid bilayer membranes

Arrebola, F. J., Martinez Vidal, J. L., Mateu-Sanchez, M., and Alvarez-Castellon, F. J ( 2003). Determination of 81 multiclass pesticides in fresh foodstuffs by a single injection analysis using gas chromatography-chemical ionization and electron ionization tandem mass spectrometry. *Analytica Chimica Acta* 484: 167-180.  
Chem Codes: Chemical of Concern: TCZ Rejection Code: CHEM METHODS.  
  
A new anal. method has been proposed to det. 81 multiclass pesticide residues in vegetables. It is based on a fast extn. of the pesticides with dichloromethane and a further anal. of the ext. by gas chromatog.-tandem mass spectrometry (GC-MS-MS). For that, a single injection of the ext. is carried out using the optimum ionization mode (electron ionization (EI) or chem. ionization (CI)) for each pesticide. The presented method reduces the total time of anal. with respect to those which propose 2 different injections to analyze such no. of pesticides, being more suitable for its usage in routine labs. The method was validated to be applied to real samples. Recoveries in cucumber at 2 different fortification levels were evaluated and ranged between 73 and 108% for all pesticides. The relative std. deviation (R.S.D.%) was <22% in all cases. The calcd. limits of detection (LOD) and quantification (LOQ) were lower than the max. residue levels established by European legislations. Inter-day recoveries and precision were evaluated too. The method has been successfully applied to the anal. of .apprx.4000 real samples from El Ejido (Almeria', Spain). [on SciFinder (R)] pesticide/ detn/ vegetable/ GC/ MS Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:361774  
Chemical Abstracts Number: CAN 139:100041  
Section Code: 17-1  
Section Title: Food and Feed Chemistry  
Document Type: Journal  
Language: written in English.  
Index Terms: Cucumis sativus; Food analysis; Food contamination; Pesticides; Vegetable (detn. of 81 multiclass pesticides in fresh foodstuffs by a single injection anal. using GC-chem. ionization and electron ionization tandem MS); Mass spectrometry (gas chromatog. combined with, tandem, chem. ionization and electron ionization; detn. of 81 multiclass pesticides in fresh foodstuffs by a single injection anal. using); Gas chromatography (mass spectrometry combined with, tandem, chem. ionization and electron ionization; detn. of 81 multiclass pesticides in fresh foodstuffs by a single injection anal. using)  
CAS Registry Numbers: 55-38-9 (Fenthion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 786-19-6 (Carbofenothion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 18181-80-1 (Bromopropylate); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55219-65-3 (Triadimenol); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 94361-06-5 (Cyproconazole); 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 119446-68-3 (Difenoconazole); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of 81 multiclass pesticides in fresh foodstuffs by a single injection anal. using GC-chem. ionization and electron ionization tandem MS)

Arvinte, Tudor, Wahl, Philippe, and Nicolau, Claude (1987). Low pH fusion of mouse liver nuclei with liposomes bearing covalently bound lysozyme. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 899: 143-150.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lysozyme covalently bound to liposomes induces the fusion of liposomes with isolated mouse liver nuclei. The fusion behavior is very similar to the case of erythrocyte ghosts (Arvinte, T., Hildenbrand, K., Wahl, P. and Nicolau, C. (1986) Proc. Natl. Acad. Sci. USA 83, 962-966). Kinetic studies showed that membrane lipid mixing was completed within 15 min, as indicated from the resonance energy transfer (RET) measurements. For the resonance energy transfer kinetic measurements the liposomes contained -[alpha]-dipalmitoylphosphatidylethanolamine (DPPE), labeled at the free amino group with the energy donor 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD) or with the energy acceptor tetramethylrhodamine. The lipid mixing at equilibrium was studied by the fluorescence recovery after photobleaching technique (FRAP). Liposomes (with/without lysozyme) containing Rh-labeled DPPE in their membranes were incubated with nuclei at 37[deg] C, pH 5.2, for 30 min. After washing of nuclei by three centrifugations, 60-70% of the initial amount of labeled DPPE was associated with the nuclei in the case of liposomes bearing lysozyme and only 7-10% in the case of liposomes without lysozyme. For the nuclei incubated with liposomes having lysozyme, about 70% of the total Rh-labeled lipids present in the nuclei diffused in the nuclear membrane(s) (lateral diffusion constant of D = (1.4 +/- 0.5) [middle dot] 10-9 cm2/s). By encapsulating fluorescein isothiocyanate-labeled dextran of 150 kDa molecular mass into the liposomes and using a microfluorimetric method, it was shown that after the fusion a part of the liposome contents is found in the nuclei interior. In this lysozyme-induced fusion process between liposomes and nuclei or erythrocyte ghosts, the binding of lysozyme to the glycoconjugates contained in the biomembranes at acidic pH seems to be the determining step which explains the high fusogenic property of the liposomes bearing lysozyme. Membrane fusion/ Liposome/ Lysozyme/ Hepatocyte nuclei/ Resonance energy transfer/ Fluorescence photobleaching recovery/ (Mouse)

Arzone, A. and Patetta, A. (1989). Researches on the Action of Azinphos-Methyl, Diazinon, Dithianon, Hexythiazox, Omethoate, and Propargite on Honeybees (Esame Dell'azione Sull'ape di Azinphosmethyl, Diazinon, Dithianon, Hexythiazox, Omethoate e Propargite. *Apic.Mod.* 80: 253-261 (POR) (ENG ABS).  
Chem Codes: EcoReference No.: 75553  
Chemical of Concern: OMT,DZ,AZ Rejection Code: NON-ENGLISH.

Asaka, A., Sakai, M., and Tan, N. (1980). Influences of Certain Environmental Factors on Fish Toxicity of Cartap. *J.Takeda Res.Lab.* 39: 28-33(JPN)(ENG ABS).

EcoReference No.: 5301  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Asensio, J. S., Barrio, C. S., Juez, M. T. G., and Bernal, J. G. (1991 ). Study of the decay of diazinon and chlorpyrifos in apple samples, using gas chromatography.  *Food Chemistry [FOOD CHEM.]. Vol. 42, no. 2, pp. 213-224. 1991.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0308-8146  
Descriptors: pesticide residues  
Descriptors: fruits  
Descriptors: residues  
Descriptors: crops  
Abstract: This paper presents a study of the decay of diazinon and chlorpyrifos in samples of apple. After an initial study of the optimum method for extracting the two pesticides, and for determining them by gas chromatography (using a capillary column and NPD detector), the decay study itself was performed both in the laboratory (in vitro) and on the trees (in vivo). Samples of apple were treated with commercial products containing each compound, and these were measured at intervals. These two pesticides are found to degrade much more quickly in vivo than in vitro. In no case was either pesticide observed to penetrate inside the apple.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: P 5000 LAND POLLUTION  
Classification: X 24120 Food, additives & contaminants  
Subfile: Pollution Abstracts; Toxicology Abstracts

Atkins, E. L. and Kellum, D. (1986). Comparative Morphogenic and Toxicity Studies on the Effect of Pesticides on Honeybee Brood . *J.Apic.Res.* 25: 242-255.

EcoReference No.: 70351  
Chemical of Concern: DZ,CPY,EN,CBL,ES; Habitat: T; Rejection Code: TARGET(DZ).

AUGER, J., BIRKETT MA, COATS, J., COHEN SZ, HAWKES TR, LUCCA, P., NARAYANAN KS, POTRYKUS, I., and ROBERTSON, A. (1998). All specialisations were catered for at the IUPAC conference (London, UK: August, 1998; IUPAC). *INTERNATIONAL PEST CONTROL; 40* 204-207.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. Though it is obviously impossible to report on the vast number of papers and posters given at the IUPAC Congress in London in August, this small selection which caught the editor's eye shows that there was something for everyone, whatever his or her specialisation: food and pesticides; genetically engineered crops; natural pesticides and fumigants; formulation technology, resistance; and fate of pesticides. Plants/Cytology/ Plants/Genetics/ Food Technology/ Plants/Growth & Development/ Soil/ Plants/Growth & Development/ Herbicides/ Pest Control/ Pesticides/ Grasses

Axelrad, J. C., Howard, C. V., and McLean, W. G. (2003). The effects of acute pesticide exposure on neuroblastoma cells chronically exposed to diazinon. *Toxicology* 185: 67-78.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Speculation about potential neurotoxicity due to chronic exposure to low doses of organophosphate (OP) pesticides is not yet supported by experimental evidence. The objective of this work was to use a cell culture model of chronic OP exposure to determine if such exposure can alter the sensitivity of nerve cells to subsequent acute exposure to OPs or other compounds. NB2a neuroblastoma cells were grown in the presence of 25 [mu]M diazinon for 8 weeks. The OP was then withdrawn and the cells were induced to differentiate in the presence of various other pesticides or herbicides, including OPs and OP-containing formulations. The resulting outgrowth of neurite-like structures was measured by light microscopy and quantitative image analysis and the IC50 for each OP or formulation was calculated. The IC50 values in diazinon-pre-exposed cells were compared with the equivalent values in cells not pre-exposed to diazinon. The IC50 for inhibition of neurite outgrowth by acute application of diazinon, pyrethrum, glyphosate or a commercial formulation of glyphosate was decreased by between 20 and 90% after pre-treatment with diazinon. In contrast, the IC50 for pirimiphos methyl was unaffected and those for phosmet or chlorpyrifos were increased by between 1.5- and 3-fold. Treatment of cells with chlorpyrifos or with a second glyphosate-containing formulation led to the formation of abnormal neurite-like structures in diazinon-pre-exposed cells. The data support the view that chronic exposure to an OP may reduce the threshold for toxicity of some, but by no means all, environmental agents. Organophosphate/ Neurotoxicity/ In vitro/ Neurite/ Pesticide

Axelrad, J. C., Howard, C. V., and McLean, W. G. (2002). Interactions between pesticides and components of pesticide formulations in an in vitro neurotoxicity test. *Toxicology* 173: 259-268.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Organophosphate (OP) pesticides are often used in combination with one another and with the components of formulations. Evidence already exists for interactions in the neurotoxic effects of OPs through interference with metabolism, but there is also potential for interactions related directly to cell damage. The purpose of this work was to investigate this possibility for OPs and the components of one of their common formulations in vitro. NB2a neuroblastoma cells were induced to differentiate in the presence of the OPs diazinon and chlorpyrifos, in combination with a commercial formulation (identified as Commercial Formulation 1) of the compounds and, independently, the components of that formulation. The compounds were tested in pairs in various proportions and the resulting inhibition of neurite outgrowth was measured by light microscopy and quantitative image analysis. Interactions were determined in terms of enhanced or reduced effects of the paired compounds in comparison with the expected additive effects estimated from the effects of each compound on its own. Synergism was detected between combinations of: 10 [mu]M chlorpyrifos and 500 nM pyrethrum; chlorpyrifos and one of the solvents (regular spirit) found in Commercial Formulation 1. All other combinations of OPs and products were additive in their neurotoxicity. The data suggest that exposure to multiple OP-containing pesticide formulations may lead to synergistic neurotoxicity by a direct mechanism at the cellular level. Organophosphate/ Neurotoxicity/ In vitro/ Neurite/ Pesticide

Azmi, M. Ahmed, Naqvi, S. N. H., Azmi, M. Arshad , and Aslam, M. ( Effect of pesticide residues on health and different enzyme levels in the blood of farm workers from Gadap (rural area) Karachi--Pakistan. *Chemosphere* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
Persons from 14 different fruit and vegetable farm stations from Gadap (rural area), Karachi--Pakistan were examined for the presence of pesticide (cypermethrin, deltamethrin, polytrin-C, diazinon, monocrotophos, DDT and DDE) residues in their blood samples. The present study is concerned with effects of residue on the enzyme levels (GPT, GOT and ALP) as well as the health hazards of pesticide exposed persons. There is a significant increased in the enzyme levels at different stations. Exposed persons complained about liver and kidney dysfunctions and RTI. It may be concluded that exposure of multiple pesticides for prolonged period has affected the normal functioning of different organ systems and possibly produced characteristics clinical effects such as hepatitis, dyspnea and burning sensation in urine. Pesticides/ Residues/ Blood/ Enzymes/ Health

Azuma, T., Niiro, M., and Motobu, H. (1994). Removal Of Pesticides From Wastewater At Golf Courses Using Plants, (Removal By Mung Beans; Phaseolus Radiatus L). 4: 127-137.  
Chem Codes: Chemical of Concern: SZ, CHLOR Rejection Code: EFFLUENT.  
  
biosis copyright: biol abs. many studies have been done on the removal of pollutants from wastewater using aquatic plants. water hyacinth has been the most widely-used plant, and systems using water hyacinth are well-established. these systems, however, have a few problems in their practical use. in a previous paper, we proposed a new system that could be used as a substitute for a conventional system or, as a secondary system to assist the conventional one. mung beans will be used to remove pollutants in this system. in the previous experiment, the removal characteristics of nutrient salts such as no2-, no3-, nh4+ and phosphorus salts from wastewater in residential areas were examined. mung beans exhibited good characteristics for removing these nutrient salts. at present, pesticides used at golf courses have become a severe environmental problem polluting water supplies. the purpose of this study was, therefore, to verify whether our new system using mung beans was also effective in removing pesticides from wastewater at golf courses. an experiment was conducted on seven different pesticides. they were three insecticides; diazinon, fenitrothion and chlorpyrifos, three fungicides; captan, isoprothiolane and chlorothalonil, and a herbicide; simazine. the experimental results showed that, under experimental conditions, the pesticides were rapidly removed and that they exhibited no harmful effects on the growth of the mung beans. mung beans may be used, therefore, to remove pesticides from wastewater at golf courses although further research is needed. biochemical studies-general/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ plant physiology, biochemistry and biophysics-metabolism/ plant physiology, biochemistry and biophysics-general and miscellaneous/ pest control, general/ pesticides/ herbicides/ leguminosae

Azuma, T., Niiro, M., and Motobu, H. (1994). Removal of Pesticides from Wastewater at Golf Courses Using Plants (Removal by Mung Beans; Phaseolus radiatus L). *Bio-Med.Mater.Eng.* 4: 127-137.

EcoReference No.: 70770  
Chemical of Concern: SZ,DZ,CPY,Captan,FNT,CTN; Habitat: T; Effect Codes: GRO,ACC; Rejection Code: NO ENDPOINT(ALL CHEMS,TARGET-SZ).

Baatrup, E., Doving, K. B., and Winberg, S. (1990). Differential Effects of Mercurial Compounds on the Electroolfactogram (EOG) of Salmon (Salmo salar L.). *Ecotoxicol.Environ.Saf.* 20: 269-276.

EcoReference No.: 332  
Chemical of Concern: DZ; Habitat: A; Effect Codes: PHY; Rejection Code: NO ENDPOINT(ALL CHEMS),NO COC(DZ).

Babcock, J. M. and Tanigoshi, L. K. (1988). Resistance Levels of Typhlodromus occidentalis (Acari: Phytoseiidae) from Washington Apple Orchards to Ten Pesticides. *Exp.Appl.Acarol.* 4: 151-157.

EcoReference No.: 74105  
Chemical of Concern: CHX,FTT,PPG,AZ,DZ,MOM,CBL,FNV,ES,MDT; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Babich, H., Rosenberg, D. W., and Borenfreund, E. (1991). In vitro cytotoxicity studies with the fish hepatoma cell line, PLHC-1 (Poeciliopsis lucida). *Ecotoxicology and Environmental Safety* 21: 327-336.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The PLHC-1 fish hepatoma cell line (Poeciliopsis lucida) was used in the neutral red assay to evaluate the acute cytotoxicities of direct-acting (alkylbenzenes, phthalate diesters, and pesticides) and metabolism-mediated (benzo[a]pyrene) toxicants. The sequence of cytotoxic potencies for the alkylbenzenes and phthalate diesters appeared to be a direct function of their hydrophobicity (as described by logarithmic octanol/water partition coefficients). The organochlorine pesticides (alachlor and p,p&prime;-methoxychlor) were more cytotoxic than the organophosphorus pesticides (EPN, diazinon, and malathion). The PLHC-1 cell line apparently maintained sufficient xenobiotic-metabolizing capacity, as the hepatoma cells were able to metabolize benzo[a]pyrene to cytotoxic intermediates. Xenobiotic-metabolizing capacity was temperature dependent, with enzymatic activity increasing as the temperature was increased from 28 to 34 to 37[deg]C, was inducible by Aroclor 1254 (a chemical inducer of cytochrome P450-dependent monooxygenase activity), and was reduced by EPN (an inhibitor of P450 activity).

Baer, Hans H. and Radatus, Bruno (1986). Two syntheses of 3-amino-3-deoxy-[alpha]--altropyranosyl 3-amino-3-deoxy-[alpha]--altropyranoside, a new analog of [alpha],[alpha]-trehalose, involing reduction of a diazide and reductive amination of a diketone. *Carbohydrate Research* 157: 65-81.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A new diamino sugar, 3-amino-3-deoxy-[alpha]--altropyranosyl 3-amino-3-deoxy-[alpha]--altropyranoside (5) was synthesized by two routes starting from [alpha],[alpha]-threhalose. The first route involved reduction and deprotection of a previously described, benzylidenated diazido analog. The second approach proceeded from the known 2,2&prime;-di-O-benzyl-4,6;4&prime;,6&prime;-bis-O-benzylidene derivative of [alpha]--altropyranosyl [alpha]--altropyranoside, to the corresponding 3,3&prime;-diketone, which was subjected to reductive amination with sodium cyanoborohydride and ammonium acetate. The major product, separated in 39% yield from by-products after N-acetylation, was deprotected to give 5. Four by-products were isolated in low yields and determined to be monoaminated analogs which comprise two epimeric, 3&prime;-hydroxy structures and two 3&prime;-epimeric, 3&prime;-cyano-3&prime;-hydroxy structures in their non-aminated residues. A number of observations concerning the 13C- and 1H-n.m.r. spectra of the products are discussed, especially with regard to chemical-shift dependencies for certain ring and substituent protons, and attention is drawn to some inter-residue shielding phenomena.

BAGHERWAL RK, SISODIA RS, SHARMA, A., DHANOTIYA RS, and GHOSAL SB (1995). In vitro studies on the susceptibility of the tick-Hyalomma anatolicum anatolicum to acaricides using F.A.O. test kit. *INDIAN VETERINARY JOURNAL; 72* 332-335.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. By using "F.A.O. acaricide resistance test kit", larvae of tick (Hyalomma anatolicum anatolicum) were found susceptible to 0.2, 0.4, 0.8 and 1.6 percent coumaphos, 0.05, 0.1, 0.2, 0.4 and 0.8 percent diazinon and 0.1, 0.2, 0.4 and 0.8 percent cypermethrin impregnated papers. Larvae were 66 percent susceptible to 1.6 percent and 54 percent resistance to 0.1, 0.2, 0.4 and 0.8 percent dielderin. It is inferred from the present study that coumaphos, diazinon and cypermethrin are the effective and safe acaricides for control/eradication of H. a. anatolicum ticks but their extensive/frequent use at lower concentration must be avoided. Biochemistry/ Therapeutics/ In Vitro/ Tissue Culture/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology/ Anthelmintics/Pharmacology/ Antiprotozoal Agents/Pharmacology/ Parasitic Diseases/Drug Therapy/ Animal/ Animals, Domestic/ Animals, Zoo/ Parasitic Diseases/Veterinary/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Arthropods

Baicu, T. (1982). Toxicity of Some Pesticides to Trichoderma viride Pers. *Crop Prot.* 1: 349-358.

EcoReference No.: 84809  
Chemical of Concern: DZ,Zineb,Captan,Folpet,BMY,FRM; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(DZ),OK(Captan,Zineb).

Bailey, H. C., Deanovic, L., Reyes, E., Kimball, T., Larson, K., Cortright, K., Connor, V., and Hinton, D. E. (2000). Diazinon and Chlorphyrifos in Urban Waterways in Northern California, USA. *Environ.Toxicol.Chem.* 19: 82-87.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Bailey, H. C., Deanovic, L., Reyes, E., Kimball, T., Larson, K., Cortright, K., Connor, V., and Hinton, D. E. (2000). Diazinon and chlorpyrifos in urban waterways in northern California, USA. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 1, pp. 82-87. Jan 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0730-7268  
Descriptors: Diazinon  
Descriptors: Streams  
Descriptors: Urban areas  
Descriptors: Pesticides  
Descriptors: Toxicity testing  
Descriptors: Catchments  
Descriptors: Sprays  
Descriptors: Freshwater pollution  
Descriptors: Water quality criteria  
Descriptors: Immunoassays  
Descriptors: Insecticides  
Descriptors: Water pollution  
Descriptors: Pollution surveys  
Descriptors: Toxicity tests  
Descriptors: Lethal limits  
Descriptors: Agricultural pollution  
Descriptors: Waterways  
Descriptors: Toxicity  
Descriptors: Water Analysis  
Descriptors: Water Quality Standards  
Descriptors: Catchment Areas  
Descriptors: Comparison Studies  
Descriptors: Ceriodaphnia dubia  
Abstract: Samples collected from urban streams in the cities of Sacramento and Stockton, California, USA, during the precipitation season were analyzed for diazinon and chlorpyrifos. Concentrations were determined with enzyme-linked immunosorbent assays specific for each pesticide. Two hundred thirty-one samples from the two cities were analyzed for diazinon; 85% exceeded California Department of Fish and Game water-quality criteria for this pesticide. Chlorpyrifos was measured in 90 of the samples collected from Sacramento and Stockton; 80% exceeded the California Department of Fish and Game criterion for this pesticide. Thirty-six of 47 samples (76.6%) tested for toxicity produced total mortality within 72 h with Ceriodaphnia dubia. Toxicity identification evaluations on selected samples confirmed that toxicity was primarily due to one or both of these pesticides. Uses of diazinon and chlorpyrifos in urban areas include dormant sprays on fruit trees, professional landscape and maintenance uses, and structural pest control. Pesticide concentrations were lower in a catchment favoring commercial and industrial activities compared with a catchment receiving largely residential inputs. Aerial drift from agricultural applications may play a role in storm-water concentrations.  
Annual review issue.  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Review  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: SW 3020 Sources and fate of pollution  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: SW 3030 Effects of pollution  
Subfile: Pollution Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Bailey, H. C., DiGiorgio, C., Kroll, K., Miller, J. L., Hinton, D. E., and Starrett, G. (1996). Development of procedures for identifying pesticide toxicity in ambient waters: Carbofuran, diazinon, chlorpyrifos. *Environmental Toxicology and Chemistry. Vol. 15, no. 6, pp. 837-845. Jun 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0730-7268  
Descriptors: pesticides  
Descriptors: toxicity testing  
Descriptors: diazinon  
Descriptors: water sampling  
Descriptors: insecticides  
Descriptors: aquatic organisms  
Descriptors: toxicity  
Descriptors: pollution monitoring  
Descriptors: testing procedures  
Descriptors: indicator species  
Descriptors: toxicity tests  
Descriptors: Ceriodaphnia dubia  
Abstract: The responses of carbofuran, diazinon, and chlorpyrifos to standard acute toxicity identification evaluation (TIE) procedures were characterized. The test species was Ceriodaphnia dubia. The TIE procedures included solid-phase extraction, recovery in methanol eluates, hydrolysis under acid and base conditions, and retention in specific methanol/water fractions. In addition, the effect of the metabolic inhibitor, piperonyl butoxide, on the toxicity of each of the pesticides was determined. Diazinon degraded quickly under acid conditions, whereas carbofuran degraded under base conditions. In both cases, concentrations were reduced to nontoxic levels within 6 h. Conversely, acidic or basic conditions were not effective in reducing the concentration of chlorpyrifos over the same time period. Solid-phase extraction removed at least 95% of diazinon and carbofuran from solution, but was less effective with chlorpyrifos. All three pesticides eluted separately in characteristic methanol/water fractions. Piperonyl butoxide ameliorated the toxicity of diazinon and chlorpyrifos, but not carbofuran. Up to 1.5% methanol did not interfere with the protective action of piperonyl butoxide. Case studies in which these techniques were applied to ambient water samples are also described.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: SW 3030 Effects of pollution  
Classification: X 24221 Toxicity testing  
Classification: Q5 01504 Effects on organisms  
Classification: X 24131 Acute exposure  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Toxicology Abstracts; Water Resources Abstracts; Pollution Abstracts

Bailey, H. C., Elphick, J. R., Krassoi, R., and Lovell, A. (2001). Joint acute toxicity of diazinon and ammonia to Ceriodaphnia dubia. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 20, no. 12, pp. 2877-2882. Dec 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0730-7268  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Insecticides  
Descriptors: Ammonia  
Descriptors: Synergism  
Descriptors: Mixtures  
Descriptors: Water Pollution Effects  
Descriptors: Ecological Effects  
Descriptors: Toxicity  
Descriptors: Pesticides  
Descriptors: Exposure  
Descriptors: Experimental Data  
Descriptors: Daphnia  
Descriptors: Toxicity (see also Lethal limits)  
Descriptors: Pollution (Water)  
Descriptors: Crustaceans (Cladocera)  
Descriptors: Pesticides (see also Bactericides, Weedkillers)  
Descriptors: Pollution effects  
Descriptors: Toxicity tests  
Descriptors: Organophosphorus compounds  
Descriptors: Ceriodaphnia dubia  
Abstract: Diazinon is an organophosphorous pesticide widely found in municipal effluents as well as in agricultural and urban storm-water discharges. Ammonia is frequently also present in such effluents as a consequence of bacterial degradation of organic material. Because these two contaminants may occur concurrently, their relationship with respect to joint toxicity is of interest, particularly in regard to interpreting the results of effluent tests and subsequent toxicity identification evaluations (TIEs). In this particular case, we obtained an effluent sample that exhibited toxicity to Ceriodaphnia dubia. Toxicity identification evaluations manipulations suggested that ammonia (40 mg/L as total NH sub(3)) and diazinon (0.75 mu g/L) both contributed to toxicity. As part of the Phase 3 confirmation studies, an independent investigation was conducted to evaluate the interactions between these two toxicants using static tests that incorporated a 48-h exposure period. Chemical concentrations were verified analytically. Mortalities were measured at 24-h intervals and joint toxicity calculated on the basis of toxic units (TUs) for each toxicant. The 48-h LC50 values (lethal concentrations for 50% of the population) for the individual chemicals averaged 0.36 mu g/L and 1.11 mg/L for diazinon and un-ionized ammonia, respectively. Under the assumption of strict additivity, the sum of TUs contributed by each toxicant at the LC50 of the mixture should total unity. The TUs associated with the mixtures in laboratory water averaged 1.37 and 1.47, respectively, for 24- and 48-h exposure intervals. These results were similar to those obtained with the actual effluent sample and suggest that diazinon and ammonia exhibit less than additive toxicity when present together.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: X 24131 Acute exposure  
Classification: SW 3030 Effects of pollution  
Classification: AQ 00008 Effects of Pollution  
Classification: Q5 01504 Effects on organisms  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Toxicology Abstracts

Bailey, H. C., Krassoi, R., Elphick, J. R., Mulhall, A. M., Hunt, P., Tedmanson, L., and Lovell, A. (2000). Application of Ceriodaphnia dubia for whole effluent toxicity tests in the Hawkesbury-Nepean watershed, New South Wales, Australia: Method development and validation. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 1, pp. 88-93. Jan 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0730-7268  
Descriptors: Effluents  
Descriptors: Toxicity testing  
Descriptors: Watersheds  
Descriptors: Mortality  
Descriptors: Reproduction  
Descriptors: Sewage treatment plants  
Descriptors: Diazinon  
Descriptors: Wastewater discharges  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Toxicity tests  
Descriptors: Bioassays  
Descriptors: Analytical techniques  
Descriptors: Water quality  
Descriptors: Hazard assessment  
Descriptors: Insecticides  
Descriptors: Toxicity  
Descriptors: Testing Procedures  
Descriptors: Wastewater Disposal  
Descriptors: Catchment Areas  
Descriptors: Standards  
Descriptors: Survival  
Descriptors: Comparison Studies  
Descriptors: Ceriodaphnia dubia  
Descriptors: Australia, New South Wales  
Abstract: Use of Ceriodaphnia dubia for whole effluent toxicity testing programs is widespread in North America. However, the methods used for this species in the United States and Canada have not been validated in Australia for use in local waters with the local variant of the species. Consequently, we compared the effects of container size and volume, diet, and dilution water on the survival and reproduction of the local variant of C. dubia (the Sydney clone). We also evaluated the results of control performance and reference toxicant tests with potassium chloride and diazinon obtained over the course of a whole effluent toxicity testing program conducted on effluents discharged from sewage treatment plants into the Hawkesbury-Nepean drainage basin. Our data indicate that the general guidelines published by the U.S. Environmental Protection Agency for conducting acute and chronic toxicity tests with C. dubia can be successfully applied to the Sydney clone with minor modifications and that both acute and chronic tests can be conducted with a high degree of success, provided that appropriate procedures are followed. Moreover, tests with a variety of chemicals indicated that the Sydney clone responded comparably to its North American counterparts, suggesting that existing databases for C. dubia can be applied to the Sydney clone. In addition, the use of test volumes between 20 and 200 ml did not affect the acute toxicity of the organophosphorous pesticide diazinon to this strain.  
Annual review issue.  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Review  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: X 24221 Toxicity testing  
Classification: Q5 01502 Methods and instruments  
Classification: SW 3010 Identification of pollutants  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3030 Effects of pollution  
Subfile: Pollution Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Toxicology Abstracts

Bailey, H. C., Krassoi, R., Elphick, J. R., Mulhall, A. M., Hunt, P., Tedmanson, L., and Lovell, A. (2000). Whole effluent toxicity of sewage treatment plants in the Hawkesbury-Nepean watershed, New South Wales, Australia, to Ceriodaphnia dubia and Selenastrum capricornutum. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 1, pp. 72-81. Jan 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0730-7268  
Descriptors: Sewage treatment plants  
Descriptors: Toxicity testing  
Descriptors: Effluents  
Descriptors: Watersheds  
Descriptors: Pesticides  
Descriptors: Organophosphorus compounds  
Descriptors: Toxicity tests  
Descriptors: Bioaccumulation  
Descriptors: Pollution surveys  
Descriptors: Indicator species  
Descriptors: Sewage  
Descriptors: Toxicity  
Descriptors: Testing Procedures  
Descriptors: Wastewater Facilities  
Descriptors: Selenastrum  
Descriptors: Selenastrum capricornutum  
Descriptors: Ceriodaphnia dubia  
Descriptors: Australia, New South Wales  
Abstract: This paper describes the results of whole effluent toxicity tests conducted with Ceriodaphnia dubia and Selenastrum capricornutum on sewage treatment plant effluents in the Hawkesbury-Nepean watershed in New South Wales, Australia. Effluents from 18 sewage treatment plants were evaluated for acute and chronic toxicity. Toxicity identification evaluations were performed on toxic samples to determine the cause of toxicity. Fifteen of the facilities sampled exhibited acute or chronic toxicity to C. dubia. Organophosphorus pesticides (OPs) (e.g., diazinon, chlorpyrifos, and chlorfenvinphos) accounted for toxicity in the majority of samples. Ammonia also contributed to toxicity in one sample, an unidentified OP was responsible for toxicity in another sample, and unidentified transient toxicant(s) were present in four samples. Transient toxicity was not due to surfactants (methylene blue active substances, cobalt thiocyanate active substances, or nonyl- or octylphenolethoxylates) or to a polymer used to dewater the sludge. The most likely cause of the transient toxicity was chlorpyrifos, which rapidly dissipated when stored in polyethylene containers. Only two effluent samples reduced the cell numbers of S. capricornutum. In both cases, toxicity dissipated too rapidly to identify its cause.  
Annual review issue.  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Review  
Classification: P 3000 SEWAGE & WASTEWATER TREATMENT  
Classification: X 24151 Acute exposure  
Classification: Q5 01504 Effects on organisms  
Classification: SW 3030 Effects of pollution  
Subfile: Pollution Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Toxicology Abstracts

Bajpai, V. N. and Perti, S. L. (1969). Resistance to Malathion. *Pesticides* 3: 43-45.

EcoReference No.: 60753  
Chemical of Concern: MLN,DZ,DLD,DDT,HCCH,CBL,FNTH; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Balch, Curtis, Morris, Randal, Brooks, Elwood, and Sleight, Richard G. (1994). The use of N-(7-nitrobenz-2-oxa-1,3-diazole-4-yl)-labeled lipids in determining transmembrane lipid distribution. *Chemistry and Physics of Lipids* 70: 205-212.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Transbilayer lipid distribution of small unilamellar vesicles (SUVs) and large unilamellar vesicles (LUVs) was measured using 31P-nuclear magnetic resonance (NMR) spectroscopy, chemical modification with 2,4,6-trinitrobenzene sulfonic acid (TNBS) and dithionite reduction of N-(7-nitrobenz-2-oxa-1,3-diazole-4-yl)-labeled lipid (NBD-lipid). The dithionite assay was the most reproducible of the three assays, with 1.2% error for SUVs and 3.9% error for LUVs. The dithionite assay also agreed best with theoretical inner:outer leaflet ratios, based on vesicle diameters determined by electron microscopy (Thomas et al. (1989) Biochem. Biophys. Acta 978, 85-90). Dithionite assay measurements were within 2.7% of theoretical ratios for SUVs and 2.3% for LUVs, while the NMR assay for SUVs was 14% lower than theoretical ratios and 23% lower for LUVs. The accuracy of NBD-lipids as markers for total transbilayer lipid was investigated. NBD-labeled phosphatidylserine, phosphatidylcholine and phosphatidylglycerol were accurate markers for total transbilayer lipid distribution, as their distributions were in close agreement with theoretical ratios. However, NBD-labeled phosphatidylethanolamine displayed a slight preference for the inner leaflet at low mole fractions of phosphatidylethanolamine, while native phosphatidylethanolamine showed a preference for the outer leaflet at the same concentration. NBD-labeled phosphatidic acid also showed a slight preference for the inner leaflet. We conclude that although dithionite-based assessment of NBD-labeled lipids across membrane bilayers can be a powerful analytical tool, caution must be used in the interpretation of results. Lipids/ Phospholipids/ Fluorescence/ Liposomes/ Asymmetry

Banert, Klaus (1985). Synthesis of new bi-2H-azirin-3-yl compounds from diazides. *Tetrahedron Letters* 26: 5261-5264.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Starting with 2,3-diazido-1,3-butadienes 4 or 10 successive loss of molecular nitrogen by thermolysis or photolysis leads to new bi-2H-azirin-3-yl compounds 2 or 3.

Banks, Kenneth E., Hunter, David H., and Wachal, David J. (2005). Chlorpyrifos in surface waters before and after a federally mandated ban. *Environment International* 31: 351-356.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Samples collected from rural and urban streams in the City of Denton, Texas, USA were analyzed for the organophosphorus pesticides diazinon and chlorpyrifos during the years preceding and following a United States Environmental Protection Agency ban on many chlorpyrifos uses. A network of 70 monitoring stations, based mainly on topography and hydrological considerations, were established within the three main watersheds of Denton. Monitoring stations were sampled monthly from March through August during periods of normal flow (baseflow), resulting in a total of 308 samples and 311 samples collected during 2001 and 2002, respectively. Pesticide concentrations were determined using commercially available enzyme-linked immunosorbent assays (ELISA) specific for each pesticide. Results from this temporally and spatially dense monitoring effort were used to illustrate the impacts of a ban on most chlorpyrifos sales that was imposed in December 2001. The total number of samples exhibiting concentrations above method lower limits of detection (LLD) decreased between 2001 and 2002 for both chlorpyrifos and diazinon. The total number of sites exhibiting at least one sample with concentrations above the LLD for chlorpyrifos, however, significantly decreased (Fisher's exact test, pn=70) when comparing 2001 (before the ban) with 2002 (after the ban). Similar analyses indicated no significant difference (Fisher's exact test, p=0.50, n=70) in the number of sites exhibiting detectable diazinon concentration between 2001 and 2002. Our results indicate that the cessation of retail chlorpyrifos sales at the end of 2001 resulted in a highly significant decrease in the surface water occurrences of this pesticide during 2002. Diazinon/ Chlorpyrifos/ Ban/ Urban watersheds/ Immunoassay/ ELISA

Banks, Kenneth E., Hunter, David H., and Wachal, David J. (2005). Diazinon in surface waters before and after a federally-mandated ban. *Science of The Total Environment* 350: 86-93.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Samples collected from rural and urban streams in the City of Denton, Texas, USA were analyzed for the organophosphorus pesticide diazinon during the years preceding and following a United States Environmental Protection Agency ban on many diazinon uses. A network of 70 monitoring stations, based mainly on topography and hydrological considerations, were established within the three main watersheds of Denton. Monitoring stations were sampled monthly from March through August during periods of normal flow (baseflow), resulting in a total of 1243 samples collected during the years of 2001-2004. Pesticide concentrations were determined using commercially available enzyme-linked immunosorbent assays (ELISAs) specific for diazinon. Results from this temporally and spatially dense monitoring effort illustrated the impacts of a decrease in diazinon production during 2002, followed by a ban on most outdoor, non-agricultural diazinon retail sales imposed during 2003. The total number of samples exhibiting diazinon concentrations above the lower limits of detection (LLD) significantly decreased between 2001 through 2004 (Mantel-Haenszel Chi-Square test, pn=1243) and decreased significantly during the four monitoring years (Cochran-Armitage Trend test, z=-17.94, pn=1243). The total number of stations exhibiting at least one sample above the LLD during the four monitoring years showed similar patterns (Mantel-Haenszel Chi-Square test, pz=-3.21, p=0.0007; n=276). Results indicate that the phased reduction of outdoor, non-agricultural diazinon uses led to a highly significant decrease in surface water occurrences of this pesticide. Diazinon/ Ban/ Urban watersheds/ Immunoassay/ ELISA

Bankwitz, Uwe, Sohn, Honglae, Powell, Douglas R., and West, Robert (1995). Synthesis, solid-state structure, and reduction of 1,1-dichloro-2,3,4,5-tetramethylsilole. *Journal of Organometallic Chemistry* 499: C7-C9.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The previously unknown 1,1-dichloro-2,3,4,5-tetramethyl-1-silacylopenta-2,4-diene (3) was prepared in a three-step synthesis starting from zirconocene dichloride, 2-butyne, and n-butyllithium via bis(cyclopentadienyl)-2,3,4,5-tetramethyl-1-zirconacyclopenta-2,4-diene (1) and 1,4-diiodo-1,2,3,4-tetramethylbuta-1,3-diene (2).3 was characterized by NMR spectroscopy and single-crystal X-ray diffraction. Reaction of the new silole 3 with 4 equivalents of lithium in THF gives the corresponding dianion 4. 1H-, 13C-, and 29Si-NMR chemical shifts of 4 compared with 3 indicate some aromatic character for the ionic species. Trapping of 4 with Me3SiCl gives 1,1-bis(trimethylsilyl)-2,3,4,5-tetramethysilole (5) in quantitative yield. Silicon/ Zirconium/ Lithium/ Silole/ Crystal structure/ Dianon

Banu, N., Mustafa, G., Khan, A. M., and Ahmed, M. (1984). Histopathological Effects of Diazinon on the Gonads of Freshwater Catfish, Heteropneustes fossilis (Bloch). *Dhaka Univ.Stud.Part B* 32(1): 17-23.

EcoReference No.: 11577  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(DZ).

Baron, Anne, Rakotoarisoa, Lala, Lepretre, Nathalie, and Mironneau, Jean (1994). Inhibition of L-type Ca2+ channels in portal vein myocytes by the enantiomers of oxodipine. *European Journal of Pharmacology: Molecular Pharmacology* 269: 105-113.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
We studied the effects of the enantiomers of the dihydropyridine derivative, 4-(2,3 methylenedioxyphenyl)-1,4-dihydro-2,6-dimethyl-3 carboxyethyl-5-carboxymethyl-pyridine (oxodipine), on voltage-dependent Ca2+ channels of rat portal vein myocytes by combining electrophysiological techniques and binding studies. (+)- and (-)-oxodipine depressed the L-type Ca2+ current in a concentration-dependent manner, with similar IC50 values (around 10 nM) but had no appreciable effect on the intracellular Ca+ stores. The steady-state inactivation curve for the Ca2+ current was shifted along the voltage axis to negative membrane potentials indicating that the block of the Ca2+ current by oxodipine enantiomers increased with depolarization. The voltage-dependent inhibitory property of oxodipine was related to an increase in [3H](+)-4-(benzo-2-oxa-1,3-diazol-4-yl)-1,4-dihydro-2, 6-dimethylpyridine-3,5-dicarboxylic acid 3-isopropyl, 5-methyl ester (isradipine) binding affinity without change in binding capacity. In normally polarized intact strips, interactions of (+)- and (-)-oxodipine with [3H](+)-isradipine binding indicated a stimulation of the radioligand binding at low concentrations of (+)-oxodipine while the (+) enantiomer seemed to act as a competitive ligand. Depolarization of intact strips with 135 mM K+-solutions increased the apparent affinity of the enantiomers of oxodipine, and abolished the stimulating effect of (-)-oxodipine on the binding of [3H](+)-isradipine. Inhibition of Ca2+ current was increased in the simultaneous presence of 1 nM of (+)- and (-)-oxodipine when compared to the inhibitions induced by 2 nM of each enantiomer. In addition, the Hill coefficients of the Ca2+ current inhibition curves for (+)- and (-)-oxodipine were found to differ from unity. Taken together these results suggest the existence of two cooperatively interacting high affinity binding sites for 1,4-dihydropyridines in L-type Ca2+ channels of vascular smooth muscle cells. Ca2+ channel/ Dihydropyridine/ Enantiomer/ Vascular myocyte/ Patch-clamp/ Radioligand

Barr, D. B., Bravo, R., Weerasekera, G., Caltabiano, L. M., Whitehead, R. D. Jr, Olsson, A. O. , Caudill, S. P., Schober, S. E., Pirkle, J. L., Sampson, E. J., Jackson, R. J., and Needham, L. L. (2004). Concentrations of Dialkyl Phosphate Metabolites of Organophosphorus Pesticides in the U.S. Population. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 112, no. 2, pp. 186-200. Feb 2004.*  
Chem Codes : Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0091-6765  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Ethnic groups  
Descriptors: Metabolites  
Descriptors: Urine  
Descriptors: USA  
Abstract: We report population-based concentrations, stratified by age, sex, and racial/ethnic groups, of dialkyl phosphate (DAP) metabolites of multiple organophosphorus pesticides. We measured dimethylphosphate (DMP), dimethylthiophosphate (DMTP), dimethyldithiophosphate (DMDTP), diethylphosphate (DEP), diethylthiophosphate (DETP), and diethyldithiophosphate (DEDTP) concentrations in 1,949 urine samples collected in U.S. residents 6-59 years of age during 1999 and 2000 as a part of the ongoing National Health and Nutrition Examination Survey (NHANES). We detected each DAP metabolite in more than 50% of the samples, with DEP being detected most frequently (71%) at a limit of detection of 0.2 mu g/L. The geometric means for the metabolites detected in more than 60% of the samples were 1.85 mu g/L for DMTP and 1.04 mu g/L for DEP. The 95th percentiles for each metabolite were DMP, 13 mu g/L; DMTP, 46 mu g/L; DMDTP, 19 mu g/L; DEP, 13 mu g/L; DETP, 2.2 mu g/L; and DEDTP, 0.87 mu g/L. We determined the molar sums of the dimethyl-containing and diethyl-containing metabolites; their geometric mean concentrations were 49.4 and 10.5 nmol/L, respectively, and their 95th percentiles were 583 and 108 nmol/L, respectively. These data are also presented as creatinine-adjusted concentrations. Multivariate analyses showed concentrations of DAPs in children 6-11 years of age that were consistently significantly higher than in adults and often higher than in adolescents. Although the concentrations between sexes and among racial/ethnic groups varied, no significant differences were observed. These data will be important in evaluating the impact of organophosphorus pesticide exposure in the U.S. population and the effectiveness of regulatory actions.  
DOI: 10.1289/ehp.6503  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

Bartlett, Danny, Glaser, Michael, and Welti, Ruth (1997). Membrane penetration depth and lipid phase preference of acyl-labeled dansyl phosphatidylcholines in phosphatidylcholine vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1328: 48-54.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The dansyl fluors of 1-oleoyl-2-[4-(dansyl)amino]butyl]-sn-glycero-3-phosphocholine (18:1,4-dansyl PC) and 1-palmitoyl-2-[11-[(dansyl)amino)]undecanoyl]-sn-glycero-3-phosphocholine (16:0,11-dansyl PC) were shown to reside at similar depths in phosphatidylcholine vesicles at pH 7. Analysis of fluorescence emission maxima showed that the dansyl groups of both 18:1,4-dansyl PC and 16:0,11-dansyl PC in phosphatidylcholine vesicles experienced environments more polar than methanol, suggesting that the dansyl group attached to the terminus of the undecanoyl chain must fold back toward the bilayer surface. Fluorescence polarization measurements in solid/fluid lipid mixtures show that both probes partition strongly into fluid phase lipid. The very low polarization values of 16:0,11-dansyl PC in lipid vesicles are consistent with the notion that the dansyl fluor of 16:0,11-dansyl PC existed in an environment allowing a high degree of motional freedom due to folding back of the dansyl group attached to the undecanoyl chain. Dansyl phosphatidylcholine/ Spin-labeled lipid/ Lipid phase/ Parallax analysis/ Steady-state fluorescence polarization/ Fluorescence emission maximum

Barzu, Tereza, Cuparencu, Barbu, and Hantz, Andrei (1973). Action of organophosphorus compounds on cell organelles--I : Effect of tetraethyl dithio pyrophosphate on lysosomal hydrolases. *Biochemical Pharmacology* 22: 185-194 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The effect of asymmetric tetraethyl dithio pyrophosphate, a potent anticholinesterase compound, on rat brain and liver acid hydrolases from lysosomes was studied in vivo and in vitro. In both situations activation of &ldquo;latent&rdquo; acid hydrolases and labilization of lysosomal membrane have been observed. Three other derivatives, tetraethyl pyrophosphate, tetraethyl monothiono pyrophosphate and tetraethyl dithiono pyrophosphate, were tested for anticholinesterase action as well as for the action on cell organelles. The correlation between the data obtained in vivo and in vitro, as well as the relationship between this effect and anticholinesterase power is discussed.

BATEMAN, P. (1993). GOOD PEST CONTROL IN FOOD PROCESSING IS POSSIBLE WITH MINIMUM PESTICIDE USAGE. *INT PEST CONTROL; 35* 68-69.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM FOOD INDUSTRY SHELF LIFE HYGIENE BUILDING DESIGN LEGISLATION UK Legislation/ Organization and Administration/ Biology/ Biochemistry/ Food Technology/ Food-Processing Industry/ Food Technology/ Disease Vectors/ Disinfection/ Pest Control/ Pesticides/ Public Health Administration/ Statistics/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Disease Vectors/ Entomology/ Sanitation/ Animals

Batenburg, A. M., Hibbeln, J. C. L., Verkleij, A. J., and de Kruijff, B. (1987). Melittin induces HII phase formation in cardiolipin model membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 903: 142-154.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interaction of melittin with bovine heart cardiolipin model membranes was investigated via binding assays, 31P-NMR, freeze-fracture electron microscopy, small angle X-ray diffraction and fluorescence based fusion assays. A strong binding (Kd -7 M) appeared to be accompanied by the formation of large structures, resulting from a fusion process of extremely fast initial rate. As the melittin content is increased, bilayer structure is gradually lost and from a cardiolipin to melittin ratio of about 6 the lipid starts to organize itself in an hexagonal HII phase. At lower temperatures (T 31P-NMR signal and giving rise to sharp X-ray reflections, most probably a cubic phase, as suggested also by freeze-fracture images, showing orderly stacked particles. The results are discussed in relation to contrasting observations on the structural changes induced by melittin in the zwitterionic phospholipid system of dipalmitoylphosphatidylcholine (Dufourcq, J. et al. (1986) Biochim. Biophys. Acta 859, 33-48). The biological relevance of the observations with respect to the process of protein insertion into membranes is indicated. Protein-lipid interaction/ Melittin/ Cardiolipin/ Hexagonal HII phase/ Phosphatidylcholine/ NMR 31P-/ Freeze-fracture electron microscopy/ Model membrane/ (Bovine heart)

Bathe, R., Sachsse, K., Ullmann, L., Hormann, W. D., Zak, F., and Hess, R. (1975). The Evaluation of Fish Toxicity in the Laboratory. *Proc.Eur.Soc.Toxicol.* 16: 113-124 .

EcoReference No.: 7199  
Chemical of Concern: SZ,ATZ,DZ,MDT,DDT,AMTR,PRO,FMU,PPHD; Habitat: A; Effect Codes: MOR,ACC,CEL; Rejection Code: NO CONTROL(ALL CHEMS).

Bauer, N. J., Seidler, R. J., and Knittel, M. D. (1981). A Simple, Rapid Bioassay for Detecting Effects of Pollutants on Bacteria. *Bull.Environ.Contam.Toxicol.* 27: 577-582.  
Chem Codes: EcoReference No.: 60988  
Chemical of Concern: DZ Rejection Code: BACTERIA.

Bay, S., Burgess, R., and Nacci, D. (1993). Status and Applications of Echinoid (Phylum Echinodermata) Toxicity Test Methods. *In: W.G.Landis, J.S.Hughes, and M.A.Lewis (Eds.), Environmental Toxicology and Risk Assessment, ASTM STP 1179, Philadelphia, PA* 281-302.

EcoReference No.: 45087  
Chemical of Concern: Cu,NH,Cd,DZ; Habitat: A; Effect Codes: REP,GRO; Rejection Code: NO CONTROL(ALL CHEMS).

Beliles, R., Scott, W., and Knott, W. (1965). Diazinon Summary of Safety Evaluation on Fish and Wildlife. *U.S.EPA-OPP Registration Standard*.

EcoReference No.: 13008  
Chemical of Concern: DZ,DDT; Habitat: A; Effect Codes: GRO; Rejection Code: NO ENDPOINT(DZ),OK(DDT).

Bell, J. P. and Tsezos, M. (1988). The selectivity of biosorption of hazardous organics by microbial biomass. *Water Research* 22: 1245-1251.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
Four hazardous organic compounds (lindane, pentachlorophenol, diazinon and melathion) were selected and their biosorption isotherms by two types of microbial biomass (activated sludge and R. arrhizus) were determined from multisolute solutions. The selectivity of biosorption was subsequently quantified through the use of bioconcentration factors. It was shown that, for the compounds that are biosorbed (lindane, pentachlorophenol and diazinon) and within the range of the pollutant concentrations found in wastewater treatment plants, the competition effects are usually minimal. Analysis of the competitive biosorption data, assuming a surface filling mechanism, suggests that hazardous organics biosorption cannot be described successfully by a simple adsorption hypothesis. biosorption/ priority pollutants/ hazardous organics/ biomass/ adsorption/ competition

Bendich, Aaron and Clements, Grace C. (1953). A revision of the structural formulation of vicine and its pyrimidine aglucone, divicine. *Biochimica et Biophysica Acta* 12: 462-477.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The formulation of the pyrimidine glucoside, vicine, by as a 3-N-glucoside of 2,5-diamino-4,6-dioxypyrimidine is now shown to be incorrect. Concrete evidence has been obtained for the first time that the aglucone portion, divicine, is a pyrimidine, and that it is 2,4-diamino-5,6-dioxypyrimidine. In addition to the findings of numerous investigators over the past 83 years, new evidence is furnished which indicates that vicine is 2,4-diamino-6-oxypyrimidine-5-([ss]--glucopyranoside). This conclusion is based upon a. the striking similarity in the ultraviolet absorption spectra of vicine and 2,4-diamino-5-ethoxy-6-oxypyrimidine and 2,4-diamino-5-bromo-6-oxypyrimidine; syntheses of the latter two compounds are described; b. periodate titration data; c. the presence of a phenolic hydroxyl in divicine and its absence in vicine; d. the reduction of phosphomolybate and dichlorophenolindophenol by divicine, but not by vicine; e. the instability in neutral or alkaline aqueous solutions of divicine, but not of vicine. The colour reactions given by divicine and described by as specific for the 5-amino group of pyrimidines, are shown, rather, to be given by other reducing agents including ascorbic acid.

Bental, Michal, Lelkes, Peter, Scholma, Janny, Hoekstra, Dick, and Wilschut, Jan (1984 ). Ca2+-independent, protein-mediated fusion of chromaffin granule ghosts with liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 774: 296-300.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have investigated the interaction between isolated membrane vesicles from chromaffin granules and large unilamellar phospholipid vesicles (liposomes). Mixing of membrane lipids has been monitored continuously, utilizing the fluorescence resonance energy transfer assay described by Struck et al. ((1982) Biochemistry 20, 4093-4099). To demonstrate coalescence of the internal vesicle volumes the transfer of colloidal gold from the liposomes to the interior of the granule membrane vesicles has been examined. Efficient fusion of the liposomes with the granule membranes was observed. Significant fusion occurred in the absence of Ca2+, although the extent of interaction was enhanced in its presence. The sensitivity of the interaction to pretreatment of the granule membranes with trypsin showed the fusion reaction to be a protein-mediated process. Chromaffin granule/ Exocytosis/ Liposome/ Phospholipid vesicle/ Membrane fusion/ Ca2+

Bental, Michal, Wilschut, Jan, Scholma, Janny, and Nir, Shlomo (1987). Ca2+-induced fusion of large unilamellar phosphatidylserine/cholesterol vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 898: 239-247.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effect of cholesterol on the Ca2+-induced aggregation and fusion of large unilamellar phosphatidylserine (PS) vesicles has been investigated. Mixing of aqueous vesicle contents was followed continuously with the Tb/dipicolinate assay, while the dissociation of pre-encapsulated Tb/dipicolinate complex was taken as a measure of the release of vesicle contents. Vesicles consisting of pure PS or PS/cholesterol mixtures at molar ratios of 4:1, 2:1 and 1:1 were employed at three different lipid concentrations, each at four different Ca2+ concentrations. The results could be well simulated in terms of a mass-action kinetic model, providing separately the rate constants of vesicle aggregation, c11, and of the fusion reaction itself, f11. In the analyses the possibility of deaggregation of aggregated vesicles was considered explicitly. Values of both c11 and f11 increase steeply with the Ca2+ concentration increasing from 2 to 5 mM. With increasing cholesterol content of the vesicles the value of c11 decreases, while the rate of the actual fusion reaction, f11, increases. Remarkably, the effect of cholesterol on both aggregation and fusion is quite moderate. The presence of cholesterol in the vesicle bilayer does not affect the leakage of vesicle contents during fusion. Ca2+/ Cholesterol/ Phosphatidylserine/ Membrane fusion/ Phospholipid vesicle/ Liposome

BENTLEY GR and HEATH, A. CG (1988). ORGANOPHOSPHATE RESIDUES IN THE WOOL OF SHEEP DIPPED FOR FLYSTRIKE CONTROL AU - RAMMELL CG. *N Z J AGRIC RES; 31* 151-154.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM COUMAPHOS DIAZINON BROMOPHOS ETHYL PROPETAMPHOS CHLORFENVINPHOS PESTS LIVESTOCK INDUSTRY WOOL INDUSTRY INSECTICIDE Biochemistry/ Skin/Physiology/ Animal Husbandry/ Veterinary Medicine/ Disinfectants/ Disinfection/ Sterilization/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Artiodactyla

Benuck, M., Reith, M. E. A., Sershen, H., Wiener, H. L., and Lajtha, A. (1989). Oxidative metabolism of cocaine: Comparison of brain and liver. *Proceedings of the Society for Experimental Biology and Medicine [PROC. SOC. EXP. BIOL. MED.]. Vol. 190, no. 1, pp. 7-13. 1989.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
ISSN: 0037-9727  
Descriptors: oxidative metabolism  
Descriptors: brain  
Descriptors: liver  
Abstract: Norcocaine (NC) and N-hydroxynorcocaine (NHNC), products of the oxidative metabolism of cocaine, were examined in plasma, brain, and liver of mice injected intraperitoneally with cocaine. Plasma levels of NHNC were altered in vivo by inhibiting esterase activity with diazinon and chloral hydrate or activating esterase activity with phenobarbital, and activating the microsomal P-450 system with phenobarbital. Changes in plasma concentrations of NHNC resulted in similar changes in brain, which were often different from those in liver. After intracisternal administration of cocaine to mice, no appreciable amount of NC or NHNC could be detected in brain; the same results were obtained upon intracisternal and intraventricular administration of rats. Microsomal preparations from mouse brain were found to be considerably less active than those from liver in converting NC to NHNC.  
Language: English  
English  
Publication Type: Journal Article  
Classification: N3 11070 Neurochemistry and cellular biology  
Classification: X 24180 Social poisons & drug abuse  
Subfile: Toxicology Abstracts; CSA Neurosciences Abstracts

Berger, Christine, Piubelli, Luciano, Haditsch, Ursula, and Rudolf Bosshard, Hans (1998). Diffusion-controlled DNA recognition by an unfolded, monomeric bZIP transcription factor. *FEBS Letters* 425: 14-18.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Basic leucine zipper (bZIP) transcription factors are dimers that recognize mainly palindromic DNA sites. It has been assumed that bZIP factors have to form a dimer in order to bind to their target DNA. We find that DNA binding of both monomeric and dimeric bZIP transcription factor GCN4 is diffusion-limited and that, therefore, the rate of dimerization of the bZIP domain does not affect the rate of DNA recognition and GCN4 need not dimerize in order to bind to its specific DNA site. The results have implications for the mechanism by which bZIP transcription factors find their target sites for transcriptional regulation. Protein-DNA recognition/ Kinetic mechanism/ Transcription factor GCN4/ Monomer-dimer equilibrium/ Fluorescence-labeled DNA

Bergmann, Felix and Shimoni, Arela (1952). Quaternary ammonium salts as inhibitors of acetylcholine esterase. *Biochimica et Biophysica Acta* 8: 520-525.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Quaternary ammonium salts show practically no inhibition of the hydrolytic action of liver esterase. They protect ACh estrase against inrreversible combination with TEPP, although the two types of inhibitors attach themselves to different points of the active surface. Quaternary ammonium salts also inhibit the hydrolysis of uncharged esters (diacetine, ethyl acetate) by ACh esterase in a competitive way. Possible explanations for this paradox behavior are discussed.

Berman, Ann, Shearing, Lee N., Ng, Ken F., Jinsart, Wanida, Foley, Michael, and Tilley, Leann (1994). Photoaffinity labelling of Plasmodium falciparum proteins involved in phospholipid transport. *Molecular and Biochemical Parasitology* 67: 235-243.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Erythrocytes infected with mature-stage malaria parasites accumulate phospholipids from exogenous sources. We show that the transport of N-(7-nitrobenzy-2-oxa-1,3-diazol-4-yl)-1,2- ipalmitoyl-sn-glycero-3-phosphatidylethanolamine (N NBD-DPPE), from the erythrocyte membrane to the intracellular malaria parasite, is dependent upon metabolic energy, A photoreactive phospholipid analogue, N-[125I]iodo-4-azidosalicylamidy1-1,2-dilaury1-sn-glycero-3-phosphatidylethanolamine (N-125I-ASA-DLPE), has been synthesised and used in an attempt to identify proteins involved in phospholipid trafficking in malaria-infected erythrocytes. This photoreactive probe was found to preferentially label a protein with an apparent molecular weight of 22 kDa. Photolabelling of the 22-kDa protein was enhanced upon ATP depletion of malaria-infected erythrocytes. Malaria/ Phospholipid trafficking/ Photoaffinity labelling/ Erythrocyte membrane

Berry, W. K. (1971). Some species differences in the rates of reaction of diaphragm particulate acetylcholinesterases with tetraethyl pyrophosphate and pralidoxime. *Biochemical Pharmacology* 20: 1333-1334.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.

Beyers, D. W. and Farmer, M. S. (2001). Effects of Copper on Olfaction of Colorado Pikeminnow. *Environ.Toxicol.Chem.* 20: 907-912.

EcoReference No.: 59294  
Chemical of Concern: CuS,DZ; Habitat: A; Effect Codes: BEH,CEL; Rejection Code: LITE EVAL CODED(CuS),NO COC(DZ).

Beys-l'Hoest, B. (1991). Pollution of Ecosystems by Acridian Control Measures (La Pollution des Ecosystemes par la Lutte Antiacridienne). *Nat.Belg.* 72: 41-64 (FRE).  
Chem Codes: EcoReference No.: 71631  
Chemical of Concern: HCCH,DLD,DZ,CBL Rejection Code: NON-ENGLISH.

BEZBARUAH, B., BORA, T., and SAIKIA, N. (1999). Ureolytic nitrification activities in forest and tea (Camellia sinensis) plantation soils and evaluation of ureolytic nitrifier sensitivity to pesticides.  *INDIAN JOURNAL OF AGRICULTURAL SCIENCES; 69* 24-29.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. An experiment was conducted in 1992 to compare ureolytic nitrification activities in soil under tea (Camellia sinensis (L) O Kuntze) cultivation and forest land adjacent to the tea plantations. Recovery of nitrate from the soil samples of tea plantations following incubation with urea confirmed that the active nitrification occurred even in the pH range of 4.5-5.5. A slight increase in ureolytic nitrification activity in sections showing higher yield of made tea was detectable in plantations usi onding forest samples showed that this activity was lower in tea plantations in all cases. The ureolytic nitrifier strains isolated from tea plantations were able to grow in culture plates incorporated with several structurally different types of pesticides. Soil Microbiology/ Fertilizers/ Soil/ Fruit/ Nuts/ Tropical Climate/ Herbicides/ Pest Control/ Pesticides/ Bacteria/ Plants

Bianchi, L., Zannoli, A., Pizzala, R., Stivala, L. A., and Chiesara, E. (1994). Genotoxicity assay of five pesticides and their mixtures in Saccharomyces cerevisiae D7. *Mutation Research/Genetic Toxicology* 321: 203-211.  
Chem Codes: Chemical of Concern: DZ Rejection Code: YEAST.  
  
Four organophosphorus pesticides (azinphos-methyl, diazinone, dimethoate, and pirimiphos-methyl), and one carbamate (benomyl) were tested for cytotoxicity, reverse mutation and gene conversion in Saccharomyces cerevisiae D7, with and without the S9 metabolic system. Furthermore, two mixtures of the above compounds, namely benomyl + pirimiphos-methyl (6/1 ratio) and dimethoate + diazinone + azinphos-methyl (10/4/6 ratio) were tested in the same experimental model. Azinphos-methyl, benomyl, and pirimiphos-methyl alone did not induce any genotoxic effect, whereas azinphos-methyl and diazinone were active in inducing reversion and gene conversion. The benomyl + pirimiphos-methyl mixture did not show any genotoxic activity. The dimethoate + diazinone + azimphosmethyl mixture was genotoxic, although an antagonistic effect between the components was observed. The addition of S9 post-mitochondrial liver fraction decreased the activity of both single and mixed genotoxic agents. Saccharomyces cerevisae/ Pesticides/ Pesticide mixtures

Bianchi, L., Zannoli, A., Pizzala, R., Stivala, L. A., and Chiesara, E. (1994). Genotoxicity Assay of Five Pesticides and Their Mixtures in Saccharomyces cerevisiae D7. *Mutat.Res.* 321: 203-211.  
Chem Codes: Chemical of Concern: DMT,AZ,DZ,PIRM,BMY Rejection Code: MIXTURE/YEAST.

Bianchi-Santamaria, A., Gobbi, M., Cembran, M., and Arnaboldi, A. (1997). Human lymphocyte micronucleus genotoxicity test with mixtures of phytochemicals in environmental concentrations. *Mutation Research-Genetic Toxicology and Environmental Mutagenesis [Mutat. Res.-Genet. Toxicol. Environ. Mutag.]* 388: 27-32.  
Chem Codes: Chemical of Concern: DMT Rejection Code: HUMAN HEALTH, IN VITRO.  
  
This study was carried out to assess the genotoxicity of mixtures of pesticides using the micronucleus test with human lymphocytes in culture. Benomyl, azinphos-methyl, diazinon, dimethoate, pirimiphos-methyl pesticides were tested at doses estimated from their daily intake (EDI) [1]. Benomyl is a carbamate fungicide, the other compounds are organophosphorous insecticides. The compounds were tested both separately and in combination. The results showed a weak genotoxicity for three of the four organophosphorous insecticides and for benomyl. The various mixtures did not give additive effects. Classification: X 24135 Biochemistry; G 07221 Specific chemicals; P 6000 TOXICOLOGY AND HEALTH; H SE5.3 HAZARD DETERMINATION micronuclei/ genotoxicity testing/ pesticides/ fungicides/ insecticides/ pesticides (organophosphorus)/ benomyl/ lymphocytes/ organophosphorus compounds/ lymphocytes

Bianchi-Santamaria, A., Gobbi, M., Cembran, M., and Arnaboldi, A. (1997). Human lymphocyte micronucleus genotoxicity test with mixtures of phytochemicals in environmental concentrations. *Mutation Research-Genetic Toxicology and Environmental Mutagenesis. Vol. 388, no. 1, pp. 27-32. Jan 1997.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 1383-5718  
Descriptors: micronuclei  
Descriptors: genotoxicity testing  
Descriptors: pesticides  
Descriptors: fungicides  
Descriptors: insecticides  
Descriptors: lymphocytes  
Descriptors: benomyl  
Descriptors: organophosphorus compounds  
Abstract: This study was carried out to assess the genotoxicity of mixtures of pesticides using the micronucleus test with human lymphocytes in culture. Benomyl, azinphos-methyl, diazinon, dimethoate, pirimiphos-methyl pesticides were tested at doses estimated from their daily intake (EDI) [1]. Benomyl is a carbamate fungicide, the other compounds are organophosphorous insecticides. The compounds were tested both separately and in combination. The results showed a weak genotoxicity for three of the four organophosphorous insecticides and for benomyl. The various mixtures did not give additive effects.  
Publisher: ELSEVIER SCIENCE B.V.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Classification: G 07221 Specific chemicals  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H SE5.3 HAZARD DETERMINATION  
Subfile: Health & Safety Science Abstracts; Pollution Abstracts; Genetics Abstracts; Toxicology Abstracts

Bishop, C. A., Mahony, N. A., Struger, J., Ng, P., and Pettit, K. E. (1999). Anuran Development, Density and Diversity in Relation to Agricultural Activity in the Holland River Watershed, Ontario, Canada (1990-1992). *Environ.Monit.Assess.* 57 : 21-43.  
Chem Codes: Chemical of Concern: ATZ,DZ Rejection Code: EFFLUENT/SURVEY.

Bisson, Marjolaine and Hontela, Alice (2002). Cytotoxic and Endocrine-Disrupting Potential of Atrazine, Diazinon, Endosulfan, and Mancozeb in Adrenocortical Steroidogenic Cells of Rainbow Trout Exposed in Vitro. *Toxicology and Applied Pharmacology* 180: 110-117.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
An in vitro bioassay for detection and quantitative assessment of chemicals with the capacity to disrupt adrenal steroidogenesis has been developed and used to compare the cytotoxic and endocrine-disrupting potential of four pesticides. Enzymatically dispersed adrenocortical cells of rainbow trout (Oncorhynchus mykiss) were exposed in vitro to atrazine, diazinon, endosulfan, and mancozeb, and cortisol secretion in response to ACTH or dibutyryl-cAMP (dbcAMP) and cell viability were determined. The effective concentration, EC50 (concentration that inhibits cortisol secretion by 50%), the median lethal concentration, LC50 (concentration that kills 50% of the cells), and the LC50/EC50 ratio were established for the test pesticides. The pesticides were ranked as follows: EC50, endosulfan diazinon diazinon diazinon as the most cytotoxic. Endosulfan and mancozeb disrupted sites downstream of the cAMP-generating step of the cortisol synthetic pathway while atrazine seemed to act upstream from the cAMP step. The in vitro adrenal bioassay can be used for screening of adrenotoxicants and for mechanistic studies of adrenotoxicity. adrenal/ steroidogenesis/ ACTH/ cAMP/ cortisol/ atrazine/ diazinon/ endosulfan/ mancozeb/ fish

Blackburn, G. Michael and Taylor, Graham E. (1988). Syntheses of some fluorine-containing halomethanephosphonate and methylenebisphosphonate esters. *Journal of Organometallic Chemistry* 348: 55-61.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The Michaelis-Becker reaction between diethyl sodiophosphite and either of the halofluoromethanes CF2Cl2 and CF3Br gives tetraethyl difluoromethylenebisphosphonate. By contrast, the corresponding reaction with CFCl3 gives not only diethyl dichlorofluoromethanephosphonate but also tetraethyl pyrophosphate as the major product. Diethyl dichlorofluoromethanephosphonate, readily prepared by a normal Arbusov reaction from CCl3F, reacts with diethyl sodiophosphite to give tetraethyl fluoromethylenebisphosphonate thereby providing a simple efficient, and inexpensive synthesis of this useful material.

Blank, R. H., Olson, M. H., Tomkins, A. R., Greaves, A. J., Waller, J. E., and Pulford, W. M. (1994). Phytotoxicity Investigations of Mineral Oil and Diazinon Sprays Applied to Kiwifruit in Winter-Spring for Armoured Scale Control. *N.Z.J.Crop Hortic.Sci.* 22: 195-202.  
Chem Codes: Chemical of Concern: ALSV,DZ Rejection Code: MIXTURE.

BLANK RH, HOLLAND PT, GILL, G. SC, OLSON MH, and MALCOLM CP (1995). Efficacy and persistence of insecticide residues on fruit of kiwifruit to prevent greedy scale (Hemiptera: Diaspididae) crawler settlement. *NEW ZEALAND JOURNAL OF CROP AND HORTICULTURAL SCIENCE; 23* 13-23.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Insecticides were applied to kiwifruit (Actinidia deliciosa) in February and April 1992 and April 1993. A bioassay technique was used to measure levels of greedy scale, Hemiberlesia rapax (Comstock), crawler settlement on fruit at various times after insecticide application. Organophosphate and pyrethroid residues remaining on the fruit were measured but not the mineral oil residues. The February and April 1992 trials showed that diazinon, chlorpyrifos, and diazinon/permethrin cave short-lived protection compared to phosmet, mineral oil, and pirimiphos-methyl/permethrin. The residual times for 50% of fruit to be settled by scale in the April 1993 trial were: pirimiphos-methyl/permethrin, half rate < 8 days-, 1% Citrole mineral oil, 8 days; pirimiphos-methyl/permethrin, full rate 16 days; 1% Sunspray Ultra-Fine mineral oil, 19 days; 2% Citrole, 21 days; and 2% Ultra-Fine, 24 days. Estimates of residue levels at which 50% of fruit were settled by scale were generally be Biochemistry/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Fruit/ Nuts/ Tropical Climate/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Fruit/ Nuts/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants/ Insects

BLANK RH, OLSON MH, TOMKINS AR, GREAVES AJ, WALLER JE, and PULFORD WM (1994). Phytotoxicity investigations of mineral oil and diazinon sprays applied to kiwifruit in winter-spring for armoured scale control. *NEW ZEALAND JOURNAL OF CROP AND HORTICULTURAL SCIENCE; 22* 195-202.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The effect of 1, 2, or 4% mineral oil (Mobil Superior 663 97%) sprays plus technical grade diazinon (24 g a.i./100 litres) applied to kiwifruit vines at various times from 35 days before to 25 days after budbreak, was investigated in orchards at Kerikeri, Te Kauwhata, and Motueka, New Zealand. There was no significant effect on budbreak, flowers, fruit, and yield parameters on treated vines compared with unsprayed vines at Te Kauwhata and Motueka. At Kerikeri the 4% mineral oil-diazinon treatment caused phytotoxic damage to 25% of canes from an August application, 3% of canes from a September application, and no damage from an October application after budbreak. Damaged canes typically had 2-5 terminal buds which were dead. No damage was found at the 1 and 2% rates. At Kerikeri fruit numbers and yield of the mineral oil-diazinon treated vines were significantly reduced compared to untreated vines. After adjusting for differences in cane numbers per vine, yield losses ra Biochemistry/ Lipids/ Poisoning/ Animals, Laboratory/ Fruit/ Nuts/ Tropical Climate/ Fungi/ Plant Diseases/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Fruit/ Nuts/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Plants/ Hemiptera

Bleiberg, Marvin J., Cefaratti, Michael, Klinman, Norman, and Kornblith, Paul (1962). Studies of choline acetylase inhibition by DDA (dichlorodiphenylacetic acid) and its possible relationship to DDT toxicity. *Toxicology and Applied Pharmacology* 4: 292-312.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The effect of DDA, a metabolite of DDT, on rabbit intestinal motility in vitro, on the patellar reflex, and on a choline acetylase system was studied. Na-DDA was found to inhibit the pendular activity of rabbit small intestine at a minimal bath concentration of 10-4 M. Exposure to 10-3 M DDA completely blocked rhythmic activity and depressed intestinal tone. The activity could be restored by washing or by exposure to 10-8 acetylcholine, 5 x 10-8 physostigmine, or 2 x 10-8 TEPP. The induction of peristaltic activity by physostigmine or TEPP was partially inhibited or completely blocked by prior treatment with DDA.A method for the injection of drugs directly to the lumbar spinal cord via a lumbar artery is described. DDA injected by this route in a coconut oil emulsion in doses between 0.4 and 1.8 mg facilitated the patellar reflex response. Doses larger than 2 mg depressed the patellar reflex. When the patellar reflex was depressed, spontaneous activity could be momentarily restored by acetylcholine or acetylcholine + TEPP similarly injected. Pantothenyl alcohol by this route gave a weak restoration of the reflex response. Diphenylylethylacetic acid and diphenylylamylacetic acid, known choline acetylation inhibitors, produced effects similar to those of DDA.Acetylcholine synthesis by an in vitro system utilizing acetone-dried brain powder as a source of choline acetylase was depressed by Na-DDA. When Ac-CoA was used as a substitute for ATP + CoA in this system, the level of acetylcholine synthesis was diminished but there was little inhibition by Na-DDA. The results indicate that the acetate activating step is the principal site of the block.The effects of DDA on intestinal motility and the patellar reflex are interpreted on the basis of inhibition of the acetate-activating step. Other alternative possible hypotheses are discussed. The possible relationship of these findings to the problem of DDT intoxication is discussed.

Bleih, S., De Sagun, S. B., and Ramachandran, R. (1991). Comparative Observations on the Pest and Disease Incidence and Yield Losses of Japonica, Indica and Japonica x Indica Rices. *Trop.Pest Manag.* 37: 290-295.  
Chem Codes: Chemical of Concern: DZ,CBF Rejection Code: MIXTURE.

Blickenstaff, C. C. and Skoog, F. E. (1974). Insecticides Tested Versus Grasshoppers: Correlations Between Results of Ground and Aerial Applications. *J.Econ.Entomol.* 67: 127-129.

EcoReference No.: 71348  
Chemical of Concern: CPY,CBL,DZ; Habitat: T; Rejection Code: TARGET(DZ).

Blow, D. P. (1978). Laboratory Evaluation of Permethrin Against Cockroaches and the Rust-Red Flour Beetle. *Int.Biodeterior.Bull.* 14: 71-76.

EcoReference No.: 35048  
Chemical of Concern: PMR,DZ,FNT,PPX; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: NO CONTROL(ALL CHEMS).

BOLLAG J-M and LIU S-Y (1990). BIOLOGICAL TRANSFORMATION PROCESSES OF PESTICIDES. *CHENG, H. H. (ED.). SSSA (SOIL SCIENCE SOCIETY OF AMERICA) BOOK SERIES, NO. 2. PESTICIDES IN THE SOIL ENVIRONMENT: PROCESSES, IMPACTS, AND MODELING. XXIII+530P. SOIL SCIENCE SOCIETY OF AMERICA, INC.: MADISON, WISCONSIN, USA. ILLUS. ISBN 0-89118-791-X.; 0 (0). 1990. 169-212.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MICROBES POLLUTION CONTROL SOIL ECOLOGY Biochemistry/ Metabolism/ Microbiology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil Microbiology/ Soil/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides

Bondarenko, S. and Gan, J. \*. (2004). Degradation and sorption of selected organophosphate and carbamate insecticides in urban stream sediments. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 23, no. 8, pp. 1809-1814. Aug 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0730-7268  
Descriptors: Pollutant persistence  
Descriptors: Streams  
Descriptors: Chlorpyrifos  
Descriptors: Surface water  
Descriptors: Pesticides  
Descriptors: Sediment pollution  
Descriptors: Biodegradation  
Descriptors: Malathion  
Descriptors: Sorption  
Descriptors: Anaerobic conditions  
Descriptors: Sediment Contamination  
Descriptors: Insecticides  
Descriptors: Degradation  
Descriptors: Aerobic Conditions  
Descriptors: Toxicity  
Descriptors: Radioactive Half-life  
Descriptors: Diazinon  
Descriptors: Urban Areas  
Descriptors: Monitoring  
Descriptors: USA, California  
Abstract: Monitoring studies show that urban surface streams in the United States are commonly contaminated with pesticides, and contamination by organophosphates and carbamates is of particular concern because of their aquatic toxicity. The degradation and sorption of four common organophosphate and carbamate insecticides were studied in urban creek sediments from southern California, USA. In sediment, malathion was quickly degraded under either aerobic or anaerobic conditions, with a half-life (t sub(1/2)) < 3 d. Diazinon and chlorpyrifos were moderately persistent under aerobic conditions (t sub(1/2) = 14-24 d). However, persistence of chlorpyrifos increased significantly under anaerobic conditions, and t sub(1/2) was prolonged to 58 to 223 d. The greatest effect of redox potential was found with carbaryl. Although rapid dissipation occurred under aerobic conditions (t sub(1/2) = 1.8-4.9 d), carbaryl became virtually nondegradable under anaerobic conditions (t sub(1/2) = 125-746 d). The sorption coefficient consistently increased with time for all pesticides, and chlorpyrifos displayed greater sorption potential than the other pesticides. This study indicates that pesticides in sediment may become less available with time because of increased sorption, and pesticide persistence in sediment may vary greatly among compounds and with redox conditions. Under anaerobic conditions, long persistence may occur even for nonpersistent compounds.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3020 Sources and fate of pollution  
Classification: AQ 00002 Water Quality  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: ASFA 2: Ocean Technology Policy & Non-Living Resources; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Environmental Engineering Abstracts; Pollution Abstracts

Bondarenko, S., Gan, J., Haver, D. L., and Kabashima, J. N. (2004). Persistence of selected organophosphate and carbamate insecticides in waters from a coastal watershed. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 23, no. 11, pp. 2649-2654. Nov 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0730-7268  
Descriptors: Pesticides  
Descriptors: Diazinon  
Descriptors: Malathion  
Descriptors: Watersheds  
Descriptors: Degradation  
Descriptors: Temperature  
Descriptors: Downstream  
Descriptors: Wetlands  
Descriptors: Diversion  
Descriptors: Toxicity  
Descriptors: Surface Water  
Descriptors: Streams  
Descriptors: Microbial Degradation  
Descriptors: Trophic Level  
Descriptors: Contamination  
Descriptors: Insecticides  
Descriptors: Risk  
Descriptors: Coastal zone  
Descriptors: Trophic levels  
Descriptors: Pollutant persistence  
Descriptors: Organophosphates  
Descriptors: USA, California  
Abstract: Organophosphate and carbamate compounds are among the most widely used pesticides. Contamination of surface water by these compounds is of concern because of potential toxicity to aquatic organisms, especially those at lower trophic levels. In this study we evaluated the persistence of diazinon, chlorpyrifos, malathion, and carbaryl in waters from various sites in the Newport Bay-San Diego Creek watershed in southern California (USA). The persistence of diazinon and chlorpyrifos was much longer than that of malathion or carbaryl and was further prolonged in seawater. Microbial degradation contributed significantly to the dissipation of diazinon and chlorpyrifos in freshwater, but was inhibited in seawater, leading to increased persistence. In contrast, degradation of malathion and carbaryl was rapid and primarily abiotic. A greater temperature dependence was observed for carbaryl degradation in all waters and for diazinon degradation in freshwater. The interactions of pesticide persistence with water location, temperature, and type of pesticides suggest that site- and compound-specific information is needed when evaluating the overall ecotoxicological risks of pesticide pollution in a watershed. Because the persistence of diazinon and chlorpyrifos may increase significantly in seawater, mitigation should occur before the pesticides reach seawater. The relatively short persistence of these compounds in freshwater suggests that practices aimed at extending residence time (e.g., diversion to wetlands) may effectively reduce pesticide output to downstream water bodies.  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 3010 Identification of pollutants  
Classification: AQ 00002 Water Quality  
Classification: P 1000 MARINE POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts

Bondeson, Jan and Sundler, Roger (1987). Phosphatidylethanol counteracts calcium-induced membrane fusion but promotes proton-induced fusion. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 899: 258-264.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The susceptibility of phosphatidylethanol-containing lipid vesicles towards Ca2+- and proton-induced fusion has been investigated, using a system of interacting vesicles. The results show that phosphatidylethanol-rich vesicles are quite resistant to Ca2+-induced fusion while being highly sensitive to proton-induced fusion. Inclusion of phosphatidylethanol was also found to promote and inhibit, respectively, the proton-induced and Ca2+-induced fusion of bilayer vesicles containing also phosphatidylethanolamine and either phosphatidylserine or phosphatidic acid. Thus, phosphatidylethanol affected Ca2+- and proton-induced fusion in opposite directions, in contrast to the naturally occurring anionic phospholipids phosphatidic acid, phosphatidylserine and phosphatidylinositol, which affect the sensitivity to Ca2+- and H+-induced fusion in the same direction. However, the fusion competence of phosphatidylethanol vesicles in response to both Ca2+ and H+ was inversely related to the apparent thickness of the polar headgroup layer, determined by using lectin-glycolipid interaction as a steric probe, as previously found for vesicles containing naturally occurring anionic phospholipids. Polar headgroup/ Phospholipid vesicle/ Membrane fusion/ Lectin/ (R. communis, A. hypogaea)

Bondeson, Jan and Sundler, Roger (1990). Promotion of acid-induced membrane fusion by basic peptides. Amino acid and phospholipid specificities. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1026: 186-194.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The ability of oligo- and polymers of the basic amino acids -lysine, -arginine, -histidine and -ornithine to induce lipid intermixing and membrane fusion among vesicles containing various anionic phospholipids has been investigated. Among vesicles consisting of either phosphatidylinositol or mixtures of phosphatidic acid and phosphatidylethanolamine rapid and extensive lipid intermixing, but not complete fusion, was induced at neutral pH by poly--ornithine or -lysine peptides of five or more residues. When phosphatidylcholine was included in the vesicles, the lipid intermixing was severely inhibited. Such lipid intermixing was also much less pronounced among phosphatidylserine vesicles. Poly--arginine provoked considerable leakage from the various anionic vesicles and caused significantly less lipid intermixing than -lysine peptides at neutral pH. When the addition of basic amino acid polymer was followed by acidification to pH 5-6, vesicle fusion was induced. Fusion was more pronounced among vesicles containing phosphatidylserine or phosphatidic acid than among those containing phosphatidylinositol, and occurred also with vesicles whose composition resembles that of cellular membranes (i.e., phosphatidylcholine / phosphatidylethanolamine / phosphatidylserine, 50:30:20, by mol). Liposomes with this composition are resistant to fusion by Ca2+ or by acidification after lectin-mediated contact. The tight interaction among vesicles at neutral pH, resulting in lipid intermixing, does not seem to be necessary for the fusion occurring after acidification, but the basic peptides nevertheless appear to play a more active role in the fusion process than simply bringing the vesicles in contact. However, protonation of the polymer side chains and transformation of the polymer into a polycation does not explain the need for acidification, since the pH-dependence was quite similar for poly(-histidine)- and poly(-lysine)-mediated fusion. Phospholipid vesicle/ Liposome/ Lipid intermixing/ Membrane fusion/ Basic oligo(poly)amino acid

Bondeson, Jan, Wijkander, Jonny, and Sundler, Roger (1984). Proton-induced membrane fusion role of phospholipid composition and protein-mediated intermembrane contact. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 777: 21-27.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Glycolipid-phospholipid vesicles containing phosphatidate and phosphatidylethanolamine were found to undergo proton-induced fusion upon acidification of the suspending medium from pH 7.4 to pH 6.5 or lower, as determined by an assay for lipid intermixing based on fluorescence resonance energy transfer. Lectinmediated contact between the vesicles was required for fusion. Incorporation of phosphatidylcholine in the vesicles inhibited proton-induced fusion. Vesicles in which phosphatidate was replaced by phosphatidylserine underwent fusion only when pH was reduced below 4.5, while no significant fusion occured (pH - 3.5) when the anionic phospholipid was phosphatidylinositol. It is suggested that partial protonation of the polar headgroup of phosphatidate and phosphatidylserine, respectively, causes a sufficient reduction in the polarity and hydration of the vesicle surface to trigger fusion at sites of intermembrane contact. pH dependence/ Membrane fusion/ Phospholipid composition/ Lectin-glycolipid interaction/ Fluorescence resonance energy transfer

Boni, L. T., Minchey, S. R., Perkins, W. R., Ahl, P. L., Slater, J. L., Tate, M. W., Gruner, S. M., and Janoff, A. S. (1993). Curvature dependent induction of the interdigitated gel phase in DPPC vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1146: 247-257.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Ethanol causes biphasic melting behavior in saturated lecithins (Rowe (1983) Biochemistry 22, 3299-3305), a consequence of the formation of the stable interdigitated phase (Simon, S.A. and McIntosh, T.J. (1984) Biochim. Biophys. Acta 773, 169-172). The membrane systems studied to date have been large vesicle systems in which the membrane surface can be assumed to be locally planar. An immediate question arises as to whether surfaces of higher curvature interdigitate. To address this question we have prepared DPPC vesicles of varying diameters which we employed to determine the limiting size at which interdigitation occurs using ethanol as the inducer. We find that with decreasing vesicle size the concentration of ethanol necessary for the onset of interdigitation increases. Small isolated vesicles, at inducing concentrations of ethanol, do not stably interdigitate but rupture and coalesce into a viscous gel comprised of interdigitated lipid sheets. As discussed elsewhere (Ahl et al. (1992) Biophys. J. 243a) these sheets can be used as precursors for producing liposomes of large size and high internal volumes useful in drug delivery or modeling applications. Phospholipid vesicle/ Liposome/ Captured volume/ Ethanol

Boumaiza, M., Ktari, M. H., and Vitiello, P. (1979). Toxicity of Several Pesticides Used in Tunisia, for Aphanius fasciatus Nardo, 1827 (Pisces, Cyprinodontidae). *Arch.Inst.Pasteur Tunis* 56: 307-342 (FRE).

EcoReference No.: 5365  
Chemical of Concern: 24DXY,BT,CPY,DMT,DZ,MLN,PSM,PHMD,OMT; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Boxall, Alistair B. A., Fogg, Lindsay A., Kay, Paul, Blackwel1, Paul A., Pemberton, Emma J., and Croxford, Andy (2003). Prioritisation of veterinary medicines in the UK environment: Hot Spot Pollutants: Pharmaceuticals in the Environment. *Toxicology Letters* 142: 207-218.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW,METHODS.  
  
A wide range of veterinary medicines is used to treat animals in the UK. Whilst the environmental impact of selected substances (particulary the sheep dip chemicals, anthelmintics and fish farm chemicals) has been well studied, limited information is available in the public domain on the other groups of substances (e.g. antifungals, coccidiostats, antiprotozoals, hormones and growth promoters). There is therefore a need to identify other substances that may impact the environment in order to design national monitoring programmes, target experimental work and develop pollution prevention methodologies. In this study, a simple two-stage prioritisation scheme was developed and applied to veterinary medicines in use in the UK. In the first stage, those substances that have high potential to enter the environment in significant amounts were identified on the basis of amounts used in the UK, treatment type and metabolism. In stage 2, the hazard of the identified substances to terrestrial and aquatic organisms was assessed. Using the approach, a total of 56 substances or groups were assigned to a &lsquo;high priority&rsquo; category. For eleven of these substances, sufficient data were available to characterise their risk, these were: oxytetracycline, chlortetracycline, tetracycline, sulphadiazine, amoxicillin, diazinon, tylosin, dihydrostreptomycin, apramycin, cypermethrin and sarafloxicin. For the remaining 45 substances, full datasets were not available and it is recommended that in the first instance, attempts are made to fill these data gaps. Veterinary medicine/ Environmental risk/ Prioritisation/ Monitoring/ Pollution

Boyd, J. E. (1957). The Use of Daphnia magna in the Microbioassay of Insecticides. *Ph.D.Thesis, Penn.State University, University Park, PA* 194.

EcoReference No.: 14647  
Chemical of Concern: PRN,MLN,AND,DZ,HCCH; Habitat: A; Effect Codes: MOR,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Brack, M. and Rothe, H. (1982). Organophosphate Poisoning in Marmosets. *Lab.Anim.* 16: 186-188.  
Chem Codes: Chemical of Concern: DZ,CPY Rejection Code: INCIDENT/MONKEY.

Brady, J. A., Wallender, W. W., Werner, I., Fard, B. Mostafazadeh, Zalom, F. G., Oliver, M. N., Wilson, B. W., Mata, M. M., Henderson, J. D., Deanovic, L. A., and Upadhaya, S. (2006). Pesticide runoff from orchard floors in Davis, California, USA: A comparative analysis of diazinon and esfenvalerate. *Agriculture, Ecosystems & Environment* 115: 56-68.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
In the Central Valley of California off-site movement of pesticides in stormwater runoff, particularly by those belonging to the class of organophosphate (OP) pesticides, has significantly contributed to the contamination of the Sacramento and San Joaquin Rivers. There is an increase in the use of pesticides belonging to the pyrethroid class throughout the Central Valley area because these pesticides are hydrophobic and believed to reduce off-site transport. The objectives of this study were to quantify mass runoff of two commonly used dormant-spray pesticides, the OP pesticide diazinon and the pyrethroid pesticide esfenvalerate, from orchard micro-plots (4.5 m2) and to compare the individual impact on water quality based on runoff patterns and runoff toxicity to three aquatic organisms. Two null hypotheses were tested: (1) no difference occurs between the mass transport of diazinon and esfenvalerate, and (2) pesticide type does not affect toxicity to three model aquatic organisms. A plot retention-tank technique was used in conjunction with artificial rain to establish runoff patterns and runoff concentrations of the two pesticides. Twelve 4.5 m2 plots were constructed in an orchard in Davis, California, on bare soil. Two separate 2-event rain treatments were applied. Each event consisted of an approximate 2.5-h rain application at a rate of 4.3 cm h-1. The only difference between the two treatments was that treatment 2 allowed the pesticide to soak into the soil (i.e., no runoff occurred) prior to runoff while treatment 1 allowed runoff during both events. Mass transport of esfenvalerate in the runoff was less than the mass transport of diazinon under similar conditions. The runoff containing esfenvalerate was substantially less toxic to the waterflea (Ceriodaphnia dubia), but slightly more toxic to the fathead minnow (Pimephales promelas) and the Sacramento splittail (Pogonichthys macrolepidotus). After soaking the pesticides into the soil, reductions occurred in the mass transport and toxicities of both pesticides. The results suggest that esfenvalerate may be a desirable alternative to diazinon in terms of mitigating aquatic toxicity. Additionally, soaking the pesticides into the soil after application may reduce the mass transport and toxicity occurring in runoff. Diazinon/ Esfenvalerate/ Orchard/ Organophosphate/ Pesticide runoff/ Plot retention tank/ Pyrethroid

Bratton, Donna L., Harris, R. Adron, Clay, Keith L., and Henson, Peter M. (1988). Effects of platelet activating factor on calcium-lipid interactions and lateral phase separations in phospholipid vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 943: 211-219.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Recent studies localizing the inflammatory mediator, platelet activating factor (PAF, 1-O-alkyl-2-acetyl-sn-glycero-3-phosphocholine), to the membranes of stimulated neutrophils, raise the possibility that PAF may, in addition to its activities as a mediator, alter the physical properties of membranes. This, and the increasing evidence that calcium-lipid interactions may have central importance in membrane organizational structure and in functions of cell homeostasis and stimulus-response coupling, prompted us to study the effects of PAF on calcium-lipid interactions in lipid vesicles. Using fluorescence polarization of dansylated probes located in the glycerol portion of the membrane bilayer, PAF (at a concentration as low as 1 mol%) was shown to reduce membrane rigidification significantly during calcium-induced lateral phase separations. This effect of PAF was structurally dependent on both the 1-position alkyl linkage and the 2-position acetyl group as shown by studies of related lipid analogs. Furthermore, using a self-quenching probe, it was shown that inhibition of lateral phase separation did not account for this reduction in the calcium-induced membrane rigidification attributed to PAF. Data suggest that PAF at low concentrations may alter phospholipid head packing and, thereby, change membrane surface features during calcium-lipid interactions, effects which may ultimately explain some of its biological actions. Platelet activating factor/ Lateral phase separation/ Calcium-lipid binding/ Phospholipid vesicle/ (Dansylated probe)

Brattsten, L. B., Holyoke, C. W. Jr., Leeper, J. R., and Raffa, K. F. (1986). Insecticide Resistance: Challenge to Pest Management and Basic Research. *Science* 231: 1255-1260.  
Chem Codes: EcoReference No.: 72033  
Chemical of Concern: CBL,DDT,AND,PYN,DZ,PPB,PRN,MP,ACP Rejection Code: REVIEW.

Braun, H. E. and Frank, R. (1980). Organochlorine and organophosphorus insecticides: Their use in eleven agricultural watersheds and their loss to stream waters in Southern Ontario, Canada, 1975-1977. *The Science of The Total Environment* 15: 169-192.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
As part of a comprehensive study of the effects of agricultural land use activities on the quality of water entering the Great Lakes, 949 stream water samples from 11 agricultural watersheds in southern Ontario were collected in 1975-1977 and analyzed for organochlorine and organophosphorus insecticide residues which were currently in use in those watersheds. Detectable residues of chlordane, heptachlor epoxide, and endosulfan were found in 1.6, 6.0, and 19.3% of samples, respectively. Over 50% of the total organochlorine insecticides were found to be transported in the January-to-April periods corresponding to spring thaws, low ground cover, and high suspended solids in the water. Unit area loadings ranged from 0 to 4.5 mg/ha/yr for chlordane plus heptachlor epoxide and 0 to 89.9 mg/ha/yr for endosulfan. Water quality objectives proposed by the International Joint Commission were exceeded in 4% of samples by heptachlor epoxide, and 14% of samples by endosulfan.Sixteen organophosphorus insecticides were known to be used in the watersheds but only chlorpyrifos, diazinon, ethion, and malathion were detected. Chlorpyrifos was present in only three samples, ethion in two, and malathion in four; 87 samples were found to contain diazinon but 64 of these were identified as originating from an indoor (non land-use) activity in one watershed. All field losses of organophosphorus insecticides occured in the May-August period correlating with the season of application. Proposed I.J.C. water quality objectives were exceeded in one sample where diazinon was used in land activities and in 77 samples as the result of diazinon being used in an indoor activity. No other organophosphorus insecticides were found which exceeded the proposed water quality objectives.

Braunbeck, T. (1994). Detection of Environmentally Relevant Concentrations of Toxic Organic Compounds Using Histological and Cytological Parameters: Substance-Specificity in the Reaction of Rainbow Trout Liver? *In: R.Muller and R.Lloyd (Eds.), Sublethal and Chronic Effects of Pollutants on Freshwater Fish, Chapter 2, Fishing News Books, London* 15-29.

EcoReference No.: 18554  
Chemical of Concern: ATZ,DS,DZ,LNR; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(ATZ,DZ).

Bresch, H. (1991). Early Life-Stage Test in Zebrafish Versus a Growth Test in Rainbow Trout to Evaluate Toxic Effects. *Bull.Environ.Contam.Toxicol.* 46: 641-648.

EcoReference No.: 341  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR,GRO; Rejection Code: NO ENDPOINT(DZ).

Brewer, Gregory J. and Thomas, P. D. (1984). Role of gangliosides in adhesion and conductance changes in large spherical model membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 776: 279-287.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The formation of two spherical model membranes at the tips of two syringes has allowed us to study the role of gangliosides in membrane adhesion and look for changes in conductance between two such membranes during the process of adhesion. Membranes were formed in aqueous 100 mM NaCl, 10 mM KCl, 1 mM CaCl2 from 1% (w/v) egg phosphatidylcholine in n-decane, with or without mixed bovine brain gangliosides. After thinning to the &lsquo;black&rsquo; bilayer state, two membranes were moved into contact. With gangliosides, the contact area and conductance increased colinearly with time over a 5 to 20 min period of adhesion. The role of electrostatic bridging by calcium was investigated. In the absence of calcium or in the presence of 2 mM EDTA, adhesion proceeded after a longer lag time at about one-half the normal rate. As the ganglioside concentration was increased from 0 to 15 mol%, the electrical conductance of individual membranes decreased 3-fold from 48 +/- 30 nS/cm2 to 17 +/- 13 nS/cm2. The conductance was pH dependent with a minimum at neutral values. At neutral pH, when two membranes containing 4.1 mol% gangliosides adhered, the region of adhesion had a specific conductance three times that of the nonadhering regions of membranes. Without gangliosides, the specific conductance of the contact region was the same as that of non-adhering regions of the membrane. These data suggest that mixed gangliosides can mediate an adhesion-dependent increase in conductance. Ganglioside/ Membrane adhesion/ Membrane conductance/ Glycolipid/ Model membrane

BRIGANTI, F. and WILD JR (1997). PROTEIN ENGINEERING FOR IMPROVED BIODEGRADATION OF RECALCITRANT POLLUTANTS AU - MASON JR. *WILD, J. R., S. D. VARFOLOMEYEV AND A. SCOZZAFAVA (ED.). NATO ASI SERIES 3 HIGH TECHNOLOGY, VOL. 19. PERSPECTIVES IN BIOREMEDIATION: TECHNOLOGIES FOR ENVIRONMENTAL IMPROVEMENT; 1995 NATO ADVANCED RESEARCH WORKSHOP ON BIOTECHNOLOGICAL REMEDIATION OF CONTAMINATED SITES, LVIV, UKRAINE, MARCH 5-9, 1995. XVI+123P. KLUWER ACADEMIC PUBLISHERS: DORDRECHT, NETHERLANDS; NORWELL, MASSACHUSETTS, USA. ISBN 0-7923-4339-5.; 19 (0). 1997. 107-118.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING POSTER MICROORGANISMS RECALCITRANT POLLUTANTS IMPROVED BIODEGRADATION BIOREMEDIATION PROTEIN ENGINEERING BIOPROCESS ENGINEERING POLLUTION Congresses/ Biology/ Genetics/ Cytogenetics/ Biomedical Engineering/ Biophysics/ Engineering/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biodegradation/ Industrial Microbiology/ Microbiology

Brimer, L., Bak, H., and Henriksen, S. (2004). Rapid quantitative assay for acaricidal effects on Sarcoptes scabiei var. suis and Otodectes cynotis. *Experimental and Applied Acarology [Exp. Appl. Acarol.]. Vol. 33, no. 1-2, pp. 81-91. 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0168-8162  
Descriptors: Migration  
Descriptors: lactones  
Descriptors: Cholinesterase  
Descriptors: Acetylcholinesterase  
Descriptors: Motor neurons  
Descriptors: Diazinon  
Descriptors: Acaricides  
Descriptors: octopamine  
Descriptors: Otodectes cynotis  
Descriptors: Sarcoptes scabiei  
Abstract: Brimer et al. (Vet. Parasitol. 51: 123-135, 1993 and 59: 249-255, 1995) developed a migration assay for acaricidal effect of acetylcholinesterase inhibitors and macrocyclic lactones utilising Sarcoptes scabiei var. suis mites. In contrast to many others, this assay is fully quantitative but quite time-consuming. The aim of the present investigation was to modify this assay to become faster and simpler. As a result accurate determinations can now be obtained within 6 h, as opposed to 24 h. Furthermore it was demonstrated that also Otodectes cynotis mites can be used with only minor modifications of the procedures. The cholinesterase inhibitor diazinon and the formamide amitraz were used as acaricides. Thus, the mite migration assay now has been proven useful for acaricidal compounds belonging to three chemical groups with different modes of action, namely organophosphorous cholinesterase inhibitors, macrocyclic lactones acting on the glutamanergic/GABAegic motoneurons, and formamide inhibitors of the octopamine systems of arthropods.  
Publisher: Kluwer Academic Publishers  
DOI: 10.1023/B:APPA.0000029974.88938.8e  
Language: English  
English  
Publication Type: Journal Article  
Classification: Z 05183 Toxicology & resistance  
Subfile: Entomology Abstracts

Bringmann, G. and Kuhn, R. (1960). The Water-Toxicological Detection of Insecticides (Zum Wasser-Toxikologischen Nachweis von Insektiziden). *Gesund.Ing.* 8: 243-244 (GER) (ENG ABS).

EcoReference No.: 58990  
Chemical of Concern: DZ,HCCH,MLN,EN,DLD,DDT,Ag,Cd; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

BRISTOW PR and WINDOM GE (1987). EFFECTS OF SELECTED FUNGICIDES INSECTICIDES AND ADJUVANTS ON IN-VITRO GERMINATION OF HIGHBUSH BLUEBERRY POLLEN. *PLANT DIS; 71* 326-328.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM VACCINIUM-CORYMBOSUM CAPTAN BENOMYL FERBAM TRIFORINE EC DIAZINON X-77 PHYTOTOXICITY Biochemistry/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Anatomy & Histology/ Reproduction/ Fruit/ Environmental Pollution/ Plant Diseases/ Weather/ Herbicides/ Pest Control/ Pesticides/ Plants

Britton, L. N., Brand, J. M, and Markovetz, A. J. (1974). Source of oxygen in the conversion of 2-tridecanone to undecyl acetate by Pseudomonas cepacia and Nocardia sp. *Biochimica et Biophysica Acta (BBA) - Lipids and Lipid Metabolism* 369: 45-49.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Cell-free extracts from Pseudomonas cepacia and Nocardia sp. when supplied with NADPH accumulated undecyl acetate from 2-tridecanone in the presence of an esterase inhibitor, tetraethyl pyrophosphate. Mass spectra of undecyl acetate formed in an 16O2-atmosphere exhibited characteristic oxygencontaining ions of m/e 61, 73, and 116. In experiments with 18O2, these ions appeared at m/e 63, 75, and 118. Absence of a significant peak at m/e 45 in the 18O-containing ester established that the 18O was in the C-O-C linkage rather than the carbonyl oxygen. Incorporation of molecular oxygen in the presence of NADPH into 2-tridecanone to form undecyl acetate is consistent with an oxygenase-type reaction.

BROMAND, B. (1996). ON THE PROBLEMS OF MINOR USE IN DENMARK. *PALLUTT, W. AND H.-H. SCHMIDT. MITTEILUNGEN AUS DER BIOLOGISCHEN BUNDESANSTALT FUER LAND- UND FORSTWIRTSCHAFT BERLIN-DAHLEM, HEFT 324; (COMMUNICATIONS FROM THE FEDERAL BIOLOGICAL INSTITUTE FOR AGRICULTURE AND FORESTRY BERLIN-DAHLEM, NO. 324); 2ND INTERNATIONAL SYMPOSIUM ON MINOR USES CALLED BY THE FEDERAL BIOLOGICAL RESEARCH CENTRE FOR AGRICULTURE AND FORESTRY, JUNE 11-13, 1996. 145P. BIOLOGISCHE BUNDESANSTALT FUER LAND- UND FORSTWIRTSCHAFT: BERLIN-DAHLEM, GERMANY. ISBN 3-8263-3129-X.; 0 (324). 1996. 103-110.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING PAPER MINOR INDUSTRY PESTICIDES PLANT PROTECTION LEGISLATION PRODUCT REMOVAL SMALL CROP INDUSTRY DENMARK EUROPE Legislation/ Organization and Administration/ Biology/ Botany/Economics/ Herbicides/ Pest Control/ Pesticides

Brown B., Silvia V., Stanislawski, Aimee, Perry, Quinesha L., and Williams, Noreen (2001). Cloning and characterization of the subunits comprising the catalytic core of the Trypanosoma brucei mitochondrial ATP synthase. *Molecular and Biochemical Parasitology* 113: 289-301.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The Trypanosoma brucei mitochondrial F1-ATPase has been previously isolated and characterized. It is composed of five subunits of molecular weights 55 000, 42 000, 32 000, 22 000, and 17 000 [1]. We have identified the [alpha] and [beta] subunits of the T. brucei F1-ATPase by N-terminal sequence determination together with analysis of cDNA and genomic clones. The genes for both subunits are homologous to the same subunits from other organisms. They contain the Walker A and B boxes of homology and a putative mitochondrial import sequence. The isolated T. brucei [alpha] subunit is unusually small at 42 kDa. The [alpha] cDNA clone encodes a protein of predicted size 59 kDa with a mitochondrial import presequence at the N-terminus. The predicted size was confirmed by expression of a 59 kDa protein from the cDNA clone in vitro. These results suggest that the [alpha] subunit may have an unusually large mitochondrial presequence of 159 amino acids. In contrast, the estimated size of the native [beta] subunit (55 kDa) correlates well with the size predicted from the cDNA clone, 57 kDa, from which a 21 amino acid presequence has been removed in vivo. The size of the [beta] subunit was confirmed by expression in an in vitro and an Escherichia coli expression system. The purified recombinant [beta] subunit, like the native F1-ATPase, can be labeled by the photoaffinity nucleotide analogue 8-azido ATP. Binding of the 8-azido ATP probe is best competed by the natural substrate ATP, and is significantly reduced by pretreatment with the inhibitor 7-chloro-4-nitrobenzo-2-oxa-1,3-diazide as has been shown with [beta] subunits of other organisms. The differential binding of this photoaffinity analogue was used to resolve the identities of the [alpha] and [beta] subunits of the ATP synthase from T. brucei. These results are in contrast to results previously obtained for a related trypanosomatid Crithidia fasciculata. Trypanosoma brucei/ ATP synthase/ [alpha] Subunit/ [beta] Subunit/ 8-Azido ATP/ Photoafffinity label

Brown Jeffrey S and Bay Steven M (2005). Organophosphorus pesticides in the Malibu Creek Watershed.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: Streams  
Descriptors: Diazinon  
Descriptors: Toxicity  
Descriptors: Water Quality  
Descriptors: Watersheds  
Descriptors: Pesticides  
Descriptors: Linear Alkyl Sulfonates  
Descriptors: Salts  
Descriptors: Organophosphorus Pesticides  
Descriptors: Chlorides  
Descriptors: Crustaceans  
Descriptors: Mortality  
Descriptors: Fish  
Descriptors: Survival  
Descriptors: Storms  
Descriptors: Contamination  
Descriptors: Coastal Waters  
Descriptors: Tributaries  
Descriptors: Toxicity tests  
Descriptors: Water pollution  
Descriptors: Dissolved salts  
Descriptors: Pollutant persistence  
Descriptors: Mortality causes  
Descriptors: Rivers  
Descriptors: Environmental impact  
Descriptors: Reproduction  
Descriptors: Chlorpyrifos  
Descriptors: Ceriodaphnia dubia  
Descriptors: USA, California, Los Angeles Cty., Malibu Creek  
Abstract: To assess the persistence and magnitude of pesticides in the water column, three streams in the Malibu Creek watershed were sampled for organophosphorus (OP) pesticide (including diazinon and chlorpyrifos) contamination and toxicity to Ceriodaphnia dubia. Dry-weather samples were collected from Malibu Creek and two of its tributaries, Las Virgenes Creek and Medea Creek, at monthly intervals between June 2002 and March 2003. Two storm events were sampled at Malibu Creek in February 2003. Diazinon was the only organophosphorus pesticide detected in any of the creek samples, with measurable amounts in most of the dry-weather samples from Medea Creek, and both of the stormwater samples from Malibu Creek. Concentrations of diazinon in some samples exceeded the California Department of Fish and Game acute water quality criterion by up to a factor of 9, and the chronic criterion by up to a factor of 14. Toxicity was present in some of the samples from each of the streams. Impacted water quality, as indicated by toxicity to C. dubia, appeared to be most severe in Medea Creek and Las Virgenes Creek, where the incidence of reduced survival and reduced reproduction was greater than that measured in Malibu Creek. Dissolved salts such as chlorides and the OP pesticide diazinon contributed to the reduced water quality, but these two constituents had different effects on water quality at the various sites. Diazinon had the most severe toxic effects (complete mortality in two samples from Medea Creek), but did not impact the observed toxicity at Malibu Creek or Las Virgenes Creek. Dissolved salts were shown to be the likely cause of persistent impaired reproduction of C. dubia in many of the samples from all three study sites, indicating that this constituent group is of broad concern throughout the watershed.  
Publisher: Southern California Coastal Water Research Projects  
Language: English  
English  
Publication Type: Report  
Environmental Regime: Freshwater  
Classification: SW 3030 Effects of pollution  
Classification: AQ 00002 Water Quality  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts

Brown, K. A. (1980). Phosphotriesterases of flavobacterium sp. *Soil Biology and Biochemistry* 12: 105-112.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
An enzyme system having phosphotriesterase activity was partially purified from Flavobacterium sp. by means of gel filtration and preparative gel isotachophoresis. Flavobacterium phosphotriesterase showed maximum activity between pH 8-10 and was unaffected by the presence of metal ions. Non-ionic detergents were potent and irreversible inhibitors of activity. Inhibition was also observed with mercurial thiol reagents and cysteine, although in the latter case inhibition could be reversed by oxidation in air or with K3Fe(CN)6. Activity was restricted towards substrates having electron withdrawing aromatic or heterocyclic leaving group such as parathion, paraoxon, diazinon and their analogues. Substrate analogues having the weakly electrophilic 4-aminophenyl group were not hydrolysed and in some cases acted as competitive inhibitors. Product inhibition by 4-nitrophenol (but not by the phosphorus containing moiety) was observed.

Brown, Pamela M. and Silvius, John R. (1990). Mechanisms of delivery of liposome-encapsulated cytosine arabinoside to CV-1 cells in vitro. Fluorescence-microscopic and cytotoxicity studies. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1023: 341-351.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Fluorescence microscopy and assays of the cytotoxicity of liposome-encapsulated cytosine arabinoside (araC) have been used to examine the interactions of CV-1 cells with pH-sensitive liposomes, combining phosphatidylethanolamine (PE) with oleic acid or with double-chain protonatable amphiphiles, and with pH-insensitive liposomes combining phosphatidylcholine (PC) and phosphatidylglycerol (PG). Fluorescence-microscopic observations indicate that double-chain protonatable amphiphiles remain tightly associated with pH-sensitive liposomes during incubations with CV-1 cell monolayers, and that cellular uptake of liposomes is strongly promoted by transferrin coupled to the liposome surface. Liposome-encapsulated araC showed much greater cytotoxicity toward CV-1 cells than did the free drug at equivalent concentrations under the same conditions. The cytotoxicity of encapsulated araC was strongly enhanced by liposome-conjugated transferrin and was maximal using pH-sensitive liposomes combining PE with the double-chain protonatable amphiphile N-(N&prime;-oleoyl-2-aminopalmitoyl)serine. However, the drug was also markedly more cytotoxic when encapsulated in other types of transferrin-conjugated liposomes, including pH-insensitive PC/PG/ cholesterol liposomes, than in the free form. The cytotoxicity of liposome-encapsulated araC is significantly attenuated by the nucleoside transport inhibitor nitrobenzothioinosine, and fluorescence microscopy using calcein-containing liposomes provides no evidence for efficient fusion between cellular membranes and any of the types of liposomes examined here. Based on these observations, we suggest that the major mechanism for cytoplasmic delivery of liposome-encapsulated araC is the carrier-mediated transport of drug that has been released from liposomes into the endosomal and/or the lysosomal compartments. Liposome/ Cytosine arabinoside/ Drug delivery/ Endosome/ Lysosome/ Fluorescence/ Cytotoxicity

Brun, E. M., Garces-Garcia, M., Escuin, E., Morais, S., Puchades, R., and Maquieira, A. \*. (2004). Assessment of Novel Diazinon Immunoassays for Water Analysis. *Environmental Science & Technology [Environ. Sci. Technol.]. Vol. 38, no. 4, pp. 1115-1123. 15 Feb 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0013-936X  
Descriptors: Diazinon  
Descriptors: Organophosphates  
Descriptors: Insecticides  
Descriptors: Immunoassays  
Descriptors: Water analysis  
Descriptors: Agrochemicals  
Descriptors: Rivers  
Descriptors: Pollution monitoring  
Descriptors: Monitoring  
Descriptors: Natural Waters  
Descriptors: Detection Limits  
Descriptors: Analytical Methods  
Descriptors: Testing Procedures  
Descriptors: Pesticides  
Descriptors: Analytical techniques  
Descriptors: Agricultural pollution  
Descriptors: ELISA  
Descriptors: Water pollution  
Descriptors: River water  
Abstract: Diazinon is a broad organophosphate insecticide used in agricultural and other treatments, resulting in widespread water contamination. The development of easy-to-use screening immunoanalytical methods is an interesting tool to study environmental pollution impact. Two novel strategies for diazinon hapten synthesis are addressed. One of them attaches the spacer arm to the oxygen atom of the diazinon aromatic ring. The other one retains the diazinon basic structure linking the spacer to an aromatic carbon. A total of eight diazinon haptens were synthesized, demonstrating that they are suitable for immunoreagent (protein conjugates and polyclonal antibodies) production. The optimized ELISA is based on conjugate-coated format and had a detection limit of 0.40 mu g/L, showing little or no cross-reactivity to similar tested compounds. The immunoassays were used as a tool to quantify diazinon in natural waters. Results are in agreement with those given by GC-MS reference method. Mean recoveries ranging between 99% and 105% confirm the potential of our approach to determine diazinon in samples without purification or preconcentration steps, being applied as a screening method for field monitoring of diazinon in river waters.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3010 Identification of pollutants  
Classification: W4 210 Bioremediation, Bioreactors & BioCycling  
Classification: Q5 01502 Methods and instruments  
Classification: AQ 00003 Monitoring and Analysis of Water and Wastes  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts; Bioengineering Abstracts

Brunetto, R., Burguera, M., and Burguera, J. L. ( Organophosphorus pesticide residues in some watercourses from Merida, Venezuela. *Science of the Total Environment [SCI. TOTAL ENVIRON.], vol. 114, pp. 195-204, 1992*.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO SPECIES.  
  
The concentration of organophosphorus residues were determined in some Andean Highland watercources from the Merida Province of Venezuela. Levels from < 0.3 to 16.5, < 0.1 to 12.2, < 0.2 to 4.1 and < 0.1 to 0.9 mu g l super(-1) of dimethoate, diazinon, methyl parathion and methamidophos were found. The pesticides most frequently detected were dimethoate and diazinon (89% of samples), followed by methamidophos (39%) and methyl parathion (33%). In general, waters contained pesticide concentrations reflecting local usage derived from agricultural activities. Classification: Q5 01503 Characteristics, behavior and fate; P 2000 FRESHWATER POLLUTION pollution monitoring/ water analysis/ water pollution/ agricultural pollution/ agricultural runoff/ pesticides

Brunetto, Rosario, Burguera, M., and Burguera, J. L. (1992). Organophosphorus pesticide residues in some watercourses from Merida, Venezuela. *The Science of The Total Environment* 114: 195-204.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The concentration of organophosphorus residues were determined in some Andean Highland watercourses from the Merida Provide of Venezuela. Level from -1 ofdimethoate, diazinon, methyl parathion and methamidophos were found. The pesticides most frequently detected were dimethoate and diazinon (89% of samples), followed by methamidophos (39%) and methyl parathion (33%). In general, waters contained pesticide concentrations reflecting local usage derived from agricultural activities. organophosporus pesticides/ water analysis/ environmental contamination

Brunner, H. and Schellerer, K. M. (2003). New porphyrin platinum conjugates for the cytostatic and photodynamic tumor therapy: Protagonists in Chemistry: Pierre Braunstein. *Inorganica Chimica Acta* 350: 39-48.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The combination of a porphyrin system and a platinum fragment in the same molecule should not only result in the additivity of the photodynamic activity of the porphyrin and the cytostatic activity of the platinum, but also in the enrichment of the porphyrin platinum conjugate in tumors, which platinum compounds alone do not show. New porphyrin platinum conjugates were obtained from the platinum complexes of a series of 1,2-diamines and hematoporphyrin or 13,17-bis(2-carboxyethyl)-3,8-bis[1-(ethyleneglycolmonoethylether)oxyethyl]-2,7,12,18-tetramethylporphin. The 1,2-diamines were synthesized starting from the corresponding stilbenes via 1,2-diazides. The new platinum porphyrin conjugates showed promising antitumor activity in tests with the mammary carcinoma cell line MDA-MB-231. Porphyrin platinum conjugates/ Cytostatic tumor therapy/ Photodynamic tumor therapy/ MDA-MB-231 cell line

Brust, G. E. and Foster, R. E. (1994). CONTROL OF STRIPED CUCUMBER BEETLE ON CANTALOUPE IN VINCENNES INDIANA 1993 AU - BUHLER WG. *Burditt, A. K. Jr. (Ed.). Arthropod Management Tests, Vol. 19. Iii+403p. Entomological Society of America: Lanham, Maryland, Usa.* 0 : 77-78.  
Chem Codes: CBF Rejection Code: BOOK ORDERED - BURDITT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER CUCUMIS-MELO ACALYMMA-VITTATUM CAPTURE ASANA AMBUSH MARLATE SEVIN POUNCE ADMIRE THIODAN FURADAN DIAZINON FOSTHIAZATE INSECTICIDE  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-General  
KEYWORDS: Horticulture-Vegetables  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Fruits and Nuts  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Invertebrata  
KEYWORDS: Cucurbitaceae  
KEYWORDS: Lepidoptera

Buboltz, Jeffrey T. and Feigenson, Gerald W. (1999). A novel strategy for the preparation of liposomes: rapid solvent exchange. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1417: 232-245.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
During the preparation of multi-component model membranes, a primary consideration is that compositional homogeneity should prevail throughout the suspension. Some conventional sample preparation methods pass the lipid mixture through an intermediary, solvent-free state. This is an ordered, solid state and may favor the demixing of membrane components. A new preparative method has been developed which is specifically designed to avoid this intermediary state. This novel strategy is called rapid solvent exchange (RSE) and entails the direct transfer of lipid mixtures between organic solvent and aqueous buffer. RSE liposomes require no more than a minute to prepare and manifest considerable entrapment volumes with a high fraction of external surface area. In phospholipid/cholesterol mixtures of high cholesterol content, suspensions prepared by more conventional methods reveal evidence of artifactual demixing, whereas samples prepared by rapid solvent exchange do not. The principles which may lead to artifactual demixing during conventional sample preparation are discussed. Cholesterol/ Demixing/ Homogeneity/ Lipid mixture/ Liposome preparation/ Phase behavior

Buratti, F. M., Volpe, M. T., Fabrizi, L., Meneguz, A., Vittozzi, L., and Testai, E. \*. (2002). Kinetic parameters of OPT pesticide desulfuration by c-DNA expressed human CYPs. *Environmental Toxicology and Pharmacology [Environ. Toxicol. Pharmacol.]. Vol. 11, no. 3-4, pp. 181-190. Jul 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 1382-6689  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Parathion  
Descriptors: Diazinon  
Descriptors: Cytochrome P450  
Abstract: The role of different cytochrome P450 isoforms (CYPs) in the desulfuration of four organophosphorothionate pesticides (OPTs), namely diazinon (DIA), azinphos-methyl (AZ), chlorpyrifos (CPF) and parathion (PARA), at OPT levels representative of actual human exposure has been investigated. For this purpose c-DNA expressed human CYPs and a method, based on acetylcholinesterase (AChE) inhibition, able to detect nM levels of oxon have been used. Our results indicate that the four tested OPTs at low concentration were mainly desulfurated by CYP2B6, 2C19 and 1A2, showing K sub(m) values in the range 0.8-5 mu M and the highest efficiency (intrinsic clearance (ICL)) values. CYP3A4 was generally endowed with high K sub(m) and resulted linear up to 25-100 mu M OPT, concentrations saturating the most efficient CYPs. The tentative extrapolation of the relative contribution of single CYPs, taking into account the average content of different isoforms in the human liver, indicate that CYP1A2 is the major responsible for oxon formation. Indeed this CYP catalyses the 50-90% of desulfuration reaction, depending on the OPT. As CYP3A4 activity is not completely saturated up to 100 mu M OPT, and due to the high hepatic content, its contribution to oxon formation may result relevant in poisoning episodes, when individuals are exposed at high doses of OPTs.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Buratti, F. M., Volpe, M. T., Meneguz, A., Vittozzi, L., and Testai, E. \*. (2003). CYP-specific bioactivation of four organophosphorothioate pesticides by human liver microsomes. *Toxicology and Applied Pharmacology [Toxicol. Appl. Pharmacol.]. Vol. 186, no. 3, pp. 143-154. 1 Feb 2003.*   
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0041-008X  
Descriptors: Pesticides  
Descriptors: Liver  
Descriptors: Microsomes  
Descriptors: Chlorpyrifos  
Descriptors: Parathion  
Descriptors: Diazinon  
Descriptors: Azinphos-methyl  
Descriptors: Cytochrome P450  
Abstract: The bioactivation of azinphos-methyl (AZIN), chlorpyrifos (CPF), diazinon (DIA), and parathion (PAR), four widely used organophosphorothioate (OPT) pesticides has been investigated in human liver microsomes (HLM). In addition, the role of human cytochrome P450 (CYPs) in OPT desulfuration at pesticide levels representative of human exposure have been defined by means of correlation and immunoinhibition studies. CYP-mediated oxon formation from the four OPTs is efficiently catalyzed by HLM, although showing a high variability (>40-fold) among samples. Two distinct phases were involved in the desulfuration of AZIN, DIA, and PAR, characterized by different affinity constants (Kmapp1 = 0.13-9 mu M and Kmapp2 = 5- 269 mu M). Within the range of CPF concentrations tested, only the high-affinity component was evidenced (Kmapp1 = 0.27-0.94 mu M). Oxon formation in phenotyped individual HLM showed a significant correlation with CYP1A2-, 3A4-, and 2B6-related activities, at different levels depending on the OPT concentration. Anti-human CYP1A2, 2B6, and 3A4 antibodies significantly inhibited oxon formation, showing the same OPT concentration dependence. Our data indicated that CYP1A2 is mainly involved in OPT desulfuration at low pesticide concentrations, while the role of CYP3A4 is more significant to the low-affinity component of OPT bioactivation. The contribution of CYP2B6 to total hepatic oxon formation was relevant in a wide range of pesticide concentrations, being a very efficient catalyst of both the high- and low-affinity phase. These results suggest CYP1A2 and 2B6 as possible metabolic biomarkers of susceptibility to OPT toxic effect at the actual human exposure levels.  
Publisher: Elsevier Science (USA)  
DOI: 10.1016/S0041-008X(02)00027-3  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Buratti Franca M, D'aniello Alessandra, Volpe Maria Teresa, Meneguz Annarita, and Testai Emanuela (2005). Malathion bioactivation in the human liver: The contribution of different cytochrome P450 isoforms. *Drug Metabolism and Disposition [Drug Metab. Disposition]. Vol. 33, no. 3, pp. 295-302. Mar 2005.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0090-9556  
Descriptors: Malathion  
Descriptors: Carboxylesterase  
Descriptors: Liver  
Descriptors: Cytochrome P450  
Descriptors: Chlorpyrifos  
Descriptors: Sulfur  
Descriptors: Diazinon  
Descriptors: Metabolites  
Descriptors: Acetylcholinesterase  
Descriptors: biomarkers  
Descriptors: Drug metabolism  
Descriptors: thioethers  
Descriptors: Microsomes  
Descriptors: Parathion  
Descriptors: Pesticides  
Descriptors: Disposition  
Descriptors: Impurities  
Abstract: Among organophosphorothioate (OPT) pesticides, malathion is considered relatively safe for use in mammals. Its rapid degradation by carboxylesterases competes with the cytochrome P450 (P450)-catalyzed formation of malaoxon, the toxic metabolite. However, impurities in commercial formulations are potent inhibitors of carboxylesterase, allowing a dramatic increase in malaoxon formation. Malathion desulfuration has been characterized in human liver microsomes (HLMs) with a method based on acetylcholinesterase inhibition that is able to detect nanomolar levels of oxon. The active P450 isoforms have been identified by means of a multifaceted strategy, including the use of cDNA- expressed human P450s and correlation, immunoinhibition, and chemical inhibition studies in a panel of phenotyped HLMs. HLMs catalyzed malaoxon formation with a high level of variability (>200-fold). One or two components (K sub(mapp1) = 53-67 mu M; K sub(mapp2) = 427-1721 mu M) were evidenced, depending on the relative specific P450 content. Results from different approaches indicated that, at low malathion concentration, malaoxon formation is catalyzed by CYP1A2 and, to a lesser extent, 2B6, whereas the role of 3A4 is relevant only at high malathion levels. These results are in line with those found with chlorpyrifos, diazinon, azynphos-methyl, and parathion, characterized by the presence of an aromatic ring in the molecule. Since malathion has linear chains as substituents at the thioether sulfur, it can be hypothesized that, independently from the chemical structure, OPTs are bioactivated by the same P450s. These results also suggest that CYP1A2 and 2B6 can be considered as possible metabolic biomarkers of susceptibility to OPT-induced toxic effects at actual human exposure levels.  
Publisher: Williams & Wilkins, 351 W. Camden St. Baltimore MD 21201 USA, [URL:http://www.lww.com/]  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

BURCHAT CS, RIPLEY BD, LEISHMAN PD, RITCEY GM, KAKUDA, Y., and STEPHENSON GR (1998). The distribution of nine pesticides between the juice and pulp of carrots and tomatoes after home processing. *FOOD ADDITIVES AND CONTAMINANTS; 15* 61-71.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The distribution of nine pesticides between the juice and pulp of carrots and tomatoes during home culinary practices was investigated. Tomato and carrot pulp contained a higher percentage of all pesticide residues, except for mancozeb in tomatoes. Although there was a difference in the relative distribution of the pesticides between the commodities with greater amounts present in the pulp of tomatoes, the pesticides followed a similar trend in both. A relationship between the pulp/juice distribution and water solubility of the pesticide was apparent. Pesticides with the highest water solubility were present to a greater extent in the juice. An exception was noted in the case of diazinon and parathion, which were present in higher amounts in the pulp than their water solubility would suggest. The percent residue in the pulp ranged from 56.4 to 75.2% for carrots, and 49.7 to 95.4% for tomatoes. Residues in the juice prepared from washed commodities ranged from not detect Biochemistry/ Food Technology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides

Burchfield, H. P. and Storrs, E. E. (1954). Kinetics of Insecticidal Action Based on the Photomigration of Larvae of Aedes aegypti (L.). *Contrib.Boyce Thompson Inst.* 17: 439-452.

EcoReference No.: 2929  
Chemical of Concern: DZ,HCCH,PPB,CuS,RTN,DDT,NaCN,AND,ATN,TXP,As; Habitat: A; Effect Codes: PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Burgess, Helen and Donnelly, John A. (1991). The reactions of halogenated phenylnitromethanes with triethyl phosphite. *Tetrahedron* 47: 111-120.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Dibromo and dichloro phenylnitromethanes reacted with triethyl phosphite to yield mainly benzonitrile, ethyl halide, and triethyl phosphate. In addition, the products of molecular rearrangement, N,N-diphenylurea, N-phenylbenzamide, and aniline, were isolated. It is proposed that they arise from the rearrangement of an intermediate, benzonitrile oxide, to phenyl isocyanate. A seventh type of product, chlorobenzalimino diethyl phosphate (9), was obtained from dichlorophenylnitromethane. No rearranged product was isolated from the reaction of triethyl phosphite with the monohalogenated phenylnitromethanes which gave the same main products as their dihalogenated analogues.

Burkhard, L. P. and Jenson, J. J. (1993). Identification of Ammonia, Chlorine, and Diazinon as Toxicants in a Municipal Effluent. *Arch.Enivron.Contam.Toxicol.* 25: 506-515.  
Chem Codes: EcoReference No.: 45844  
Chemical of Concern: DZ,NH Rejection Code: EFFLUENT.

Buscher, Hans-Peter, Gerok, Wolfgang, Kollinger, Michael, Kurz, Gerhart, Muller, Michael, Nolte, Achim, and Schneider, Stephan (1988). Transport systems for amphipathic compounds in normal and neoplastic hepatocytes. *Advances in Enzyme Regulation* 27: 153-158.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Photoaffinity labeling of plasma membrane subfractions from liver and of intact liver tissue with a photolabile bile salt derivative, the sodium salt of (7,7-azo-3[alpha],12[alpha]-dihydroxy-5[beta]-cholan-24-oyl)-2-aminoethanesulfonic acid, revealed that the hepatobiliary transport of bile salts is accomplished by transport systems different for sinusoidal uptake and canalicular secretion. Polypeptides with apparent Mr values 54,000 and 48,000 interact with bile salts at sinusoidal membrane, whereas a polypeptide with an apparent Mr of 100,000 is involved in bile salt secretion through the canalicular membrane. Photoaffinity labeling with photolabile derivatives of uncharged and cationic compounds provided evidence that the sinusoidal membrane polypeptides exhibit a broad binding specificity. Photoaffinity labeling studies and kinetic studies suggest that hepatic uptake of different amphipathic anions, uncharged compounds and even of cations is mediated by the sinusoidal transport systems which are involved in the uptake of bile salts. Relatively little is known about the specificity of the canalicular bile salt transport system. The fluorescent bile salt derivative, the sodium salt of {N-[7-(4-nitrobenzo-2-oxa-1,3-diazol)]-3[beta]-amino-7[alpha],12[alpha]-dihydroxy-5[beta]-cholan-24-oyl}-2- aminoethanesulfonic acid, is readily taken up into the hepatocytes of all acinar zones and may be used for the evaluation of the functional state of bile salt transport by fluorescence microscopy.Fluorescent microscopic studies with the fluorescent bile salt derivative showed that ascites hepatoma AS 30D cells do not have the ability to take up bile salts and demonstrated the absence of hepatobiliary bile salt transport in the solid Morris hepatoma 7777. Photoaffinity labeling studies revealed that in both tumor cell models, in hepatoma AS 30D and in Morris hepatoma 7777, the plasma membranes were devoid of the polypeptides having affinities to bile salts and amphipathic cations. A slight labeling of bile salt binding membrane polypeptides in plasma membranes from Morris hepatomas 9618A and TC 5123 opens the possibility to study transport in neoplastic hepatocytes.

Bushway, R. J. and Fan, Z. (1998). Complementation of GC-AED and ELISA for the determination of Diazinon and Chlorpyrifos in fruits and vegetables. *Journal of Food Protection, 61 (6) pp. 708-711, 1998*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0362-028X  
Abstract: Enzyme-linked immunosorbent assay (ELISA) was employed to screen produce samples for diazinon and chlorpyrifos levels. All positive samples were analyzed for these organophosphate insecticides with a newly developed gas chromatographic atomic emission detection (GC-AED) method. Produce was extracted in methanol by Polytron homogenization and cleaned up and concentrated using Sep-Pak C inferior 1 inferior 8 cartridges. Fortification and reproducibility studies were performed using apples, blueberries, green beans, lettuce, and tomatoes that were free of detectable levels diazinon and chlorpyrifos. Percent coefficient of variation (%CV) from the reproducibility studies ranged from 1.9 to 17 for chlorpyrifos and 1.9 to 11 for diazinon. Spiking studies demonstrated percent recoveries of 78 to 114% (%CV 3.1 to 13%) for diazinon and 82 to 123 (%CV 1.5 to 12) for chlorpyrifos. Of the 278 fruit and vegetable samples screened for both organophosphate insecticides, 59 were found to have detectable levels of diazinon and 35 samples were found to contain detectable amounts of chlorpyrifos. A correlation study between ELISA and GC-AED demonstrated that the correlation coefficient was 0.987 for diazinon and 0.967 for chlorpyrifos.  
8 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United States  
Classification: 92.10.1.5 CROP SCIENCE: Crop Physiology: Fertilizer effects  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

Butler, G. L., Deason, T. R., and O'Kelley, J. C. (1975). The Effect of Atrazine, 2,4-D, Methoxychlor, Carbaryl and Diazinon on the Growth of Planktonic Algae. *Br.Phycol.J.* 10: 371-376.

EcoReference No.: 7429  
Chemical of Concern: 24DXY,ATZ,CBL,DZ; Habitat: A; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Butler, G. L., Deason, T. R., and O'Kelley, J. C. (1975). Loss of Five Pesticides from Cultures of Twenty-One Planktonic Algae. *Bull.Environ.Contam.Toxicol.* 13: 149-152 .

EcoReference No.: 60703  
Chemical of Concern: DZ,ATZ,MXL,24DXY; Habitat: A; Effect Codes: ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

Butler, P. A. (1963). Commercial Fisheries Investigations. *Circ.No.167, Fish Wildl.Serv., Washington, D.C.* 11-25.

EcoReference No.: 2188  
Chemical of Concern: AZ,CBL,DZ,HCCH,MLN,Naled,PSM,24DXY,DS,DU,PEB,Folpet,RTN,FBM,CHD,DEM,TXP,MRX,ETN,DZ,AND,MCPA,HPT,DDT,DDVP,EN,CBL,MXC; Habitat: A; Effect Codes: NOC,GRO,MOR,BEH,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Byford, R. L., Craig, M. E., DeRouen, S. M., Kimball, M. D., Morrison, D. G., Wyatt, W. E., and Foil, L. D. (1999). Influence of Permethrin, Diazinon and Ivermectin Treatments on Insecticide Resistance in the Horn Fly (Diptera: Muscidae). *Int.J.Parasitol.* 29: 125-135.

EcoReference No.: 72912  
Chemical of Concern: PMR,DZ; Habitat: T; Effect Codes: POP,MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ).

Byrne, Dennis H. and Kitos, Paul A. (1983). Teratogenic effects of cholinergic insecticides in chick embryos--IV : The role of tryptophan in protecting against limb deformities. *Biochemical Pharmacology* 32: 2881-2890.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The mechanism by which organophosphate (OP) insecticides cause micromelia in embryonic chick limbs was examined using a tissue culture approach. Limb bud cells in micromass culture were assayed for their proliferative and chondrogenic activities, [3H]thymidine and 35SO4= incorporation, respectively, into the trichloroacetic acid-insoluble constituents of the cell masses and/or the accumulation of 35S-labeled soluble macromolecular products in the culture medium. There was no obvious correlation between either the teratogenicity or toxicity of the insecticide in ovo and the inhibition of proliferation and chondrogenesis in vitro. In addition, nicotinamide, which prevents insecticide-induced micromelia in ovo, did not improve the proliferative and chondrogenic performance of insecticide-treated cells in culture. On the other hand, 2-pyridinealdoxime methochloride, which offers little or no protection against micromelia in ovo, did protect both the proliferative and chondrogenic activities of the limb bud cells in micromass culture. These observations suggest that the actions of the insecticides on the cells in culture are not the same as those that produce micromelia in ovo. -Tryptophan antagonized OP insecticide-induced micromelia in the embryo. In micromass culture, a much greater concentration of tryptophan was needed to support the chondrogenic than the proliferative activities of the limb bud cells. Moreover, a greater concentration of tryptophan was needed to support the chondrogenic activities of the leg bud than the wing bud cells. These in vitro responses of the limb bud cells to tryptophan deprivation are analogous to the in ovo response of the limbs to the teratogenic OP insecticides. A possible explanation of the roles of tryptophan and nicotinamide in preventing the limb deformities is offered.

CABRAS, P., ANGIONI, A., GARAU VL, MELIS, M., PIRISI FM, CABITZA, F., and CUBEDDU, M. (1998). Pesticide residues on field-sprayed apricots and in apricot drying processes. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY; 46* 2306-2308.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The disappearance of bitertanol, diazinon, iprodione, phosalone, and procymidone on field-sprayed apricots and their fate during sunlight- and oven-drying processes were studied. After treatments in the field, diazinon disappeared completely after a week, whereas the other pesticides at preharvest time showed residues 50% below MRLs. The pesticides decreased with pseudo-first-order kinetics and half-lives ranging from 9.1 to 24.4 days. The sunlight- and oven-drying processes caused the fruit to concentrate by a factor of 6 times. Nevertheless, the pesticide residues present in the dried fruit were lower than in the fresh fruit. The residue decreases were higher in the sunlight process than in the oven process. In the former, on average, the residues on the dried fruits were about half those on the fresh fruits, whereas in the latter they were about equal. Biochemistry/ Food Technology

CABRAS, P., ANGIONI, A., GARAU VL, MELIS, M., PIRISI FM, KARIM, M., and MINELLI EV (1997). Persistence of insecticide residues in olives and olive oil. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY;* 45: 2244-2247.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The decay rate of six insecticides (azinphos methyl, diazinon, dimethoate, methidathion, parathion methyl, and quinalphos) used to control Dacus oleae was studied. Degradation of pesticides showed pseudo-first-order kinetics with correlation coefficients ranging between -0.936 and -0.998 and half-lives between 4.3 days for dimethoate and 10.5 days for methidathion. Residues in olive oil were greater than on olives, with a maximum concentration factor of 7. Dimethoate was the only pesticide with lower residues in the oil than on the fruits. Olive washing affects pesticide residues ranging from no reduction to a 45% decrease. During 8 months of storage of the olive oil, diazinon, dimethoate, parathion methyl, and quinalphos did not show any remarkable difference, while methidathion and azinphos methyl showed a moderate decrease. Biochemistry/ Biophysics/ Food Technology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides

CABRAS, P., ANGIONI, A., GARAU VL, MELIS, M., PIRISI FM, KARIM, M., and MINELLI EV (1997). Persistence of insecticide residues in olives and olive oil. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY; 45* 2244-2247.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The decay rate of six insecticides (azinphos methyl, diazinon, dimethoate, methidathion, parathion methyl, and quinalphos) used to control Dacus oleae was studied. Degradation of pesticides showed pseudo-first-order kinetics with correlation coefficients ranging between -0.936 and -0.998 and half-lives between 4.3 days for dimethoate and 10.5 days for methidathion. Residues in olive oil were greater than on olives, with a maximum concentration factor of 7. Dimethoate was the only pesticide with lower residues in the oil than on the fruits. Olive washing affects pesticide residues ranging from no reduction to a 45% decrease. During 8 months of storage of the olive oil, diazinon, dimethoate, parathion methyl, and quinalphos did not show any remarkable difference, while methidathion and azinphos methyl showed a moderate decrease. Biochemistry/ Biophysics/ Food Technology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides

CABRAS, P., ANGIONI, A., GARAU VL, PIRISI FM, BRANDOLINI, V., CABITZA, F., and CUBEDDU, M. (1998). Pesticide residues in prune processing. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY; 46* 3772-3774.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. Prunes are processed in three phases: washing, drying, and rehydration, which is performed immediately before packing. The entire drying process was subdivided into six steps. In this paper each of these steps was studied separately in order to determine which could be accountable for residue changes. The studied pesticides were diazinon, bitertanol, iprodione, phosalone, and procymidone. Although the drying process caused a fruit concentration factor of 3, the pesticide residues on the dried fruits were not higher than on the fresh fruits. Phosalone showed the same residue, while the values for procymidone, iprodione, and bitertanol were respectively 0.6, 2.3, and 3.2 times lower. The changes in residue values caused by the different steps were not the same in the different pesticides. Biochemistry/ Food Technology/ Herbicides/ Pest Control/ Pesticides

CAMEL, V. and BERMOND, A. (1998). The use of ozone and associated oxidation processes in drinking water treatment. *WATER RESEARCH; 32* 3208-3222.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. This paper summarizes the main applications of ozonation and associated oxidation processes in the treatment of natural waters (surface and ground waters) for drinking water production. In fact, oxidants may be added at several points throughout the treatment: pre-oxidation, intermediate oxidation or final disinfection. So, the numerous effects of chemical oxidation are discussed along the water treatment: removal of inorganic species, aid to the coagulation-floculation process, degradation of organic matter and disinfection. Of prime importance in potable water production is the removal of organic matter (natural humic substances, as well as micropollutants, especially pesticides) to avoid degradation of the distributed water (mainly bad odors and tastes; formation of disinfection by-products such as trihalomethanes; microbial regrowth in the distribution system). Consequently, this point has been particularly detailed in this paper. As a matter of fact, complete miner Biochemistry/ Disinfection/ Pest Control/ Disease Vectors/ Pesticides/ Sanitation/ Sewage/ Disinfectants/ Disinfection/ Sterilization

CAMPBELL, H., RAVI, K., BRAVO, E., and KAPPAGODA CT (1996). Effect of Diazinon PLUS on rapidly adapting receptors in the rabbit. *JOURNAL OF APPLIED PHYSIOLOGY; 81* 2604-2610.  
Chem Codes: Chemical of Concern: DZ Rejection Code: INHALE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The effects of Diazinon PLUS aerosol on the activities of rapidly adapting receptors (RARs) and slowly adapting receptors (SAR) of the airways were investigated in anesthetized rabbits. The effects on both the baseline activity and the responses to stimulation by increasing mean left atrial pressure were examined. Action potentials were recorded from the left cervical vagus nerve. Aerosols (particle size 3 mum) were generated by a Mini-HEART nebulizer. We observed that an aerosol of Diazinon PLUS (1:10 vol/vol dilution in normal saline) decreased the baseline RAR activity (n = 10) significantly (P < 0.05) from 209 | 77 to 120 | 40 impulses/min. In the post-Diazinon PLUS control period, the RAR activity recovered partially to 185 | 75 impulses/min and decreased significantly to 131 | 52 impulses/min (P < 0.05) after a second exposure of Diazinon PLUS (undiluted) aerosol. Aerosols of normal saline in the control state did not produce a significant change in the RAR Biophysics/ Membranes/Physiology/ Heart Diseases/Pathology/ Respiratory Tract Diseases/Physiopathology/ Nervous System Diseases/Pathology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Lagomorpha

CANTOR KP, BLAIR, A., BROWN LM, BURMEISTER LF, and EVERETT, G. (1993). PESTICIDES AND OTHER AGRICULTURAL RISK FACTORS FOR NON-HODGKIN'S LYMPHOMA AMONG MEN IN IOWA AND MINNESOTA CANCER RES. 52 2447-2455 1992 . *CANCER RES; 53* 2421.  
Chem Codes: Chemical of Concern: DMB Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM CARBARYL CHLORDANE DDT DIAZINON LINDANE MALATHION CHLORAMBEN 2 4-D DICAMBA 2 4 5-T CARCINOGENS USA Sex Determination (Genetics)/ Sex Differentiation/ Human/ Social Behavior/ Ecology/ Biochemistry/ Hematologic Diseases/Pathology/ Hematologic Diseases/Physiopathology/ Hematopoietic System/Pathology/ Hematopoietic System/Physiopathology/ Lymphatic Diseases/Pathology/ Lymphatic Diseases/Physiopathology/ Reticuloendothelial System/Pathology/ Reticuloendothelial System/Physiopathology/ Hematopoietic System/Physiology/ Lymph/Chemistry/ Lymph/Physiology/ Lymphatic System/Physiology/ Reticuloendothelial System/Physiology/ Environmental Pollutants/Poisoning/ Occupational Diseases/ Carcinogens/ Blood/ Neoplasms/ Reticuloendothelial System/ Leukemia/ Lymphoma/ Occupational Health Services/ Air Pollution/ Soil Pollutants/ Water Pollution/ Morbidity/ Neoplasms/ Herbicides/ Pest Control/ Pesticides/ Hominidae

Capdevila, Jorge, Perry, Albert S., and Agosin, Moises (1974). Spectral and catalytic properties of cytochrome P-450 from a diazinon-resistant housefly strain. *Chemico-Biological Interactions* 9: 105-116.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Microsomes from the diazinon-resistant Rutgers strain of housefly contain amounts of cytochrome P-450 that are larger than those reported for rat liver, but the specific activity expressed as nmole of cytochrome P-450 per mg protein is much lower. The hemoprotein shows that spectral changes type I, II and IV are essentially in the low-spin form as judged by the n-octylamine and ethyl isocyanide difference spectra, and is unstable at pH below 6.5 and above 8.0. Cytochrome P-420 is also produced with time when CO-difference spectra are recorded. This is accelerated at pH above 8.0. The presence of contaminating amounts of cytochrome P-420, due to denaturation during spectral analysis or to the method used to isolate the microsomes, makes questionable the practice of characterizing the hemoprotein on the basis of the 455 nm peak in the ethyl isocyanide spectra, since a 434 nm peak is produced with concomitant decrease of the 455 nm peak. Microsomes hydroxylate naphthalene, aminopyrine and aniline, but the activity when expressed as nmole of product per nmole of cytochrome P-450 is the same or lower than that reported for other resistant housefly strains.

Carino, Lourminia A. and Montgomery, M. W. (1968). Identification of some soluble esterases of the carrot (Daucus carota L.). *Phytochemistry* 7: 1483-1490.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Aqueous-extractable esterases of the carrot (Daucus carota L.) showed optimal activity between pH 6-8 and 7-2. Acetyl, propionyl, and n-butyryl esters of phenol, sodium 2-naphthol-6-sulfonate, and glycerol and n-hexyl ester of sodium 2-naphthol-6-sulfonate were hydrolyzed by carrot esterases. Lack of activity with n-octyl ester of sodium 2-naphthol-6-sulfonate and triolein indicated the absence of a lipase or an esterase able to hydrolyze long-chain soluble esters. Esterases capable of hydrolyzing acetyl-, propionyl-, and n-butyrylcholine also were absent in the carrot extract. Carrot esterases showed maximal activity with phenyl esters, while the esters of sodium 2-naphthol-6-sulfonate and triglycerides were hydrolyzed at slower rates. Activity decreased as the acyl chain-length was increased. Inhibition studies with diethyl p-nitrophenyl thiophosphate (parathion), tetraethyl pyrophosphate (TEPP) and diisopropylphosphorofluoridate (DFP) at concentrations from 10-1 to 10-10 M with nine substrates indicated the presence of six esterases. Four esterases were classified as carboxylesterases (EC 3.1.1.1) and two fit into the arylesterase (EC 3.1.1.2) classification. Evidence is presented suggesting the hydrolysis of TEPP and DFP by the carrot extract.

Carlson, Kathryn E., Coppey, Maite, Magdelenat, Henri, and Katzenellenbogen, John A. (1989). Receptor binding of NBD-labeled fluorescent estrogens and progestins in whole cells and cell-free preparations. *Journal of Steroid Biochemistry* 32: 345-355.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have studied the interactions of four fluorescent steroid conjugates with either the estrogen or progesterone receptor, both in whole cells and cell-free receptor preparations. The fluorophore, nitrobenzoxadiazole (NBD), was conjugated with a synthetic progestin, with a steroidal estrogen, a non-steroidal estrogen, and with an antiestrogen. With all compounds, receptor-specific binding could be detected by fluorescence measurements following extraction from the protein into an organic solvent. In the native state, however, the NBD-ligand-receptor complex is essentially non-emissive, although these ligands fluoresce strongly when associated with non-specific binders such as albumin. The binding site concentrations and relative affinities determined by fluorescence (after extraction) correspond well with those determined by [3H]estradiol or [3H]R5020 binding to their respective receptors. In T47D breast cancer cells, the NBD-progestin showed receptor-mediated uptake and nuclear localization. These compounds have provided valuable information about the interactions of low and medium affinity ligands with their receptors; however, the successful use of fluorescent ligands for detecting steroid receptors under native-bound conditions, by &ldquo;imaging&rdquo; modalities (fluorescence microscopy and flow cytometry) will require the development of fluorophores that are emissive while receptor bound or assay protocols that enable the environment of ligands associated with the receptor to be controlled.

CARLTON WW (1985). THIRD SYMPOSIUM ON PROPHYLAXIS AND TREATMENT OF CHEMICAL POISONING STOCKHOLM SWEDEN APRIL 22-24 1985. *FUNDAM APPL TOXICOL; 5 (6 PART 2). 1985 (RECD. 1986). S1-S279.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING Congresses/ Biology/ Biochemistry/ Pathology/ Therapeutics/ Pharmaceutical Preparations/Metabolism/ Poisoning/ Animals, Laboratory/ Antidotes/ Poisoning/Prevention & Control

Carr, Russell L. and Chambers, Janice E. (1996). Kinetic Analysis of thein VitroInhibition, Aging, and Reactivation of Brain Acetylcholinesterase from Rat and Channel Catfish by Paraoxon and Chlorpyrifos-oxon. *Toxicology and Applied Pharmacology* 139: 365-373.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
In rats, the phosphorothionate insecticide parathion exhibits greater toxicity than chlorpyrifos, while in catfish the toxicities are reversed. Thein vitroinhibition of brain acetylcholinesterase (AChE) by the active metabolites of the insecticides and the rates at which these inhibitor-enzyme complexes undergo reactivation/aging were investigated in both species. Rat AChE was more sensitive to inhibition than catfish AChE as demonstrated by greater bimolecular rate constants (ki) in rats than in catfish. In both species, chlorpyrifos-oxon yielded higherki&rsquo;s than paraoxon. The higher association constant (KA) of chlorpyrifos-oxon than paraoxon in both species and the lack of significant differences in the phosphorylation constants (kp) suggest that association of the inhibitor with AChE is the principal factor in the different potencies between these two inhibitors. In catfish, thekiof chlorpyrifos-oxon was 22-fold greater than that of paraoxon, while in rats it was 9-fold greater, suggesting that target site sensitivity is an important factor in the higher toxicity of chlorpyrifos to catfish but not in the higher toxicity of parathion to rats. No spontaneous reactivation of phosphorylated catfish AChE occurred and there were no differences in the first order aging constants (ka) between compounds. For phosphorylated rat AChE, there were no differences in the first order reactivation constants (kr) but thekafor chlorpyrifos-oxon was significantly greater than that for paraoxon. This difference suggests that the steric positioning of the diethyl phosphate in the esteratic site is not the same between the two compounds, leading to differences in aging.

Carruthers, C. and Baumler, A. (1961). Esterase distribution in mouse liver. *Archives of Biochemistry and Biophysics* 94: 351-357.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
About 80% of the esterase activity of mouse liver homogenized and fractionated in sucrose is found in the microsomes, and this distribution is independent of the sucrose concentration. The stability of the esterase activity of the microsomes is dependent upon the concentration of sucrose used for the isolation of these particulates, and greatest stability is found in microsomes isolated from 0.88 M sucrose. Esterase activity is distributed both in &ldquo;rough-surfaced&rdquo; and &ldquo;smooth-surfaced&rdquo; microsomal membranes, and nearly half of its activity is destroyed in these fractions following homogenization with glycerol, sucrose, and NaCl. The employment of sodium deoxycholate to dissolve the vesicular portion of the microsomes and ribonuclease to hydrolyze the ribonucleoprotein particles showed that the esterase activity of the microsomes is associated with, or is a part of the membranes or their contents.Very low concentrations of diethyl p-nitrophenyl phosphate and tetraethyl pyrophosphate, potent inhibitors of esterase activity, completely inhibit microsomal esterase activity, which activity appears to be of the B-type of Aldridge. No explanation could be found for the fact that the addition of glycerol to the fractionation media of liver cell particulates results in nearly half of the esterase activity being found in the supernatant fraction.

Carvalho, F. P., Villeneuve, J. P., Cattini, C., Tolosa, I., Montenegro-Guillen, S., Lacayo, M., and Cruz, A. (2002). Ecological risk assessment of pesticide residues in coastal lagoons of Nicaragua. *Journal of Environmental Monitoring [J. Environ. Monit.]. Vol. 4, no. 5, pp. 778-787. Oct 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 1464-0325  
Descriptors: Lagoons  
Descriptors: Pesticide residues  
Descriptors: Risk assessment  
Descriptors: Organophosphorus compounds  
Descriptors: Water pollution  
Descriptors: Agrochemicals  
Descriptors: Coastal zone  
Descriptors: Biota  
Descriptors: Leaching  
Descriptors: Chlorinated hydrocarbons  
Descriptors: Pesticides  
Descriptors: Water Pollution Effects  
Descriptors: Ecological Effects  
Descriptors: Risk  
Descriptors: Coastal Waters  
Descriptors: Hydrocarbons  
Descriptors: Agricultural pollution  
Descriptors: Bioaccumulation  
Descriptors: DDT  
Descriptors: PCB  
Descriptors: Pollution dispersion  
Descriptors: Nicaragua, Chinandega  
Descriptors: Nicaragua  
Descriptors: ISE, Nicaragua, Chinandega  
Abstract: A detailed investigation on the contamination with chlorinated hydrocarbons and organophosphorous pesticides of the coastal lagoon system of Chinandega district, Nicaragua, allowed the identification of contaminant sources and lagoon areas currently more contaminated. The discharge of rivers into the lagoons is the main transport pathway of pesticide residues; whereas atmospheric depositions are likely to be the main pathway for the introduction of PCBs into the lagoons. Analysis of water samples indicates widespread contamination with soluble organophosphorous compounds, such as dichlorvos, up to 410 ng L super(-1), diazinon, up to 150 ng L super(-1), and chlorpyrifos, up to 83 ng L super(-1). Analyses of suspended matter for low solubility organochlorine (OC) compounds revealed very high concentrations of toxaphene, up to 17450 ng g super(-1) dry weight (dw), total DDTs up to 478 ng g super(-1), Aroclor 1254, up to 119 ng g super(-1) (dw), and lower concentrations for other compounds. Lagoon sediments contain high concentrations also of toxaphene, from 7.9 to 6900 ng g super(-1) (dw), and DDTs, from 1.5 to 321 ng g super(-1) (dw), and lower concentrations of chlorpyrifos, hexachlorocyclohexanes, chlordane and other residues. Concentrations of OCs in soft tissues of clams are statistically correlated with the concentrations of the same compounds in bottom sediments, indicating that sediments are a source of contaminants to biota. In some areas of the lagoon system, concentration of residues in sediments are far above recommended threshold guideline values for protection of aquatic life, and may cause acute and chronic toxic effects on more sensitive aquatic species. Despite the ban on the use of toxaphene and DDT, residues of these compounds are still entering the lagoons due to erosion of, and leaching from, agriculture soils in the region. Measures for protection of the lagoon ecosystem are discussed.  
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Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Brackish; Marine  
Classification: P 1000 MARINE POLLUTION  
Classification: SW 3030 Effects of pollution  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: R2 23050 Environment  
Subfile: Environmental Engineering Abstracts; Risk Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Pollution Abstracts

CASTELLA J-C, JOURDAIN, D., TREBUIL, G., and NAPOMPETH, B. (1999). A systems approach to understanding obstacles to effective implementation of IPM in Thailand: Key issues for the cotton industry. *AGRICULTURE ECOSYSTEMS & ENVIRONMENT; 72* 17-34.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. A comprehensive study of the history of cotton production in Thailand shows the causes of its collapse. Crop protection problems are regarded as major driving forces behind the recent changes in cotton production systems. The cotton industry went through the characteristic sequence leading from subsistence farming to a disaster phase, because of increasing reliance on chemical pesticides. Integration of biophysical and socioeconomic aspects of cotton production allows for this evolutionary path and the obstacles to the dissemination of IPM principles among key stakeholders to be explained. Suggestions are made to facilitate the process of collective learning toward more sustainable IPM practices. Plants/Growth & Development/ Soil/ Textiles/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Pest Control/ Plants

Cavret, S., Videmann, B., Mazallon, M., and Lecoeur, S. (2005). Diazinon cytotoxicity and transfer in Caco-2 cells: Effect of long-term exposure to the pesticide. *Environmental Toxicology and Pharmacology* 20: 375-380.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The purpose of this work was to investigate the effect of prolonged exposure to diazinon (widely used organophosphorus pesticide) on the intestinal cell-line Caco-2. Cytotoxicity of the pesticide (50 [mu]M-6 mM) significantly decreased in long-term exposed (20 [mu]M, 2 months) cells, compared to untreated control cells. In long-term exposed cells, the resistance to diazinon cytotoxicity was reversed in the presence of PSC-833, a P-glycoprotein (P-gp) inhibitor, but not in the presence of MK 571, a Multidrug Resistance Protein (MRP) inhibitor. Cell exposure to 25 [mu]M diazinon showed a secretory-directed transport of the molecule, which increased in long-term exposed cells. This efflux decreased significantly, for both long-term and non-exposed cells, in the presence of verapamil and PSC-833, but not MK 571. Furthermore, the total amount of P-gp increased in long-term exposed cells. These results suggest that ABC transporter P-gp is involved in the intestinal transfer of diazinon, and that repeated exposure to low doses of diazinon could strengthen the activity of ABC transporters in intestinal cells, thus increasing cell resistance to pesticide cytotoxicity. Diazinon/ ABC transporters/ Caco-2 cells/ Intestinal transfer

Cech, F. and Zbiral, E. (1975). Zum verhalten konjugierter diene gegenuber C6H5J(OAc)2-(CH3)3SiN3. *Tetrahedron* 31: 605-612.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

Cha, Shin Woo, Gu, Hee Kyoung, Lee, Ki Poong, Lee, Mun Han, Han, Sang Seop, and Jeong, Tae Cheon (2000). Immunotoxicity of ethyl carbamate in female BALB/c mice: role of esterase and cytochrome P450. *Toxicology Letters* 115: 173-181.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Ethyl carbamate, a potent carcinogen, has been characterized to be metabolized by cytochrome P450 (P450) and esterase. It has recently been demonstrated that P450 may activate ethyl carbamate to immunotoxic metabolites. To investigate the role of esterase in ethyl carbamate-induced immunosuppression, mice were pretreated intraperitoneally with an esterase inhibitor, diazinon, at 20 mg/kg 30 min prior to the administration of ethyl carbamate intraperitoneally at 100 and 400 mg/kg for 7 consecutive days. Pretreatment with diazinon completely blocked the serum esterase activity. Histopathologically splenic and thymic atrophy was observed when mice were treated with ethyl carbamate, which was potentiated by the pretreatment with diazinon. In spleen, lymphocytes in the periarteriolar lymphoid sheath and the marginal zone appeared to be depleted in the white pulps. In thymus, ethyl carbamate caused a marked depletion of cells in cortex. The antibody response to sheep red blood cells (SRBCs) was more suppressed by ethyl carbamate in diazinon-pretreated groups than in corn oil-pretreated groups. These results suggest that the metabolism of ethyl carbamate by esterase may be an inactivation pathway in ethyl carbamate-induced immunosuppression. In addition, ethyl N-hydroxycarbamate, a P450 metabolite, suppressed the lymphoproliferative response induced by lipopolysaccharide and concanavalin A in splenocyte cultures. These results indicate that the metabolism of ethyl carbamate by P450 may be an activation pathway in immunosuppression by ethyl carbamate. Ethyl carbamate/ Antibody response/ Diazinon/ Esterase/ Cytochrome P450

Chalfant, R. B., Hall, M. R., Johnson, A. W., Seal, D. R., and BONDARI, K. (1992). Effects of Application Methods, Timing, and Rates of Insecticides and Nematicides on Yield and Control of Wireworms (Coleoptera: Elateridae) and Nematodes (Tylenchida: Heteroderidae) that Affect Sweet Potato. *J.Econ.Entomol.* 85: 878-887.

EcoReference No.: 85644  
Chemical of Concern: DZ,PRN,FNF,EP,CPY; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT,CONTROL(DZ).

Chambers, Howard W. and Casida, John E. (1969). Protective activity of 1,3-disubstituted 2- and 6-pyridones against selected neurotoxic agents. *Toxicology and Applied Pharmacology* 14: 249-258.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Pretreatment of mice with certain substituted pyridones substantially delays the effects of tri-n-butyl phosphate, tubocurarine, decamethonium, hexamethonium, and EPN. The most effective compounds, in all cases, are esters of 1-methyl-2-oxo-1,2-dihydro-3-pyridinol. With this pyridinol, the methylcarbamate and dimethylcarbamate esters are most effective while the ethyl- and diethylcarbamates are only slightly effective. The diethyl phosphate shows a similar spectrum of activity, but it potentiates rather than alleviates the effects of EPN. Protective effects against poisoning by tubocurarine, hexamethonium, and EPN may result from transient acetylcholinesterase inhibition by the carbamates and of the first two from more prolonged inhibition by the phosphate. Alleviation of the actions of decamethonium by pyridones, however, may result from a different mode of action, the mechanism being unknown. 1-Methyl-2-oxo-1,2-dihydro-3-pyridyl 1-methyl-6-oxo-1,6-dihydronicotinate is effective only against tubocurarine and decamethonium, suggesting specificity for the neuromuscular junction. Tropyl 1-methyl-6-oxo-1,6-dihydronicotinate methiodide acts in the same manner as atropine; it is comparable to atropine sulfate as an antidote for EPN poisoning but is more toxic than atropine sulfate. Though most of the data support the hypothesis that tri-n-butyl phosphate acts primarily as a curarimimetic agent, assays with 3-isopropylphenyl methylcarbamate suggest that this is not necessarily so. Compounds based on 1-methyl-3-substituted 2- or 6-pyridones have certain structural features in common with the configuration of acetylcholine and may be useful in further studies on the functioning of various aspects of the cholinergic system.

Chambers, J. E. and Dorough, G. D. (1994). Toxicologic Problems Associated with Pesticide Mixtures and Pesticide Impurities. *In: R.S.H.Yang (Ed.), Toxicology of Chemical Mixtures: Case Studies, Mechanisms, and Novel Approaches, Acad.Press, San Diego, CA* 135-155.  
Chem Codes: EcoReference No.: 72239  
Chemical of Concern: DDT,DZ,PCP,MLN,DXN Rejection Code: MIXTURE/REVIEW.

CHAMBERS JE, CHEN WL, DETTBARN, W., EHRICH, M., ELDEFRAWI AT, GAYLOR DW, HAMERNIK, K., HODGSON, E., KARCZMAR AG, PADILLA, S., POPE CN, RICHARDSON RJ, SAUNDERS DR, SHEETS LP, SULTATOS LG, and WALLACE KB (1998). Common mechanism of toxicity: A case study of organophosphorus pesticides. AU - MILESON BE. *TOXICOLOGICAL SCIENCES; 41* 8-20.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The Food Quality Protection Act of 1996 (FQPA) requires the EPA to consider, "available information concerning the cumulative effects of such residues and other substances that have a common mechanism of toxicity ... in establishing, modifying, leaving in effect, or revoking a tolerance for a pesticide chemical residue." This directive raises a number of scientific questions to be answered before the FQPA can be implemented. Among these questions is: What constitutes a common mechanism of toxicity? The ILSI Risk Science Institute (RSI) convened a group of experts to examine this and other scientific questions using the organophosphorus (OP) pesticides as the case study. OP pesticides share some characteristics attributed to compounds that act by a common mechanism, but produce a variety of clinical signs of toxicity not identical for all OP pesticides. The Working Group generated a testable hypothesis, anticholinesterase OP pesticides act by a common mechanism of toxici Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Animals

Chapman, P. A. (1985). The Resistance to Eighteen Toxicants of a Strain of Musca domestica L. Collected from a Farm in England. *Pestic.Sci.* 16: 271-276.

EcoReference No.: 70785  
Chemical of Concern: RSM,DDT,HCCH,DZ,MOM,DMT,PPB,DM,BRSM,PYN,FNT,TVP,PIRM,TCF,BDC,PPB,PMR,DDVP,PRM; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(DM,PMR,DDVP,FNT,MOM,TVP,PIRM,TCF,BDC,DDT,HCCH,TARGET-DZ,DMT),NO MIXTURE(BRSM,RSM,PYNN,PPB).

Chapman, P. A. (1985). The resistance to eighteen toxicants of a strain of Musca domestica L. collected from a farm in England. *Pesticide Science [PESTIC. SCI.]. Vol. 16, no. 3, pp. 271-276. 1985.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0031-613X  
Descriptors: pesticide resistance  
Descriptors: Musca domestica  
Descriptors: Muscidae  
Descriptors: British Isles, England  
Abstract: A sample of houseflies initially collected from a pig farm and found to be resistant to bendiocarb, DDT, gamma-HCH, pyrethrin + piperonyl butoxide (PB), tetrachlorvinphos and trichlorfon, was tested for resistance to knockdown by other toxicants. At the KD sub(50) response level, resistance factors were obtained for: permethrin (x141), deltamethrin (x96), bioresmethrin + PB (x37), resmethrin +33), fenitrothion (x94), bromophos (x58), iodofenphos (x42), pirimiphos-methyl (x30), dichlorvos (x22), dimethoate (x9), diazinon (x8), methomyl (x4) and methomyl + PB (x4). The houseflies on the farm could not be controlled using space sprays of pyrethrins + PB, although resistance to this toxicant was only x12. However, control was achieved with a methomyl bait.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Z 05183 Toxicology & resistance  
Subfile: Entomology Abstracts

Chapman, Sharon K. and Leibman, Kenneth C. (1971). The effects of chlordane, DDT, and 3-methylcholanthrene upon the metabolism and toxicity of diethyl-4-nitrophenyl phosphorothionate (Parathion). *Toxicology and Applied Pharmacology* 18: 977-987.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
In rats, (1) DDT and chlordane cause equal stimulation of both pathways of parathion metabolism, similar to phenobarbital, and (2) 3-methylcholanthrene treatment results in preferential enhancement of the pathway leading to the formation of paraoxon. With mice, (1) DDT treatment results in greater enhancement of the pathway responsible for diethyl hydrogen phosphorothionate than of that producing paraoxon, (2) chlordane equally enhances both pathways of parathion metabolism, and (3) 3-methylcholanthrene treatment results in a repression of diethyl hydrogen phosphorothionate production. The differential inductive effects are discussed in terms of the hypothesis that two separate enzyme systems are involved in the metabolism of parathion. Results from toxicity studies in mice indicate that (1) no significant change in parathion toxicity results from DDT treatment, (2) toxicity is not altered significantly after treatment with 3-methylcholanthrene, and (3) chlordane treatment affords protection against the toxicity of parathion. The lack of correlation between the toxicity studies and the metabolic studies suggests that factors other than metabolism contribute to toxicity.

CHARIZOPOULOS, E. and PAPADOPOULOU-MOURKIDOU, E. (1999). Occurrence of pesticides in rain of the Axios River Basin, Greece. *ENVIRONMENTAL SCIENCE & TECHNOLOGY; 33* 2363-2368.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The Axios River Basin is one of the most developed agricultural areas of Greece. Samples from a total of 205 rain events collected from eight sampling stations during 1997-1998 were analyzed for pesticide residues of which 186 events (90%) yielded at least one positive detection. Among 160 target pesticides and some major conversion products recovered by solid-phase extraction (SPE) and analyzed by GC-ITMS, 47 compounds were found in at least one rain event. The most frequently found pesticides idual compound ranged from 0.002 to 6.82 mug. Greater pesticide concentrations occurred during application seasons. The estimated annual deposition rates for the sum of the pesticides ranged from 51 to 395 mug/m2 of soil surface. Air Pollution/ Soil Pollutants/ Water Pollution

Chatterjee, K. (1975). Toxicity of Diazinon to Fish and Fish Food Organisms. *Indian Sci.Congr.Assoc.Proc.* 62: 166-167.

EcoReference No.: 7511  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO ABSTRACT.

Chatterjee, K. and Konar, S. K. (1984). Effects of the Pesticide Diazinon at Various pH and Turbidity on Fish and Aquatic Ecosystem. *Aquat.Sci.Fish.Abstr.14(11, Pt.1):263 / Environ.Ecol.* 2: 49-53.

EcoReference No.: 11693  
Chemical of Concern: DZ; Habitat: A; Effect Codes: GRO; Rejection Code: NO ABSTRACT.

Chattopadhyay, Amitabha (1990). Chemistry and biology of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-labeled lipids: fluorescent probes of biological and model membranes. *Chemistry and Physics of Lipids* 53: 1-15.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lipids that are covalently labeled with the 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD) group are widely used as fluorescent analogues of native lipids in model and biological membranes to study a variety of processes. The fluorescent NBD group may be attached either to the polar or the apolar regions of a wide variety of lipid molecules. Synthetic routes for preparing the lipids, and spectroscopic and ionization properties of these probes are reviewed in this report. The orientation of various NBD-labeled lipids in membranes, as indicated by the location of the NBD group, is also discussed. The NBD group is unchanrged at neutral pH in membranes, but loops up to the surface if attached to acyl chains of phospholipids. These lipids find applications in a variety of membrane-related studies which include membrane fusion, lipid motion and dynamics, organization of lipids and proteins in membranes, intracellular lipid transfer, and bilayer to hexagonal phase transition in liposomes. Use of NBD-labeled lipids asanalogues of natural lipids is critically evaluated. NBD-labeled lipid/ model membrane/ fluorescence/ resonance energy transfer/ location/ ionization

Chattopadhyay, Amitabha and London, Erwin (1988). Spectroscopic and ionization properties of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-labeled lipids in model membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 938: 24-34.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
The spectroscopic and ionization properties of various lipids labeled with the 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD) group have been studied in model membranes using fluorescence, absorbance and electrophoretic mobility measurements. Electrophoretic measurements show that the NBD group is uncharged at neutral pH. However, at high pH, hydroxyl addition or deprotonation occurs with a pKa, depending upon conditions, of 11.5-11.8 for the NBD group of headgroup-labeled phosphatidylethanolamine (NBD-PE) and 11.1-11.5 for NBD labels placed at the end of one fatty acyl chain of a phosphatidylcholine (6-NBD-PC and 12-NBD-PC). This type of behavior is not observed in the case of a methylated NBD label placed in the flexible &lsquo;tail&rsquo; of cholesterol (NBD-cholesterol). The similarity in pKa for NBD-PE and NBD-PCs suggests that in these cases the NBD group is at a similar depth in the membrane. This was examined further by comparison of the fluorescence emission maximum of the NBD group in model membranes with that in solvents of varying polarity. The apparent polarity experienced by NBD groups in model membranes indicates that for NBD-PE and 12-NBD-PC they are located at the polar region whereas the NBD group of NBD-cholesterol is deeply buried in a nonpolar region of the membrane. This conclusion is supported further by fluorescence quenching experiments measuring NBD exposure to the aqueous quencher Co2+. The results of this study confirm the tentative conclusions of our previous fluorescence quenching studies on the location of NBD groups in model membranes. Model membrane/ NBD-labeled lipid/ Fluorescence quenching/ Electrophoretic mobility/ Absorbance/ Membrane penetration depth

Chen, Chien-An, Yeh, Ren-Hwa, Yan, Xiongwei, and Lawrence, David S. (2004). Biosensors of protein kinase action: from in vitro assays to living cells: IPK'2003. Inhibitors of protein kinases and Workshop: Phosphoryl-transfer mechanisms. *Biochimica et Biophysica Acta (BBA) - Proteins & Proteomics* 1697: 39-51.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Protein kinases, and the signal transduction pathways in which they participate, are now recognized to be medicinally attractive targets of opportunity. Inhibitors of the protein kinase family not only hold great promise as therapeutic agents, but are also of profound utility in the characterization of signaling pathways. The direct visualization of protein kinase activity in living cells provides a genuine assessment of the efficacy and selectivity of these inhibitors in a physiological setting. In addition, the ability to visualize the activity of a protein kinase in real time furnishes a direct measurement of the activation of specific signaling pathways in response to extracellular stimuli. We have developed two series of fluorescent substrates for protein kinase C (PKC) using a strategy that positions the reporter-group directly on the residue undergoing phosphorylation. The first series of PKC substrates is based, in part, on the Ca+2 indicators developed by Tsien and his collaborators during the 1980s. In this case, phosphorylation of the substrate creates a divalent metal ion binding site. Upon metal ion coordination, a fluorescence change transpires via a mechanism analogous to that described for the Ca+2 indicators. The second series of PKC sensors was identified via the preparation and subsequent screen of a library of fluorescently-labeled PKC peptide substrates. The lead derivative displays a phosphorylation-induced fluorescence change that allows the visualization of real-time PKC activity in both cell lysates and living cells. Furthermore, immunodepletion experiments demonstrate that the fluorescently-tagged peptide is selectively, if not exclusively, phosphorylated by the conventional PKCs. Both of the protein kinase biosensor strategies take advantage of the ease with which peptides can be modified to create libraries of structurally altered analogs. However, the inherent synthetic mutability of peptides is not just limited to library construction. For example, it may ultimately be possible to simultaneously monitor multiple protein kinases by affixing fluorophores with distinct photophysical properties to appropriately designed active site-directed peptides. Author Keywords: Protein kinase sensor/ Combinatorial library/ Consensus sequence/ Protein kinase substrate/ Signal transduction

Chen, D., Rolston, D. E., and Yamaguchi, T. (2000). Calculating partition coefficients of organic vapors in unsaturated soil and clays. *Soil Science, 165 (3) pp. 217-225, 2000*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0038-075X  
Descriptors: Partition coefficients of organic vapors  
Descriptors: Adsorption  
Descriptors: Volatile organic compounds  
Descriptors: Pesticides  
Abstract: Sorption of organic vapors on soil increases dramatically as soil-water content decreases in a dry region. Equations for calculating organic vapor partition coefficients in unsaturated soils as a function of soil-water content are proposed. The equations were based on the hypothesis that organic vapor in soils are found adsorbed onto water-solid and air-solid interfaces and dissolved in the soil solution. In the dry range, where water in soils can be considered the sorbate, water vapor and organic vapor compete for sorption sites with water vapor adsorbed preferentially at the air-solid interfaces because of the higher polarity of water molecules. The air-solid interfaces that are not covered by water molecules and are available for sorption of organic vapor can be estimated according to the Brunauer-Emmett-Teller adsorption theory. The predictions made by the proposed equations were compared with partition coefficients of three volatile organic compounds (VOCs)-benzene, toluene, and trichloroethylene-and a pesticide, diazinon (O,O diethyl O-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate) in Yolo silt loam, and with partition coefficients of the same three VOCs for two clay minerals. The measured and predicted partition coefficients agreed reasonably well. All parameters of the proposed equations are measurable, and no curve-fitting is needed.  
32 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United States  
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science  
Subfile: Plant Science

Chen, P. S., Lin, Y. N., and Chung, C. L. (1971). Laboratory Studies on the Susceptibility of Mosquito-Eating Fish, Lebistes reticulatus and the Larvae of Culex pipiens fatigans to Insecticides. *Tai-Wan I.Hsueh Hui Tsa Chih* 70: 28-35.

EcoReference No.: 9297  
Chemical of Concern: CBL,DZ,HCCH,MLN,DDT,PRN; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Chen, W., Poon, K. F., and Lam, M. H. W. (1998). The application of solid phase microextraction in the analysis of organophosphorus pesticides in a food plant. *Environmental Science and Technology, 32 (23) pp. 3816-3820, 1998*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0013-936X  
Abstract: A SPME method for the determination of organophosphorus pesticide residues in a local food plant, Chrysanthemum coronarium, was established. Pesticide residues were extracted by SPME fiber (with 100 mu m poly(dimethylsiloxane) coating) from a biphasic water /plant tissues mixture and determined by GC-FPD. An equilibrium model was derived for the system and revealed that pesticide recoveries were related to the water:plant tissues ratio, f, and the partition coefficient, K(WV), for the distribution of pesticides between the aqueous phase and the plant tissues. The model was verified by four organophosphorus pesticides, namely phorate, diazinon, methyl parathion, and ethion. The best fitted K(WV) values (P less than 0.05) for the pesticides were found to be 4.73 plus-or-minus 0.32 x 10 superior - superior 2 (phorate); 1.11 plus-or-minus 0.10 x 10 superior - superior 1 (diazinon); 9.18 plus-or-minus 0.95 x 10 superior - superior 2 (methyl parathion); and 8.21 plus-or-minus 1.28 x 10 superior - superior 3 (ethion). Remarkable correlation between the K(WV) of the organophosphorus pesticides and their octanol/water partition coefficients, K(OW), was also established.  
33 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United States  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

Chen, Youcun, Liu, Guangxiang, Song, You, Xu, Heng, Ren, Xiaoming, and Meng, Qingjin (2005). Molecular spin ladders self-assembly from [Ni(dmit)2]- building blocks: Syntheses, structures and magnetic properties: Proceedings of the 9th International Conference on Molecule-based Magnets (ICMM 2004). *Polyhedron* 24: 2269-2273.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Bis(2-thioxo-1,3-dithion-4,5-dithiolato)nickelate compound/ Crystal structure/ Magnetic property/ Spin ladder Two ion-pair compounds, consisting of 1-(4'-R-benzyl)pyridinium ([RBzPy]+, R = NO2 (1) and Br (2)) and [Ni(dmit)2]- (dmit2- = 2-thioxo-1,3-dithion-4,5-dithiolato), have been synthesized and structurally characterized. The anions of [Ni(dmit)2]- stack into dimers, which further construct into two-leg ladder through terminal S...S interactions in 1, lateral S...S interactions in 2. The weak H-bonding interactions of C-H...S were observed in 2, while only weak van de Waals interactions between anion and cations in 1. The magnetic susceptibilities measured in 2-300 K indicate AFM exchange interaction domination both two compounds. A peculiar magnetic transition at ~100 K was observed in 1. An AFM ordering below ~11 K was found in 2, and the best fit to magnetic susceptibility above 45 K in this compound, using a dimer model with s = 1/2, give rise to [Delta]/kB = 36.1 K, zJ = -0.91 K, C = 3.2 x 10-3 emu K mol-1 and [chi]0 = -4.0 x 10-6 emu mol-1 with g of 2.0 fixed.

Chennamaneni, Srinivas Rao, Vobalaboina, Venkateswarlu, and Garlapati, Achaiah (2005). Quaternary salts of 4,3' and 4,4' bis-pyridinium monooximes: Synthesis and biological activity. *Bioorganic & Medicinal Chemistry Letters* 15: 3076-3080.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Organophosphate/ Pesticide/ TEPP/ Brain acetycholinesterase/ 2-PAM/ Bis-pyridinium monooximes/ Reactivation Six unsymmetrical bis-quaternary monooximes viz. dibromides of 1-(4-hydroxyiminomethyl pyridinium)-3-(3/4-carbamoyl pyridinium)propane, 1-(4-hydroxyiminomethyl pyridinium)-4-(3/4-carbamoyl pyridinium) butane, 1-(4-hydroxyiminomethyl pyridinium)-5-(3/4-carbamoyl pyridinium)pentane were synthesized and characterized by spectral data. Their ability to reactivate tetraethyl pyrophosphate inhibited mouse total brain cholinesterase was investigated and compared with 2-pyridine aldoxime chloride (2-PAM). All the compounds were found to be more effective acetylcholinesterase reactivators when compared with the conventional oxime, 2-PAM, except the compound (5a) with pentylene bridge and carbamoyl group present at fourth position. The bis-pyridinium monooximes with 3-carbamoyl group were more potent reactivators than the corresponding 4-carbamoyl compounds and bis-oximes tested.

Chernomordik, Leonid V., Sokolov, Alexander V., and Budker, Vladimir G. (1990). Electrostimulated uptake of DNA by liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1024: 179-183.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
High molecular mass DNA was efficiently taken up by large unilamellar vesicles exposed to a short pulse of electric field (0.1-1 ms) with an intensity as high as 12.5 kV/cm. The efficiency of uptake increased significantly in presence of Mg2+ ions and was approximately 0.6 and 1.5 [mu]g of DNA per [mu]mol of lipid for T7 DNA and plasmid pBR 322, respectively. The results presented indicated that DNA was taken up as a result of the electrostimulated formation of endosome-like vesicles rather than via field-induced membrane pores. Electrostimulation/ DNA transfer/ Liposome

CHERNYAK SM, RICE CP, and MCCONNELL LL (1996). Evidence of currently-used pesticides in air, ice, fog, seawater and surface microlayer in the Bering and Chukchi seas. *MARINE POLLUTION BULLETIN; 32* 410-419.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. Investigation of currently-used pesticides (triazines, acetanilides, organophosphates and organochlorines) was carried out in the Bering and Chukchi marine ecosystems in the summer of 1993. Chlorpyrifos and trace levels of endosulphan were the most frequently identified contaminants in seawater, chlorpyrifos and atrazine were found in marine ice, and chlorothalonil and trifluralin were found in surface microlayer samples. Concentrations of chlorpyrifos were highest (170 ng l-1) in marine ice and higher in seawater (19-67 ng l-1) at locations which were closest to the ice edge. Endosulphan was found as a widely distributed currently used pesticide in the polar atmosphere. The greatest concentration of any one single agrochemical was trifluralin (1.15 mug l-1) in a Bristol Bay surface microlayer sample. Arctic marine fog was sampled and for the first time, several currently-used pesticides (chlorpyrifos, trifluralin, metolachlor, chlorothalonil, terbufos and endosulphan) Climate/ Ecology/ Meteorological Factors/ Ecology/ Oceanography/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution

Chiu, Y. C. and O'Brien, R. D. (1971). Separate binding sites on acetylcholinesterase for indophenyl and other esters. *Pesticide Biochemistry and Physiology* 1: 434-444.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Acetylcholine, phenyl acetate, 1-naphthyl acetate, tetraethylammonium and decamethonium are noncompetitive inhibitors for indophenyl acetate hydrolysis but competitive inhibitors for acetylthiocholine hydrolysis. This confirms that there is a binding site on the enzyme for indophenyl acetate, which is distinct from the common binding site shared by acetylthiocholine and the other ligands. Additional evidence that indophenyl compounds in general can bind to this special site, is that enzyme diazotized by p-(trimethylammonium) benzenediazonium fluoroborate, has sharply reduced activity for substrates and inhibitors except for indophenyl acylates, indophenyl dimethylcarbamate and indophenyl diethyl phosphate.

Cho, J. H., Jeong, S. H., and Yun, H. I. (2003). Changes of Urinary and Blood Porphyrin Profiles by Exposure to PCBs, Lead or Diazinon in Rats. *Vet.Hum.Toxicol.* 45: 193-198.

EcoReference No.: 76671  
Chemical of Concern: PCB,PG,DZ; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(ALL CHEMS).

Chow, Edward, Seiber, James N., and Wilson, Barry W. (1986). Isofenphos and an in vitro activation assay for delayed neuropathic potential. *Toxicology and Applied Pharmacology* 83: 178-183.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Organophosphorus compounds (OPs) that cause organophosphorus ester-induced delayed neuropathy (OPIDN) generally inhibit neurotoxic esterase (NTE). However, the assay itself, when conducted in vitro, misses OPs that are activated into OPIDN-causing agents in the body. A preparation of liver mixed-function oxidases and brain NTE was used to rapidly detect activations of OPs. The compounds (0.1 m or less) to be tested were incubated with microsomes isolated from livers of phenobarbital-treated chick embryos (P-450 content averaged 1.81 +/- 0.27 nmol/mg protein, ) and NTE (average of 13.8 nmol/min/mg protein) from untreated chick embryo brains. The NTE was separated by calcium precipitation and its activity assayed as usual. The low inhibitions of NTE of compounds that were not neurotoxic (parathion, Diazinon) did not increase in the presence of NADPH; inhibitions of NTE of compounds that required activation (leptophos, S,S,S-tri-n-butyl phosphorotrithioate, and tri-o-cresyl phosphate) greatly increased with NADPH. Both the recently indentified neuropathic OP isofenphos (IFP) and its oxon required activation to inhibit NTE (inhibitions of 20 and 80%, respectively). Evidence is presented that the possible neuropathic metabolite is des-N-isopropyl IFP oxon.

Christensen, G. M. and Tucker, J. H. (1976). Effects of Selected Water Toxicants on the In Vitro Activity of Fish Carbonic Anhydrase. *Chem.Biol.Interact.* 13: 181-192.  
Chem Codes: EcoReference No.: 45278  
Chemical of Concern: Cr,As,Se,Ag,DZ Rejection Code: IN VITRO.

CHUNG, K., STARRETT, S., CHUNG, Y., and RO KS (1998). PESTICIDES AND HERBICIDES. *WATER ENVIRONMENT RESEARCH; 70* 693-697.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW PESTICIDES LEACHING HERBICIDES BIODEGRADATION ENVIRONMENTAL FATE CONTAMINANT TRANSPORT SOIL SORPTION ANALYTICAL METHODS POLLUTION GROUNDWATER Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil Microbiology/ Soil/ Herbicides/ Pest Control/ Pesticides

Ci, Weimin, Li, Wenyu, Ke, Ya, Qian, Zhong-Ming, and Shen, Xun (2003). Intracellular Ca2+ regulates the cellular iron uptake in K562 cells. *Cell Calcium* 33: 257-266.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Fluorescence quenching was used to study the kinetics of the transferrin receptor (TfR)-mediated iron uptake in the calcein-loaded K562 cells. It was found that elevation of intracellular free Ca2+ ([Ca2+]i) by thapsigargin (TG) speeds up the initial rate of iron uptake and increases the overall capacity of the cells in taking up iron. Depletion of intracellular Ca2+ or complete chelation of extracellular Ca2+ results in complete inhibition of the iron uptake in cells. To gain insight into molecular mechanism, IANBD-labeled transferrin (Tf) and microscopic fluorescence imaging were used to observe the endocytosis and recycling of the Tf-TfR complex in single live cells. The study showed that the preincubation of cells with TG or phorbol myristate acetate (PMA), the direct activator of protein kinase C (PKC), accelerated the endocytosis and recycling of the complex in a dose-dependent manner. W-7, the calmodulin antagonist, and GF109203X, a selected cell-permeant inhibitor of PKC, can reverse the acceleration. Analysis of actin polymerization in controlled, [Ca2+]i-elevated and W-7-treated cells revealed that the actin polymerization is enhanced as [Ca2+]i is raised, but reduced by W-7. The results suggest that the regulation of actin polymerization by intracellular Ca2+ may play a central role in Ca2+-dependent iron uptake. Iron uptake/ Transferrin receptor/ Intracellular calcium/ Endocytosis/ Recycling/ Actin polymerization

Ciba-Geigy, Corp (1976). Reports of Investigations Made with Respect to Fish and Wildlife Requirements for Diazinon and its Formulated Products. *U.S.EPA-OPP Registration Standard*.

EcoReference No.: 13001  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(DZ).

Civen, M. and Brown, C. B. (1974). The Effect of Organophosphate Insecticides on Adrenal Corticosterone Formation. *Pestic.Biochem.Physiol.* 4: 254-259.

EcoReference No.: 85650  
Chemical of Concern: DZ,DDVP; Habitat: T; Effect Codes: BCM; Rejection Code: NO IN VITRO(DZ),OK(DDVP).

Civen, Morton, Lifrak, Eric, and Brown, Charlesta B. (1977). Studies on the mechanism of inhibition of adrenal steroidogenesis by organophosphate and carbamate compounds. *Pesticide Biochemistry and Physiology* 7: 169-182.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The observation was made that adrenal steroidogenesis in rat adrenal cells is inhibited in vitro by organophosphate and phosphorothioate esters and carbamates. The order of inhibitory potency is organophosphate >> phosphorothioate > carbamate. The inhibition of steroidogenesis by dichlorvos is accompanied by a parallel inhibition of [1-14C]oleic acid incorporation into the esterified cholesterol fraction of the adrenal cell. At a lower concentration of the inhibitor, adrenocorticotrophic hormone reverses the inhibition of cholesterol esterification. There is no correlation between changes in adenosine 3&prime;,5&prime;-cyclic monophosphate levels and inhibition of steroidogenesis. One insecticide, diazinon, produced a lowering of the cyclic nucleotide levels at concentrations of the compound which produced steroidogenic inhibition. Subinhibitory levels of this insecticide produced a significant elevation of cellular adenosine 3&prime;,5&prime;-cyclic monophosphate levels and yet inhibited steroidogenesis. Both of these insecticides inhibited adenosine 3&prime;,5&prime;-cyclic monophosphate binding to rat adrenal adenosine 3&prime;,5&prime;-cyclic monophosphate-binding protein. Dichlorvos inhibited the diurnal increase in plasma corticosteroid by 49.2% when administered to rats at a dose of 2 mg/100 g body weight/24 hr for a 2-week period.

Clack, D. W. and Smith, W. (1974). A Tanabe-Sugano type diagran from potential energy curves for the hexafluoroferrate (III) ion, FeF63-. *Inorganic and Nuclear Chemistry Letters* 10: 601-604.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

Clark, J. R., DeVault, D., Bowden, R. J., and Weishaar, J. A. (1984). Contaminant Analysis of Fillets from Great Lakes Coho Salmon, 1980. *J.Gt.Lakes Res.* 10: 38-47.  
Chem Codes: EcoReference No.: 45280  
Chemical of Concern: DZ Rejection Code: NO CONC/SURVEY.

Clarke, Harvey, and Humphreys (1981). Organic Compounds, 2. Pesticides; In: Clarke et Al (Eds) Veterinary Toxicology. *Bailliere Tindal, London* 129-187.  
Chem Codes: EcoReference No.: 36191  
Chemical of Concern: PCB,THM,Hg,DDT,MXC,AND,DLD,CHD,ES,HPT,TXP,AZ,CMPH,DZ,DDVP,EPN,FNT,MCN,PRN,MVP,PRNM,TMP,MCB,MAL,WFN,PAH,CN Rejection Code: REVIEW.

CLARKE ED, GREENHOW DT, and ADAMS, D. (1998). Metabolism-related assays and their application to agrochemical research: Reactivity of pesticides with glutathione and glutathione transferases. *PESTICIDE SCIENCE; 54* 385-393.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. An HPLC-based assay system has been developed to measure the reactivity of agrochemicals with glutathione (GSH) with and without catalysis by glutathione transferases (GSTs). Metabolism-related parameters based on second-order related rate constants from non-enzymatic GSH and enzymatic GSH + GST assays have been derived for use in structure-activity and structure-reactivity relationship studies of exploratory agrochemicals. The versatility and sensitivity of the assay system has been established using a diverse range of agrochemicals and model compounds, e.g. 4-nitrobenzyl chloride, 1-chloro-2,4-dinitrobenzene, atrazine, acetochlor, fluorodifen, fluazifop-butyl, tridiphane, fluazinam, chlorothalonil and diazinon. For the enzymatic GSH + GST assay, second-order related rate constants, ratioed to the assay standard, 4-nitrobenzyl chloride to provide a parameter independent of assay conditions, spanned five orders of magnitude, fluazinam being the most reactive and atrazin Biochemistry/ Amino Acids/ Peptides/ Proteins/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Coenzymes/ Comparative Study/ Enzymes/ Metabolism/ Herbicides/ Pest Control/ Pesticides

Clegg, T. J. and Koevenig, J. L. (1974). The Effect of Four Chlorinated Hydrocarbon Pesticides and One Organophosphate Pesticide on ATP Levels in Three Species of Photosynthesizing Freshwater Algae. *Bot.Gaz.* 135: 368-372.

EcoReference No.: 17261  
Chemical of Concern: DZ,DLD,ALD,DDT,CDN; Habitat: A; Effect Codes: BCM,POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Clemens, H. P. and Sneed, K. E. (1959). Lethal Doses of Several Commercial Chemicals for Fingerling Channel Catfish. *U.S.Fish and Wildl., Spec.Serv.Sci.Rep.- Fish.No.316, U.S.D.I., Washington, D.C.* 10 p.

EcoReference No.: 934  
Chemical of Concern: HCCH,MBZ,MLN,DMM,RTN,As,TXP,PL,HPT,DDT,DLD,CHD,FML,NaPCP,Fe,Zn,NH,DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Cleophax, J., Olesker, A., Rolland, A., Gero, S. D., and Forchioni, A. (1977). Synthese de derives de la purpurosamine C,composant de la gentamicine C1a. *Tetrahedron* 33: 1303-1308.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ResumeLa synthese de derives de la purpurosamine C et de l'epipurpurosamine C ete realisee a partir des methyl 2,3,4,6 tetra-O-methylsulfonyl-[alpha]--galacto et gluco-pyranosides 2 et 3, une substitution selective avec l'ion azide conduit aux derives 4-6-diazido 4 et 5 et ceux-ci ont ete transformes en epoxydes 6 et 7 puis en olefines correspondantes 16 et 17. Le rearrangement thermique de ces composes a donne le melange des diazides 16,17,18, 19. Les 2,6-diazides 18 et 19 ont ete transformes par une suite de reactions et la mercaptolyse suivie de la N-acetylation en 2,6-diacetamido 2,3,4,6-tetradesoxy--erythro-hexose diethyl dithioacetal 30 identifie au produit authentique provenant de la mercaptolyse de la gentamicine C1a,et en 2,6 diacetamido 2,3,4,6 tetradesoxy--threohexose diethyl dithioacetal 31 enantiomere du produit provenant de la mercaptolyse de la dihydrosisomicine.

Clinging, R., Dean, F. M., and Mitchell, G. H. (1974). 1,4-dioxa-2,3-benzofulvalene from thermolysis of 1,2-benzoquinone 2-diazide. *Tetrahedron* 30: 4065-4067.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Heated in benzene, 1,2-benzoquinone 2-diazide gives 2-hydroxybiphenyl and 1,4-dioxa-2,3-benzofulvalene (3). Heated in xylene, it gives 3 in 36% yield. Though the PMR spectrum gives no indication of it, the 13C NMR spectrum and the dipole moment both reveal considerable dipolar character in 3.

Cobb, G. P., Mellott, R., Brewer, L. W., Bens, C. M., and Kendall, R. J. (2000). Diazinon Dissipation from Vegetation, Occurrence in Earthworms, and Presence in Avian Gastrointestinal Tracts Collected from Apple Orchards Following D-Z-N 50W Application. *Environ.Toxicol.Chem.* 19: 1360-1367.

EcoReference No.: 48301  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(DZ).

Cobb, G. P., Mellott, R., Brewer, L. W., Bens, C. M., and Kendall, R. J. (2000). Diazinon dissipation from vegetation, occurrence in earthworms, and presence in avian gastrointestinal tracts collected from apple orchards following D-Z-N registered 50W application. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 5, pp. 1360-1367. May 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0730-7268  
Descriptors: Vegetation  
Descriptors: Diazinon  
Descriptors: Aves  
Descriptors: Biota  
Descriptors: Agriculture  
Descriptors: Ingestion  
Descriptors: Risk assessment  
Descriptors: Toxicity testing  
Descriptors: Insecticides  
Descriptors: Bioaccumulation  
Descriptors: Gastrointestinal tract  
Descriptors: Orchards  
Descriptors: Pesticide residues  
Descriptors: Oligochaeta  
Descriptors: Aves  
Abstract: Comprehensive residue determinations were made in biota inhabiting orchards receiving diazinon application as part of ecotoxicology studies in the United States. The states of Washington and Pennsylvania served as study areas representing different climatic and agricultural practices. Mean diazinon application was 3.0 to 3.1 kg a.i./ha in the orchards, and a subsequent exponential reduction in concentrations occurred on vegetation. Diazinon was present in earthworms following application, and 23 of 25 avian species evaluated in treatment orchards contained diazinon in their gastrointestinal (GI) tracts. Diazinon residues were present in 18 of the 20 avian species that were represented by more than one sample. Quantifiable residues were present in 17 of the bird species. Earthworms from Pennsylvania orchards contained more frequent and higher diazinon concentrations than did earthworms from Washington orchards (p < 0.005). Passerine exposure to diazinon was not different when comparing diazinon concentrations in individual species between the two geographic regions (0.23 < p < 0.06). Exposures were different for American robins and European starlings (p = 0.03) in Washington and for Northern cardinals and European starlings (p = 0.03) in Pennsylvania. Residues in GI tracts suggest that lethal exposures were limited to the day of application and the 4 d following application. Data indicate that, under conditions of repeated diazinon application, ingestion of earthworms poses risks to passerines.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: X 24136 Environmental impact  
Classification: P 5000 LAND POLLUTION  
Subfile: Toxicology Abstracts; Pollution Abstracts; HP

COCHRAN DG (1989). MONITORING FOR INSECTICIDE RESISTANCE IN FIELD-COLLECTED STRAINS OF THE GERMAN COCKROACH DICTYOPTERA BLATTELLIDAE. *J ECON ENTOMOL; 82* 336-341.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY .  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BLATTELLA-GERMANICA DIAZINON CHLOROPYRIFOS ACEPHATE MALATHION PROPOXUR BENDICARB PYRETHROIDS PEST CONTROL PESTS CHEMICAL CONTROL Biochemistry/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Orthoptera

COHEN ML and STEINMETZ WD (1986). Foliar washoff of pesticides by rainfall. *ENVIRON SCI TECHNOL; 20* 521-523.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Several insecticides were subjected to simulated rainfall after application on octadecylsilanized/trimethylsilanized glass or foliar surfaces. Flucythrinate (cyano(3-phenoxyphenyl)methyl 4-(difluoromethoxy)-alpha-(1-methylethyl)-benzeneacetate), fenvalerate ((RS)-cyano(3-phenoxyphenyl)methyl (RS)-4-chloro-alpha-(1-methylethyl)benzeneacetate), and azinphosmethyl (O,O-dimethyl S-((4-oxo-1,2,3-benzotriazin-3(4H)-yl)-methyl) phosphorodithioate) showed 35-61% washoff by 25 mm of simulated rainfall, w methyl parathion (O,O-dimethyl O-4-nitrophenyl phosphorothioate) loss was over 90% of that applied. Washoff was initially rapid, but reached a secondary slower phase. Chlordimeform (N'-(4-chloro-2-methylphenyl)-N,N-dimethylmethanimidamide) and diazinon (O,O-diethyl O-(6-methyl-2-(1-methylethyl)-4-pyrimidinyl) phosphorothioate), in addition to exhibiting rapid volatilization, suffered nearly complete washoff by 25 mm of simulated rainfall. The use of octadecylsilanized/trimethylsi

COHEN, S., SVRJCEK, A., DURBOROW, T., and BARNES NL (1999). Water quality impacts by golf courses. *JOURNAL OF ENVIRONMENTAL QUALITY; 28* 798-809.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Interest in water quality impacts by golf courses has grown significantly since the late 1980s due mostly to the local permitting process. Results from permit-driven studies are frequently not published. Seventeen studies (36 golf courses) passed our review criteria and were incorporated into a detailed data review. A total of 16 587 data points from pesticide, metabolite, solvent, and NO3 analyses of surface water and ground water were reviewed. There were approximately 90 organics analyzed in ies that exceeded HALss for ground water and surface water were 0.07 and 0.29%, respectively. The percentages would be somewhat higher if they could be expressed in terms of samples collected rather than chemicals analyzed. The MCL (10 mg/L) for nitrate-nitrogen (NO3-N) in surface water was not exceeded, and only 31/849 (3.6%) of the samples exceeded the MCL in ground water; however, most of the NO3 MCL exceedances were apparently due to prior agricultural land use. There was a s Anthropology, Physical/ Ethnology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Methods/ Plants/ Soil/ Herbicides/ Pest Control/ Pesticides

COLES GC and STAFFORD KA (1999). The in vitro response of sheep scab mites to pyrethroid insecticides. *VETERINARY PARASITOLOGY; 83* 327-330.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. The response of sheep scab mites to pyrethroid insecticides and organophosphate compounds was studied in vitro with the objective of finding a simple test for detecting insecticide resistance in scab mites. Psoroptes cuniculi from rabbits or P. ovis from sheep were enclosed in small 'tea bags' made from heat sealable paper prior to dipping in insecticide. Mites failed to die 24 h after a 1 min dip in working concentrations of insecticidal sheep dips. With flumethrin a variety of different condit Biochemistry/ Herbicides/ Pest Control/ Pesticides/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Anatomy, Comparative/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Arthropods/ Artiodactyla/ Lagomorpha

Collins, A. G., Nichol, A. W., and Elsbury, S. ( 1982). Porphyria cutanea tarda and agricultural pesticides. *AUST. J. DERMATOL. Vol. 23, no. 2, pp. 70-75. 1982.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT, HUMAN HEALTH.  
  
ISSN: 0365-3609  
Descriptors: porphyria  
Abstract: Some cases of porphyria cutanea tarda have been associated with the use of the organochlorine insecticide lindane and the organophosphorus insecticide diazinon.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24132 Chronic exposure  
Subfile: Toxicology Abstracts

Collins, David, Maxfield, Frederick, and Huang, Leaf (1989). Immunoliposomes with different acid sensitivities as probes for the cellular endocytic pathway. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 987: 47-55.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
By combining dioleoylphosphatidylethanolamine (DOPE) with oleic acid (OA), palmitoylhomocysteine (PHC) or dipalmitoylsuccinylglycerol (DPSG) we have prepared pH-sensitive liposomes with different acid sensitivities. DOPE/OA liposomes are the most acid sensitive, while DOPE/DPSG liposomes are the least acid sensitive. Incubation of DOPE/OA liposomes with mouse L929 cells reduces the pH-sensitivity of these liposomes by altering the lipid composition. Using diphtheria toxin fragment A as a marker for cytoplasmic delivery, we find that the delivery kinetics of pH-sensitive immunoliposomes closely correlates with the modified acid sensitivities of the liposomes. Immunoliposomes encounter pH 6-6.2 with a of 5-15 min after internalization. By contrast, acidification of the endosomes to pH 5.0 takes longer (). We also used a whole cell null point technique (Yamishiro and Maxfield (1987) J. Cell Biol. 105, 2713-2721) to directly determine the average pH encountered by the endocytosed immunoliposomes. We find that acidification determined by the null point method proceeds less rapidly than that estimated from DTA delivery data. This is likely due to the fact that the measured DTA delivery is done by those liposomes which first arrive at the endosomes with sufficient acidity. Our data suggests that DOPE/PHC immunoliposomes deliver at the early endosome while DOPE/DPSG immunoliposomes deliver at the late endosomes. The DOPE/OA immunoliposomes, with the altered composition and acid sensitivity, deliver with a kinetics intermediate between the other two immunoliposomes. Thus, pH-sensitive liposomes represent useful probes for studying the kinetics of endosome acidification. Immunoliposome/ Acid sensitivity/ Endosome/ Endocytosis/ Diphtheria toxin

Collins, W. J. (1976). German Cockroach Resistance: Propoxur Selection Induces the Same Resistance Spectrum as Diazinon Selection. *Pestic.Sci.* 7: 171-174.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO DURATION.

Connolly, J. P. (1985). Predicting Single-Species Toxicity in Natural Water Systems. *Environ.Toxicol.Chem.* 4: 573-582.  
Chem Codes: EcoReference No.: 48346  
Chemical of Concern: Zn,DZ Rejection Code: REFS CHECKED/REVIEW.

Cooper, J. F., Wynn, N. R., Deuse, J. P. L., Coste, C. M., Zheng, S. Q., and Schiffers, B. C ( 1997). Impact of insecticides on wild fauna: a proposed toxicity index. *Mededelingen - Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen (Universiteit Gent)* 62: 599-606.  
Chem Codes: Chemical of Concern: DZM Rejection Code: NO TOX DATA.  
  
The risk to fauna assocd. with the use of pesticides are generally known for individual pesticides. There exists, however, a lack of published material providing comparative coverage of all pesticides, although some partial complications have been published. In an attempt to redress this situation, the authors propose here index covering fish, birds, and bees for 169 currently available insecticides. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 1998:45753  
Chemical Abstracts Number: CAN 128:137344  
Section Code: 4-4  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Anas platyrhynchos; Bacillus thuringiensis; Bee; Bird; Colinus virginianus; Creosote; Ecotoxicity; Environmental pollution; Fish; Insecticides; Lepomis macrochirus; Metarhizium anisopliae; Oncorhynchus mykiss; Tar oils; Toxicity (impact of insecticides on wild fauna: a proposed toxicity index); Petroleum; Pyrethrins Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (impact of insecticides on wild fauna: a proposed toxicity index); Animal (wild; impact of insecticides on wild fauna: a proposed toxicity index)  
CAS Registry Numbers: 50-29-3 (DDT); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 74-90-8 (Hydrogen cyanide); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 97-17-6 (Dichlofenthion); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 144-54-7 (Metam); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 533-74-4 (Dazomet); 534-52-1 (DNOC); 556-61-6 (MIT); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton S-methyl); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1646-88-4 (Aldoxycarb); 2032-65-7 (Mercaptodimethur); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-10-7 (Xylylcarb); 2439-01-2 (Chinomethionat); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7696-12-0 (Tetramethrin); 7704-34-9 (Sulfur); 7786-34-7 (Mevinphos); 8003-19-8; 10112-91-1 (Mercurous chloride); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 15263-52-2 (Cartap hydrochloride); 16752-77-5 (Methomyl); 17040-19-6; 18854-01-8 (Isoxathion); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 28434-01-7 (Bioresmethrin); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31895-22-4; 33089-61-1 (Amitraz); 34681-23-7 (Butoxycarboxim); 35367-38-5 (Diflubenzuron); 35575-96-3 (Azamethiphos); 35597-43-4 (Bialaphos); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 50512-35-1 (Isoprothiolane); 51487-69-5 (Cloethocarb); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67375-30-8; 68085-85-8 (Cyhalothrin); 68359-37-5 (BetaCyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 79538-32-2 (Tefluthrin); 80844-07-1 (Etofenprox); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 91465-08-6; 95465-99-9; 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 113036-88-7 (Flucycloxuron); 120068-37-3 (Fipronil); 138261-41-3 (Imidacloprid) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (impact of insecticides on wild fauna: a proposed toxicity index); 7439-97-6 (Mercury) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity; impact of insecticides on wild fauna: a proposed toxicity index)  
Citations: Anon; Farm Chemicals Handbook 1994  
Citations: Harden, J; Peskem Products The Australian directory of registered pesticides and their uses, 13 th Edition 1993  
Citations: Anon; The Agrochemicals Handbook, Third Edition 1992  
Citations: Anon; Shibuya Index (Index of Pesticides), Fifth Edition 1991  
Citations: Anon; EPA Datasheets 1994  
Citations: Anon; WHO/FAO Datasheets on Pesticides 1994  
Citations: Anon; WHO Recommended Classification of Pesticides by Hazard and the Guidelines to Classification 1994-1995 insecticide/ wild/ fauna/ toxicity/ index;/ Anas/ Colinus/ Apis/ insecticide/ toxicity;/ rainbow/ trout/ bluegill/ sunfish/ insecticide/ toxicity;/ bee/ insecticide/ toxicity/ index;/ Salmo/ insecticide/ toxicity/ index

Cope, O. B. (1966). Contamination of the Freshwater Ecosystem by Pesticides. *J.Appl.Ecol.* 3: 33-44 (Publ in Part As 6797).

EcoReference No.: 10337  
Chemical of Concern: 24DXY,CBL,DBN,DU,DZ,HCCH,MLN,MLT,PAQT,PYN,TFN,CuS,DDT,DLD,As; Habitat: A; Effect Codes: MOR,ACC,REP; Rejection Code: NO CONTROL(ALL CHEMS).

Cope, O. B. (1965). Sport Fishery Investigations. *In: Fish and Wildl.Serv.Cicr.226, Effects of Pesticides on Fish and Wildlife - 1964 Research Findings of the Fish and Wildlife Service, Washington, D.C.* 51-63 (Publ in Part As 6797).

EcoReference No.: 2871  
Chemical of Concern: MLN,DBN,24DXY,BS,CBL,DBN,DMT,DU,DZ,HCCH,MLT,Naled,SZ,TFN,ADC,CHD,TXP,TCF,CuS,PAQT,MCB,AND,PYN,HPT,DLD,EN,EPRNDDT,FNTH,FNF,MVP,BTY,NSM,RTN,AMSV,VNT,Cu,ATN,MXC,DDVP,DBM,DBAC,As; Habitat: A; Effect Codes: MOR,BCM; Rejection Code: NO CONTROL(ALL CHEMS).

Copeland, C. A., Raebel, M. A., and Wagner, S. L. (1989). Pesticide residue in lanolin. *Journal of the American Medical Association [J. AM. MED. ASSOC.]. Vol. 261, no. 2, 242 p. 1989.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0098-7484  
Descriptors: pesticides  
Descriptors: residues  
Descriptors: cosmetics  
Abstract: Two lots (numbers 5922 and 6441) of United States Pharmacopeia anhydrous lanolin from a single manufacturer were analyzed by the Division of Colors and Cosmetics, Food and Drug Administration (FDA). The analysis (Table) by the FDA indicated that pesticide contamination varied significantly between lots and that dimpylate (Diazinon), DDE (a metabolite of chlorophenothane (DDT)), lindane (benzene hexachloride (BHC), gamma), and alpha- and beta-BHC (isomers of hexachlorocyclohexane) were found in one or both samples. The two additional lanolin lots (numbers 5631 and 6467) shown in the Table were analyzed through the Environmental Protection Agency's National Pesticide Hazard Assessment Program. Chlorpyrifos, dieldrin, lindane, DDE, and dimpylate were found. The control, fluocinolone acetonide ointment, contained none of the above pesticides but did show a trace of heptachlor.  
Language: English  
Publication Type: Journal Article  
Classification: X 24140 Cosmetics, toiletries & household products  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

Corbett, J. R., Wright, K., and Baillie, A. C. (1984). Insecticides Inhibiting Acetylcholinesterase. *In: The Biochemical Mode of Action of Pesticides, Second Edition, Acad.Press, London* 99-140.  
Chem Codes: EcoReference No.: 72145  
Chemical of Concern: AZ,CPY,DZ,DMT,MLN,PRN,PSM,CBL,CBF Rejection Code: REVIEW.

CORDLE MK (1988). USDA REGULATION OF RESIDUES IN MEAT AND POULTRY PRODUCTS. *J ANIM SCI; 66* 413-433.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM SWINE CATTLE BROILER USA DEPARTMENT OF AGRICULTURE FOOD SAFETY AND INSPECTION SERVICE PESTICIDES DRUGS ANTIBIOTICS CHEMICAL CONTAMINANT FOOD INDUSTRY MEAT PACKING INDUSTRY TESTING FOOD RESIDUE Legislation/ Organization and Administration/ Biology/ Food Technology/ Meat/ Meat Products/ Eggs/ Food Technology/ Poultry/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Animal Husbandry/ Animal Husbandry/ Poultry/ Antibiotics/Administration & Dosage/ Antibiotics/Analysis/ Antibiotics/Chemical Synthesis/ Antibiotics/Metabolism/ Herbicides/ Pest Control/ Pesticides

Costa, L. G., Richter, R. J., Li, W. F., Cole, T., Guizzetti, M., and Furlong, C. E. (2003). Paraoxonase (PON 1) as a biomarker of susceptibility for organophosphate toxicity. *Biomarkers [Biomarkers]. Vol. 8, no. 1, pp. 1-12. Jan 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
ISSN: 1354-750X  
Descriptors: Toxicity  
Descriptors: biomarkers  
Descriptors: paraoxonase  
Descriptors: Chlorpyrifos  
Descriptors: Insecticides  
Descriptors: Diazinon  
Descriptors: Hydrolysis  
Descriptors: Liver  
Descriptors: organophosphates  
Descriptors: Metabolites  
Descriptors: Parathion  
Descriptors: Paraoxon  
Descriptors: Promoters  
Abstract: Paraoxonase (PON1) is an A-esterase capable of hydrolysing the active metabolites (oxons) of a number of organophosphorus (OP) insecticides such as parathion, diazinon and chlorpyrifos. PON1 activity is highest in liver and plasma, and among animal species significant differences exist, with birds and rabbits displaying very low and high activity, respectively. Human PON1 has two polymorphisms in the coding region (Q192R and L55M) and five polymorphisms in the promoter region. The Q192R polymorphism imparts different catalytic activity toward some OP substrates, while the polymorphism at position -108 (C/T) is the major contributor to differences in the level of PON1 expression. Animal studies have shown that PON1 is an important determinant of OP toxicity, with animal species with a low PON1 activity having an increased sensitivity to OPs. Administration of exogenous PON1 to rats or mice protects them from the toxicity of OPs. PON1 knockout mice display a high sensitivity to the toxicity of diazoxon and chlorpyrifos oxon, but not paraoxon. In vitro assayed catalytic efficiencies of purified PON sub(192) isoforms for hydrolysis of specific oxon substrates accurately predict the degree of in vivo protection afforded by each isoform. Low PON1 activity may also contribute to the higher sensitivity of newborns to OP toxicity.  
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Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

COSTA LG (1998). Biochemical and molecular neurotoxicology: Relevance to biomarker development, neurotoxicity testing and risk assessment. *TOXICOLOGY LETTERS (SHANNON); 102-103 (0). 1998. 417-421.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. Biochemical and molecular approaches are most useful to define potential mechanisms of neurotoxicity. Information on the mechanisms of action of neurotoxicants can play a key role in neurotoxicology by allowing, among others, the development of potential biomarkers of effect, the refinement of in vitro testing procedures, and the improvement of the risk assessment process. An important class of insecticides, the organophosphates, are discussed as an example of how knowledge of molecular mechanisms is useful in various aspects of neurotoxicology. The utilization of such information in the area of biomarkers of exposure and effects, and of in vitro testing is presented. Additionally, mechanistic issues related to genetic polymorphisms and risk assessment are discussed. Biochemistry/ Diagnosis/ Nervous System/ Poisoning/ Animals, Laboratory

Costa, Lucio G., Shao, McNama, Basker, Kurt, and Murphy, Sheldon D. (1984). Chronic administration of an organophosphorus insecticide to rats alters cholinergic muscarinic receptors in the pancreas. *Chemico-Biological Interactions* 48: 261-269.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
Male rats were treated for 10 days with the organophosphorus insecticide, acetylcholinesterase inhibitor, O,O-diethyl S-[2-(ethylthio)ethyl]phosphorodithioate (disulfoton, 2 mg/kg/day by gavage). At the end of the treatment, binding of [3H]quinuclidinyl benzilate ([3H]QNB) to cholinergic muscarinic receptors and cholinesterase (ChE) activity were assayed in the pancreas. Functional activity of pancreatic muscarinic receptor was investigated by determining carbachol-stimulated secretion of [alpha]-amylase in vitro. ChE activity and [3H]QNB binding were significantly decreased in the pancreas from disulfoton-treated rats. The alteration of [3H]QNB binding was due to a decrease in muscarinic receptor density with no change in the affinity. Basal secretion of amylase from pancreas in vitro was not altered, but carbachol-stimulated secretion was decreased. The effect appeared to be specific since pancreozymin was able to induce the same amylase release from pancreases of control and treated rats. The results suggest that repeated exposures to sublethal doses of an organophosphorus insecticide lead to a biochemical and functional alteration of cholinergic muscarinic receptors in the pancreas. Organophosphorus insecticide/ Muscarinic receptors/ Pancreas/ Chronic organophosphate exposure

Coste, Virginie, Puff, Nicolas, Lockau, Daniel, Quinn, Peter J., and Angelova, Miglena I. ( Raft-like domain formation in large unilamellar vesicles probed by the fluorescent phospholipid analogue, C12NBD-PC. *Biochimica et Biophysica Acta (BBA) - Biomembranes* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The liquid-ordered/disordered-phase domain co-existence in large unilamellar vesicle membranes consisting of phosphatidylcholine:sphingomyelin (2:1) with different amounts of cholesterol has been examined using a concentration-dependent self-quenching of a single reporter molecule, C12NBD-PC. A temperature-dependent decrease of fluorescence intensity was associated with the expected formation and increase of lo-phase membrane fraction in the vesicles. The result is consistent with exclusion of the fluorescent probe from the liquid-ordered phase which partitions preferentially into the liquid-disordered phase membrane domains. This leads to an increase of the local concentration of fluorophore in the liquid-disordered phase and a decrease of the quantum yield. This effect was used to obtain a quantitative estimation of the fraction of the vesicle membrane occupied by the liquid-ordered phase, [Phi]o, as a function of temperature and cholesterol content between 0 and 45 mol%. The value of [Phi]o was related to the assumed partition coefficient kp of probe between liquid-ordered/disordered phases. For large unilamellar vesicles containing 20 and 4 mol% cholesterol and probe, respectively, with kp = 0 (probe completely excluded from liquid-ordered phase), [Phi]o = 0.16 and with kp = 0.2, [Phi]o = 0.2. The results are relevant to the action of detergent in the fractionation of detergent-resistant membrane from living cells. Membrane phase co-existence/ Liquid-ordered domains/ C12NBD-PC/ Cholesterol/ Unilamellar vesicles

Coupe, R. H., Manning, M. A., Foreman, W. T., Goolsby, D. A., and Majewski, M. S. (2000). Occurrence of pesticides in rain and air in urban and agricultural areas of Mississippi, April-September 1995. *The Science of The Total Environment* 248: 227-240.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
In April 1995, the US Geological Survey began a study to determine the occurrence and temporal distribution of 49 pesticides and pesticide metabolites in air and rain samples from an urban and an agricultural sampling site in Mississippi. The study was a joint effort between the National Water-Quality Assessment and the Toxic Substances Programs and was part of a larger study examining the occurrence and temporal distribution of pesticides in air and rain in the Mississippi River basin. Concurrent high-volume air and wet-only deposition samples were collected weekly. The air samplers consisted of a glass-fiber filter to collect particles and tandem polyurethane foam plugs to collect gas-phase pesticides. Every rain and air sample collected from the urban and agricultural sites had detectable levels of multiple pesticides. The magnitude of the total concentration was 5-10 times higher at the agricultural site as compared to the urban site. The pesticide with the highest concentration in rain at both sites was methyl parathion. The pesticide with the highest concentration in the air samples from the agricultural site was also methyl parathion, but from the urban site the highest concentration was diazinon followed closely by chlorpyrifos. More than two decades since p,p&prime;-DDT was banned from use in the United States, p,p&prime;-DDE, a metabolite of p,p&prime;-DDT, was detected in every air sample collected from the agricultural site and in more than half of the air samples from the urban site. Pesticides/ Insecticides/ Herbicides/ Air/ Rain/ Mississippi/ Methyl Parathion/ DDE/ Chlorpyrifos

Cowley, Alan H., Gabbai, Francois P., Olbrich, Falk, Corbelin, Siegfried, and Lagow, Richard J. (1995). Surprising stability of a monomeric bis azide of gallium(III). *Journal of Organometallic Chemistry* 487: C5-C7.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The intramolecularly base-stabilized arylgallium diazide [2,6-(Me2NCH2)2C6H3]Ga(N3)2 (1) has been prepared by a metathetical reaction of the corresponding arylgallium dichloride with NaN3. Compound 1 was found not only to be air stable, but also to survive vapor phase heating at 400[deg]C or UV irradiation at 254 nm. The X-ray crystal structure of 1 has been determined; triclinic, and Z = 2. Compound 1 is monomeric in the solid state. Gallium/ Azides/ Aryls/ X-ray crystal structure

Cox, C. (2000). Diazinon: Ecological Effects and Environmental Contamination. *J.Pestic.Reform* 20: 14-20.  
Chem Codes: EcoReference No.: 65195  
Chemical of Concern: DZ Rejection Code: REVIEW.

Cox, L., Hermosin, M. C., Celis, R., and Cornejo, J. (1997). Sorption of two polar herbicides in soils and soil clays suspensions. *Water Research* 31: 1309-1316.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Adsorption of the polar herbicides thiazafluron (1,3-dimethyl-1-(5-trifluromethyl-1,3,4-thia-diazol-2-yl)urea) and metamitron (4-amino-4,5-dihydro-3-methyl-6-phenyl-1,2,4-triazin-5-one) in the aqueous suspension of five soils of southern Spain, their respective clay fractions (with diverse organic carbon content and clay mineralogy) and model pure clay minerals has been monitored as an integrated study to assess the role of the diverse colloidal soil components and their solid/solution ratio, as relevant to the transport of contaminants by particulate matter in water. Adsorption isotherms obtained were analysed and fitted to the logarithmic form of the Freundlich equation and adsorption coefficients Kf calculated. Thiazafluron adsorbs on soils, soil clays and model mineral sorbents to a higher extent than the herbicide metamitron due to their different molecular structure. The sorption of both herbicides in clay fractions increases with decreasing solid/solution ratio. The highest Kf value at high solid/solution ratio for both herbicides is found in a saline soil with its clay fraction predominantly composed of an altered illite mineral which behaves as a montmorillonite. Thiazafluron and metamitron also show the highest adsorption capacity (at low solid/solution ratio) on a predominantly montmorillonitic clay fraction of low cation exchange capacity (CEC), whereas low adsorption is found on a montmorillonitic clay fraction of high CEC. The negative influence of the clay CEC is confirmed in adsorption studies on pure clay minerals suspensions. The sorption of both herbicides by soil clays after removing organic matter (OM), shows that contribution of the colloidal OM is very low for thiazafluon, although rather important for metamitron. The influence of the different nature of the OM associated to the clay fractions of diverse soils is suggested. The mineral components of the soil clays, especially expandable layer silicates such as montmorillonite and a type of altered illite, are revealed to be responsible for the adsorption and hence the transport of these polar herbicides by waters in contact with soils or fine-size soil separates. Not only the relative amounts of the organic and inorganic components are important, but also the surface properties and the accessibility of the functional active groups of the herbicide molecule to those surfaces. adsorption/ herbicides/ metamitron/ montmorillonite/ illite/ organic matter/ smectites/ soil/ soil clay fraction/ soil colloids/ thiazafluron

Crawford, C. G. (2001). Factors affecting pesticide occurrence and transport in a large midwestern river basin. *Journal of the American Water Resources Association [J. Am. Water Resour. Assoc.]. Vol. 37, no. 1, pp. 1-16. Feb 2001.*  
 Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 1093-474X  
Descriptors: Pesticides  
Descriptors: Path of Pollutants  
Descriptors: Rivers  
Descriptors: Surface Water  
Descriptors: Water Pollution Sources  
Descriptors: Water Quality  
Descriptors: Seasonal Variations  
Descriptors: Diazinon  
Descriptors: Atrazine  
Descriptors: Pesticides (see also Bactericides, Weedkillers)  
Descriptors: Streams (in natural channels)  
Descriptors: Surface water (see also Lakes, Ponds, Streams)  
Descriptors: Pollution (Water)  
Descriptors: Water quality (Natural waters)  
Descriptors: Seasons  
Descriptors: Hydrology  
Descriptors: Basins  
Descriptors: Freshwater pollution  
Descriptors: Agricultural runoff  
Descriptors: Urban areas  
Descriptors: Pollution detection  
Descriptors: Herbicides  
Descriptors: Insecticides  
Descriptors: Agricultural pollution  
Descriptors: Pollution dispersion  
Descriptors: Watersheds  
Descriptors: River basins  
Descriptors: USA, Midwest  
Descriptors: USA, Indiana, White R.  
Descriptors: USA, Indiana  
Descriptors: USA, Illinois  
Descriptors: USA, Midwest, White R.  
Abstract: Several factors affect the occurrence and transport of pesticides in surface waters of the 29,400 km super(2) White River Basin in Indiana. A relationship was found between pesticide use and the average annual concentration of that pesticide in the White River, although this relationship varies for different classes of pesticides. About one percent of the mass applied of each of the commonly used agricultural herbicides was transported from the basin via the White River. Peak pesticide concentrations were typically highest in late spring or early summer and were associated with periods of runoff following application. Concentrations of diazinon were higher in an urban basin than in two agricultural basins, corresponding to the common use of this insecticide on lawns and gardens in urban areas. Concentrations of atrazine, a corn herbicide widely used in the White River Basin, were higher in an agricultural basin with permeable, well-drained soils, than in an agricultural basin with less permeable, more poorly drained soils. Although use of butylate and cyanazine was comparable in the White River Basin between 1992 and 1994, concentrations in the White River of butylate, which is incorporated into soil, were substantially less than for cyanazine, which is typically applied to the soil surface.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: AQ 00002 Water Quality  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Environmental Engineering Abstracts

Cripe, G. M. (1994). Comparative Acute Toxicities of Several Pesticides and Metals to Mysidopsis bahia and Postlarval Penaeus duorarum. *Environ.Toxicol.Chem.* 13: 1867-1872.

EcoReference No.: 13513  
Chemical of Concern: DZ,MLN,CYP,PMR,CuCl; Habitat: A; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CuCl,OW-TRV-Cu,CYP),OK(ALL CHEMS).

CROSBY BL, BYFORD RL, and KINZER HG (1991). Insecticide resistance in the horn fly, Haematobia irritans (L.), in New Mexico: Survey and control. *SOUTHWEST ENTOMOL; 16* 301-310.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A survey of selected counties in New Mexico (USA) was conducted to determine the degree and extent of insecticide resistance in horn fly populations. The highest levels of pyrethroid resistance (14-fold) were detected in Lincoln and Eddy counties, while the lowest levels (11-fold) were found in Grant and Dona Ana counties. Organophosphorus resistance was not detected in any of the populations bioassayed. Alternative horn fly control strategies for pyrethroid resistant horn flies were evaluated on a ranch in De Baca County, New Mexico. Diazinon ear tags alone and in rotation with Ivermectin Topical Pour-on were evaluated. Diazinon ear tags alone provided effective control (\80%) of horn flies for 17 weeks. Rotation of ivermectin with diazinon ear tags also provided adequate horn fly control. Animals/Genetics/ Animals/ Ecology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Animal Husbandry/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Animal/ Disease/ Insects/Parasitology/ Diptera/ Artiodactyla

CROWLEY DE, ALVEY, S., and GILBERT ES (1997). RHIZOSPHERE ECOLOGY OF XENOBIOTIC-DEGRADING MICROORGANISMS. *KRUGER, E. L., T. A. ANDERSON AND J. R. COATS (ED.). ACS SYMPOSIUM SERIES, 664. PHYTOREMEDIATION OF SOIL AND WATER CONTAMINANTS; SYMPOSIUM HELD DURING THE 212TH NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, ORLANDO, FLORIDA, USA, AUGUST 25-29, 1996. X+318P. AMERICAN CHEMICAL SOCIETY: WASHINGTON, DC, USA. ISBN 0-8412-3503-1.; 664 (0). 1997. 20-36.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING PAPER MICROORGANISM XENOBIOTIC DEGRADING RHIZOSPHERE ECOLOGY BIODEGRADATION CHLOROBENZOATE POLLUTANT CHLORDANE POLYCHLORINATED BIPHENYLS ATRAZINE DEGRADATION RATE METABOLISM POLLUTION REMEDIATION METHOD Biochemistry/ Metabolism/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biodegradation/ Industrial Microbiology/ Microbiology

Crystal, M. M. and Demilo, A. B. (1988). Susceptibility of Laboratory-Reared Northern Fowl Mites, Ornithonyssus sylviarum (Acari: Macronyssidae), to Selected Acaricides. *Exp.Appl.Acarol.* 4: 353-358.

EcoReference No.: 70191  
Chemical of Concern: PIRM,CMPH,ADC,PMR,RSM,CBL,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Cunha Bastos, V. L. F., Cunha Bastos, J., Lima, J. S., and Castro Faria, M. V. (1991). Brain acetylcholinesterase as an in vitro detector of organophosphorus and carbamate insecticides in water. *Water Research* 25: 835-840.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
An inexpensive but accurate enzymatic method is proposed for the detection of carbamate and organophosphorus pesticides contaminating water supplies. The method uses an acetylcholinesterase preparation obtained after extraction of rat brain microsomal fraction with Triton X-100. The method is based on inhibition of acetylcholinesterase in the presence of the pesticides. Some phosphorothionate insecticides (e.g. parathion, malathion), which are not direct acetylcholinesterase inhibitors, can also be activated by preincubation with the enzyme preparation.Enzyme assay is performed by a potentiometric method based on the formation of acetic acid in the incubation mixture. Interference of any eventual buffering capacity of the sample can be easily corrected. Malathion, parathion, diazinon and deoxicarbamate inhibited the enzyme at least 20% when they were added to the medium in the limit concentration recommended for public water supplies (0.1 mg/l). The method was evaluated in samples collected from selected locations of Paraiba do Sul river, Rio de Janeiro, Brazil, and it proved to be sufficiently practical and accurate as an alarm routine test for such pesticide classes. pollutants/ acetylcholinesterase/ detection/ water/ organophosphorus/ carbamate

Cunico, Robert F. and Kuan, Chia P. (1995). A preparation of N,N-bis(trimethylsilyl)allenamines. *Journal of Organometallic Chemistry* 487: 89-93.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Silicon/ Carbanions/ Allene/ Silyl/ Amine/ Trimethylsilyl The lithium diisopropylamide-induced elimination of 2-[N,N-bis(trimethylsilyl)amino]alkenyl (diethyl)phosphates affords 1-[N,N-bis(trimethylsilyl)amino]-1,2-alkadienes (&ldquo;allenamines&rdquo;). Conjugatively-substituted allenamines undergo further metalation under these eliminative conditions to form allenyl carbanions which may be trapped in situ by chlorotrimethylsilane to give 3-trimethylsilyl-or 3,3-bis(trimethylsilyl)-N,N-bis(trimethylsilyl)allenamines.

Curtis, C., Lima, A., Lozano, S. J., and Veith, G. D. (1982). Evaluation of a Bacterial Bioluminescence Bioassay as a Method for Predicting Acute Toxicity of Organic Chemicals to Fish. *In: J.G.Pearson, R.B.Foster, and W.E.Bishop (Eds.), Aquatic Toxiciology and Hazard Assessment, 5th Conf., ASTM STP 766, Philadelphia, PA* 170-178.  
Chem Codes: EcoReference No.: 20312  
Chemical of Concern: DZ Rejection Code: BACTERIA.

Curtis, R. J. (1985). Amitraz in the control of non-ixodide ectoparasites of livestock. *Veterinary Parasitology* 18: 251-264.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
Amitraz has been shown to be successful in controlling mange and lice infestations on pigs which had failed to respond to diazinon and [gamma]-BHC, respectively, and by the use of a prophylactic programme to maintain pig herds mange free. In addition, trials have indicated the elimination of psoroptic mange from sheep by applying the compound to the animal using either conventional or less convetional methods of treatment. Mixed infections of Chorioptes spp., Psoroptes spp. and Sarcoptes spp., in cattle have also been controlled using spray applications of amitraz, where in some cases organochlorine, organophosphorus and organotin compounds had failed. In a pilot study a heavy infestation of chorioptic mange was controlled on a calf using a pour-on formulation of amitraz.

D'Cruz, O. J. and Uckun, F. M. (2000). Vanadocene-Mediated in Vivo Male Germ Cell Apoptosis. *Toxicology and Applied Pharmacology [Toxicol. Appl. Pharmacol.]. Vol. 166, no. 3, pp. 186-195. 1 Aug 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0041-008X  
Descriptors: Apoptosis  
Descriptors: Germ cells  
Descriptors: Antitumor agents  
Descriptors: Testes  
Abstract: Vanadocenes are potent apoptosis-inducing cytotoxic agents against human testicular cancer cells in vitro. The present study investigated the ability of four vanadocenes--vanadocene diazide (VDA), vanadocene dicyanate (VDCN), vanadocene dioxycyanate (VDOCN), and vanadocene monochloro oxycyanate (VDCO)--to induce male germ cell apoptosis in vivo in mouse testes by repetitive intratesticular injection of vanadocenes (7.5 mg/kg/testis) for 28 days. Germ cell loss in vivo was measured by epididymal sperm count, testes weights, and histologic evaluation of the testes. Repetitive intratesticular injection of vanadocenes led to decreased sperm counts and reduced testicular weights. Histopathological examination revealed seminiferous tubular atrophy, inhibition of spermatogenesis, and the preferential loss of maturing and elongated spermatids. In situ evaluation by the terminal deoxynucleotidyl transferase-mediated FITC-deoxyuridine triphosphate nick-end labeling (TUNEL) of seminiferous tubule cross sections and laser confocal microscopy showed characteristic apoptotic cells identified primarily as pachytene spermatocytes delineating the periphery of the seminiferous tubules. The ability of vanadocenes to induce germ cell apoptosis in vivo may have potential utility in the treatment of testicular seminomas in humans.  
Publisher: Academic Press  
DOI: 10.1006/taap.2000.8965  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24115 Pathology  
Subfile: Toxicology Abstracts

Dahm, P. A., Kopecky, B. E., and Walker, C. B. ( 1962). Activation of organophosphorus insecticides by rat liver microsomes. *Toxicology and Applied Pharmacology* 4: 683-696.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Activation of organophosphorus insecticides has been compared by aerobically incubating them with male rat liver microsomes, NADH2, nicotinamide, and magnesium ions and manometrically assaying the products with rat brain and fly head cholinesterase preparations. The greatest increase in cholinesterase inhibition occurred with methyl parathion, Diazinon, Co-ral, ronnel, Dowco 109 (with fly head cholinesterase only), and Guthion. Lesser activation occurred with malathion (rat brain cholinesterase only) and Trithion. No activation could be demonstrated with demeton, phorate, dimethoate, E.I. 18,706, Menazon, and R 15,799.Changes in the anticholinesterase potencies of high and low concentrations of the P(O)S analog of Guthion and malaoxon added to microsomal incubation mixtures and the microsomal activation products of Guthion and malathion were compared in a series of time-course experiments. A 0.01 M concentration of fluoride in the incubation mixtures reduced the degradation of the P(O)S analogs and of the active metabolites of Guthion and malathion. In the absence of fluoride and with a low concentration of the P(S)S compound in the incubation mixture, enzymatic degradation eventually exceeded activation and little or no anticholinesterase production was apparent from cholinesterase assays.MGK 264, piperonyl butoxide, propyl isome, sulfoxide, sesamex, testosterone propionate, androstanolone, estradiol, estrone, and SKF 525-A inhibited the in vitro, microsomal activation of methyl parathion. The reaction products were manometrically assayed with rat brain and fly head cholinesterase preparations. MGK 264, piperonyl butoxide, testosterone propionate, and SKF 525-A also inhibited the activation of Co-ral and Guthion, except that greater than normal activation was observed when Co-ral was combined with the first three compounds and the metabolites were assayed with fly head cholinesterase.

DAN PEST INFEST LAB (1990). DANISH PEST INFESTATION LABORATORY ANNUAL REPORT. *DAN PEST INFEST LAB ANNU REP; 1989* 1-110.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM TSETSE FLY COCKROACH MOSQUITOES FLEA ARTHROPOD RODENT SEASONAL INCIDENCE TRYPANOSOMIASIS WOOD PEST GRAIN PEST EDUCATION PESTICIDE WHO Audiovisual Aids/ Biology/Education/ Textbooks/ Reference Books/ Climate/ Ecology/ Meteorological Factors/ Animals/ Ecology/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Trees/ Wood/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Insects/ Diptera/ Orthoptera/ Rodentia

DANNENBERG, A. and PEHKONEN SO (1998). Investigation of the heterogeneously catalyzed hydrolysis of organophosphorus pesticides. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY; 46* 325-334.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The hydrolysis of four organophosphorus pesticides (demeton S, diazinon, disulfoton, and thiometon) in the presence or absence of three iron oxides (hematite, goethite, and ferrihydrite) and aluminum hydroxide has been investigated. Metal oxide surfaces can catalyze as well as inhibit the hydrolysis of organophosphorus insecticides and thus significantly affect the fate of these compounds in the environment. Adsorption of the organophosphorus pesticides onto the metal oxides seems to take place at specific binding sites, and the fraction adsorbed can be as high as 0.4. Activation parameter studies show that the rate-determining step of the mechanism of surface catalysis is complex formation between the pesticide and the oxide when the catalysis takes place only at low temperatures. Product studies show that hazardous, persistent compounds can be formed. An example is 1,2-bis(ethylthio)ethane, a previously unreported and persistent product of insecticide hydrolysis. The Biochemistry/ Herbicides/ Pest Control/ Pesticides

DANNENBERG, A. and PEHKONEN SO (1997). INVESTIGATION OF THE HOMOGENEOUS AND HETEROGENEOUS HYDROLYSIS RATES AND MECHANISMS OF SELECTED ORGANOPHOSPHORUS PESTICIDES. *213TH NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, SAN FRANCISCO, CALIFORNIA, USA, APRIL 13-17, 1997. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 213* ENVR 235.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT PESTICIDES DEMETON S INSECTICIDE DIAZINON DISULFOTON THIOMETON GROUNDWATER ECOLOGY POLLUTION Congresses/ Biology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

DAUTERMAN WC (1994). ADAPTATION TO TOXICANTS. *HODGSON, E. AND P. E. LEVI (ED.). INTRODUCTION TO BIOCHEMICAL TOXICOLOGY, SECOND EDITION. XIX+588P. APPLETON AND LANGE: EAST NORWALK, CONNECTICUT, USA. ISBN 0-8385-4332-4.; 0 (0). 1994. 569-581.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MAMMAL TOXICOKINETICS BIOCHEMICAL MECHANISMS PHYSIOLOGICAL MECHANISMS BEHAVIORAL MECHANISMS Behavior, Animal/ Biochemistry/ Metabolism/ Poisoning/ Animals, Laboratory/ Mammals

Davies, Donald B. and Holub, Bruce J. (1983). Comparative effects of organophosphorus insecticides on the activities of acetylcholinesterase, diacylglycerol kinase, and phosphatidylinositol phosphodiesterase in rat brain microsomes. *Pesticide Biochemistry and Physiology* 20: 92-99.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The activities of acetylcholinesterase, diacylglycerol kinase, and phosphatidylinositol phosphodiesterase in rat brain microsomes were measured in the presence and absence of the organophosphorus insecticides, parathion and diazinon, and their respective oxon analogs, paraoxon and diazoxon. Marked inhibition of acetylcholinesterase (by 45-99%) was observed in the presence of paraoxon (10-2-10-6 M) and diazoxon (10-2-10-4 M). Reduction of acetylcholinesterase activity (by 22-33%) was achieved with the parent insecticides at high concentrations only (10-2 M). In most cases, diacylglycerol kinase was insensitive to the pesticides. Marked stimulation of phosphatidylinositol phosphodiesterase (by 10-57%) was observed in the presence of all pesticides (10-2-10-3 M). The phosphodiesterase exhibited slightly greater sensitivity to the parent compounds compared to the oxon derivatives. Stimulation of the phosphodiesterase by the insecticides was not correlated with acetylcholinesterase inhibition. Accordingly, the increase in phosphodiesterase activity was judged not to be acetylcholine mediated, but rather represented a direct effect of the pesticides on the enzyme or its microenvironment. Based on the present in vitro observations, it is proposed that certain organophosphorus pesticides may interfere with the normal process of synaptic transmission through both the inhibition of acetylcholinesterase and the stimulation of phosphatidylinositol phosphodiesterase. In view of the high concentrations of pesticides required to elicit the latter effect, interpretation of its physiological significance must await results from further studies performed in vivo.

de Almeida, Rodrigo F. M., Loura, Luis M. S., Fedorov, Alexander, and Prieto, Manuel (2005). Lipid Rafts have Different Sizes Depending on Membrane Composition: A Time-resolved Fluorescence Resonance Energy Transfer Study. *Journal of Molecular Biology* 346: 1109-1120.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The ternary lipid system palmitoylsphingomyelin (PSM)/palmitoyloleoylphosphatidylcholine (POPC)/cholesterol is a model for lipid rafts. Previously the phase diagram for that mixture was obtained, establishing the composition and boundaries for lipid rafts. In the present work, this system is further studied in order to characterize the size of the rafts. For this purpose, a time-resolved fluorescence resonance energy transfer (FRET) methodology, previously applied with success to a well-characterized phosphatidylcholine/cholesterol binary system, is used. It is concluded that: (1) the rafts on the low raft fraction of the raft region are small (below 20 nm), whereas on the other side the domains are larger; (2) on the large domain region, the domains reach larger sizes in the ternary system (>~75-100 nm) than in binary systems phosphatidylcholine/cholesterol (between ~20 and ~75-100 nm); (3) the raft marker ganglioside GM1 in small amounts (and excess cholera toxin subunit B) does not affect the general phase behaviour of the lipid system, but can increase the size of the rafts on the small to intermediate domain region. In summary, lipid-lipid interactions alone can originate lipid rafts on very different length scales. The conclusions presented here are consistent with the literature concerning both model systems and cell membrane studies. lipid rafts/ sphingomyelin/ cholesterol/ FRET/ ganglioside GM1

de la Mora, Marco A., Cuevas, Erick, Muchowski, Joseph M., and Cruz-Almanza, Raymundo (2001). Synthesis of tricyclic-2-aminoindoles by intramolecular 1,3-dipolar cycloaddition of 1-[omega]-azidoalkylindoles. *Tetrahedron Letters* 42: 5351-5353.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
cycloaddition/ synthesis/ pyrimidinol[1,2-a]indoles/ imidazo[1,2-a]indoles Thermolysis of the 1-[omega]-azidoalkylindoles 4, bearing an electron attracting substituent at C-3 (CHO, COMe, COOMe, CN) provides imidazo[1,2-a]indoles (5, n=1), pyrimidino[1,2-a]indoles (5, n=2), and 1,3-diazepino[1,2-a]indoles (5, n=3).

De Vlaming, V., Connor, V., DeGiorgio, C., Bailey, H., Deanovic, L., and Hinton, D. (2000). Application of Whole Effluent Toxicity Test Procedures to Ambient Water Quality Assessment. *Environ.Toxicol.Chem.* 19: 42-62.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

De Vlaming V, Connor, V., Digiorgio, C., Bailey, H. C., Deanovic, L. A., and Hinton, D. E. (2000). Application Of Whole Effluent Toxicity Test Procedures To Ambient Water Quality Assessment. 19: 42-62.  
Chem Codes: Cu Rejection Code: EFFLUENT.  
  
ecology/ environmental biology-general/ methods/ biochemical studies-general/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ branchiopoda biosis copyright: biol abs. the u.s. environmental protection agency (u.s. epa) protocols for conducting freshwater toxicity tests have been used in california, usa, to evaluate ambient water quality since 1986. testing evolved from conducting broad watershed surveys for assessing the distribution of toxicity to conducting detailed studies for identifying chemical causes and sources. using ceriodaphnia dubia tests, pulses of diazinon toxicity have been detected over a 10-year period throughout california's central valley in waters receiving drainage from dormant orchards. in the 1980s, toxicity to c. dubia, caused by methyl parathion and carbofuran in drainage from rice fields, was detected in the sacramento river rice drainage also was toxic to two important local species, larval striped bass and neomysis. throughout the state, diazinon and chlorpyrifos toxicity to c. dubia occurs year-round in waters receiving dr ainage from urban areas. several years of monitoring the alamo river in imperial county with c. dubia demonstrated a recurring seasonal toxicity pattern. toxicity during a 3-month autumn period was caused by chlorpyrifos and diazinon and during a 2-month spring period by diazinon and carbofuran. although most toxicity has been detected with c. dubia and linked to insecticides, other examples of toxicity have been identified. toxicity to selenastrum has been linked to copper and zinc from mines and to the herbicide diuron in waters receiving agricultural or urban runoff. ammonia-caused toxicity, originating from dairies and wastewater treatment plants, to fathead minnows has also been identified. taken together, the results reveal that the three whole effluent toxicity (wet) testing procedures, in association with toxicity identification evaluations (ties) and chemical analyses, can be ef fective for the identification of an array of toxicants originating from several land use practices. in several cases, alternative land use practices or management strategies have resulted in improved water quality as demonstrated by continued toxicity testing.

De Vlaming, V., Connor, V., DiGiorgio, C., Bailey, H. C., Deanovic, L. A., and Hinton, D. E. (2000). Application of whole effluent toxicity test procedures to ambient water quality assessment. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 1, pp. 42-62. Jan 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0730-7268  
Descriptors: Effluents  
Descriptors: Toxicity testing  
Descriptors: Water quality measurements  
Descriptors: Diazinon  
Descriptors: Seasonal variations  
Descriptors: Pesticides  
Descriptors: Toxicants  
Descriptors: Land use  
Descriptors: Freshwater pollution  
Descriptors: Water quality  
Descriptors: Analytical techniques  
Descriptors: Toxicity  
Descriptors: Bioassays  
Descriptors: Ecosystem disturbance  
Descriptors: Agricultural Runoff  
Descriptors: Wastewater Pollution  
Descriptors: Testing Procedures  
Descriptors: Rice  
Descriptors: Fish  
Descriptors: Effluent  
Descriptors: Toxicity (see also Lethal limits)  
Descriptors: Water quality (Natural waters)  
Descriptors: Pesticides (see also Bactericides, Weedkillers)  
Descriptors: Runoff (Agricultural) (see also Return flows)  
Descriptors: Fruit and vegetable crops (Cereals)  
Descriptors: Seasons  
Descriptors: Fish (see also Individual groups)  
Descriptors: Ceriodaphnia dubia  
Descriptors: Neomysis  
Descriptors: USA, California  
Abstract: The U.S. Environmental Protection Agency (U.S. EPA) protocols for conducting freshwater toxicity tests have been used in California, USA, to evaluate ambient water quality since 1986. Testing evolved from conducting broad watershed surveys for assessing the distribution of toxicity to conducting detailed studies for identifying chemical causes and sources. Using Ceriodaphnia dubia tests, pulses of diazinon toxicity have been detected over a 10-year period throughout California's Central Valley in waters receiving drainage from dormant orchards. In the 1980s, toxicity to C. dubia, caused by methyl parathion and carbofuran in drainage from rice fields, was detected in the Sacramento River. Rice drainage also was toxic to two important local species, larval striped bass and Neomysis. Throughout the state, diazinon and chlorpyrifos toxicity to C. dubia occurs year-round in waters receiving drainage from urban areas. Several years of monitoring the Alamo River in Imperial County with C. dubia demonstrated a recurring seasonal toxicity pattern. Toxicity during a 3-month autumn period was caused by chlorpyrifos and diazinon and during a 2-month spring period by diazinon and carbofuran. Although most toxicity has been detected with C. dubia and linked to insecticides, other examples of toxicity have been identified. Toxicity to Selenastrum has been linked to copper and zinc from mines and to the herbicide diuron in waters receiving agricultural or urban runoff. Ammonia-caused toxicity, originating from dairies and wastewater treatment plants, to fathead minnows has also been identified. Taken together, the results reveal that the three whole effluent toxicity (WET) testing procedures, in association with toxicity identification evaluations (TIEs) and chemical analyses, can be effective for the identification of an array of toxicants originating from several land use practices. In several cases, alternative land use practices or management strategies have resulted in improved water quality as demonstrated by continued toxicity testing.  
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Publication Type: Journal Article  
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Classification: P 2000 FRESHWATER POLLUTION  
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Classification: AQ 00002 Water Quality  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: SW 3030 Effects of pollution  
Subfile: Pollution Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Toxicology Abstracts; Aqualine Abstracts

de Vlaming, V., DiGiorgio, C., Fong, S., Deanovic, L. A., de la Paz Carpio-Obeso, M., Miller, J. L., Miller, M. J., and Richard, N. J. (2004). Irrigation runoff insecticide pollution of rivers in the Imperial Valley, California (USA). *Environmental Pollution* 132: 213-229.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY, MIXTURE.  
  
The Alamo and New Rivers located in the Imperial Valley, California receive large volumes of irrigation runoff and discharge into the ecologically sensitive Salton Sea. Between 1993 and 2002 we conducted a series of studies to assess water quality using three aquatic species: a cladoceran (Ceriodaphnia dubia), a mysid (Neomysis mercedis), and a larval fish (Pimephales promelas). Although no mortality was observed with the P. promelas, high-level toxicity to the invertebrate species was documented in samples from both rivers during many months of each year. Toxicity identifications and chemical analyses identified the organophosphorus insecticides (OP), chlorpyrifos and diazinon, as the cause of C. dubia toxicity. The extent of the C. dubia mortality was highly correlated with quantities of these OPs applied in the river watersheds. C. dubia mortality occurred during more months of our 2001/2002 study than in the 1990s investigations. During 2001/2002, the extensive C. dubia mortality observed in New River samples was caused by OP insecticide pollution that originated from Mexico. Mortality to N. mercedis in New River samples was likely caused by contaminants other than OP insecticides. Our studies document OP insecticide-caused pollution of the Alamo River over a 10-year period and provide the necessary information for remediation efforts.CapsuleOrganophosphorous insecticides in runoff water from the USA and Mexico have impacted rivers in the Imperial Valley, California. Agricultural runoff/ Aquatic toxicity/ Chlorpyrifos/ Diazinon/ Alamo and New Rivers

De Vlaming, Victor, Connor, Valerie, DiGiorgio, Carol, Bailey, Howard C., Deanovic, Linda A., and Hinton, David E. ( Application of whole effluent toxicity test procedures to ambient water quality assessment. 19: 42-62 CODEN: ETOCDK; ISSN: 0730-7268.  
Chem Codes: CHLOR Rejection Code: EFFLUENT.  
  
The US Environmental Protection Agency (US EPA) protocols for conducting freshwater toxicity tests have been used in California to evaluate ambient water quality since 1986. Testing evolved from conducting broad watershed surveys for assessing the distribution of toxicity to conducting detailed studies for identifying chem. causes and sources. Using Ceriodaphnia dubia tests, pulses of diazinon toxicity have been detected over a 10-yr period throughout California's Central Valley in waters receiving drainage from dormant orchards. In the 1980s, toxicity to C. dubia, caused by methyl parathion and carbofuran in drainage from rice fields, was detected in the Sacramento River. Rice drainage also was toxic to two important local species, larval striped bass and Neomysis. Throughout the state, diazinon and chlorpyrifos toxicity to C. dubia occurs year-round in waters receiving drainage from urban areas. Several years of monitoring the Alamo River in Imperial County with C. dubia demonstrated a recurring seasonal toxicity pattern. Toxicity during a 3-mo autumn period was caused by chlorpyrifos and diazinon and during a 2-mo spring period by diazinon and carbofuran. Although most toxicity has been detected with C. dubia and linked to insecticides, other examples of toxicity have been identified. Toxicity to Selenastrum has been linked to copper and zinc from mines and to the herbicide diuron in waters receiving agricultural or urban runoff. Ammonia-caused toxicity, originating from dairies and wastewater treatment plants, to fathead \*\*\*minnows\*\*\* has also been identified. Taken together, the results reveal that the three whole effluent toxicity (WET) testing procedures, in assocn. with toxicity identification evaluations (TIEs) and chem. analyses, can be effective for the identification of an array of toxicants originating from several land use practices. In several cases, alternative land use practices or management strategies have resulted in improved water quality as demonstrated by continued toxicity testing.

Deanin, Grace G., Martinez, A. Marina, Pfeiffer, Janet R., Gardner, Mary E., and Oliver, Janet M. (1991). Tyrosine kinase-dependent phosphatidylinositol turnover and functional responses in the Fc[var epsilon]R1 signalling pathway. *Biochemical and Biophysical Research Communications* 179: 551-557.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
In RBL-2H3 rat basophilic leukemia cells, Fc[var epsilon]R1 crosslinking by multivalent antigen stimulates phosphatidylinositol (PI) turnover and Ca2+ influx and causes functional responses that include secretion, membrane ruffling and actin polymerization. Here, we show that the tyrosine kinase inhibitor, genistein, inhibits antigen-induced PI turnover, determined from assays of 1,4,5-inositol trisphosphate production, and impairs receptor-mediated secretion, ruffling and actin polymerization. Genistein has little effect on several functional responses to stimuli that bypass PI hydrolysis (ionomycininduced secretion, phorbol ester-induced ruffling) but it inhibits phorbol ester-induced actin polymerization. These data implicate a common tyrosine kinase-dependent event, most likely the activation of phospholipase C[gamma], in the Fc[var epsilon]R1-mediated stimulation of PI turnover, secretion and ruffling. There may be additional tyrosine kinase-mediated events in the actin assembly pathway.

Deanovic, L., Bailey, H., Shed, T., Hinton, D., Teyes, E., Larsen, K., Cortright, K., Kimball, T., Lampara, L., and Nielsen, H. (1996). Sacramento-San Juaquin delta Bioassay Monitoring Report: 1993-1994. *Staff Rep., Central Valley Reg.Water Qual.Control Bd., Sacramento, CA*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Deanovic, L., Cortright, K., Larson, K., Reyes, E., Bailey, H., and Hilton, D. (1997). Sacramento-San Joaquin Delta Bioassay Monitoring Report: 1994-95. *Staff Rep., Central Valley Reg.Water Qual.Control Bd., Sacramento, CA*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

DEJONCKHEERE, W., STEURBAUT, W., DRIEGHE, S., VERSTRAETEN, R., and BRAECKMAN, H. (1996). Pesticide residue concentrations in the Belgian total diet, 1991-1993. *JOURNAL OF AOAC INTERNATIONAL; 79* 520-528.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. In the period 1991-1993, an official study was conducted to measure the presence and evaluate the risk of pesticide residues in plantbased food in the Belgian total diet. Positive samples were subjected to one or more culinary treatments (washing, peeling, steaming, or cooking) to determine the decrease of residues in prepared ready-to-eat food. Thus, better estimates of pesticide residues taken up through consumption were determined and compared with toxicological criteria. Washing did not significantly reduce residues. Peeling fruits removed almost all pesticides. The effects of cooking and steaming varied, depending on the type of food and pesticide. Biochemistry/ Food Technology/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Deleers, Michel, Servais, Jean-Paul, and Wulfert, Ernst (1985). Micromolar concentrations of Al3+ induce phase separation, aggregation and dye release in phosphatidylserine-containing lipid vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 813: 195-200.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interaction of Al3+, Cd2+ and Mn2+ with phosphatidylserine-containing lipid vesicles was studied. Phase separation of vesicles was investigated by monitoring fluorescence quenching of the phospholipid analogue 1-palmitoyl-2-(6-[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)]aminocaproyl)phosphatidylcholine (C6-NBD-PC). Aggregation was determined by turbidimetry and leakage of vesicles content during fusion was monitored by the fluorescence of released 6-carboxyfluorescein. Al3+ demonstrated quenching at less than 30 [mu]mol/1 with a maximum effect at 100 [mu]mol/1. Al3+-induced aggregation and dye release from the lipid vesicles were observed in the same concentration range. The effect of Cd2+ and Mn2+ on quenching was much less pronounced and could only be demonstrated in the 0.1-1 mmol/1 range. Increasing amounts of phosphatidylcholine or phosphatidylethanolamine in the vesicles decreased both Al3+-induced quenching and aggregation, wheras cholesterol only slightly increased aggregation without affecting quenching. Neurotoxic cation/ Al3+/ Mn2+/ Cd2+/ Phosphatidylserine vesicle/ Fluorescence

Deleers, Michel, Servais, Jean-Paul, and Wulfert, Ernst (1986). Neurotoxic cations induce membrane rigidification and membrane fusion at micromolar concentrations. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 855: 271-276.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effect of the neurotoxic cations aluminum, cadmium and manganese on membranes was examined in sonicated unilamellar vesicles containing phosphatidylserine and compared to the effect of Ca2+. Fusion of membranes was monitored by assessing the resonance energy transfer between N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethanolamine and N-(lissamine-rhodamine B-sulfonyl)phosphatidylethanolamine. Self-quenching of high concentrations of carboxyfluorescein in liposomes was used to demonstrate the release of molecules entrapped in liposomes to compare the kinetics of leakage and intermixing of lipid. Rigidification of membranes was evaluated by monitoring the fluorescence polarization of 1,6-diphenyl-1,3,5-hexatriene embedded in membranes containing phosphatidylserine and dipalmitoylphosphatidylcholine. Cation-induced lipid intermixing of vesicles membranes and release of dye from the vesicles occurred in the same concentration range. With aluminum, these effects were observed with concentrations less than 25 [mu]M. Significant rigidification of vesicle membranes was apparent with less than 25 [mu]M of Al3+. Similar effects could only be observed with concentrations of Cd2+ and Mn2+ at least one order of magnitude higher (200 and 400 [mu]M, respectively). Neurotoxic cation/ Al3+/ Mn2+/ Cd2+/ Membrane fusion/ Fluorescence polarization

Delhom, N., Balanant, Y., Ader, J. C., and Lattes, A. (1996). High Performance Liquid Chromatographic Determination of Diazinon in Polymeric Matrix. *J.Liq.Chrom.& Rel.Technol.* 19: 1735-1743.  
Chem Codes: EcoReference No.: 45845  
Chemical of Concern: DZ Rejection Code: NO SPECIES/NO TOX DATA.

Deneer, J. W., Budde, B. J., and Weijers, A. (1999). Variations in the Lethal Body Burdens of Organophosphorus Compounds in the Guppy. *Chemosphere* 38: 1671-1683.

EcoReference No.: 20106  
Chemical of Concern: AZ,CPY,DZ,MDT,MP,PRN,FNT,FNTH; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(ALL CHEMS).

Dennis, E. B. and Edwards, C. A. (1963). Phytotoxicity of Insecticides and Acaricides. II. Flowers and Ornamentals. *Plant Pathol.* 12: 27-36.

EcoReference No.: 40669  
Chemical of Concern: MLN,DMT,PRN,DZ,DLD,AND,DDT,FLAC,NCTN,PPHD,ETN; Habitat: T; Effect Codes: PHY; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Dennis, W. H. J., Meier, E. P., Randall, W. F., Rosencrance, A. B., and Rosenblatt, D. H. (1979). Degradation of Diazinon by Sodium Hypochlorite. Chemistry and Aquatic Toxicity. *Environ.Sci.Technol.* 13: 594-598.

EcoReference No.: 866  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR,BEH; Rejection Code: NO CONTROL(DZ).

Dennis, W. H. J., Meier, E. P., Rosencrance, A. B., Randall, W. F., Reagan, M. T., and Rosenblatt, D. H. ( 1979). Chemical Degradation of Military Standard Formulations of Organophosphorus and Carbamate Pesticides. II. Degradation of Diazinon by Sodium. *U.S.Army Med.Bioeng.Res.Dev.Lab., Tech.Rep.No.7904, Fort Detrick, MD* 40 p.(U.S.NTIS AD-AO81098/6).

EcoReference No.: 5894  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Deo, P. G., Hasan, S. B., and Majumder, S. K. (1988). Toxicity and Suitability of Some Insecticides for Household Use. *Int.Pest Control* 30: 118-121,129.

EcoReference No.: 35123  
Chemical of Concern: AND,BRSM,CBL,CHD,CYP,DCM,DDT,DDVP,DEM,DM,DMT,DZ,EN,ES,FNT,FNV,HCCH,HPT,MLN,MP,MXC,PMR,PRN,PYN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Devillers, J., Meunier, T., and Chambon, P. (1985). Advantage of the Dosage-Action-Time Relation in Ecotoxicology for the Test of the Various Chemical Species of Toxics (Interet de la Relation Dose-Effet-Temps en Ecotoxicologie pour la Determination des Differentes Classes Chimiques de Toxiques). *Tech.Sci.Munic.* 80: 329-334 (FRE) (ENG ABS).

EcoReference No.: 17456  
Chemical of Concern: 24DXY,DMT,DS,DZ,HCCH,MLN,CuS,PCP,Zn; Habitat: A; Effect Codes: MOR,PHY; Rejection Code: NO FOREIGN.

DeWalle, D. R., Tepp, J. S., Swistock, B. R., Sharpe, W. E., and Edwards, P. J. (1999). Tree-Ring Cation Response to Experimental Watershed Acidification in West Virginia and Maine. *Journal of Environmental Quality [J. Environ. Qual.]. Vol. 28, no. 1, pp. 299-308. Jan-Feb 1999.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0047-2425  
Descriptors: Cations  
Descriptors: Dendrochronology  
Descriptors: Watersheds  
Descriptors: Acidification  
Descriptors: Indicators  
Descriptors: Biological Sampling  
Descriptors: Cores  
Descriptors: Nutrients  
Descriptors: Trees  
Descriptors: Chemical Composition  
Descriptors: Plant populations  
Descriptors: Nutrients (mineral)  
Descriptors: Calcium  
Descriptors: Magnesium  
Descriptors: Manganese  
Descriptors: Wood  
Descriptors: Pollution effects  
Descriptors: Chemistry  
Descriptors: Bioindicators  
Descriptors: USA, West Virginia  
Descriptors: USA, Maine  
Abstract: The impact of experimental watershed acidfication on xylem cation chemistry was evaluated in eight tree species at two sites in West Virginia (Clover Run and Fernow) and one site in Maine (Bear Brook). All sites had received regular additions of (NH sub(4)) sub(2) SO sub(4) equivalent to twice the ambient annual wet plus dry atmospheric deposition of N and S. Multiple wood cores were extracted from tree boles in five trees of each species on treatment and control areas at each site with increment borers. Cores were divided into several age segments and composited for each tree. Ground wood samples were destructively analyzed for Ca, Mg, Mn, and Al concentrations using inductively coupled plasma emission (ICP) methods. All tree species sampled at the two West Virginia sites exhibited significant Ca and/or Mg concentration decreases and Mn concentration increases in sapwood on the treated relative to control areas after 8 yr of treatment. At Bear Brook, tree-ring concentrations in three species showed similar trends after 5 yr of treatment, but differences were generally not significant. Sapwood molar ratios of Ca/Mn and Mg/Mn were better indices to soil acidification than Ca/Al, due to low Al concentrations and insensitivity of sapwood Al concentrations to treatments. Overall, sapwood chemistry appeared to be a reliable indicator of the current nutrient status of trees; but, except for Japanese larch (Larix leptolepis Sieb. and Zucc.), sapwood chemistry did not preserve a record of the chronology of past changes due to treatments.  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 0880 Chemical processes  
Classification: Q5 01504 Effects on organisms  
Classification: P 5000 LAND POLLUTION  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts

Di Muccio, Alfonso, Pelosi, Patrizia, Camoni, Ivano, Attard Barbini, Danilo, Dommarco, Roberto, Generali, Tiziana, and Ausili, Antonella (1996). Selective, solid-matrix dispersion extraction of organophosphate pesticide residues from milk. 754: 497-506 CODEN: JCRAEY; ISSN: 0021-9673.  
Chem Codes: Chemical of Concern: CHLOR ,DMT Rejection Code: CHEM METHOD.  
  
A rapid procedure has been developed that allows a single-step, selective extn. and cleanup of organophosphate (OP) pesticide residues from milk dispersed on solid-matrix diatomaceous material filled into disposable cartridges by means of light petroleum satd. with acetonitrile and ethanol. Recovery expts. were carried out on homogenized com. milk (3.6% fat content) spiked with ethanolic solns. of 24 OP pesticides, viz., ethoprophos, diazinon, dimethoate, chlorpyrifos-Me, parathion-Me, chlorpyrifos-Et, malathion, isofenphos, quinalphos, ethion, pyrazophos, azinphos-Et, heptenophos, omethoate, fonofos, pirimiphos-Me, fenitrothion, parathion, chlorfenvinphos, phenthoate, methidathion, triazophos, phosalone, azinphos-Me, at levels ranging for the different OP pesticides from 0.02 mg/kg to 1.11 mg/kg. Av. recoveries of four replicates were in the range 72-109% for the different OP pesticides, with relative std. deviations from .apprx.1 to 19%, while dimethoate and omethoate were not recovered. Coextd. fatty material amounted to an av. of about 4.0 mg/mL of milk. The extn. procedure requires about 30 min. The main advantages are that extn. and cleanup are carried out in a single step, emulsions do not occur, several samples can be run in parallel by a single operator, reusable glassware is not needed and simple operations are required.

Di Muccio, Alfonso, Pelosi, Patrizia, Camoni, Ivano, Attard Barbini, Danilo, Dommarco, Roberto, Generali, Tiziana, and Ausili, Antonella (1996). Selective, solid-matrix dispersion extraction of organophosphate pesticide residues from milk. 754: 497-506 CODEN: JCRAEY; ISSN: 0021-9673.  
Chem Codes: Chemical of Concern: CHLOR,OMT Rejection Code: CHEM METHOD.  
  
A rapid procedure has been developed that allows a single-step, selective extn. and cleanup of organophosphate (OP) pesticide residues from milk dispersed on solid-matrix diatomaceous material filled into disposable cartridges by means of light petroleum satd. with acetonitrile and ethanol. Recovery expts. were carried out on homogenized com. milk (3.6% fat content) spiked with ethanolic solns. of 24 OP pesticides, viz., ethoprophos, diazinon, dimethoate, chlorpyrifos-Me, parathion-Me, chlorpyrifos-Et, malathion, isofenphos, quinalphos, ethion, pyrazophos, azinphos-Et, heptenophos, omethoate, fonofos, pirimiphos-Me, fenitrothion, parathion, chlorfenvinphos, phenthoate, methidathion, triazophos, phosalone, azinphos-Me, at levels ranging for the different OP pesticides from 0.02 mg/kg to 1.11 mg/kg. Av. recoveries of four replicates were in the range 72-109% for the different OP pesticides, with relative std. deviations from .apprx.1 to 19%, while dimethoate and omethoate were not recovered. Coextd. fatty material amounted to an av. of about 4.0 mg/mL of milk. The extn. procedure requires about 30 min. The main advantages are that extn. and cleanup are carried out in a single step, emulsions do not occur, several samples can be run in parallel by a single operator, reusable glassware is not needed and simple operations are required.

Diaz, Cristina, Enriquez, Dagoberto, and Bisset, Juan A ( Status of resistance to insecticides in field strains of the Blatella germanica species (Dictyoptera: Blattellidae) from Pinar del Rio municipality. *Revista Cubana De Medicina Tropical* 55: 196-202.  
Chem Codes: Chemical of Concern: CYF Rejection Code: NON-ENGLISH.  
  
A study of the levels of resistance to 10 insecticides: 4 organophosphate compounds (malathion, clorpirifos, methylpyrimifos and diazinon), 2 carbamates (propoxur and bendiocarb) and 4 pyrethroids (cypermethrin, deltamethrin, lamdacyhalothrin and cyfluthrin) was conducted in 5 strains of Blatella germanica (Linnaeus, 1767) collected in the field of Pinar del Rio. High levels of resistance to bediocarb, cypermethrin and deltamethrin insecticides; low level of resistance to diazinon; from moderate to high resistance to methyl-pyrimifos, as well as susceptibility to one insecticide in each study group: clorpirifos (organophosphate), propoxur (carbamate) and cyfluthrin (pyrethroid); were detected. Only a strain presented low resistance to malathion (Inicio Carlos Manuel) and to lambda-cyhalothrin (Consejo Celso Maragoto). Cypermethrin-deltamethrin cross resistance was evidenced. It did not affect the susceptibility to lambda-cyalothrin and cyfluthrin. [Journal Article; In Spanish; Cuba]

Diaz-Diaz, Ricardo and Loague, Keith (2001). Assessing the potential for pesticide leaching for the pine forest areas of Tenerife. *Environmental Toxicology and Chemistry* 20: 1958-1967.  
Chem Codes: Chemical of Concern: DZM Rejection Code: FATE.  
  
Currently, no guidelines cover use of pesticides in the forested areas of the Canary island of Tenerife. An index-based model (Li) was used to rank the leaching potential of 50 pesticides that are, or could be, used for management purposes in the pine forest areas of Tenerife. Once the pesticides with the greatest leaching potential were identified, regional-scale groundwater vulnerability assessments, with consideration for data uncertainties, were generated using soil, climatic, and chem. information in a geog. information system framework for all pine forest areas of the island. Process-based simulations with the pesticide root zone model for the areas and pesticides of highest vulnerability were conducted to quant. characterize the leaching potentials. Carbofuran, hexazinone, picloram, tebuthiuron, and triclopyr were each identified as being potential leachers. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2001:629650  
Chemical Abstracts Number: CAN 135:340467  
Section Code: 5-6  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 19, 61  
Document Type: Journal  
Language: written in English.  
Index Terms: Soils (Entisols; process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife); Soils (Inceptisols; process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife); Environmental modeling; Environmental transport; Pesticides (process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife); Groundwater pollution (process-based simulations of pesticide leaching potential for pine forest soils of Tenerife in assessing groundwater vulnerability)  
CAS Registry Numbers: 52-68-6 (Trichlorfon); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (1H-1,2,4-Triazol-3-amine); 63-25-2 (Carbaryl); 74-83-9 (Methylbromide); 76-06-2 (Chloropicrin); 86-50-0 (Azinphos-methyl); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 99-30-9 (Dicloran); 116-06-3 (Aldicarb); 120-36-5 (Dichlorprop); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 137-26-8 (Thiram); 300-76-5 (Naled); 330-54-1 (Diuron); 333-41-5 (Diazinon); 533-74-4 (Dazomet); 732-11-6 (Phosmet); 957-51-7 (Diphenamid); 1071-83-6 (Glyphosate); 1563-66-2 (Carbofuran); 1861-32-1 (DCPA); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2921-88-2 (Chlorpyriphos); 12427-38-2 (Maneb); 15299-99-7 (Napropamide); 17804-35-2 (Benomyl); 30560-19-1 (Acephate); 34014-18-1 (Tebuthiuron); 35367-38-5 (Diflubenzuron); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 55335-06-3 (Triclopyr); 57837-19-1 (Metalaxyl); 59682-52-9 (Fosamine); 74051-80-2 (Sethoxydim); 74222-97-2 (Sulfometuron methyl); 74223-64-6 (Metsulfuron-methyl); 81334-34-1 (Imazapyr) Role: PEP (Physical, engineering or chemical process), POL (Pollutant), OCCU (Occurrence), PROC (Process) (process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife)  
Citations: 1) Barbash, J; Pesticides in Ground Water Distribution, Trends, and Governing Factors 1996  
Citations: 2) Neary, D; Environ Toxicol Chem 1993, 12, 411  
Citations: 3) Norris, L; Residue Rev 1981, 80, 65  
Citations: 4) Mayack, D; Arch Environ Contam Toxicol 1982, 11, 209  
Citations: 5) Bush, P; Water Res Bull 1986, 22, 817  
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Citations: 26) Diaz-Diaz, R; J Contam Hydrol 1999, 36, 1  
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EcoReference No.: 10596  
Chemical of Concern: DZ; Habitat: A; Effect Codes: POP; Rejection Code: NO ENDPOINT(DZ).

Domagalski, J. (1996). Pesticides and pesticide degradation products in stormwater runoff: Sacramento River Basin, California. *Water Resources Bulletin [WATER RESOUR.BULL.]* Resources Bulletin [WATER RESOUR. BULL.]]], vol. 32, no. 5, pp. 953-964, 1996: 953-964.  
Chem Codes: SZ,CBF Rejection Code: FATE.  
  
U.S. Geol. Surv., 2800 Cottage Way, Sacramento, CA 95825, USA  
Pesticides in stormwater runoff, within the Sacramento River Basin, California, were assessed during a storm that occurred in January 1994. Two organophosphate insecticides (diazinon and methidathion), two carbamate pesticides (molinate and carbofuran), and one triazine herbicide (simazine) were detected. Organophosphate pesticide concentrations increased with the rising stage of the hydrographs; peak concentrations were measured near peak discharge. Diazinon oxon, a toxic degradation product of diazinon, made up approximately 1 to 3 percent of the diazinon load. The Feather River was the principal source of organophosphate pesticides to the Sacramento River during this storm. The concentrations of molinate and carbofuran, pesticides applied to rice fields during May and June, were relatively constant during and after the storm. Their presence in surface water was attributed to the flooding and subsequent drainage, as a management practice to degrade rice stubble prior to the next planting. A photodegradation product of molinate, 4-keto molinate, was in all samples where molinate was detected and made up approximately 50 percent of the total molinate load. Simazine, a herbicide used in orchards and to control weeds along the roadways, was detected in the storm runoff, but it was not possible to differentiate the two sources of that pesticide to the Sacramento River  
English

Domagalski, J. (1996). Pesticides and pesticide degradation products in stormwater runoff: Sacramento River Basin, California. *Water Resources Bulletin. Vol. 32, no. 5, pp. 953-964. 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0043-1370  
Descriptors: carbamate pesticides  
Descriptors: degradation  
Descriptors: storm runoff  
Descriptors: river basins  
Descriptors: organophosphorus pesticides  
Descriptors: surface water  
Descriptors: water pollution sources  
Descriptors: nonpoint pollution sources  
Descriptors: pesticides  
Descriptors: herbicides  
Descriptors: insecticides  
Descriptors: stormwater runoff  
Descriptors: agricultural pollution  
Descriptors: pollution dispersion  
Descriptors: USA, California, Sacramento R. Basin  
Descriptors: USA, California, Sacramento R.  
Abstract: Pesticides in stormwater runoff, within the Sacramento River Basin, California, were assessed during a storm that occurred in January 1994. Two organophosphate insecticides (diazinon and methidathion), two carbamate pesticides (molinate and carbofuran), and one triazine herbicide (simazine) were detected. Organophosphate pesticide concentrations increased with the rising stage of the hydrographs; peak concentrations were measured near peak discharge. Diazinon oxon, a toxic degradation product of diazinon, made up approximately 1 to 3 percent of the diazinon load. The Feather River was the principal source of organophosphate pesticides to the Sacramento River during this storm. The concentrations of molinate and carbofuran, pesticides applied to rice fields during May and June, were relatively constant during and after the storm. Their presence in surface water was attributed to the flooding and subsequent drainage, as a management practice to degrade rice stubble prior to the next planting. A photodegradation product of molinate, 4-keto molinate, was in all samples where molinate was detected and made up approximately 50 percent of the total molinate load. Simazine, a herbicide used in orchards and to control weeds along the roadways, was detected in the storm runoff, but it was not possible to differentiate the two sources of that pesticide to the Sacramento River.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 2000 FRESHWATER POLLUTION  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

DOMAGALSKI, J. (1997). Results of a prototype surface water network design for pesticides developed for the San Joaquin River Basin, California. *JOURNAL OF HYDROLOGY (AMSTERDAM); 192 (1-4). 1997. 33-50.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. A nested surface water monitoring network was designed and tested to measure variability in pesticide concentrations in the San Joaquin River and selected tributaries during the irrigation season. The network design and sampling frequency necessary for determining the variability and distribution in pesticide concentrations were tested in a prototype study. The San Joaquin River Basin, California, was sampled from April to August, 1992, a period during the irrigation season where there was no rainfall. Orestimba Creek, which drains a part of the western San Joaquin Valley, was sampled three times per week for 6 weeks, followed by a once per week sampling for 6 weeks, and then three times per week sampling for 6 weeks. A site on the San Joaquin River near the mouth of the basin, and an irrigation drain of the eastern San Joaquin Valley, were sampled weekly during the entire sampling period. Pesticides were most often detected in samples collected from Orestimba Creek. Th Climate/ Ecology/ Meteorological Factors/ Ecology/ Fresh Water/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides

Domagalski, J. L., Dubrovsky, N. M., and Kratzer, C. R. (1997). Organic chemicals in the environment: Pesticides in the San Joaquin River, California: Inputs from dormant sprayed orchards. *Journal of Environmental Quality, 26 (2) pp. 454-465, 1997*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0047-2425  
Abstract: Rainfall-induced runoff mobilized pesticides to the San Joaquin River and its tributaries during a 3.8-cm rainstorm beginning the evening of 7 February and lasting through the morning of 8 Feb. 1993. Two distinct peaks of organophosphate pesticide concentrations were measured at the mouth of the San Joaquin River. These two peaks were attributed to contrasts between the soil texture, basin size, pesticide-use patterns, and hydrology of the eastern and western San Joaquin Valley. The fine soil texture and small size of the western tributary basins contributed to rapid runoff. In western valley streams, diazinon concentrations peaked within hours of the rainfall's end and then decreased because of a combination of dilution with pesticide- free runoff from the nearby Coast Ranges and decreasing concentrations in the agricultural runoff. Peak concentrations for the Merced River, a large tributary of the eastern San Joaquin Valley, occurred at least a day later than those of the western tributary streams. That delay may be due to the presence of well-drained soils in the eastern San Joaquin Valley, the larger size of the Merced River drainage basin, and the management of surface-water drainage networks. A subsequent storm on 18 and 19 February resulted in much lower concentrations of most organophosphate pesticides suggesting that the first storm had mobilized most of the pesticides that were available for rainfall-induced transport.  
20 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United States  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

Domagalski, J. L., Dubrovsky, N. M., and Kratzer, C. R. (1997). Pesticides in San Joaquin River, California: Inputs from Dormant Sprayed Orchards. *J.Environ.Qual.* 26: 454-465.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Domagalski, J. L., Dubrovsky, N. M., and Kratzer, C. R. (1997). Pesticides in the San Joaquin River, California: Inputs from dormant sprayed orchards. *Journal of Environmental Quality [J. ENVIRON. QUAL.]. Vol. 26, no. 2, pp. 454-465. Apr 1997.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0047-2425  
Descriptors: rivers  
Descriptors: pesticides  
Descriptors: organophosphates  
Descriptors: agrochemicals  
Descriptors: agricultural runoff  
Descriptors: stormwater runoff  
Descriptors: freshwater pollution  
Descriptors: water sampling  
Descriptors: pollution detection  
Descriptors: chemical pollution  
Descriptors: agricultural pollution  
Descriptors: runoff  
Descriptors: orchards  
Descriptors: organophosphorus pesticides  
Descriptors: agricultural chemicals  
Descriptors: storm runoff  
Descriptors: water pollution sources  
Descriptors: tributaries  
Descriptors: USA, California, San Joaquin R.  
Abstract: Rainfall-induced runoff mobilized pesticides to the San Joaquin River and its tributaries during a 3.8-cm rainstorm beginning the evening of 7 February and lasting through the morning of 8 Feb. 1993. Two distinct peaks of organophosphate pesticide concentrations were measured at the mouth of the San Joaquin River. These two peaks were attributed to contrasts between the soil texture, basin size, pesticide-use patterns, and hydrology of the eastern and western San Joaquin Valley. The fine soil texture and small size of the western tributary basins contributed to rapid runoff. In western valley streams, diazinon concentrations peaked within hours of the rainfall's end and then decreased because of a combination of dilution with pesticide-free runoff from the nearby Coast Ranges and decreasing concentrations in the agricultural runoff. Peak concentrations for the Merced River, a large tributary of the eastern San Joaquin Valley, occurred at least a day later than those of the western tributary streams. That delay may be due to the presence of well-drained soils in the eastern San Joaquin Valley, the larger size of the Merced River drainage basin, and the management of surface-water drainage networks. A subsequent storm on 18 and 19 February resulted in much lower concentrations of most organophosphate pesticides suggesting that the first storm had mobilized most of the pesticides that were available for rainfall-induced transport.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Pollution Abstracts

Domagalski, J. L., Dubrovsky, N. M., and Kratzer, C. R. (1997). Pesticides in the San Joaquin River, California: Inputs from the dormant sprayed orchards. *Journal of Environmental Quality* 26 : 454-465.  
Chem Codes: Chemical of Concern: SZ Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Rainfall-induced runoff mobilized pesticides to the San Joaquin River and its tributaries during a 3.8-cm rainstorm beginning the evening of 7 February and lasting through the morning of 8 Feb. 1993. Two distinct peaks of organophosphate pesticide concentrations were measured at the mouth of the San Joaquin River. These two peaks were attributed to contrasts between the soil texture, basin size, pesticide-use patterns, and hydrology of the eastern and western San Joaquin Valley. The fine soil texture and small size of the western tributary basins contributed to rapid runoff. In western valley streams, diazinon concentrations peaked within hours of the rainfall's end and then decreased because of a combination of dilution with pesticide-free runoff from the nearby Coast Ranges and decreasing concentrations in the agricultural runoff. Peak concentrations for the Merced River, a large tributary of the eastern San Joaquin Valley, occurred at least a day later than those of  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

DOMAGALSKI JL, DUBROVSKY NM, and KRATZER CR (1997). Pesticides in the San Joaquin River, California: Inputs from the dormant sprayed orchards. *JOURNAL OF ENVIRONMENTAL QUALITY; 26* 454-465.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Rainfall-induced runoff mobilized pesticides to the San Joaquin River and its tributaries during a 3.8-cm rainstorm beginning the evening of 7 February and lasting through the morning of 8 Feb. 1993. Two distinct peaks of organophosphate pesticide concentrations were measured at the mouth of the San Joaquin River. These two peaks were attributed to contrasts between the soil texture, basin size, pesticide-use patterns, and hydrology of the eastern and western San Joaquin Valley. The fine soil texture and small size of the western tributary basins contributed to rapid runoff. In western valley streams, diazinon concentrations peaked within hours of the rainfall's end and then decreased because of a combination of dilution with pesticide-free runoff from the nearby Coast Ranges and decreasing concentrations in the agricultural runoff. Peak concentrations for the Merced River, a large tributary of the eastern San Joaquin Valley, occurred at least a day later than those of Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

DOMAGALSKI JL and KUIVILA KM (1993). Distributions of pesticides and organic contaminants between water and suspended sediment, San Francisco Bay, California. *ESTUARIES; 16* 416-426.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Suspended-sediment and water samples were collected from San Francisco Bay in 1991 during low river discharge and after spring rains. All samples were analyzed for organophosphate, carbamate, and organochlorine pesticides; petroleum hydrocarbons; biomarkers; and polynuclear aromatic hydrocarbons. The objectives were to determine the concentrations of these contaminants in water and suspended sediment during two different hydrologic conditions and to determine partition coefficients of the contaminants between water and sediment. Concentrations of hydrophobic contaminants, such as polynuclear aromatic hydrocarbons, varied with location of sample collection, riverine discharge, and tidal cycle. Concentrations of hydrophobic contaminants in suspended sediments were highest during low river discharge but became diluted as agricultural soils entered the bay after spring rains. Polynuclear aromatic hydrocarbons defined as dissolved in the water column were not detected. The Ecology/ Oceanography/ Fresh Water/ Ecology/ Fresh Water/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Domagalski, Joseph L. and Dubrovsky, Neil M. (1992). Pesticide residues in ground water of the San Joaquin Valley, California. *Journal of Hydrology* 130: 299-338.  
Chem Codes: Chemical of Concern: DMB, SZ Rejection Code: NO SPECIES.  
  
A regional assessment of non-point-source contamination of pesticide residues in ground water was made of the San Joaquin Valley, an intensively farmed and irrigated structural trough in central California. About 10% of the total pesticide use in the USA is in the San Joaquin Valley. Pesticides detected include atrazine, bromacil, 2.4-DP, diazinon, dibromochloropropane, 1,2-dibromoethane, dicamba, 1,2-dichloropropane, diuron, prometon, prometryn, propazine and simazine. All are soil applied except diazinon.Pesticide leaching is dependent on use patterns, soil texture, total organic carbon in soil, pesticide half-life and depth to water table. Leaching is enhanced by flood-irrigation methods except where the pesticide is foliar applied such as diazinon. Soils in the western San Joaquin Valley are fine grained and are derived primarily from marine shales of the Coast Ranges. Although shallow ground water is present, the fewest number of pesticides were detected in this region. The fine-grained soil inhibits pesticide leaching because of either low vertical permeability or high surface area; both enhance adsorption on to solid phases. Soils of the valley floor tend to be fine grained and have low vertical permeability. Soils in the eastern part of the valley are coarse grained with low total organic carbon and are derived from Sierra Nevada granites. Most pesticide leaching is in these alluvial soils, particularly in areas where depth to ground water is less than 30m. The areas currently most susceptible to pesticide leaching are eastern Fresno and Tulare Counties.Tritium in water molecules is an indicator of aquifer recharge with water of recent origin. Pesticide residues transported as dissolved species were not detected in non-tritiated water. Although pesticides were not detected in all samples containing high tritium, these samples are indicative of the presence of recharge water that interacted with agricultural soils. http://www.sciencedirect.com/science/article/B6V6C-487FCGY-1B0/2/dcb64d6577582df4a9e62e762e2a7baf

Domagalski, Joseph L. and Dubrovsky, Neil M. (1992). Pesticide residues in ground water of the San Joaquin Valley, California. *Journal of Hydrology* 130: 299-338.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
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DOWNER AJ, KOEHLER CS, and PAINE TD (91). **<04 Article Title>.**  *J ENVIRON HORTIC; 9* <25 Page(s)>.

Chemical of Concern: FVL; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

DOWNING GM and MORCOMBE PW (1996). ZINC SULPHATE DIAZINON AND DAM WATER AND REPLY. *AUSTRALIAN VETERINARY JOURNAL; 73* 159.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LETTER SHEEP INSECTICIDE DIPPING Ecology/ Fresh Water/ Biochemistry/ Veterinary Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Artiodactyla

DREISTADT SH, CLARK JK, and FLINT ML (1994). PESTS OF LANDSCAPE TREES AND SHRUBS AN INTEGRATED PEST MANAGEMENT GUIDE. *DREISTADT, S. H., J. K. CLARK AND M. L. FLINT. PESTS OF LANDSCAPE TREES AND SHRUBS: AN INTEGRATED PEST MANAGEMENT GUIDE. VI+327P. UNIVERSITY OF CALIFORNIA PRESS: BERKELEY, CALIFORNIA, USA. ISBN 1-879906-18-X.; 0* VI+327P.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK ORNAMENTALS INSECTS MITES SNAILS SLUGS DISEASES VIRUSES FUNGI BACTERIA ABIOTIC DISORDERS WEEDS NEMATODES ORGANISM BIOLOGY SYMPTOMATOLOGY CHEMICAL CONTROL MECHANICAL CONTROL BIOLOGICAL CONTROL INTEGRATED PEST MANAGEMENT DIAGNOSTIC METHOD ILLUSTRATIONS CALIFORNIA WESTERN USA Ecology/ Plants/ Bacteria/Classification/ Bacteria/Physiology/ Bacteria/Metabolism/ Plant Viruses/ Fungi/ Plants/ Grasses/Growth & Development/ Soil/ Plants/Growth & Development/ Fungi/ Plant Diseases/ Bacteria/ Plant Diseases/ Arachnida/ Insects/ Nematoda/ Parasites/ Plant Diseases/ Plant Diseases/ Viruses/ Environmental Pollution/ Plant Diseases/ Weather/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Trees/ Wood/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Mollusca/ Insects/ Arachnida/ Anatomy, Comparative/ Animal/ Helminths/Physiology/ Physiology, Comparative/ Pathology/ Anatomy, Comparative/ Animal/ Mollusca/Physiology/ Physiology, Comparative/ Pathology/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Plant Viruses/ Bacteria/ Plants/ Fungi/ Plants/ Nematoda/ Mollusca/ Insects/ Arthropods

Dubois, K. P. (1961). Potentiation of the Toxicity of Organophosphorus Compounds. *Adv.Pest Control Res.* 4: 117-151.  
Chem Codes: EcoReference No.: 72428  
Chemical of Concern: DZ,MLN Rejection Code: REFS CHECKED/REVIEW.

Dubrovsky, N. M., Kratzer, C. R., Panshin, S. Y. , Gronberg, J. M., and Kuivila, K. M. (1998). PESTICIDE TRANSPORT IN THE SAN JOAQUIN RIVER WATERSHED. *215th American Chemical Society National Meeting, Dallas, Texas, Usa, March 29-April 2, 1998. Abstracts of Papers American Chemical Society* 215 : Agro 42.  
Chem Codes: SZ,MTL Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT PESTICIDE TRANSPORT SIMAZINE HERBICIDE METOLACHLOR DACTHAL EPTC TRIFLURALIN ATRAZINE DIURON DIAZINON INSECTICIDE CHLORPYRIFOS PESTICIDES FRESHWATER ECOLOGY WATERSHED SAN JOAQUIN RIVER CALIFORNIA USA  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Pest Control

DUBROVSKY NM, KRATZER CR, PANSHIN SY, GRONBERG JM, and KUIVILA KM (1998). PESTICIDE TRANSPORT IN THE SAN JOAQUIN RIVER WATERSHED. *215TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, DALLAS, TEXAS, USA, MARCH 29-APRIL 2, 1998. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 215* AGRO 42.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT PESTICIDE TRANSPORT SIMAZINE HERBICIDE METOLACHLOR DACTHAL EPTC TRIFLURALIN ATRAZINE DIURON DIAZINON INSECTICIDE CHLORPYRIFOS PESTICIDES FRESHWATER ECOLOGY WATERSHED SAN JOAQUIN RIVER CALIFORNIA USA Congresses/ Biology/ Ecology/ Biochemistry/ Herbicides/ Pest Control/ Pesticides

DUKE JA (1992). BITING THE BIOCIDE BULLET. *JAMES, L. F., ET AL. (ED.). POISONOUS PLANTS; THIRD INTERNATIONAL SYMPOSIUM, LOGAN, UTAH, USA, 1988. XV+661P. IOWA STATE UNIVERSITY PRESS: AMES, IOWA, USA. ILLUS. MAPS. ISBN 0-8138-1241-0.; 0 (0). 1992. 474-478.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ORIGANUM-VULGARE NATURAL PESTICIDES SYNTHETIC PESTICIDE RESIDUES TOXICOLOGY Congresses/ Biology/ Biochemistry/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biophysics/ Plants/Chemistry/ Herbicides/ Pest Control/ Pesticides/ Plants

Duperray, Florence, Jezequel, Didier, Ghazi, Alexandre, Letellier, Lucienne, and Shechter, Emanuel (1992). Excretion of glutamate from Corynebacterium glutamicum triggered by amine surfactants. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1103: 250-258.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Corynebacterium glutamicuum is used for the industrial production of glutamate. Excretion of the amino acid may be induced by various means. We have analyzed the characteristics of glutamate excretion induced by two amine surfactants, dodecylammonium acetate (DA) and dodecyltrimethylammonium bromide (DTA). Addition of these surfactants induced an immediate efflux of internal glutamate. It also induced a perturbation of the energetic parameters of the cell (decrease of , decrease of the internal ATP concentration). The efflux was not the result of these perturbations: glutamate is taken up by the cells via an ATP-dependent unidirectional active transport system and no efflux took place as a consequence of an artificial decrease of the energetic parameters. In addition, amine surfactants also induced an excretion of other species, in particular potassium. We have tested the possibility that the effluxes result from a permeabilization of the lipid bilayer by analyzing the interactions between the surfactants and liposomes. Amine surfactant/ Glutamate efflux/ Energetics/ Liposome/ Membrane permeabilization/ (C. glutamicum)

DURHAM JJ, OGATA, J., NAKAJIMA, S., HAGIWARA, Y., and SHIBAMOTO, T. (1999). Degradation of organophosphorus pesticides in aqueous extracts of young green barley leaves (Hordeum vulgare L). *JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE; 79* 1311-1314.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The degradation of the organophosphorus pesticides malathion, chlorpyrifos, guthion, diazinon, methidathion and parathion in an aqueous extract of young green barley leaves (Hordeum vulgare L) was monitored by gas chromatography. Aqueous solutions of various amounts of freeze-dried young barley leaves containing 5.75 mg l-1 of malathion were incubated at 37 ęC and pH 7.4 over prolonged time periods. Over 95% of the malathion degraded in 4 h in a 3% (30 g l-1) solution of young green barley leave thion (23%) showed lesser degrees of degradation. Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Biophysics/ Plants/Chemistry/ Herbicides/ Pest Control/ Pesticides/ Grasses

Dusbabek, F., Rupes, V., Simek, P., and Zahradnickova, H. (1997). Enhancement of Permethrin Efficacy in Acaricide-Attractant Mixtures for Control of the Fowl Tick Argas persicus (Acari: Argasidae). *Exp.Appl.Acarol.* 21: 293-305.

EcoReference No.: 64699  
Chemical of Concern: PMR,PPX,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ).

Dutt, N. and Guha, R. S. ( 1988). Toxicity of Few Organophosphorus Insecticides to Fingerlings of Bound Water Fishes, Cyprinus carpio (Linn.) and Tilapia mossambica Peters. *Indian J.Entomol.* 50: 403-421.

EcoReference No.: 45084  
Chemical of Concern: CPY,DMT,DZ,MLN,MP,PHSL,FNT,FNTH,EPRN,DDVP,PPHD; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Dutta, H. M., Munshi, J. S. D., Ray, P. K., Singh, N. K., and Motz, L. (1994). Normal and Diazinon Exposed Gill Structure Changes in Bluegills, Lepomis macrochirus: A Scanning Electron Microscopic Study. *J.Morphol.* 220: 343-344.  
Chem Codes: EcoReference No.: 85765  
Chemical of Concern: DZ Rejection Code: ABSTRACT.

Dutta, H. M., Richmonds, C. R., and Zeno, T. (1993). Effects of Diazinon on the Gills of Bluegill Sunfish Lepomis macrochirus. *J.Environ.Pathol.Toxicol.Oncol.* 12: 219-227 .

EcoReference No.: 4968  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(DZ).

Dutta, H. M., Zeno, T., and Richmonds, C. R. (1992). Toxic Action of Diazinon on the Gills of Bluegill Sunfish, Lepomis macrochirus. *Ohio J.Sci.* 92: 9 (ABS).

EcoReference No.: 7207  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ABSTRACT.

Dwyer, F. J., Hardesty, D. K., Henke, C. E., Ingersoll, C. G., Whites, D. W., Mount, D. R., and Bridges, C. M. (1999). Assessing Contaminant Sensitivity of Endangered and Threatened Species: Effluent Toxicity Tests. *EPA 600/R-99/099, U.S.EPA, Washington, D.C.* 9 p.

EcoReference No.: 56162  
Chemical of Concern: CBL,CuS,NYP,PCP,PRM,NH,DZ; Habitat: A; Effect Codes: GRO,REP,MOR; Rejection Code: OK(CBL,NH),NO MIXTURE(CuS,PCP,NYP,PRM),NO COC(DZ).

Dyer, S. D., Belanger, S. E., and Carr, G. J. (1997). An Initial Evaluation of the Use of Euro/North American Fish Species for Tropical Effects Assessments. *Chemosphere* 35: 2767-2781.  
Chem Codes: Chemical of Concern: Cd,DZ Rejection Code: MODELING/NO TOX DATA.

DYER SD, DICKSON KL, and ZIMMERMAN EG (1991). STRESS PROTEINS POTENTIAL INDICATORS OF GENERAL AND TOXICANT SPECIFIC STRESS. *201ST ACS NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, ATLANTA, GEORGIA, USA, APRIL 14-19, 1991. ABSTR PAP AM CHEM SOC; 201* AGRO 76.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT PIMEPHALES-PROMELAS HEAT ARSENITE CHROMATE LINDANE DIAZINON BRAIN GILL MUSCLE Congresses/ Biology/ Amino Acids/ Peptides/ Proteins/ Heat/ Heating/ Amino Acids/Metabolism/ Peptides/Metabolism/ Proteins/Metabolism/ Respiratory Function Tests/ Respiratory System/Physiology/ Respiratory System/Metabolism/ Muscles/Physiology/ Muscles/Metabolism/ Nervous System/Physiology/ Nervous System/Metabolism/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Fishes

Dynamac Corporation (1988). Results of the Locust Pesticide Testing Trials in Sudan. Technical Report. *USAID Contract No.AFR-0517-C-00-7035-00,Dynamac Corp., Rockville, MD* 50 p.

EcoReference No.: 81907  
Chemical of Concern: LCYT,TLM,CBL,BDC,CPY,DZ,FNT,MLN; Habitat: T; Effect Codes: MOR,ACC,POP; Rejection Code: NO ENDPOINT(DZ).

Earl, F. L., Melveger, B. E., Reinwall, J. E., Bierbower, G. W., and Curtis, J. M. (1971). Diazinon Toxicity--Comparative Studies in Dogs and Miniature Swine. *Toxicol.Appl.Pharmacol.* 18: 285-295.

EcoReference No.: 36503  
Chemical of Concern: DZ; Habitat: T; Effect Codes: MOR,BCM,PHY; Rejection Code: NO ENDPOINT(DZ).

Eastman, Simon J., Wilschut, Jan, Cullis, Pieter R., and Hope, Michael J. (1989). Intervesicular exchange of lipids with weak acid and weak base characteristics: influence of transmembrane pH gradients. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 981: 178-184.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Transmembrane pH gradients have previously been shown to induce an asymmetric transmembrane distribution of simple lipids that exhibit weak acid or basic characteristics (Hope, M.J. and Cullis, P.R. (1987) J. Biol. Chem. 262, 4360-4366). In the present study we have examined the influence of proton gradients on the inter-vesicular exchange of stearylamine and oleic acid. We show that vesicles containing stearylamine immediately aggregate with vesicles containing phosphatidylserine and that disaggregation occurs subsequently as stearylamine equilibrates between the two vesicle populations. Despite visible flocculation during the aggregation phase, vesicle integrity is maintained. Stearylamine is the only lipid to exchange, fusion does not occur and vesicles are able to maintain a proton gradient. When stearylamine is sequestered to the inner monolayer in response to a transmembrane pH gradient (inside acidic) aggregation is not observed and diffusion of stearylamine to acceptor vesicles is greatly reduced. The ability of [Delta]pH-dependent lipid asymmetry to modulate lipid exchange is also demonstrated for fatty acids. Oleic acid can be induced to transfer from one population of vesicles to another by maintaining a basic interior pH in the acceptor vesicles. Moreover, it is shown that the same acceptor vesicles are capable of depleting serum albumin of bound fatty acid. These results are discussed with respect to the mechanism and modulation of lipid flow between membranes both in vitro and in vivo. Intervesicular exchange/ Lipid exchange/ pH gradient

Ebbert, J. C., Embrey, S. S., Black, R. W., Tesoriero, A. J., Haggland, A. L., Puget Sound Action Team, Olympia, WA (USA)., and Droscher, T. (ed) (2002). Summary of major findings from the U.S. Geological Survey National Water-Quality Assessment Program in the Puget Sound Basin.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: Agricultural pollution  
Descriptors: Urban runoff  
Descriptors: Groundwater pollution  
Descriptors: Pesticides  
Descriptors: Pollution dispersion  
Descriptors: Environment management  
Descriptors: Recreational waters  
Descriptors: Microbial contamination  
Descriptors: River water  
Descriptors: Water quality  
Descriptors: Environmental assessment  
Descriptors: Pollution surveys  
Descriptors: Nutrients (mineral)  
Descriptors: Nitrates  
Descriptors: Water temperature  
Descriptors: Aquatic insects  
Descriptors: Species diversity  
Descriptors: Insecticides  
Descriptors: Phosphorus  
Descriptors: Pathogenic bacteria  
Descriptors: Biological pollutants  
Descriptors: Stream Pollution  
Descriptors: Water Pollution  
Descriptors: Rivers  
Descriptors: Aquatic Life  
Descriptors: Diazinon  
Descriptors: Organic Compounds  
Descriptors: Land Use  
Descriptors: Recreation  
Descriptors: Contamination  
Descriptors: USA, Washington, Puget Sound Basin  
Abstract: Small streams and large rivers in the Puget Sound Basin met most Federal and State water-quality guidelines, but there were exceptions. The insecticide diazinon, commonly used by homeowners on lawns and gardens, was frequently detected in urban streams at concentrations that exceeded guidelines for protecting aquatic life, and levels of E. coli bacteria were above USEPA criteria for moderate water-contact recreation in 15 of 31 small streams. Concentrations of total phosphorus were above the USEPA desired goal of 0.1 milligram per liter to prevent excessive plant growth in large rivers and small streams in agricultural and urban areas, but not in undeveloped areas. Streams in urban and agricultural areas were also warmer and supported less diverse populations of insects than streams in forested areas. With some exceptions, ground water was of high quality. However, as indicated by elevated concentrations of nitrate and the presence of pesticides and other organic compounds, shallow ground water in both urban and agricultural settings is vulnerable to contamination. Deeper ground water is less affected by land-use activities. For example, pesticides were not detected in wells deeper than 120 feet, the depth below which most large public supply wells withdraw water.  
Conference: 5. Puget Sound Research Conference, Bellevue, WA (USA), 12-14 Feb 2001  
Language: English  
Publication Type: Book Monograph  
Publication Type: Summary  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: SW 3020 Sources and fate of pollution  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Eberle, D. O. and Novak, D. (1969). Fate of Diazinon in Field-Sprayed Agricultural Crops, Soil, and Olive Oil. *J.AOAC (Assoc.Off.Anal.Chem.) Int.* 52: 1067-1075.

EcoReference No.: 61542  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(DZ).

EDELSON JV and PETERS, M. (1997). CONTROL OF LEPIDOPTEROUS PESTS ON COLLARDS 1996. *SAXENA,* C. R. ARTHROPOD MANAGEMENT TESTS, VOL. 22. IV+469P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA. ISBN 0-938522-61-2.; 22: 119.  
Chem Codes: Chemical of Concern: FPN Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER BRASSICA-OLERACEA PLUTELLA-XYLOSTELLA TRICHOPLUSIA-NI COLLARDS DIAMONDBACK MOTH CABBAGE LOOPER VEGETABLE CROP CULTIVAR-FLASH AGRICULTURAL PEST HORTICULTURE PEST MANAGEMENT ARTHROPOD MANAGEMENT TEST CARBARYL INSECTICIDE PROVADO FULFILL THIODICARB DIMETHOATE ENDOSULFAN METHOXYCHLOR CRYOLITE PERMETHRIN DIAZINON ENCAPSIDE AGREE CHLORPYRIFOS LAMBDA-CYHALOTHRIN FIPRONIL LANE OKLAHOMA USA MH - VEGETABLES Arachnida/ Insects/ Nematoda/ Parasites/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants/ Lepidoptera

Edery, H., Porath, Gila, and Zahavy, J. (1966). Passage of 2-hydroxyiminomethyl-N-methylpyridinium methanesulfonate to the fetus and cerebral spaces. *Toxicology and Applied Pharmacology* 9: 341-346.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
The passage of 2-hydroxyiminomethyl-N-methylpyridinium methanesulfonate (P2S) to the perfused cerebral spaces of pregnant does and to their fetuses has been studied.The oxime did not penetrate into the fetus after intravenous injection of 30 mg/kg though it did after 60 mg/kg or continuous slow infusion of 2.5 mg/kg/min during 45 minutes. In all cases P2S was found in the perfusate of cerebral spaces.In animals intoxicated with tetraethyl pyrophosphate, the maternal blood cholinesterase was rapidly reactivated after injection of 30 mg/kg of P2S, but both brain and blood cholinesterase activity of the fetuses stayed reduced. Administration of 60 mg/kg reactivated the enzyme also in fetuses.It is suggested that in cases of organophosphate poisoning in pregnant females, high doses of P2S should be administered in order to reach the fetus. Continuous slow infusion of the oxime appears to be the method of choice, as it also maintains a satisfactory constant plasma level.

Edge, V. E. and Casimir, M. (1976). Toxicity of Insecticides to Adult Australian Plague Locust, Chortoicetes terminifera (Orthoptera: Acrididae). *J.Aust.Entomol.Soc.* 14: 321-326.

EcoReference No.: 70906  
Chemical of Concern: DZ,CPY,CBL,RSM; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(RSM,DZ).

Edson, E. F. and Noakes, D. N. (1960). The Comparative Toxicity of Six Organophosphorus Insecticides in the Rat. *Toxicol.Appl.Pharmacol.* 2: 523-539.

EcoReference No.: 85498  
Chemical of Concern: DZ,PRN,DMT; Habitat: T; Effect Codes: MOR,BCM,CEL; Rejection Code: NO CONTROL,ENDPOINT(DZ).

Edwards, C. A. (1978). Pesticides and the Micro-fauna of Soil and Water. *In: I.R.Hill and S.J.L.Wright (Eds.), Pesticide Microbiology: Microbiological Aspects of Pesticide Behaviour in the Environment, Chapter 9, Acad.Press, London* 603, 616-622.  
Chem Codes: EcoReference No.: 72142  
Chemical of Concern: AND,DDT,HPT,HCCH,DLD,DZ Rejection Code: REVIEW.

Edwards, C. A. (1988). The Use of Key Indicator Processes for Assessment of the Effects of Pesticides on Soil Indicators. *In: Brighton Crop Prot.Conf., Pests and Diseases - 1988, Lavenham Press Ptd., Lavenham, U.K.* 2: 739-746.

EcoReference No.: 71768  
Chemical of Concern: CBL,DZ; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Edwards, C. A., Edwards, W. M., and Shipitalo, M. J. ( EARTHWORM POPULATIONS UNDER CONSERVATION TILLAGE AND THEIR EFFECTS ON TRANSPORT OF PESTICIDES INTO GROUNDWATER. *The British Crop Protection Council. Brighton Crop Protection Conference: Pests and Diseases, Vols. 1, 2 and 3; International Conference, Brighton, England, Uk, November 23-26, 1992. Xxii+456p.(Vol. 1); Xxii+461p.(Vol. 2); Xxii+358p.(Vol. 3) British Crop Protection Council (Bcpc): Farnham, England, Uk. Isbn 0-948404-65-5.; 0 (0). 1992. 859-864.*  
Chem Codes: CBF ADC Rejection Code: FATE/EFFLUENT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LUMBRICUS-TERRESTRIS ALDICARB CARBOFURAN DIAZINON BURROWS ORGANIC MATERIAL MICROBES  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Soil Microbiology  
KEYWORDS: Soil Science-Fertility and Applied Studies (1970- )  
KEYWORDS: Pest Control  
KEYWORDS: Invertebrata  
KEYWORDS: Microorganisms-Unspecified  
KEYWORDS: Oligochaeta

EDWARDS CA, EDWARDS WM, and SHIPITALO MJ (1992). EARTHWORM POPULATIONS UNDER CONSERVATION TILLAGE AND THEIR EFFECTS ON TRANSPORT OF PESTICIDES INTO GROUNDWATER. *THE BRITISH CROP PROTECTION COUNCIL. BRIGHTON CROP PROTECTION CONFERENCE: PESTS AND DISEASES, VOLS. 1, 2 AND 3; INTERNATIONAL CONFERENCE, BRIGHTON, ENGLAND, UK, NOVEMBER 23-26, 1992. XXII+456P.(VOL. 1); XXII+461P.(VOL. 2); XXII+358P.(VOL. 3) BRITISH CROP PROTECTION COUNCIL (BCPC): FARNHAM, ENGLAND, UK. ISBN 0-948404-65-5.; 0 (0). 1992. 859-864.*  
Chem Codes: Chemical of Concern: MCPP1 Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LUMBRICUS-TERRESTRIS ALDICARB CARBOFURAN DIAZINON BURROWS ORGANIC MATERIAL MICROBES Congresses/ Biology/ Animals/ Ecology/ Biochemistry/ Soil Microbiology/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Annelida/Physiology/ Physiology, Comparative/ Pathology/ Microbiology/ Oligochaeta

EDWARDS CA, EDWARDS WM, and SHIPITALO MJ (1992). EARTHWORM POPULATIONS UNDER CONSERVATION TILLAGE AND THEIR EFFECTS ON TRANSPORT OF PESTICIDES INTO GROUNDWATER. *THE BRITISH CROP PROTECTION COUNCIL. BRIGHTON CROP PROTECTION CONFERENCE: PESTS AND DISEASES, VOLS. 1, 2 AND 3; INTERNATIONAL CONFERENCE, BRIGHTON, ENGLAND, UK, NOVEMBER 23-26, 1992. XXII+456P.(VOL. 1); XXII+461P.(VOL. 2); XXII+358P.(VOL. 3) BRITISH CROP PROTECTION COUNCIL (BCPC): FARNHAM, ENGLAND, UK. ISBN 0-948404-65-5.; 0 (0). 1992. 859-864.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LUMBRICUS-TERRESTRIS ALDICARB CARBOFURAN DIAZINON BURROWS ORGANIC MATERIAL MICROBES Congresses/ Biology/ Animals/ Ecology/ Biochemistry/ Soil Microbiology/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Annelida/Physiology/ Physiology, Comparative/ Pathology/ Microbiology/ Oligochaeta

Ehrenfreund, J. and Zbiral, E. (1972). Reaktionen polyvalenter jodverbindungen--III : Umwandlung von olefinen in [alpha]-azidocarbonylverbindungen mit hilfe von C6H5J(OAc)2---(CH3)3SiN3. *Tetrahedron* 28: 1697-1704.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ZusammenfassungWahrend das System Pb(OAc)4---(CH3)3SiN3 mit einfachen nucleophilen Olefinen meist Diazide und Azid-acetoxyverbindungen liefert2 und nur im Falle der Steroidolefine [alpha]-Azidoketone,3 reagiert das Titelreagens sowohl mit nucleophilen als auch mit manchen elektrophilen Doppelbindungen in ubersichtlicher Weise unter Bildung von [alpha]-Azidocarbonylverbindungen. Hingegen werden keine Azidacetoxy-verbindungen gebildet. Wie die Verbindung 14 zeigt, scheint eine Aktivierung durch einen Arylrest fur das Gelingen der Reaktion nicht nicht erforderlich zu sein. Ein polarer Ablauf der Reaktion wird fur unwahrscheinlich gehalten.

Ehrenpreis, Seymour (1960). Isolation and identification of the acetylcholine receptor protein of electric tissue.  *Biochimica et Biophysica Acta* 44: 561-577.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The isolation and identification of the acetylcholine receptor protein has been achieved in the following way: 1. 1. The proteins of electric tissue of Electrophorus electricus have been extracted and fractionated with ammonium sulfate.2. 2. Applying equilibrium dialysis under strict control of pH and ionic strength, a protein component has been found which binds acetylcholine and related tertiary and quaternary nitrogen derivatives such as d-tubocurarine (curare), atropine, procaine, Prostigmine and benzoylcholine. The binding strength of these compounds varies greatly.3. 3. This protein forms a precipitate with curare. The latter compound readily precipitates a variety of macromolecules such as nucleic acids, acidic polysaccharides, and others. But whereas these complexes are readily solublized by dialysis at neutral pH, the receptor protein-curare precipitate can only be solublized by raising the pH to 9. Using curare precipitation, the receptor protein has been isolated in electrophoretically homogeneous form.4. 4. Identification with the cellular acetylcholine receptor has been achieved by the demonstration of a striking parallelism between the binding strength of the various compounds tested in solution and their effectiveness in affecting electrical activity of the isolated single electroplax prepared from electric tissue. Other macromolecules tested showed binding features distinctly different from those of the receptor protein.

Eijsackers, H. (1998). Earthworms In Environmental Research Still A Promising Tool. *Selected Papers From The Fifth International Symposium On Earthworm Ecology, Columbus, Ohio, Usa, July 1994.Vi+389p.Crc Press, Inc.: Boca Raton, Florida, Usa; London, England, Uk.Isbn 1-884015-74-3.* 295-323.  
Chem Codes: EcoReference No.: 48930  
Chemical of Concern: PCP,DZ Rejection Code: REFS CHECKED/REVIEW.

Eisler, R. (1986). Diazinon hazards to fish, wildlife, and invertebrates: A synoptic review.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
Descriptors: Insecticides  
Descriptors: Risks  
Descriptors: Toxicity  
Descriptors: Biota  
Abstract: Ecological and toxicological aspects of the organophosphorus pesticide, were reviewed with special reference to fishery and wildlife resources. Subtopics include: environmental chemistry; acute and chronic toxicity; sublethal effects; and recommendations for the protection of sensitive species of wildlife and aquatic organisms (DBO).  
NTIS Order No.: PB86-235074/GAR.  
Other numbers: BIOLOGICAL-85(1.9),  
Language: English  
English  
Publication Type: Report  
Environmental Regime: Marine; Brackish; Freshwater  
Classification: Q5 01501 General  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Eisler, R. (1986). Diazinon Hazards to Fish, Wildlife, and Invertebrates: A Synoptic Review. *Fish Rev 31(4):86-005253 / U.S.Fish Wildl.Serv.Biol.Rep.85(1.9)* 37 p.  
Chem Codes: EcoReference No.: 62872  
Chemical of Concern: DZ Rejection Code: REVIEW.

Eitzer, B. D. and Chevalier, A. (1999). Landscape Care Pesticide Residues In Residential Drinking Water Wells. 62: 420-427.  
Chem Codes: Chemical of Concern: DMB, CHLOR Rejection Code: SURVEY.  
  
biosis copyright: biol abs. rrm research article pollution toxicology landscape care pesticide residues environmental contaminant toxin migration residential drinking water wells freshwater ecology dicamba residues herbicide 2 4-d mcpa 2 4-dp mcpp trifluralin dacthal carbaryl insecticide pesticides diazinon lindane chlorpyrifos malathion dicofol isofenfos dde ddt methoxychlor chlordane connecticut usa ecology/ environmental biology-general/ methods/ biochemical studies-general/ toxicology-general/ methods and experimental/ public health: environmental health-air, water and soil pollution

EITZER BD and CHEVALIER, A. (1999). Landscape care pesticide residues in residential drinking water wells. *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 62* 420-427.  
Chem Codes: Chemical of Concern: DPP1 Rejection Code: EFFLUENT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE POLLUTION TOXICOLOGY LANDSCAPE CARE PESTICIDE RESIDUES ENVIRONMENTAL CONTAMINANT TOXIN MIGRATION RESIDENTIAL DRINKING WATER WELLS FRESHWATER ECOLOGY DICAMBA RESIDUES HERBICIDE 2 4-D MCPA 2 4-DP MCPP TRIFLURALIN DACTHAL CARBARYL INSECTICIDE PESTICIDES DIAZINON LINDANE CHLORPYRIFOS MALATHION DICOFOL ISOFENFOS DDE DDT METHOXYCHLOR CHLORDANE CONNECTICUT USA Ecology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Air Pollution/ Soil Pollutants/ Water Pollution

EITZER BD and CHEVALIER, A. (1999). Landscape care pesticide residues in residential drinking water wells. *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 62* 420-427.  
Chem Codes: Chemical of Concern: MCPP1 Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE POLLUTION TOXICOLOGY LANDSCAPE CARE PESTICIDE RESIDUES ENVIRONMENTAL CONTAMINANT TOXIN MIGRATION RESIDENTIAL DRINKING WATER WELLS FRESHWATER ECOLOGY DICAMBA RESIDUES HERBICIDE 2 4-D MCPA 2 4-DP MCPP TRIFLURALIN DACTHAL CARBARYL INSECTICIDE PESTICIDES DIAZINON LINDANE CHLORPYRIFOS MALATHION DICOFOL ISOFENFOS DDE DDT METHOXYCHLOR CHLORDANE CONNECTICUT USA Ecology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Air Pollution/ Soil Pollutants/ Water Pollution

EITZER BD and CHEVALIER, A. (1999). Landscape care pesticide residues in residential drinking water wells. *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 62* 420-427.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE POLLUTION TOXICOLOGY LANDSCAPE CARE PESTICIDE RESIDUES ENVIRONMENTAL CONTAMINANT TOXIN MIGRATION RESIDENTIAL DRINKING WATER WELLS FRESHWATER ECOLOGY DICAMBA RESIDUES HERBICIDE 2 4-D MCPA 2 4-DP MCPP TRIFLURALIN DACTHAL CARBARYL INSECTICIDE PESTICIDES DIAZINON LINDANE CHLORPYRIFOS MALATHION DICOFOL ISOFENFOS DDE DDT METHOXYCHLOR CHLORDANE CONNECTICUT USA Ecology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Air Pollution/ Soil Pollutants/ Water Pollution

El Baraka, Mohamed, Pecheur, Eve I., Wallach, Donald F. H., and Philippot, Jean R. (1996). Non-phospholipid fusogenic liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1280: 107-114.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have demonstrated the capacity of non-phospholipid liposomes composed primarily of dioxyethylene acyl ethers and cholesterol to fuse with membranes composed primarily of phospholipid. Phase-contrast microscopy, freeze-fracture electron microscopy and a macromolecular probe indicate that these non-phospholipid liposomes can fuse with the plasma membranes of erythrocytes and fibroblasts. Furthermore, fluorescence probe experiments have demonstrated fusion between phosphatidylcholine liposomes and non-phospholipid liposomes. Mixing of internal contents was shown by a terbium/dipicolinate assay. Mixing of membrane lipid components was demonstrated by measuring (i) fluorescence resonance energy transfer between N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethanolamine and N-(lissamine rhodamine B sulfonyl)phosphatidylethanolamine, after phosphatidylcholine liposomes were mixed with non-phospholipid liposomes, and (ii) reduced concentration quenching of rhodaminephosphatidylethanolamine and octadecylrhodamine incorporated into phosphatidylcholine liposomes after mixing with the non-phospholipid liposomes. The degree of apparent fusion reported by the different probe techniques ranged from 25% to 64%. Fusogenic lipid/ Liposome-cell fusion

El Elaimy, I. A., El Saadany, M. M., Gabr, S. A., and Sakr, S. A. (1990). Pesticide-Poisoning to Fresh Water Teleost VIII. Ultrastructural Alterations of the Intestine of Tilapia nilotica Under Stress of Exposure to. *J.Egypt.Ger.Soc.Zool.* 1: 223-236.

EcoReference No.: 7050  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(DZ).

El-Refai, A. and Mowafy, M. M. (1973). Propanil Hydrolysis: Inhibition in Rice Plants by Diazinon and Carbaryl Translocated from the Soil. *J.AOAC (Assoc.Off.Anal.Chem.) Int.* 56: 1178-1182.

EcoReference No.: 25479  
Chemical of Concern: CBL,DZ,PPN; Habitat: T; Effect Codes: BCM,POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Ellena, Jeffrey F., Archer, Sharon J., Dominey, Raymond N., Hill, Brian D., and Cafiso, David S. (1988). Localizing the nitroxide group of fatty acid and voltage-sensitive spin-labels in phospholipid bilayers. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 940: 63-70.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The intramembrane locations of several spin labeled probes in small egg phosphatidylcholine (egg PC) vesicles were determined from the enhancement of the 13C nuclear spin lattice relaxation of the membrane phospholipid. Electron paramagnetic resonance (EPR) spectroscopy was also used to measure the relative environmental polarities of the spin labels in egg PC vesicles, ethanol and aqueous solution. The binding location of the spin label group was determined for a pair of hydrophobic ion spin labels, a pair of long chain amphiphiles, and three stearates containing doxyl groups at the 5, 10 and 16 positions. The nuclear relaxation results indicate that the spin label groups on the stearates are located nearer to the membrane exterior than the analogous positions of the unlabeled phospholipid acyl chains. In addition, the spin label groups of the hydrophobic ions and long chain amphiphiles are located near the acyl chain methylene immediately adjacent to the carboxyl group. The relative polarities, determined by the EPR technique, are consistent with the nuclear relaxation results. This information, when combined with information on their electrical properties, allows for an assessment of the conformation and position of these voltage sensitive probes in membranes. Phospholipid bilayer/ Spin label/ ESR/ Amphiphile/ (Hen egg)

ELLENSON WD, MUKERJEE, S., STEVENS RK, WILLIS RD, SHADWICK DS, SOMERVILLE MC, and LEWIS RG (1997). An environmental scoping study in the Lower Rio Grade Valley of Texas: II. Assessment of transboundary pollution transport and other activities by air quality monitoring. *ENVIRONMENT INTERNATIONAL; 23* 643-655.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. This paper examines ambient air monitoring results conducted as part of a multi-media study known as the Lower Rio Grande Valley Environmental Scoping Study. Monitoring was performed at a "central" and a "border" site in the Brownsville, TX, air shed in the spring and summer of 1993. This study provided a preliminary assessment of transboundary pollution transport and possible anthropogenic activities in the Lower Rio Grande Valley. Overall (compared to other studies), low or comparable concentrations of trace elements, acidic gases, volatile organic compounds (VOCs), pesticides, and polycyclic aromatic hydrocarbons (PAHs) were found. Analysis of airborne particulate matter showed elevated coarse mass concentrations; also, the fine and coarse fractions were dominated by crustal elements associated with resuspended soil and dust. In addition, high fine- and coarse-particle chlorine levels, as well as silicates enriched with sulfur, were associated with sea salt from the Climate/ Ecology/ Meteorological Factors/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Elliott, M. (1980). The Future for Insecticides. *In: M.Locke and D.S.Smith (Eds.), Insect Biology in the Future, Academic Press Inc., New York, NY* 879-904.  
Chem Codes: EcoReference No.: 70599  
Chemical of Concern: RSM,DZ,PRN,DLD,AND,END,ES,CBL,DDT Rejection Code: REFS CHECKED/REVIEW.

Elsirafy, A. A., Ghanem, A. A., Eid, A. E., and Eldakroory, S. A. (2000). Chronological study of diazinon in putrefied viscera of rats using GC/MS, GC/EC and TLC. *Forensic Science International* 109: 147-157.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
A qualitative and qualitative weekly study of diazinon in experimental rats after a lethal dose is described. GC/MS and TLC were used for qualitative, and GC/EC for quantitative analysis. The replicate content of diazinon in stomach and intestine (S/I) revealed a high rate of decrease during the first month. The liver (L) content fluctuates through a general trend of decrease. Immediate post-mortem content of 34.5 mg in summer and 94 in winter was found in S/L samples, while it was 0.79 and 0.63 respectively for L-samples. The respective remaining amount after 2 months was 1.16, 4.40 (S/I), 0.61 and 0.66 mg (L). A round figure of 4% remains in S/L samples. The chronological plots indicate the possibility of detection at longer periods. Interpretation of data is outlined regarding relative contents of organs and the factors affecting persistence of diazinon in putrefied viscera. Toxicology/ Forensic/ Analysis/ Diazinon/ Putrefaction/ Persistence of pesticides/ GC/MS/ GC/EC/ TLC

Endo, S., Mintarsih, T. H., and Kazano, H. (1985). Disappearance of Diazinon, Isoxathion and Cartap Applied to Rice Plant. *Proc.Assoc.Plant Prot.Kyushu* 31: 115-118 (JPN) (ENG ABS).  
Chem Codes: EcoReference No.: 63860  
Chemical of Concern: DZ Rejection Code: NON-ENGLISH.

ERDMANN, F., BROSE, C., and SCHUETZ, H. (1990). A TLC screening program for 170 commonly used pesticide using the corrected Rf value (Rcf value). *INT J LEG MED; 104* 25-32.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. This article reports TLC data (corrected Rf values; Rfc values) of 170 commonly used pesticides which are regularly encountered in toxicological analysis. Silica gel was used as the stationary phase and three binary systems were chosen as solvents. Forensic Medicine/ Biology/ Biophysics/Methods/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides

Erzen, Ida and Brzin, Miro (1978). Cholinergic mechanisms in hydra. *Comparative Biochemistry and Physiology Part C: Comparative Pharmacology* 59: 39-43.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
1. In the homogenate from hydra tissue an enzyme was demonstrated which hydrolyses acetylcholine and butyrylcholine.2. By the usual criteria this enzyme does not belong to the cholinesterase group since its activity is not influenced by cholinesterase inhibitors except TEPP.3. The localization of this enzyme is not reliably proved by cytochemical and histochemical methods.4. No ChAT activity can be detected above 4.16 x 10-3 pmoles/[mu]g wet wt per hr.5. Pharmacological experiments suggest the presence of cholinergic and adrenergic elements which influence the movements of hydra.

Esposito, Raymond G. and Fletcher, Alison M. (1961). The relationship of pteridine biosynthesis to the action of copper 8-hydroxyquinolate on fungal spores.  *Archives of Biochemistry and Biophysics* 93: 369-376.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
A study has been made of the mechanism of inhibition of fungal spore germination by copper-8-hydroxyquinolate (copper oxinate). It has been found that pteridines and their possible precursors can antagonize the inhibitory action. Guanine, xanthine. and 2, 4, 5-triamino-6-oxypyrimidine are active antagonists of copper oxinate. Adenine and 4, 5-diamino-2, 6 dioxypyrimidine are inactive. Riboflavin and several pteridines were active. Copper oxinate and 4-aminofolic acid act synergistically in the inhibition of germination. It is proposed that copper oxinate can interfere with pteridine biosynthesis by interfering with the copper-mediated conversion of a purine precursor to 4, 5-diaminopyrimidine.

ETO, M. (1997). Functions of phosphorus moiety in agrochemical molecules. *BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY; 61* 1-11.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SPECIES.  
  
BIOSIS COPYRIGHT: BIOL ABS. Organophosphorus (OP) compounds have a great variety of biological activities. The functions of the phosphorus moiety in OP agrochemicals may be classified as follows; 1) the principal of phosphorylation; 2) the leaving group in alkylation; 3) a building block to maintain the shape or physical properties of an active molecule; 4) the analog of a carboxyl group or its tetrahedral transition state in enzyme reactions; 5) a moiety of anti-metabolites mimicking physiological phosphates; 6) a carrier or protective group making a prodrug that produces an active principle after biotransformation; and 7) other unknown functions including as stressors. To have a definite, selective biological activity, the OP molecule should have a specified structure suitable in biodynamic, biokinetic, and environmental aspects. Biochemistry/ Biophysics/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides

Eto, M., Seifert, J., Engel, J. L., and Casida, J. E. (1980). Organophosphorus and Methylcarbamate Teratogens: Structural Requirements for Inducing Embryonic Abnormalities in Chickens and Kynurenine Formamidase Inhibition in Mouse Liver. *Toxicol.Appl.Pharmacol.* 54: 20-30.

EcoReference No.: 77201  
Chemical of Concern: CBL,DZ; Habitat: T; Effect Codes: PHY,GRO; Rejection Code: NO ENDPOINT(DZ,CBL).

Etxeberria, E., Gonza(acute)lez, P., Tomlinson, P., and Pozueta-Romero, J. (2005). Existence of two parallel mechanisms for glucose uptake in heterotrophic plant cells. *Journal of Experimental Botany, 56 (417) pp. 1905-1912, 2005*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0022-0957  
Descriptors: Cytoplasts  
Descriptors: Endocytosis  
Descriptors: Hexose symporter  
Descriptors: Photo-assimilate transport  
Descriptors: Vacuole  
Abstract: The implied existence of two mechanisms for glucose uptake into heterotrophic plant cells was investigated using the fluorescent glucose derivative 2-NBDG (2-(N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)-2- deoxyglucose), two membrane impermeable fluorescent markers (3000 mol. wt. dextran-Texas Red (d-TR) and Alexa-488), hexose carrier and endocytic inhibitors (phloridzin and wortmannin-A, respectively), and fluorescent and confocal microscopy. Both phloridzin and wortmannin-A significantly reduced the uptake of 2-NBDG into sycamore cultured cells, which was confirmed by fluorescent microscopy. Phloridzin prevented 2-NBDG uptake exclusively into the cytosol, whereas the wortmannin-A effect was more general, with 2-NBDG uptake into the vacuole being the more affected. Simultaneous incubation of cells in the membrane-impermeable fluorescent probes Alexa-488 and d-TR for 24 h resulted in colocalization of the labelling in the central vacuole and other endosomal compartments. Cytoplasts, cells devoid of vacuoles, were instrumental in demonstrating the transport of 2-NBDG by separate uptake mechanisms. In cytoplasts incubated simultaneously in 2-NBDG and d-TR for 2 h, a green fluorescent cytosol was indicative of transport of hexoses across the plasmalemma, while the co-localization of 2-NBDG and d-TR in internal vesicles demonstrated transport via an endocytic system. The absence of vesicles when cytoplasts were pre-incubated in wortmannin-A authenticated the endocytic vesicular nature of the co-shared 2-NBDG and d-TR fluorescent structures. In summary, uptake of 2-NBDG occurs by two separate mechanisms: (i) a plasmalemma-bound carrier-mediated system that facilitates 2-NBDG transport into the cytosol, and (ii) an endocytic system that transports most of 2-NBDG directly into the vacuole. (copyright) The Author [2005]. Published by Oxford University Press [on behalf of the Society for Experimental Biology]. All rights reserved.  
25 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United Kingdom  
Classification: 92.4.1 WATER AND NUTRIENTS: Nutrients  
Classification: 92.4.2 WATER AND NUTRIENTS: Translocation  
Subfile: Plant Science

Eulitz, E. G. (1986). Initial Experiments in the Control of False Wireworm (Tenebrionidae) on Tobacco Transplants. *Phytophylactica* 18: 115-119.

EcoReference No.: 74106  
Chemical of Concern: TLF,TVP,CBL,ACP,MOM,ES,DZ,CPY; Habitat: T; Effect Codes: MOR,POP,BEH; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ).

Evans, J. R., Edwards, D. R. \*., Workman, S. R., and Williams, R. M. (1998). Response of runoff diazinon concentration to formulation and post-application irrigation. *Transactions of the ASAE [Trans. ASAE]. Vol. 41, no. 5, pp. 1323-1329. Sep-Oct 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0001-2351  
Descriptors: Diazinon  
Descriptors: Insecticides  
Descriptors: Pesticides  
Descriptors: Urban areas  
Descriptors: Irrigation  
Descriptors: Runoff  
Descriptors: Rainfall  
Descriptors: Immunoassays  
Descriptors: Water pollution control  
Descriptors: Agricultural runoff  
Descriptors: Pollution monitoring  
Descriptors: Festuca arundinacea  
Abstract: Pesticides used in urban environments can be transported in runoff to downstream waters and cause adverse environmental consequences. This experiment assessed the effects of post-application irrigation depth (0, 6.4, and 12.7 mm) and formulation (liquid and granular) on concentration and transport of diazinon (a pesticide commonly used for lawn insect control) in runoff from "tall" fescue (Festuca arundinacea Schreb.) plots. The post-application irrigation was applied using rainfall simulators immediately following diazinon application. The rainfall simulators were again used approximately 2 h after diazinon application to apply the equivalent of a heavy rainfall (64 mm/h for approximately 1.5 h) to generate runoff. Runoff was sampled and analyzed for diazinon using the enzyme-linked immuno-sorbent assay method. Post-application irrigation depth had no effect on diazinon concentration but increased diazinon mass transported off the plot by increasing plot runoff. Flow-weighted mean runoff diazinon concentration for the liquid formulation of diazinon was roughly double that of the granular formulation (0.59 vs 0.29 mg/L), attributed to the higher solubility of the liquid formulation relative to the granular formulation. The results indicate that post-application irrigation can increase runoff losses of diazinon for heavy rainfall occurring soon after application, but that these losses can be reduced by use of the granular formulation.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: P 5000 LAND POLLUTION  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Evans, J. R., Edwards, D. R., Workman, S. R., and Williams, R. M. (1998). Response of Runoff Diazinon Concentration to Formulation and Post-Application Irrigation. *Trans.ASAE (Am.Soc.Agric.Eng.)* 41: 1323-1329.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Evtugyn, G. A., Ivanov, A. N., Gogol, E. V., Marty, J. L., and Budnikov, H. C. (1999). Amperometric flow-through biosensor for the determination of cholinesterase inhibitors. *Analytica Chimica Acta* 385: 13-21.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
An amperometric flow-through biosensor based on epoxy-carbon electrode and butyrylcholinesterase immobilised on nylon, cellulose nitrate or white tracing paper has been developed and examined for the determination of reversible and irreversible inhibitors. The analytical characteristics of inhibitor determination depend on the hydrophobicity of the membrane material. Flow-through biosensor with various enzymatic membranes makes it possible to determine fluoride in the concentration range 1 x 10-4-25 x 10-4 mol l-1 and 3.5 x 10-5-1 x 10-2 mol l-1 when cholinesterase solution is used. The analytical characteristics of fluoride determination do not differ significantly from those obtained in batch conditions. For diazinon the immobilisation of cholinesterase results in the decrease of detection limits from 5 x 10-9 mol l-1 (native enzyme) to 4 x 10-9 mol l-1 (nylon membrane) and 1.5 x 10-9 mol l-1 (cellulose nitrate membrane). The influence of membrane material on analytical characteristics of FIA determination of inhibitors is due to the non-stationary distribution of reagents (fluoride) or sorptional preconcentration of the inhibitor (diazinon) in membrane. Amperometry/ Flow injection/ Cholinesterase/ Inhibitor detection

Evtugyn, G. A., Rizaeva, E. P., Stoikova, E. E., Latipova, V. Z., and Budnikov, H. C. (1997). The Application of Cholinesterase Potentiometric Biosensor for Preliminary Screening of the Toxicity of Waste Waters. *Electroanalysis* 9: 1124-1128.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Eytan, Gera D., Broza, Rachel, and Shalitin, Yechiel (1988). Gramicidin S and dodecylamine induce leakage and fusion of membranes at micromolar concentrations. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 937: 387-397.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effect of the antibiotic gramicidin S and the synthetic cationic amphipath dodecylamine on membranes was studied with large unilamellar vesicles containing phosphatidylcholine and varying concentrations of cardiolipin. Fusion of vesicles composed of equal amounts of the two phospholipids occurred with both drugs at concentrations lower than 10 [mu]M. Fusion was accompanied by leakage of the contents, while higher drug concentrations caused complete loss of vesicle contents. Drug concentrations at least one order of magnitude lower were needed to induce leakage from vesicles containing only phosphatidylcholine. Under these conditions, contents leakage occurred with no measurable aggregation or membrane intermixing. On the other hand, much higher concentrations of both drugs were required to induce leakage from vesicles containing predominantly cardiolipin. Release of contents occurred upon aggregation of the vesicles and collapse of the vesicular organization, as well as formation of paracrystalline structure when dodecylamine was employed or amorphous material when gramicidin A was used. In contradistinction to other model systems, phosphatidylcholine was needed for fusion induced by the cationic amphipaths, and its presence reduced the threshold concentration of the drugs needed to induce leakage of the contents. The similar effects of the two drugs on membranes imply that, at least in these model membranes, the relevant feature of both drugs is only their amphiphatic nature. Gramicidin S/ Liposome/ Membrane fusion/ Dodecylamine/ Cationic amphipath

Ezz El Arab, Abla, Attar, Abdulrahman, Ballhorn, Lothar, Freitag, Dieter, and Korte, Friedhelm (1990). Behavior of diazinon in a perch species. *Chemosphere* 21: 193-199.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Accumulation, depletion and metabolism of 14C-labeled diazinon (100 mg/L) an organo phosphoric insecticide and acaricide was studied in a perch. Bioaccumulation factors of diazinon were found to be low. Depletion of diazinon and/or its metabolites in fresh water was fast. The substance was readily metabolized mainly by cleavage of the phosphoric acid moiety of the molecule. Highest concentrations of diazinon and/or its metabolites were found in the vertebral cord, lowest concentrations in the muscle. 14C-radiolabeled compound was synthesized in our institute. The synthesis is described.

Fahrig, R. (1974). Comparative Mutagenicity Studies with Pesticides. *IARC Sci.Publ.* 10: 161-181.  
Chem Codes: EcoReference No.: 76858  
Chemical of Concern: MCPB,CBL,SZ,DQT,MP,Ziram,DMT,PCP,Folpt,Captan,MCPA,MLN,DZ,AND,EN,ES Rejection Code: REVIEW.

Farnham, A. W. (1971). Changes in Cross-Resistance Patterns of Houseflies Selected with Natural Pyrethrins or Resmethrin (5-Benyl-3-Furymethyl (+ -)-cis-trans-Chrysanthemate). *Pest Sci.* 2: 138-143.

EcoReference No.: 72331  
Chemical of Concern: RSM,DDT,DLD,DZ,PYN,BRSM; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS,TARGET-DZ,RSM).

FARNSWORTH WR, COLLETT MG, and RIDLEY IS (1997). Field survey of insecticide resistance in Haematobia irritans exigua de Meijere (Diptera: Muscidae).  
Chem Codes: Chemical of Concern: PPB Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A survey of farms in northern New South Wales and southeastern, central, western and northern Queensland was conducted to determine levels of insecticide resistance in populations of buffalo fly Haematobia irritans exigua. A field bioassay using discriminating concentrations of 10 insecticides commonly used for buffalo fly control was used. Resistance to all synthetic pyrethroids tested (cypermethrin, deltamethrin, cyhalothrin, flumethrin and cyfluthrin) was common and widespread in coastal zones, but was lower in inland zones. In contrast, there was no resistance to the organophosphate diazinon and only low levels of resistance to ethion and chlorfenvinfos. Synergism between piperonyl butoxide and cypermethrin was demonstrated. Biochemistry/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Diptera

FARRIS GA, CABRAS, P., and SPANEDDA, L. (1992). PESTICIDE RESIDUES IN FOOD PROCESSING. *ITAL J FOOD SCI; 4* 149-169.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW OLIVE OIL TABLE OLIVES WINE MAKING BEER PESTICIDE REDUCTION FOOD PROCESSING DIAZINON METHIDATHION INSECTICIDE Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Fermentation/ Food Technology/ Fats/ Food Technology/ Oils/ Food Analysis/ Food Technology/ Food-Processing Industry/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides/ Grasses/ Plants/ Plants

Faust, S. D. and Gomaa, H. M. (1972). Chemical Hydrolysis of Some Organic Phosphorus and Carbamate Pesticides in Aquatic Environments. *Environ.Lett.* 3: 171-201.  
Chem Codes: EcoReference No.: 61709  
Chemical of Concern: DZ Rejection Code: REVIEW.

Feigenbrugel, Valerie, Le Calve, Stephane, and Mirabel, Philippe (2004). Temperature dependence of Henry's law constants of metolachlor and diazinon. *Chemosphere* 57: 319-327.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A dynamic system based on the water/air equilibrium at the interface within the length of a microporous tube has been used to determine experimentally the Henry's law constants (HLC) of two pesticides: metolachlor and diazinon. The measurements were conducted over the temperature range 283-301 K. At 293 K, HLCs values are (42.6 +/- 2.8) x 103 (in units of M atm-1) for metolachlor and (3.0 +/- 0.3) x 103 for diazinon. The obtained data were used to derive the following Arrhenius expressions: HLC=(3.0 +/- 0.4) x 10-11 exp((10 200+/-1000)/T) for metolachlor and (7.2 +/- 0.5) x 10-15 exp((11 900+/-700)/T) for diazinon.At a cumulus cloud temperature of 283 K, the fractions of metolachlor and diazinon in the atmospheric aqueous phase are about 57% and 11% respectively. In order to evaluate the impact of a cloud on the atmospheric chemistry of both studied pesticides, we compare also their atmospheric lifetimes under clear sky ([tau]gas), and cloudy conditions ([tau]multiphase). The calculated multiphase lifetimes (in units of hours) are significantly lower than those in gas phase at a cumulus temperature of 283 K (in parentheses): metolachlor, 0.4 (2.9); diazinon, 1.9 (5.0). Pesticides/ Metolachlor/ Diazinon/ Henry's law constants

Fellers, G. M., McConnell, L. L., Pratt, D., and Datta, S. (2004). Pesticides in mountain yellow-legged frogs (Rana muscosa) from the Sierra Nevada Mountains of California, USA. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 23, no. 9, pp. 2170-2177. Sep 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0730-7268  
Descriptors: Pesticides  
Descriptors: Water pollution  
Descriptors: Pollution effects  
Descriptors: Tissues  
Descriptors: Surface water  
Descriptors: Diazinon  
Descriptors: Frogs  
Descriptors: Mountains  
Descriptors: Lakes  
Descriptors: National Parks  
Descriptors: Insecticides  
Descriptors: Lake Basins  
Descriptors: DDE  
Descriptors: Water Pollution Effects  
Descriptors: Bioaccumulation  
Descriptors: Rana muscosa  
Descriptors: USA, California, Sierra Nevada Mts.  
Abstract: In 1997, pesticide concentrations were measured in mountain yellow-legged frogs (Rana muscosa) from two areas in the Sierra Nevada Mountains of California, USA. One area (Sixty Lakes Basin, Kings Canyon National Park) had large, apparently healthy populations of frogs. A second area (Tablelands, Sequoia National Park) once had large populations, but the species had been extirpated from this area by the early 1980s. The Tablelands is exposed directly to prevailing winds from agricultural regions to the west. When an experimental reintroduction of R. muscosa in 1994 to 1995 was deemed unsuccessful in 1997, the last 20 (reintroduced) frogs that could be found were collected from the Tablelands, and pesticide concentrations in both frog tissue and the water were measured at both the Tablelands and at reference sites at Sixty Lakes. In frog tissues, dichlorodiphenyldichloroethylene (DDE) concentration was one to two orders of magnitude higher than the other organochlorines (46 plus or minus 20 ng/g wet wt at Tablelands and 17 plus or minus 8 Sixty Lakes). Both gamma -chlordane and trans-nonachlor were found in significantly greater concentrations in Tablelands frog tissues compared with Sixty Lakes. Organophosphate insecticides, chlorpyrifos, and diazinon were observed primarily in surface water with higher concentrations at the Tablelands sites. No contaminants were significantly higher in our Sixty Lakes samples.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3030 Effects of pollution  
Classification: AQ 00008 Effects of Pollution  
Classification: X 24136 Environmental impact  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; Toxicology Abstracts; Aqualine Abstracts; Water Resources Abstracts; Pollution Abstracts

Fernandez-Alba, A. R., Guil, L. H., Lopez, G. D., and Chisti, Y. (2001). Toxicity of Pesticides in Wastewater: A Comparative Assessment of Rapid Bioassays. *Anal.Chim.Acta* 426: 289-301.

User 1 Abbreviation: www.sciencedirect.com (1995-Present)  
EcoReference No.: 74540  
Chemical of Concern: DZ,DDT,CBL,CBF,MLN,CYR,FMP,FTT,PPM,PAQT; Habitat: A; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CBF),OK(ALL CHEMS),NO REVIEW(DZ).

Fernando, J. C., Rogers, K. R., Anis, N. A., Valdes, J. J., Thompson, R. G., Eldefrawi, A. T., and Eldefrawi, M. E. \*. (1993). Rapid detection of anticholinesterase insecticides by a reusable light addressable potentiometric biosensor. *Journal of agricultural and food chemistry [j. Agric. Food chem.]* 41: 511-516.  
Chem Codes: Chemical of Concern: MOM,CBF,ADC Rejection Code: IN VITRO.  
  
Abstract: A light addressable potentiometric sensor (LAPS) was used to detect organophosphate and carbamate anticholinesterases (anti-ChEs), using eel acetylcholinesterase (AChE) as the biological sensing element. Biotinylated AChE was preincubated with inhibitor or buffer alone and then captured on biotinylated nitrocellulose membrane via streptavidin cross-linking, or AChE was preimmobilized on the capture membrane and then a sample containing the anti-ChE was filtered through the capture membrane. Hydrolysis of acetylcholine (ACh) by the captured AChE resulted in a strong potentiometric signal, and the immobilized AChE retained its affinity for ACh and anti-ChEs. IC sub(50) values for inhibition of captured AChE obtained by the LAPS agreed with those obtained by a spectrophotometric method or a fiber optic evanescent fluorosensor. Paraoxon and bendiocarb were detected at 10 nM, while higher concentrations were required for monocrotophos, dicrotophos, dichlorvos, phosdrin, diazinon, tetraethyl pyrophosphate, aldicarb, and methomyl. Important features of the LAPS for detection of anti-ChEs are speed (eight samples assayed simultaneously in minutes), precision, and reusability.

Ferrari, M. J., Ator, S. W., Blomquist, J. D., and Dysart, J. E. (1997 ). Pesticides in surface water of the Mid-Atlantic region.  
Chem Codes : SZ Rejection Code: NO SPECIES.  
  
Water-quality data from 463 surface-water sites were compiled and analyzed to document the occurrence and distribution of pesticides in surface water of the Mid-Atlantic region as part of the Mid-Atlantic Integrated Assessment program of the U.S. Environmental Protection Agency. Those data collected by the U.S. Geological Survey from October 1973 through March 1997 were used in the analyses. Data are available for a large part of the Mid-Atlantic region, but large spatial gaps in the data do exist. USGS data bases contained analyses of surface-water samples for 127 pesticide compounds, including 12 degradates, but only 16 of the compounds were commonly detected. Atrazine, metolachlor, simazine, prometon, alachlor, tebuthiuron, cyanazine, diazinon, carbaryl, chlorpyrifos, pendimethalin, 2,4-D, dieldrin, DCPA, metribuzin, and desethylatrazine (an atrazine degradate) were detected in more than 100 of the samples analyzed. At least one pesticide was detected in about 75 percent of the samples collected and at more than 90 percent of the sites sampled. Concentrations greater than the Federal Maximum Contaminant Level (MCL) for drinking water of 3 micrograms per liter ( mu g/L) for atrazine were found in 67 of 2,076 samples analyzed; concentrations greater than the MCL of 2 mu g/L for alachlor were found in 13 of 1,693 samples analyzed, and concentrations greater than the MCL of 4 mu g/L for simazine were found in 17 of 1,995 samples analyzed. Concentrations of four pesticides were greater than Federal Health Advisory levels for drinking water, and concentrations of nine pesticides were greater than Federal Ambient Water-Quality Criteria for the Protection of Aquatic Organisms. Streams draining basins with different land uses tend to have different pesticide detection frequencies and median concentrations. Median concentrations of herbicides tend to be highest in streams draining basins in which the major land use is agriculture, whereas median concentrations of insecticides tend to he highest in streams draining extensively urbanized basins. Concentrations of both herbicides and insecticides are usually highest during the spring and summer, although many pesticides are present at low concentrations in surface water throughout the year. Pesticide concentrations vary greatly seasonally and over different hydrologic conditions, with overall variation sometimes exceeding four orders of magnitude. During periods of pesticide application (typically spring and summer), the occurrence of selected pesticides in some streams in the Mid-Atlantic region is related to streamflow. Correlations between concentrations of selected pesticides and streamflow are statistically significant during spring and summer for small (draining less than 55 square miles) streams. Concentrations of selected pesticides in small streams increase during high flows in the growing season, up to 30 times the concentrations present during low-flow conditions in the growing season. In small streams draining urban areas, concentrations of atrazine decrease during high-flow events but concentrations of the insecticides diazinon and chlorpyrifos increase. This may be due to the differences in the pesticides used in agricultural and urban areas and the amounts applied U.S. GEOLOGICAL SURVEY, BOX 25286, DENVER FEDERAL CENTER, DENVER, CO 80225 (USA). 12 pp. 1997  
English  
English  
Report  
SW 3020 Sources and fate of pollution; P 2000 FRESHWATER POLLUTION  
Water Resources Abstracts; Pollution Abstracts  
4381575 A1: Alert Info 20030131

FINIZIO, A., VIGHI, M., and SANDRONI, D. (1997). Determination of N-octanol/water partition coefficient (Kow) of pesticide critical review and comparison of methods. *CHEMOSPHERE; 34* 131-161.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS, REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. Octanol/water partition coefficients (log Kow) for 87 chemicals representing the main classes of pesticides have been determined by means of three different estimation methods (RP-HPLC, ClogP, calculation from water solubility), and the results have been compared with experimental values (measured mainly with Slow Stirring or Shake Flask methods), collected through a survey of the literature. On the basis of a critical evaluation of all available data, a selected value for each pesticide has been proposed. Values and limitations of the three estimation methods has been discussed. Biochemistry/ Herbicides/ Pest Control/ Pesticides

FISCHER AB, BIGALKE, B., HERR, C., and EIKMANN, T. (1999). Pest control in public institutions. *TOXICOLOGY LETTERS (SHANNON); 107 (1-3). 1999. 75-80.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. After the spraying of insecticides against cockroaches in a kindergarten insecticide residues were detected over several months in spite of extensive decontamination. This prompted measurements in a home for asylum seekers, where insect pests had been controlled regularly by a commercial firm; here the presence of various biocides was demonstrated. As the insecticides could not be sufficiently decontaminated, the further administration was discontinued and instead cockroach traps and baits were Environmental Health/ Herbicides/ Pest Control/ Pesticides

Fischer, Reiner, Erdelen, Christoph, and Bretschneider, Thomas (20011004). Synergistic insecticidal and acaricidal compositions containing dihydrofuranone derivatives. 49 pp.  
Chem Codes: Chemical of Concern: SPM Rejection Code: CHEM METHODS.  
  
The title compns. comprise a dihydrofuranone deriv. I [X = halo, (halo)alkyl or alkoxy; Y = H or X; Z = halo, alkyl or alkoxy;n = 0, 1-3; A = H, (halo)alkyl, (halo)alkenyl, (halo)alkynyl, etc.; B = H, alkyl or alkoxyalkyl; ACB = (un)substituted ring; G = H, COR1, CO2R2, etc.; R1 = (halo)alkyl, (halo)alkenyl, (un)substituted Ph, etc.; R2 = (halo)alkyl, (halo)alkenyl, (un)substituted Ph or benzyl, etc.] and any of 43 known insecticides. [on SciFinder (R)] synergism/ insecticide/ acaricide/ compn/ dihydrofuranone/ deriv Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2001:730499  
Chemical Abstracts Number: CAN 135:268768  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
Coden: PIXXD2  
Index Terms: Acaricides; Insecticides (synergistic; compns. contg. dihydrofuranone derivs.)  
CAS Registry Numbers: 362599-84-6 Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic insecticidal and acaricidal compn.); 52-68-6D (Trichlorfon); 55-38-9D (Fenthion); 56-38-2D (Parathion); 60-51-5D (Dimethoate); 62-73-7D; 63-25-2D (Carbaryl); 86-50-0D (Azinphosmethyl); 114-26-1D (Propoxur); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 141-66-2D (Dicrotophos); 298-00-0D (Parathionmethyl); 298-02-2D (Phorate); 298-04-4D (Disulfoton); 301-12-2D (Oxydemetonmethyl); 333-41-5D (Diazinon); 470-90-6D (Chlorfenvinphos); 563-12-2D (Ethion); 732-11-6D (Phosmet); 950-37-8D (Methidathion); 2032-65-7D (Methiocarb); 2310-17-0D (Phosalone); 2597-03-7D (Phenthoate); 2921-88-2D (Chlorpyrifos); 6923-22-4D (Monocrotophos); 7786-34-7D (Mevinphos); 10265-92-6D (Methamidophos); 13171-21-6D (Phosphamidon); 14816-18-3D (Phoxim); 16752-77-5D (Methomyl); 18854-01-8D (Isoxathion); 22259-30-9D (Formetanat); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 23422-53-9D (Formetanate Hydrochloride); 24017-47-8D (Triazophos); 29232-93-7D (Pirimiphosmethyl); 30560-19-1D (Acephate); 34643-46-4D (Prothiophos); 41198-08-7D (Profenofos); 59669-26-0D (Thiodicarb); 72490-01-8D (Fenoxycarb); 96182-53-5D (Tebupirimphos); 283594-90-1D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic insecticidal and acaricidal compns.)  
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.  
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.  
  
Written in German.

Fix, Marina and Melchior, Donald L. (2002). The Fluorosome(TM) technique for investigating membrane on- and off-loading of drugs by [beta]-CD and sonicated SUV. *FEBS Letters* 516: 109-112.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The application of the Fluorosome technique to test drug delivery systems is described. Fluorosomes, egg phosphatidylcholine liposomes with bilayer embedded fluorophores, were employed to investigate the ability of sonicated small unilamellar vesicles (sSUV) and [beta]-cyclodextrins ([beta]-CD) to deliver drugs into or extract drugs from the fluorosome&rsquo;s phospholipid bilayer. The addition of phloretin to a fluorosome suspension resulted in fluorescence reduction reflecting phloretin entering the bilayer and quenching fluorophore fluorescence. Subsequent addition of sSUV to phloretin pretreated fluorosomes showed an increase in fluorescence reflecting phloretin extraction from the fluorosome membrane. Sequential additions of [beta]-estradiol loaded [beta]-CD to fluorosomes as well as the addition of [beta]-estradiol alone resulted in fluorescence reduction due to [beta]-estradiol insertion into the membrane. Further addition of pure [beta]-CD resulted in a fluorescence increase indicating [beta]-estradiol extraction from the fluorosome membrane. Fluorosome/ Nitrobenzoxa-1,3-diazolyl fluorophore/ Diphenylhexatrienyl propanoyl fluorophore/ Drug delivery system/ Cyclodextrin/ Sonicated small unilamellar vesicle

Fleischli, M. A., Franson, J. C., Thomas, N. J., Finley, D. L., and Riley, W. (2004). Avian Mortality Events in the United States Caused by Anticholinesterase Pesticides: A Retrospective Summary of National Wildlife Health Center Records from 1980 to 2000. *Archives of Environmental Contamination and Toxicology [Arch. Environ. Contam. Toxicol.]. Vol. 46, no. 4, pp. 542-550. May 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, INCIDENT.  
  
ISSN: 0090-4341  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Poisoning  
Descriptors: Gastrointestinal tract  
Descriptors: Carcasses  
Descriptors: Diazinon  
Descriptors: Wildlife  
Descriptors: Carbofuran  
Descriptors: Reviews  
Descriptors: Fenthion  
Descriptors: Databases  
Descriptors: Cholinesterase  
Descriptors: Mortality  
Descriptors: Pesticides  
Descriptors: Varieties  
Descriptors: Waterfowl  
Descriptors: Carbamate Pesticides  
Descriptors: Contamination  
Descriptors: Birds  
Descriptors: Inhibition  
Descriptors: Bioaccumulation  
Descriptors: Historical account  
Descriptors: Falconiformes  
Descriptors: Passeriformes  
Descriptors: Anseriformes  
Descriptors: USA, Washington  
Descriptors: USA, Virginia  
Descriptors: USA, Ohio  
Abstract: We reviewed the U.S. Geological Survey National Wildlife Health Center (NWHC) mortality database from 1980 to 2000 to identify cases of poisoning caused by organophosphorus and carbamate pesticides. From the 35,022 cases from which one or more avian carcasses were submitted to the NWHC for necropsy, we identified 335 mortality events attributed to anticholinesterase poisoning, 119 of which have been included in earlier reports. Poisoning events were classified as confirmed (n = 205) when supported by findings of 50% inhibition of cholinesterase (ChE) activity in brain tissue and the detection of a specific pesticide in the gastrointestinal contents of one or more carcasses. Suspected poisonings (n = 130) were defined as cases where brain ChE activity was 50% inhibited or a specific pesticide was identified in gastrointestinal contents. The 335 avian mortality events occurred in 42 states. Washington, Virginia, and Ohio had the highest frequency of events, with 24 (7.2%), 21 (6.3%), and 20 (6.0%) events, respectively. A total of 8877 carcasses of 103 avian species in 12 orders was recovered. Because carcass counts underestimate total mortality, this represents the minimum actual mortality. Of 24 different pesticides identified, the most frequent were famphur (n = 59; 18%), carbofuran (n = 52; 15%), diazinon (n = 40; 12%), and fenthion (n = 17; 5.1%). Falconiformes were reported killed most frequently (49% of all die-offs) but Anseriformes were found dead in the greatest numbers (64% of 8877 found dead). The majority of birds reported killed by famphur were Passeriformes and Falconiformes, with the latter found dead in 90% of famphur-related poisoning events. Carbofuran and famphur were involved in mortality of the greatest variety of species (45 and 33, respectively). Most of the mortality events caused by diazinon involved waterfowl.  
Publisher: Springer-Verlag  
DOI: 10.1007/s00244-003-3065-y  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: AQ 00008 Effects of Pollution  
Classification: D 04803 Pollution effects  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: EE 10 General Environmental Engineering  
Subfile: Ecology Abstracts; Environmental Engineering Abstracts; Pollution Abstracts; Toxicology Abstracts; Aqualine Abstracts

Fleischli, M A, Franson, J C, Thomas, N J, Finley, D L, and Riley, W Jr (2004). Avian mortality events in the United States caused by anticholinesterase pesticides: a retrospective summary of National Wildlife Health Center records from 1980 to 2000. *Archives Of Environmental Contamination And Toxicology* 46: 542-550.  
Rejection Code: REVIEW/SURVEY/INCIDENT.  
  
We reviewed the U.S. Geological Survey National Wildlife Health Center (NWHC) mortality database from 1980 to 2000 to identify cases of poisoning caused by organophosphorus and carbamate pesticides. From the 35,022 cases from which one or more avian carcasses were submitted to the NWHC for necropsy, we identified 335 mortality events attributed to anticholinesterase poisoning, 119 of which have been included in earlier reports. Poisoning events were classified as confirmed (n = 205) when supported by findings of > or =50% inhibition of cholinesterase (ChE) activity in brain tissue and the detection of a specific pesticide in the gastrointestinal contents of one or more carcasses. Suspected poisonings (n = 130) were defined as cases where brain ChE activity was > or =50% inhibited or a specific pesticide was identified in gastrointestinal contents. The 335 avian mortality events occurred in 42 states. Washington, Virginia, and Ohio had the highest frequency of events, with 24 (7.2%), 21 (6.3%), and 20 (6.0%) events, respectively. A total of 8877 carcasses of 103 avian species in 12 orders was recovered. Because carcass counts underestimate total mortality, this represents the minimum actual mortality. Of 24 different pesticides identified, the most frequent were famphur (n = 59: 18%), carbofuran (n = 52; 15%), diazinon (n = 40; 12%), and fenthion (n = 17; 5.1%). Falconiformes were reported killed most frequently (49% of all die-offs) but Anseriformes were found dead in the greatest numbers (64% of 8877 found dead). The majority of birds reported killed by famphur were Passeriformes and Falconiformes, with the latter found dead in 90% of famphur-related poisoning events. Carbofuran and famphur were involved in mortality of the greatest variety of species (45 and 33, respectively). Most of the mortality events caused by diazinon involved waterfowl. [Journal Article; In English; United States]

Foe, C. (1995). Insecticide Concentrations and Invertebrate Bioassay Mortality in Agricultural Return Water from the San Joaquin Basin. *Staff Rep., Central Valley Reg.Water Qual.Control Bd., Sacramento, CA*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Foe, C., Deanovic, C. L., and Hinton, D. (1998). Toxicity Identification Evaluations of Orchard Dormant Spray Storm Runoff. *Staff Rep., Central Valley Reg.Water Qual.Control Bd., Sacramento, CA*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Foreman, W. T., Majewski, M. S., Goolsby, D. A., Wiebe, F. W., and Coupe, R. H. (2000). Pesticides in the atmosphere of the Mississippi River Valley, part II -- air. *The Science of The Total Environment* 248: 213-226.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Weekly composite air samples were collected from early April through to mid-September 1995 at three paired urban and agricultural sites along the Mississippi River region of the Midwestern United States. The paired sampling sites were located in Mississippi, Iowa, and Minnesota. A background site, removed from dense urban and agricultural areas, was located on the shore of Lake Superior in Michigan. Each sample was analyzed for 49 compounds; of these, 21 of 26 herbicides, 13 of 19 insecticides, and 4 of 4 related transformation products were detected during the study, with most pesticides detected in more than one sample. The maximum number of pesticides detected in an air sample was 18. Herbicides were the predominant type of pesticide detected at every site. Detection frequencies of most herbicides were similar at the urban and agricultural sites in Iowa and Minnesota. In Mississippi, herbicides generally were detected more frequently at the agricultural site. The insecticides chlorpyrifos, diazinon, and carbaryl, which are used in agricultural and non-agricultural settings, were detected more frequently in urban sites than agricultural sites in Mississippi and Iowa. Methyl parathion was detected in 70% of the samples from the Mississippi agricultural site and at the highest concentration (62 ng/m3 air) of any insecticide measured in the study. At the background site, dacthal (100%), atrazine (35%), cyanazine (22%), and the (primarily atrazine) triazine transformation products CIAT (35%) and CEAT (17%) were detected most frequently, suggesting their potential for long-range atmospheric transport. Air/ Pesticides/ Insecticides/ Herbicides

Forrest, M., Lord, K. A., Walker, N., and Woodville, H. C. (1981). The Influence of Soil Treatments on the Bacterial Degradation of Diazinon and Other Organophosphorus Insecticides. *Environ.Pollut.Ser.A* 24: 93-104.  
Chem Codes: EcoReference No.: 61727  
Chemical of Concern: DZ Rejection Code: BACTERIA.

Forrest, Margaret, Lord, K. A., Walker, N., and Woodville, H. C. (1981 ). The influence of soil treatments on the bacterial degradation of diazinon and other organophosphorus insecticides. *Environmental Pollution Series A, Ecological and Biological* 24: 93-104.  
Rejection Code: BACTERIA.  
  
After repeated field applications to soil, diazinon was rapidley degraded, but not parathion, phorate, chlorfenvinphos, pirimiphos ethyl, pirimiphos methyl or carbofuran. Fumigation with chloroform, pasteurising, alternate wetting and drying or freezing and thawing failed to destroy the ability of conditioned soil to degrade diazinon and even favoured the organism in the presence of diazinon. The activity was transferable to other soils.A Flavobacterium sp. able to degrade diazinon was isolated. Washed organisms hydrolysed diazinon in neutral phosphate buffer producing 2-isoprophyl-4-methyl-6-hydroxypyrimidine stoichiometrically and degraded parathion or paroxon liberating 4-nitrophenol.

Forrest, Margaret, Lord, K. A., Walker, N., and Woodville, H. C. (1981). The influence of soil treatments on the bacterial degradation of diazinon and other organophosphorus insecticides. *Environmental Pollution Series A, Ecological and Biological* 24: 93-104.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
After repeated field applications to soil, diazinon was rapidley degraded, but not parathion, phorate, chlorfenvinphos, pirimiphos ethyl, pirimiphos methyl or carbofuran. Fumigation with chloroform, pasteurising, alternate wetting and drying or freezing and thawing failed to destroy the ability of conditioned soil to degrade diazinon and even favoured the organism in the presence of diazinon. The activity was transferable to other soils.A Flavobacterium sp. able to degrade diazinon was isolated. Washed organisms hydrolysed diazinon in neutral phosphate buffer producing 2-isoprophyl-4-methyl-6-hydroxypyrimidine stoichiometrically and degraded parathion or paroxon liberating 4-nitrophenol.

FORRESTER DJ, DAVIDSON WR, LANGE, R. E. JR, STROUD RK, ALEXANDER LL, FRANSON JC, HASELTINE SD, LITTELL RC, and NESBITT SA (1997). Winter mortality of common loons in Florida coastal waters. *JOURNAL OF WILDLIFE DISEASES; 33* 833-847.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Diagnostic findings are presented for 434 common loons (Gavia immer) found sick or dead on Florida beaches from 1970 through 1994, primarily during the months of December to April. The most commonly recognized problem was an emaciation syndrome (66%), followed by oiling (18%), aspergillosis (7%), trauma (5%) and miscellaneous disease entities (1%). The cause-of-death for 3% of the birds was not determined. Many of the carcasses examined (n = 173) were obtained during an epizootic which occurred from January to March of 1983 in which more than 13,000 loons were estimated to have died. An emaciation syndrome, characterized by severe atrophy of pectoral muscles, loss of body fat and hemorrhagic enteritis, was the primary finding in this epizootic. It was postulated to have a complex etiologic basis involving synergistic effects and energy costs of migration, molting and replacement of flight feathers, food resource changes, salt-loading, intestinal arasitism, environmental Animals/ Ecology/ Pathology/ Necrosis/Pathology/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Blood Vessels/Pathology/ Vascular Diseases/Pathology/ Muscular Diseases/Pathology/ Muscular Diseases/Physiopathology/ Mycoses/ Birds

Frank, R., Braun, H. E., Chapman, N., and Burchat, C. (1991). Degradation Of Parent Compounds Of Nine Usa Organophosphorus Insecticides In Ontario Usa Surface And Ground Waters Under Controlled Conditions . 47: 374-380.  
Chem Codes: Chemical of Concern: CHLOR ,DMT Rejection Code: SURVEY.  
  
biosis copyright: biol abs. rrm chlorpyrifos diazinon dimethoate ethion fensulfothion methidiathion mevinphos phosmet terbufos insecticide water pollution ecology/ environmental biology-limnology/ biochemical studies-general/ metabolism-general metabolism/ metabolic pathways/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides/ economic entomology-chemical and physical control, general/ apparatus

FRANK, R., BRAUN HE, RIPLEY BD, and PITBLADO, R. (1991). Residues of nine insecticides and two fungicides in raw and processed tomatoes. *J FOOD PROT;* 54: 41-46.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The objective of this study was to determine preharvest intervals for nine insecticides (acephate, azinphosmethyl, carbaryl, demeton, diazinon, dimethonate, endosulfan, malathion, and permethrin) and two fungicides (captafol and chlorothalonil) in order to produce raw tomato fruit and juice with residue levels below 0.1 and 0.01 mg kg-1, respectively. Over a four-year period (1985-88) ripe tomato fruit was commercially treated with these 11 pesticides and harvested on days 0, 1, 3 and 6, 7, or 8 after spraying. Both raw fruit and processed juice were then analyzed for residues. Residues of the 11 pesticides fell below 0.1 mg kg-1 in juice and eight declined below 0.1 mg kg-1 on raw fruit during the 0- to 8-d harvest period. The exceptions on raw fruit were chlorothalonil (1987), diazinon, and azinphosmethyl (1987). Residues of seven insecticides and the two fungicides fell below 0.01 mg kg-1 in juice, but only acephate and demeton declined below 0.1 mg kg-1 on raw fruit Biology/Methods/ Biochemistry/ Comparative Study/ Biochemistry/Methods/ Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food-Processing Industry/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Environmental Monitoring/ Public Health/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Frank, R. and Logan, L. (1988). PESTICIDE AND INDUSTRIAL CHEMICAL RESIDUES AT THE MOUTH OF THE GRAND SAUGEEN AND THAMES RIVERS ONTARIO CANADA 1981-1985. *Arch Environ Contam Toxicol* 17 : 741-754.  
Chem Codes: Chemical of Concern: SZ,MTL,MOM,CBF,ADC, CHLOR Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM WATER POLLUTION HERBICIDE INSECTICIDE FUNGICIDE ATRAZINE 2 4-D DIAZINON MALATHION CHLORDANE ALACHLOR METOLACHLOR CYANAZINE MONITORING  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Agronomy-Weed Control  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control

FRASER LH (1998). Top-down vs bottom-up control influenced by productivity in a North Derbyshire, UK, dale. *OIKOS; 81* 99-108.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO EFFECT.  
  
BIOSIS COPYRIGHT: BIOL ABS. Fretwell and Oksanen's theory of trophic dynamics was tested in two plant communities located in a North Derbyshire dale, including: (1) a low productivity calcareous grassland; and, (2) a highly productive Urtica dioica (nettle) patch. Two methods (herbivore removal through pesticide application, and transplanting established, intact turves (0.5 m2) between the two community types) were employed, and analysed in a two-way ANOVA, to test the hypothesis that highly productive communities are controlled by 'top-down' forces and low productivity communities are controlled by 'bottom-up' forces. The Fretwell-Oksanen theory proposes that herbivores limit growth in low productivity communities, not highly productive communities. Therefore, removal of herbivores will result in an increase in plant biomass only in the low productivity community. The results presented in this paper support the Fretwell-Oksanen hypothesis. Furthermore, when small turves were transplanted from the Ecology/ Plants/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Growth & Development/ Plants

FRASER LH and GRIME JP (1997). Primary productivity and trophic dynamics investigated in a North Derbyshire, UK, dale. *OIKOS; 80* 499-508.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
BIOSIS COPYRIGHT: BIOL ABS. Trophic interactions were investigated on herbaceous communities in a limestone dale in Northern England. Manipulative experiments involved the application of molluscicides and foliar and soil insecticides along natural productivity gradients. The results supported the theories of Fretwell and Oksanen in which trophic dynamics are predicted to be dependent upon primary productivity. Furthermore, the results extend the Fretwell-Oksanen model by the inclusion of invertebrates, and the applicability of the model to the small, individual habitat scale. At very low productivity, the vegetation was dominated by slow-growing, unpalatable species and did not experience a detectable amount of herbivory. In circumstances of high productivity, 'top-down' control of herbivores by carnivores appeared to protect the resident fast-growing and relatively palatable perennials from herbivory. Vegetation of intermediate productivity responded strongly to the removal of herbivores; here we Ecology/ Herbicides/ Pest Control/ Pesticides/ Plants/ Animals

Fredeen, F. J. H. (1972). Reactions of the Larvae of Three Rheophilic Species of Trichoptera to Selected Insecticides. *Can.Entomol.* 104: 945-953.

EcoReference No.: 2822  
Chemical of Concern: DZ,MLN,DDT,MXC; Habitat: A; Effect Codes: MOR; Rejection Code: OK(DDT),NO CONTROL(DZ).

Frick Elizabeth A, Dalton Melinda S, and Hatcher, K. J. (ed) (2005). Characterization of Anthropogenic Organic Compounds in the Source Water and Finished Water for the city of Atlanta, October 2002-September 2004.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: Organic compounds  
Descriptors: Anthropogenic factors  
Descriptors: Water resources  
Descriptors: Water supply  
Descriptors: Pesticides  
Descriptors: Water treatment  
Descriptors: Disinfection  
Descriptors: Consumers  
Descriptors: Herbicides  
Descriptors: Volatile compounds  
Descriptors: Insecticides  
Descriptors: Water Quality Standards  
Descriptors: Intakes  
Descriptors: Bacteria  
Descriptors: Diazinon  
Descriptors: Surface Water  
Descriptors: Trihalomethanes  
Descriptors: Byproducts  
Descriptors: USA, Georgia, Atlanta  
Abstract: As part of the Source Water-Quality Assessment (SWQA)--one of several study components within the U.S. Geological Survey's National Water-Quality Assessment Program--the source water and finished water for the City of Atlanta are being analyzed for the presence of more than 270 anthropogenic organic compounds representing a diverse group of extensively used chemicals. During the first phase of the study, 17 source-water samples were collected from October 2002 through December 2003 at the City of Atlanta drinking-water intake. As part of the second phase of the study, 16 paired samples from the drinking-water intake and finished water at the Chattahoochee Water Treatment Plant (CWTP) are being collected from July 2004 through May 2005. This paper characterizes the occurrence of anthropogenic organic compounds in the source water and finished water for the City of Atlanta, based on results from the first phase and the first three paired samples from the second phase of the study. Thirty-seven pesticides, 11 pesticide degradates, 37 organic wastewater compounds, and 16 volatile organic compounds were detected; multiple anthropogenic organic compounds were detected in each sample collected. Concentrations of anthropogenic organic compounds detected in source-water samples for the City of Atlanta generally were low, and SWQA samples included in this report did not exceed Federal drinking-water standards or health advisories, although such standards or advisories have not been established for most of these compounds. Maximum concentrations measured in source-water samples for the herbicides simazine and MCPA and the insecticide diazinon ranged from 81 to 12 percent of available standards and advisories. For all other anthropogenic organic compounds with available drinking-water standards or health advisories, the maximum concentrations measured in source-water samples ranged from 10 to 100,000 times less than available standards and advisories. Fewer anthropogenic organic compounds were detected in the finished water from the CWTP than in source water, and concentrations generally were less than concentrations in source water by one to three orders of magnitude, with the notable exception of total trihalomethane (THM). THMs are common disinfection by-products, especially when surface water is chlorinated to protect against bacterial contamination. Concentrations of total THMs detected in finished water generally were low (from 35 to 38 micrograms per liter) and compare well with the CWTP's consumer confidence reports. There were no exceedences of Federal drinking-water standards or health advisories in the first three finished-water samples. For all other anthropogenic organic compounds with available drinking-water standards or health advisories, the maximum concentrations measured in finished-water samples ranged from 100 to 100,000 times less than available standards and advisories.  
Conference: 2005 Georgia Water Resources Conf., Athens, GA (USA), 25-27 Apr 2005  
Language: English  
English  
Publication Type: Book Monograph  
Publication Type: Conference  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: SW 3060 Water treatment and distribution  
Classification: EE 50 Water & Wastewater Treatment  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Frijters, Charles M. G., Tuijn, Coosje J., Hoek, Frans J., Groen, Albert K., Oude Elferink, Ronald P. J., and N. Zegers, Bart (1998). Reversed-phase liquid chromatographic method for the determination of 7-nitrobenz-2-oxa-1,3-diazol-4-yl-labelled lipid analogues. *Journal of Chromatography B: Biomedical Sciences and Applications* 710: 9-16.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
This paper reports the development of a dual column system for the simultaneous separation of fluorescent short-chain ceramide, 6-[(7-nitrobenz-2-oxa-1,3,-diazol-4-yl[NBD])amino]hexanoyl-sphingosine and its metabolites, C6-NBD-sphingomyelin and C6-NBD-glucosylceramide, as well as the fluorescent derivatives of choline and serine phosphatides. The method enables the separation of these lipids in a single run on the basis of the polarity of their headgroups and hydrophobicity of their acyl backbone. The fluorescent properties of the NBD-label make it possible to quantitate small amounts of NBD-lipid analogues. The sensitivity of the presented method thus permits the use of small sample volumes and the determination of NBD-lipid analogues secreted into mouse bile directly, without prior extraction or concentration steps. Lipids

Fujii, Y. and Asaka, S. (1982). Metabolism of Diazinon and Diazoxon in Fish Liver Preparations. *Bulletin of Environmental Contamination and Toxicology [BULL. ENVIRON. CONTAM. TOXICOL.]. Vol. 29, no. 4, pp. 455-460. 1982.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0007-4861  
Descriptors: metabolism  
Descriptors: liver  
Abstract: Although the metabolism of diazinon and diazoxon in mammals has been reported, little is known about the in vitro metabolism of diazinon and diazoxon in fish liver preparations. Other researches have reported the intake and excretion of diazinon and its in vivo metabolism by fresh-water fishes, and found some metabolites. The present study was undertaken to investigate the in vitro metabolism of diazinon and diazoxon in fish liver preparations, and to identify the metabolites.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Fujii, Y. and Asaka, S. (1982). Metabolism of Diazinon in Fish Liver Preparations. *Bull.Environ.Contam.Toxicol.* 29: 455-460.  
Chem Codes: EcoReference No.: 61736  
Chemical of Concern: DZ Rejection Code: IN VITRO/METABOLISM.

Fukushima, M., Yamaguchi, Y., and Yamada, A. (1995). Temporal trend of pesticide pollution in river water as a source of potable water. *Selected papers from the iwsa international specialized conference on advanced treatment and integrated water system management into the 21st century., 1995, pp. 107-112, water supply [water supply], vol. 13, no. 3-4*.  
Chem Codes: MLT Rejection Code: NO SPECIES.  
  
Conference: IWSA International Specialized Conference on Advanced Treatment and Integrated Water System Management into the 21st Century, Osaka (Japan), 15-17 May 1995  
Abstract: A long time monitoring survey of various pesticides has conducted in the Lake Biwa and Yodo River basin. During Apr.1990 and Aug.1994, 30 pesticides were identified and it was clear that the basin was contaminated with various pesticides released from the paddy fields, residential and urban areas. Of those, 18 pesticides were frequently detected. The highest in concentration was 20 mu g /l with isoprothiolane, diazinon, dichlorvos, iprofenfos, molinate, simetryn and thiobencarb exceeded 1 mu g/l. The concentration profiles in main stream differed from those in tributaries. Though the concentrations of some pesticides including diazinon, iprofenfos etc. were higher in summer than in winter, no such seasonal variation was noticed with fenitrothion, dichlorvos etc. All observed data were less than the allowable drinking water limits.

Fukushima, M., Yamaguchi, Y., and Yamada, A. (1995). Temporal trend of pesticide pollution in river water as a source of potable water.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0735-1917  
Descriptors: Japan, Biwa L.  
Descriptors: monitoring  
Descriptors: pesticides  
Descriptors: water pollution  
Descriptors: drinking water  
Descriptors: water supply  
Descriptors: water pollution sources  
Descriptors: seasonal variations  
Descriptors: temporal distribution  
Descriptors: freshwater pollution  
Descriptors: Japan, Yodo R.  
Abstract: A long time monitoring survey of various pesticides has conducted in the Lake Biwa and Yodo River basin. During Apr.1990 and Aug.1994, 30 pesticides were identified and it was clear that the basin was contaminated with various pesticides released from the paddy fields, residential and urban areas. Of those, 18 pesticides were frequently detected. The highest in concentration was 20 mu g/l with isoprothiolane, diazinon, dichlorvos, iprofenfos, molinate, simetryn and thiobencarb exceeded 1 mu g/l. The concentration profiles in main stream differed from those in tributaries. Though the concentrations of some pesticides including diazinon, iprofenfos etc. were higher in summer than in winter, no such seasonal variation was noticed with fenitrothion, dichlorvos etc. All observed data were less than the allowable drinking water limits.  
Conference: IWSA International Specialized Conference on Advanced Treatment and Integrated Water System Management into the 21st Century, Osaka (Japan), 15-17 May 1995  
Language: English  
English  
Publication Type: Book Monograph  
Publication Type: Conference  
Classification: SW 3020 Sources and fate of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: X 24120 Food, additives & contaminants  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts; Pollution Abstracts; Water Resources Abstracts

Funaki, E. and Motoyama, N. (1986). Cross Resistance to Various Insecticides of the Housefly Selected with a Pyrethroid. *J.Pestic.Sci.* 11: 219-222.

EcoReference No.: 71457  
Chemical of Concern: PYN,ATN,FVL,EFX,TMT,PTR,FNV,PRM,PPX,TMP,DDVP,HCCH,RSM,DDT,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS,TARGET-DZ),OK TARGET(RSM).

Furlong, C. E., Li, W. F., Brophy, V. H., Jarvik, G. P., Richter, R. J., Shih, D. M., Lusis, A. J., and Costa, L. G. (2000). The PON1 Gene and Detoxication. *Neurotoxicology [Neurotoxicology]. Vol. 21, no. 4, pp. 581-588. Aug 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0161-813X  
Descriptors: Aryldialkylphosphatase  
Descriptors: Detoxification  
Descriptors: Paraoxon  
Descriptors: Chlorpyrifos  
Descriptors: Organophosphorus compounds  
Abstract: It has been assumed since its discovery that serum paraoxonase (PON1) plays a major role in the detoxication of specific organophosphorus compounds. It was also assumed that individuals with low PON1 activity would be more susceptible to paraoxon/parathion poisoning than individuals with higher PON1 activity. Evidence supporting this hypothesis was provided by injection of rabbit PON1 into rodents. Injected PON1 protected against paraoxon toxicity in rats and chlorpyrifos oxon toxicity in mice. The recent availability of PON1 knockout mice has provided an in vivo system with which one can more closely examine the role of PON1 in detoxication. PON1 knockout mice demonstrated dramatically increased sensitivity to chlorpyrifos oxon and diazoxon and moderately increased sensitivity to the respective parent compounds. The PON1 knockout mutation also resulted in the elimination of liver PON1 activity, accounting for the dramatic increase in sensitivity to chlorpyrifos oxon and diazoxon. Totally unexpected was our finding that the PON1 knockout mice were not more sensitive to paraoxon. This was particularly surprising in light of the earlier enzyme injection experiments. Differences in the relative catalytic efficiencies of rabbit vs. mouse PON1 for the specific oxon forms explain these observations. Mouse PON1 has good catalytic efficiency for the hydrolysis of diazoxon and chlorpyrifos oxon, but a poor efficiency for paraoxon hydrolysis relative to rabbit PON1. The human PON1Q192 isoform has a catalytic efficiency similar to that of mice, whereas the human PON1R192 isoform has a much better catalytic efficiency, predicting that individuals expressing high levels of the PON1R192 isoform may have increased resistance to paraoxon toxicity.  
Language: English  
English  
Publication Type: Journal Article  
Classification: N3 11104 Mammals (except primates)  
Classification: X 24135 Biochemistry  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Furlong, C. E., Li, W. F., Costa, L. G., Richter, R. J., Shih, D. M., and Lusis, A. J. (1998). Genetically determined susceptibility to organophosphorus insecticides and nerve agents: Developing a mouse model for the human PON1 polymorphism. *Neurotoxicology [Neurotoxicology]. Vol. 19, no. 4-5, pp. 645-650. Aug-Oct 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0161-813X  
Descriptors: Insecticides  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Animal models  
Abstract: Several organophosphorus insecticides and nerve agents are detoxified through the cytochrome P450/paraoxonase (PON1) pathway. PON1 is an HDL-associated enzyme encoded as a 355 amino acid protein in humans. The PON1 Arg sub(192) isoform hydrolyzes paraoxon rapidly while the Gln sub(192) isoform hydrolyzes this compound slowly. Both isoforms hydrolyze phenylacetate and chlorpyrifos oxon at approximately the same rate. We recently found that the effect of this polymorphism is dramatically reversed for sarin hydrolysis. The PON1 Arg sub(192) isoform has virtually no sarinase activity while the Gln sub(192) isoform has substantial activity. The Gln sub(192) isoform also hydrolyzes diazoxon and soman faster than the Arg sub(192) isoform. In addition to the large differences in rates of hydrolysis observed for some OP substrates by the two PON1 isoforms, there is also a large variability in serum PON1 concentrations that is stable over time between individuals. Thus, two factors govern the PON1 status of a given individual, the PON1 genotype as well as the amount of protein expressed from each allele. A two-dimensional enzyme analysis provides an excellent assessment of an individual's PON1 status, i.e. the position 192 genotype as well as phenotype, or level of serum PON1. Do these interindividual differences in rates of substrate hydrolysis by PON1 reflect an individual's sensitivity or resistance to OP compounds processed through the P450/PON1 pathway? Injection of purified PON1 into mice clearly demonstrates the protective effect of having high serum levels of PON1 against toxicity by chlorpyrifos oxon or chlorpyrifos. Preliminary experiments with PON1 knockout mice, on the other hand, clearly demonstrate that low PON1 levels result in dramatically increased sensitivity to chlorpyrifos oxon. Attempts to express human PON1 in mice from constructs containing either of the human PON1 cDNA sequences were unsuccessful, despite the generation of the respective transgenic mice.  
Conference: 6. Meeting of the Int. Neurotoxicol. Assoc., Szeged (Spain), 29 Jun - 4 Jul 1997  
Publisher: Intox Press  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Conference  
Classification: N3 11104 Mammals (except primates)  
Classification: X 24135 Biochemistry  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Furlong, C. E., Li, W. F., Richter, R. J., Shih, D. M., Lusis, A. J., Alleva, E., and Costa, L. G. (2000). Genetic and temporal determinants of pesticide sensitivity: Role of paraoxonase (PON1). *Neurotoxicology [Neurotoxicology]. Vol. 21, no. 1-2, pp. 91-100. Feb-Apr 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0161-813X  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Insecticides  
Descriptors: Cytochrome P450  
Descriptors: Paraoxon  
Descriptors: Chemical warfare agents  
Descriptors: Organophosphorus compounds  
Descriptors: Genetics  
Descriptors: Cholinesterase  
Descriptors: Chlorpyrifos  
Descriptors: Aryldialkylphosphatase  
Descriptors: Susceptibility  
Descriptors: Genetic factors  
Descriptors: Age  
Descriptors: Reviews  
Abstract: Susceptibility to organophosphorus (OP) insecticides and nerve agents is strongly influenced by genetic and developmental factors. A number of organophosphorothioate insecticides are detoxified in part via a two-step pathway involving bioactivation of the parent compound by the cytochrome P450 systems, then hydrolysis of the resulting oxygenated metabolite (oxon) by serum and liver paraoxonases (PON1). Serum PON1 has been shown to be polymorphic in human populations. The Arg sub(192) isoform (PON1 sub(R192)) of this HDL-associated protein hydrolyzes paraoxon (POX) at a high rate, while the Gln sub(192) isoform (PON1 sub(Q192)) hydrolyzes paraoxon at a low rate. The effect of the polymorphism is reversed for the hydrolysis of diazoxon (DZO), soman and particularly satin. Phenylacetate is hydrolyzed at approximately the same rate by both PON1 isoforms and chlorpyrifos oxon (CPO) slightly faster by the PON1R sub(192) isoform. In addition to the effect of the amino acid substitution on rates of toxicant hydrolysis, two other factors influence these rates. The expression of PON1 is developmentally regulated. Newborns have very low levels of PON1. Adult levels in rats and mice are reached at 3 weeks of age and in humans, sometime after 6 months of age. In addition, among individuals of a given genotype, there is at least a 13-fold difference in expression of PON1 that is stable over time. Dose/response experiments with normal mice injected with purified PON1 and with PON1 knockout mice have clearly demonstrated that the observed differences of in vitro rates of hydrolysis are significant in determining differential sensitivities to specific insecticides processed through the P450/PON1 pathway. Injection of purified rabbit PON1 protects mice from cholinesterase inhibition by chlorpyrifos (CPS) and CPO. Knockout mice are much more sensitive to CPO and DZO than are their PON1+/+ littermates or wild-type mice. A number of recent reports have also indicated that the PON1R sub(192) isoform may be a risk factor for cardiovascular disease. Studies with PON1 knockout mice are also consistent with a role of PON1 in preventing vascular disease.  
Conference: 16. Int. Neurotoxicol. Conf., Little Rock, AR (USA), 13-16 Sep 1998  
Publisher: Intox Press  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Conference  
Classification: X 24135 Biochemistry  
Classification: N3 11104 Mammals (except primates)  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

FUTAGAWA, H. and TAKAHASHI, H. (1996). INHIBITORY EFFECTS OF ORGANOPHOSPHORUS INSECTICIDE DIAZINON ON THE ISOLATED VASCULAR SMOOTH MUSCLE CONTRACTION. *23RD ANNUAL MEETING OF THE JAPANESE SOCIETY OF TOXICOLOGICAL SCIENCES, FUKUOKA, JAPAN, JULY 24-26, 1996. JOURNAL OF TOXICOLOGICAL SCIENCES; 21* 399.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING POSTER RAT VASCULAR SMOOTH MUSCLE DIAZINON ORGANOPHOSPHORUS INSECTICIDE HEART AORTA DIAZINON OXON POTASSIUM INDUCED CONTRACTIONS CALCIUM CONCENTRATION BAY K 8644 TOXICOLOGY MUSCULAR SYSTEM CARDIOVASCULAR SYSTEM CIRCULATORY SYSTEM CONTRACTION MUSCULAR SYSTEM Congresses/ Biology/ Biochemistry/ Cardiovascular System/ Muscles/ Poisoning/ Animals, Laboratory/ Muridae

Gadella, Jr. Theodorus W. J. and Wirtz, Karel W. A. (1991). The low-affinity lipid binding site of the non-specific lipid transfer protein. Implications for its mode of action. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1070: 237-245.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The non-specific lipid transfer protein (nsL-TP) from bovine liver was studied using the following fluorescent lipid analogs: phosphatidylcholine species with a sn-2-pyrenylacyl-chain of different length [Pyr(x)PC], sn-2-pyrenyldecanoyl-labelled phosphatidylinositol [Pyr(10)PI],-phosphatidylinositol 4-phosphate [Pyr(10)PIP], -phosphatidylinositol 4,5-bisphosphate [Pyr(10)PIP2] and dehydroergosterol. These analogs provided information on the effect of hydrophobicity and charge on lipid binding and transfer by nsL-TP. Binding of the Pyr(x)PC species decreased with increasing sn-2 acyl-chain length. Under equilibrium conditions, the fraction of nsL-TP that carried a PC molecule did not exceed 8%, which is consistent with a low affinity binding site. Also nsL-TP-mediated transfer of the Pyr(x)PC species decreased with increasing sn-2 acyl-chain length and was highly correlated with spontaneous transfer. Binding of the phosphoinositides increased in the order Pyr(10)PI 2, indicating that an increase in lipid negative charge stimulates binding. The transfer of the phosphoinositides, however, decreased in the same order, which suggests that a high negative charge impairs the dissociation of the phospholipid from nsL-TP. Cholesterol, at concentrations up to 50 mol% in the donor membrane, hardly affected binding and transfer of Pyr(6)PC, strongly suggesting that nsL-TP has no high binding affinity for cholesterol. In agreement with this, binding of dehydroergosterol to nsL-TP was not detectable. Despite this apparently negligible affinity, nsL-TP-mediated transfer of dehydroergosterol was in the same order as that of Pyr(6)PC. The results are interpreted to indicate that transfer of lipids by nsL-TP involves the formation of a putative low-affinity lipid-protein complex. This formation is enhanced when lipid hydrophobicity decreases or lipid negative charge increases. Based on the binding and transfer data, the mode of action of nsL-TP is discussed in terms of change in free energy. Lipid transfer protein, non-specific/ Sterol carrier protein 2/ Intermembrane transfer/ Lipid transfer/ Membrane

Gaines, T. B. (1969). Acute Toxicity of Pesticides. *Toxicol.Appl.Pharmacol.* 14: 515-534 .

EcoReference No.: 36729  
Chemical of Concern: AND,CHD,DDT,DLD,ES,EN,HPT,HCCH,TXP,DZ,PRN,As,Cu,CBL,NAPH,PAH,PCP,CN,PQT,PPB,PPHD,Zineb,MRX,ABT,DMT,DS,EMT,FNT,PSM,Naled,OXD,THM,HCCH,MLN,MP; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Galindo-Reyes, J. G., Dalla Venezia, L., Lazcano-Alvarez, G., and Rivas-Mendoza, H. (2000). Enzymatic and Osmoregulative Alterations in White Shrimp Litopenaeus vannamei Exposed to Pesticides. *Chemosphere* 40: 233-237.

EcoReference No.: 49408  
Chemical of Concern: DDT,HCCH,CHD,CPY,DZ; Habitat: A; Effect Codes: PHY,BCM; Rejection Code: NO ENDPOINT(ALL CHEMS).

Galinis, Deborah L., Wiemer, David F., and CazinJr., John (1993). Cissampentin: A new bisbenzylisoquinoline alkaloid from Cissampelos fasciculata. *Tetrahedron* 49: 1337-1342.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A new bisbenzylisoquinoline alkaloid, cissampentin, has been isolated from the aerial parts of Cissampelos fasciculata. Detailed interpretation of various spectra allowed identification of most structural features, including a rare methyleneoxy bridge. Although attempted methylation of this alkaloid led to complex mixtures, reaction with diethyl phosphorochloridate gave a single diethyl phosphate derivative and allowed assignment of a 7&prime;-11 ether linkage. Bioassays indicate significant activity as a repellent to the leafcutter and Acromyrmex octospinosus, and limited antifungal activity.

Galli, R., Rich, H. W., and Scholtz, R. (1994). Toxicity of Organophosphate Insecticides and Their Metabolites to the Water Flea Daphnia magna, the Microtox Test and an Acetylcholinesterase. *Aquat.Toxicol.* 30: 259-269.

EcoReference No.: 16747  
Chemical of Concern: DS,DZ,PRN,DDVP,FNT; Habitat: A; Effect Codes: PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Galloway, T. and Handy, R. (2003). Immunotoxicity of Organophosphorous Pesticides. *Ecotoxicology [Ecotoxicology]. Vol. 12, no. 1-4, pp. 345-363. Feb-Aug 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
ISSN: 0963-9292  
Descriptors: Immune system  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Organophosphorus compounds  
Descriptors: Reviews  
Descriptors: Wildlife  
Descriptors: Pollution effects  
Descriptors: Parathion  
Descriptors: Chlorpyrifos  
Descriptors: Malathion  
Descriptors: Diazinon  
Descriptors: Organophosphates  
Descriptors: Pesticides  
Descriptors: Immunotoxins  
Descriptors: Toxicology  
Descriptors: Bioindicators  
Abstract: This study reviews the toxic effects of organophosphate (OP) pesticides on the immune systems and immune functions of invertebrates, fish, and higher vertebrate wildlife. The fundamental features and mechanisms of OP-induced immunotoxicity are illustrated with reference to parathion, chlorpyrifos, malathion, and diazinon. Immunotoxicity may be direct via inhibition of serine hydrolases or esterases in components of the immune system, through oxidative damage to immune organs, or by modulation of signal transduction pathways controlling immune functions. Indirect effects include modulation by the nervous system, or chronic effects of altered metabolism/nutrition on immune organs. Immunotoxicities are varied and include pathology of immune organs, and decreased humoral and/or cell mediated immunity. Altered non-specific immunity, decreased host resistance, hypersensitivity and autoimmunity are also features of immunotoxicity; although not all of these have been conclusively demonstrated in terms of pollutant exposure and immunotoxic effects in wildlife within individual experiments. Immunotoxicological biomarkers and biological monitoring tools are urgently needed to assess the extent of immunotoxicity in wildlife. Selection of universal biomarkers is hampered by the physiological diversity of immune systems in animals. However, by drawing on evidence from human epidemiology and tiered approaches in mammalian immunotoxicity evaluation, a selection of generic biomarkers of immunotoxicity in animals is suggested. Priorities for future research are also identified.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24134 Pathology  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Subfile: Pollution Abstracts; Toxicology Abstracts

Garces-Garcia, Marta, Brun, Eva M., Puchades, Rosa, and Maquieira, Angel (2006). Immunochemical determination of four organophosphorus insecticide residues in olive oil using a rapid extraction process. *Analytica Chimica Acta* 556: 347-354.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Sensitive, simple and rapid ELISA methods have been developed for the determination of four organophosphorus pesticides in extra virgin olive oil. The analytical procedure involves simultaneous extraction of the analytes from oil matrix with methanol and a freezing clean-up step (-80 [deg]C), followed by immunoassay determination using standards in matrix. The methodology is specific for diazinon, fenthion, malathion and chlorpyrifos showing little or no cross-reactivity against other organophosphorus compounds. Limits of detection for the pesticides in olive oil are from 46 ng ml-1 for diazinon to 10 ng ml-1 for fenthion, all of them under the established MRLs for olives. The excellent recoveries (between 94 and 122%) obtained by the complete analytical protocol confirm the potential of this approach for detecting these compounds in olive oil, being useful as screening and complementary method in pesticide regulatory and food safety programs. The proposed methodology also correlates well with the reference chromatographic (GC-MS) methods. Immunoassay/ Insecticide/ Organophosphorus/ Diazinon/ Fenthion/ Malathion/ Chlorpyrifos/ Olive oil/ Food analysis

Garcia, M. A., Melgar, M. J., and Fernandez, M. I. (1994). Evidence for the safety of coumaphos, diazinon and malathion residues in honey. *Veterinary and Human Toxicology [VET. HUM. TOXICOL.]* 36: 429-432.  
Chem Codes: Chemical of Concern: ALSV Rejection Code: NO SPECIES, SURVEY.  
  
Residue levels of coumaphos, diazinon and malathion in honey were analyzed in 177 smaples of honey collected from different regions of Lugo in NW Spain in 1988-1990. One has to expect some of them as residues in honey, even if employed properly, for example coumaphos used against the parasitic mite Varroa jacobsoni. Honey samples were extracted with acetonitrile:water (2:1 v/v), partitioned with petroleum-ether, cleaned up with a manual Florisil column or Florisil Sep-Pack, evaporated to dryness, redissolved in an appropriate volume (1 mL) and then analyzed by GLC with a silica capillary column and nitrogen-phosphorus detector. Recoveries of coumaphos, diazinon and malathion varied between 80-97%. One hundred forty-eight samples contained no detectable residues, while 29 had residues of coumaphos and diazinon in ppb levels. These residues are minimal and when eating honey are harmless for the health of human beings. Classification: X 24120 Food, additives & contaminants; H SE4.24 FOOD CONTAMINATION; X 24136 Environmental impact honey/ pesticide residues/ diazinon/ malathion/ Spain/ coumaphos/ diazinon/ malathion/ honey

Garcia, M. A., Melgar, M. J., and Fernandez, M. I. (1994). Evidence for the safety of coumaphos, diazinon and malathion residues in honey. *Veterinary and Human Toxicology [VET. HUM. TOXICOL.]. Vol. 36, no. 5, pp. 429-432. 1994.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0145-6296  
Descriptors: honey  
Descriptors: pesticide residues  
Descriptors: diazinon  
Descriptors: malathion  
Descriptors: Spain  
Abstract: Residue levels of coumaphos, diazinon and malathion in honey were analyzed in 177 smaples of honey collected from different regions of Lugo in NW Spain in 1988-1990. One has to expect some of them as residues in honey, even if employed properly, for example coumaphos used against the parasitic mite Varroa jacobsoni. Honey samples were extracted with acetonitrile:water (2:1 v/v), partitioned with petroleum-ether, cleaned up with a manual Florisil column or Florisil Sep-Pack, evaporated to dryness, redissolved in an appropriate volume (1 mL) and then analyzed by GLC with a silica capillary column and nitrogen-phosphorus detector. Recoveries of coumaphos, diazinon and malathion varied between 80-97%. One hundred forty-eight samples contained no detectable residues, while 29 had residues of coumaphos and diazinon in ppb levels. These residues are minimal and when eating honey are harmless for the health of human beings.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24120 Food, additives & contaminants  
Classification: H SE4.24 FOOD CONTAMINATION  
Classification: X 24136 Environmental impact  
Subfile: Health & Safety Science Abstracts; Toxicology Abstracts

Garfitt, S. J., Jones, K., Mason, H. J., and Cocker, J. (2002). Exposure to the organophosphate diazinon: data from a human volunteer study with oral and dermal doses. *Toxicology Letters [Toxicol. Lett.]. Vol. 134, no. 1-3, pp. 105-113. 5 Aug 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0378-4274  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Skin  
Descriptors: Blood  
Descriptors: Metabolites  
Descriptors: Oral administration  
Descriptors: Urine  
Abstract: Biological monitoring of occupational exposure to diazinon is possible by the determination of blood cholinesterase activity and by the measurement of metabolites in urine. However, there is little data to aid in the interpretation of results. This study gave oral (11 mu g kg super(-1) (36 nmol kg super(-1)) body weight) and occluded dermal (100 mg (329 mu mol)) doses of diazinon to five volunteers and analysed blood and urine samples for plasma and erythrocyte cholinesterase and urinary dialkyl phosphate (DAP) metabolites of diazinon: diethyl phosphate (DEP) and diethyl thiophosphate (DETP). Following oral and dermal exposure, peak urinary DAP levels occurred at 2 and 12 h, respectively. The apparent urinary elimination half-lives of DAP metabolites following oral and dermal exposure were approximately 2 and 9 h, respectively. Approximately 60% of the oral dose and 1% of the dermal dose was excreted as urinary DAP metabolities, with 90% of the dermal dose being recovered from the skin surface. On a group basis, there was no statistically significant mean depression in plasma or erythrocyte cholinesterase when compared with pre-exposure levels for either dosing experiment. The observed elimination kinetics of diazinon metabolites suggest a biological monitoring strategy for occupational exposure to diazinon based on urine samples collected at the end of shift.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Garrett, N. E., Stack, H. F., and Waters, M. D. (1986). Evaluation of the Genetic Activity Profiles of 65 Pesticides. *Mutat.Res.* 168: 301-325.  
Chem Codes: Chemical of Concern: SZ,PNB,RSM,MOM,CBF,ADC,DCNA,24DXY,CYP,DMB,ATN,AZ,BMC,CMY,Captan,DS,DZ,EN,ETN,FNF,FNTH,Folpet,Maneb,MLN,MXC,MP,MZB,PCP,PMR,PPN,PRN,PRT,RTN,SID,SMT,TCF,TFN,TRL,Zineb,DCB Rejection Code: REFS CHECKED/REVIEW.

GARRETT NE, STACK HF, and WATERS MD (1986). EVALUATION OF THE GENETIC ACTIVITY PROFILES OF 65 PESTICIDES. *MUTAT RES; 168 (3). 1986 (RECD. 1987). 301-326.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM GENOTOXICITY INSECTICIDE HERBICIDE FUNGICIDE Cytology/ Histocytochemistry/ Genetics/ Cytogenetics/ Biochemistry/ Metabolism/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides

Garrood, A. C., Akroyd, C., Beverley, M., Boryslawskyj, M., Pearson, J. T., and Woodhead, D. (1989). Elevation of Glutathione Transferase in Molluscs in Response to Xenobiotics. *In: Responses of Mar.Organisms to Pollutants* 147 (ABS).  
Chem Codes: EcoReference No.: 14804  
Chemical of Concern: DZ Rejection Code: ABSTRACT.

Garten, C. T. and Trabalka, J. R. (1983). Evaluation of Models for Predicting Terrestrial Food Chain Behavior of Xenobiotics. *Environ.Sci.Technol.* 17: 590-595.  
Chem Codes: EcoReference No.: 36745  
Chemical of Concern: DZ,ADC,AND,AZ,BMY,HCCH,CBL,CHD,CPY,CPYM,CMPH,DDT,DMB,DLD,DMT,DU,ES,EN,ETN,MLN,MTZ,MXC,MRX,PPHD,PCL,TDZ,TXP,TPR,TFL,PCB Rejection Code: REFS CHECKED/REVIEW.

GAULTNEY LD, HOWARD KD, and MULROONEY JE (1996). OFF-TARGET DRIFT WITH AIR-ASSISTED AGRICULTURAL SPRAYERS. *HOPKINSON, M. J., H. M. COLLINS AND G. R. GOSS (ED.). ASTM STP, 1312. PESTICIDE FORMULATIONS AND APPLICATIONS SYSTEMS: 16TH VOLUME; SIXTEENTH SYMPOSIUM ON PESTICIDE FORMULATIONS AND APPLICATION SYSTEMS, NORFOLK, VIRGINIA, USA, NOVEMBER 14-15, 1995. VIII+216P. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM): PHILADELPHIA, PENNSYLVANIA, USA. ISBN 0-8031-2035-4.; 0 (1312). 1996. 104-113.*  
 Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING PAPER PESTICIDES OFF-TARGET DRIFT AIR-ASSISTED AGRICULTURAL SPRAYER AIR SHEAR SPRAYERS METHODOLOGY Congresses/ Biology/ Herbicides/ Pest Control/ Pesticides

Gautam, R. K., Gautam, K., and Tejeshwarilal, K. (2002). Effects of Pesticides on Gastro Intestinal Nucleic Acids in Channa punctatus. *J.Ecotoxicol.Environ.Monit.* 12: 57-60.

EcoReference No.: 85642  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(DZ).

Gencsoylu, I., Liu, W., Usmani, K. A., and Knowles, C. O. (1998). Toxicity of Acaricides to the Bulb Mite Rhizoglyphus echinopus (Acari: Acaridae). *Exp.Appl.Acarol.* 22: 343-351.

EcoReference No.: 64443  
Chemical of Concern: TFY,FPP,CYP,DDT,IMC,CPY,DZ,DMT,CBL,RTN,PMR,FNV,BFT,CBF,DLD,EN,AND,FPN; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CBF),OK TARGET(DMT,RTN,CYP,BFT,FPN,DZ),OK(ALL CHEMS).

George, T. K., Liber, K., Solomon, K. R., and Sibley, P. K. (2003). Assessment of the Probabilistic Ecological Risk Assessment-Toxic Equivalent Combination Approach for Evaluating Pesticide Mixture Toxicity to Zooplankton in Outdoor Microcosms.  *Archives of Environmental Contamination and Toxicology [Arch. Environ. Contam. Toxicol.]. Vol. 45, no. 4, pp. 453-461. Dec 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0090-4341  
Descriptors: Pesticides  
Descriptors: Toxicity  
Descriptors: Zooplankton  
Descriptors: Chlorpyrifos  
Descriptors: Insecticides  
Descriptors: Trifluralin  
Descriptors: Diazinon  
Descriptors: Surface water  
Descriptors: Endosulfan  
Descriptors: Risk assessment  
Descriptors: Acute toxicity  
Abstract: The probabilistic ecological risk assessment-toxic equivalent (PERA-TE) combination approach was recently introduced in response to the increased demand for risk assessment approaches that can accommodate mixtures. The effectiveness and validity of the PERA-TE approach was assessed using two types of pesticide mixtures tested in outdoor microcosms. The first type of mixture consisted of pesticides with similar modes of action (the organophosphorus insecticides chlorpyrifos and diazinon) and the second of pesticides with different modes of action (chlorpyrifos, endosulfan, and trifluralin). To assess the toxicity of, and potential interaction within, each type of mixture, theoretically equitoxic TE mixtures were prepared in different proportional ratios. The TE mixtures were based on the 10th centile of acute toxicity effects distributions (data obtained from the literature) and a factor of the sum of the 90th centile field concentrations extrapolated from exposure distributions based on North American surface water monitoring data. Changes in zooplankton population abundances were used as the effect measure. The binary organophosphorus mixtures were equitoxic and conformed to the concentration addition model. The observed response trends of zooplankton exposed to the mixture of chemicals with different modes of action were a result of the susceptibility of individual taxa to the dominating pesticide in each mixture. Overall, the PERA-TE approach was not effective in predicting the toxicity and interaction of all mixture types and should be limited to assessing mixtures of chemicals with similar modes of action.  
Publisher: Springer-Verlag  
DOI: 10.1007/s00244-003-2123-9  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24221 Toxicity testing  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; Pollution Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Toxicology Abstracts

Getzin, L. W. (1967). Metabolism of Diazinon and Zinophos in Soils. *J.Econ.Entomol.* 60: 505-508.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.

Getzin, L. W. and Rosefield, I. (1966). Persistence of Diazinon and Zinophos in Soils. *J.Econ.Entomol.* 50: 512-516.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Ghatge, N. D. and Mohite, S. S. (1987). Disiloxane-containing difunctional compounds: Synthesis and reactivity of 1,3-bis-(p-isocyanatophenyl) disiloxanes. *Polyhedron* 6: 435-440.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Disiloxane-containing diisocyanates having the following general structure: where R = CH3 and C6H5, have been synthesized by the Curtius rearrangement of acid diazides. Both the diazides and one diisocyanate (R = C6H5) are new. The other diisocyanate (R = CH3) was prepared by following a new synthetic route. All the compounds were characterized by IR and 1H NMR spectroscopy. The reactivity of the diisocyanates with 2-ethyl-1-hexanol was studied using the IR spectroscopic technique.

Ghidoni, Riccardo, Sala, Giusy, and Giuliani, Attilia (1999). Use of sphingolipid analogs: benefits and risks. *Biochimica et Biophysica Acta (BBA) - Molecular and Cell Biology of Lipids* 1439: 17-39 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Ceramide/ Sphingosine/ Glycosphingolipid/ Sphingomyelin/ Short-chain/ NBD/ Apoptosis

Giordani, Cristiana, Licandro, Emanuela, Maiorana, Stefano, Papagni, Antonio, Slawin, Alexandra M., and William, David J. (1990). Reactions of chromium (methoxymethyl)carbene complexes with 3H-indoles. *Journal of Organometallic Chemistry* 393: 227-236.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The reactions of chromium-complexed carbenes with 3,3-dimethyl 3H-indoles have been studied in the presence and absence of a Lewis acid as activator in sunlight or under irradiation from a Hg lamp. 1,3-Diazinone-diindolic derivatives have been obtained.

Glass, P. W., Jordan, B. L., Mancini, J. L., and Mathews, J. (1995). WET Testing Faces Diazinon Dilemma. *Water Environ.Technol.* 29-30.  
Chem Codes: EcoReference No.: 45846  
Chemical of Concern: DZ Rejection Code: EFFLUENT.

Glotfelty, D. E., Schomburg, C. J., McChesney, M. M., Sagebiel, J. C., and Seiber, J. N. (1990). Studies of the distribution, drift, and volatilization of diazinon resulting from spray application to a dormant peach orchard. *Chemosphere* 21: 1303-1314.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
An experiment was conducted to determine the spray distribution, spray drift, and volatilization of diazinon applied in the conventional manner with an air-blast sprayer to a dormant peach orchard. Copper hydroxide and a dormant oil were applied along with the diazinon. Soil samples and tree rinse samples were used to determine the distribution in the orchard. Airborne losses were calculated by the integrated horizontal flux method from measurements of wind speed and pesticide concentration profiles obtained during and for several days following application. Diazinon was not distributed evenly between the trees and the soil in the orchard according to their relative areas. Most of the diazinon accounted for was found to be on the soil. The residue on the soil dissipated with a 19 day half life. Application drift losses were small compared to long-term volatilization losses, and we conclude that most of the diazinon in California's Central Valley atmosphere during the dormant spray season results from volatilization. This result has important implications for designing strategies for controlling inadvertent contamination of other crops and the environment.

Glotfelty, D. E., Schomburg, C. J., Mcchesney, M. M., Sagebiel, J. C., and Seiber, J. N. (1990). Studies of the Distribution, Drift, and Volatilization of Diazinon Resulting from Spray Application to a Dormant Peach Orchard. *Chemosphere* 21: 1303-1314.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Goel, R. G. and Prasad, H. S. (1973). Organobismuth compounds : V. Preparation, characterization, and properties of triphenylbismuth diazide and dicyanide. *Journal of Organometallic Chemistry* 50: 129-134 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Triphenylbismuth diazide and the dicyanide have been prepared and characterized. Previously reported triphenylbismuth hydroxide cyanide has been shown to be triphenylbismuth dicyanide. A trigonal bipyramidal structure is indicated for both the compounds on the basis of their infrared and laser Raman spectra. The molecular weight and conductance data for the diazide in acetone are also in accord with a molecular structure. The dicyanide is, however, decomposed in solution into diphenylbismuth cyanide and benzonitrile. Thermal decomposition of the solid dicyanide and the diazide has also been studied. The possibility of the conversion of the diazide and the dicyanide into the corresponding dicyanate has been explored. Unlike transition metal azides, the triphenylbismuth diazide does not react with CO. Triphenylbismuth dicyanide could also not be converted into the corresponding dicyanate by reaction with either HgO or MnO2. Reaction with HgO afforded triphenylbismuth oxide and the reaction with MnO2 gave uncharacterized products.

Golenda, C. F. and Forgash, A. J. (1985). Fenvalerate Cross-Resistance in a Resmethrin-Selected Strain of the House Fly (Diptera: Muscidae). *J.Econ.Entomol.* 78: 19-24.

EcoReference No.: 69959  
Chemical of Concern: MLN,FNV,ADC,PPB,RSM,DZ,DDT; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ,RSM).

Gomaa, H. M., Suffet, I. H., and Faust, S. D. (1969). Kinetics of Hydrolysis of Diazinon and Diazoxon. *Residue Rev.* 29: 171-190.  
Chem Codes: EcoReference No.: 62360  
Chemical of Concern: DZ Rejection Code: NO SPECIES.

Gomez, F., Martinez-Toledo, M. V., Salmeron, V., Rodelas, B., and Gonzalez-Lopez, J. (1999). Influence of the insecticides profenofos and diazinon on the microbial activities of Azospirillum brasilense. *Chemosphere* 39: 945-957.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
The influence of 10, 50, 100, 200 and 300 [mu]g/ml of profenofos and diazinon were investigated in cells of Azospirillum brasilense grown in chemically-defined medium and dialysed-soil medium. The insecticide diazinon did not affect microbial growth, levels of ATP, dinitrogen fixation and production of vitamins of A. brasilense in either chemically-defined medium or dialysed-soil medium. Profenofos significantly reduced dinitrogen fixation, intracellular levels of ATP, production of pantothenic acid, thiamine, niacin and growth in cells grown in chemically-defined medium. However, these negative effects were not significant in cells grown in dialysed-soil medium, suggesting that application of profenofos to culture medium was not detrimental to A. brasilense under the present experimental conditions. Organophosphorus-insecticides/ profenofos/ diazinon/ Azospirillum/ microbial activity

Gomez-Gutierrez, Anna I., Jover, Eric, Bodineau, Laurent, Albaiges, Joan, and Bayona, Josep M. ( Organic contaminant loads into the Western Mediterranean Sea: Estimate of Ebro River inputs. *Chemosphere* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Annual input estimates for several organic contaminants from the Ebro River into the Northwestern Mediterranean Sea were carried out on the basis of monthly sampling from November 2002 to October 2003. Some organochlorine compounds (DDT and its degradation products, DDD and DDE, PCBs (9 congeners), HCB and [gamma]-HCH) were selected due to their reported occurrence in the river. Furthermore, some polar pesticides used in the Ebro Delta were also determined (atrazine, simazine, diazinon, fenitrothion and molinate). Concentrations ranged from 0.4 to 19.5 ng l-1 for the organochlorine compounds (sum of particulate and dissolved phases) and from not detected (ND) to 170 ng l-1 for the more polar pesticides, which were only found in the dissolved phase. The sum of PCB congeners (mean 8.9 ng l-1) showed the highest concentrations among the organochlorine compounds and atrazine (mean 82 ng l-1) among the polar pesticides. Based on the contaminant concentrations and on hydrological data, contaminant discharges into the sea were estimated amounting in total to 167 and 1258 kg year-1 of organochlorine compounds and polar pesticides, respectively. Furthermore, it was observed that PCBs, DDTs and HCB inputs were basically influenced by spate periods due to an increase in suspended particulate matter associated to runoff and sediment resuspension. Whereas for more water soluble contaminants, such as the agrochemicals, their seasonal use had a higher incidence in contaminant fluxes. Bulk chemical parameters such as SPM, DOC, POC, %OC, %ON and C/N ratio provided additional information on the organic matter sources. This provides a better understanding of the temporal variability of the contaminant concentrations. Organochlorine compounds/ Pesticides/ River outflow/ Contaminant transport processes/ Contaminant loads/ Temporal trends

Graebing, Phillip and Chib, J S (2004). Soil photolysis in a moisture- and temperature-controlled environment. 2. Insecticides. *Journal Of Agricultural And Food Chemistry* 52: 2606-2614.  
Chem Codes: Chemical of Concern: EFV Rejection Code: FATE.  
  
The photolytic degradations of imidacloprid, carbofuran, diazinon, chlorpyrifos, pyridaben, propoxur, and esfenvalerate were independently compared in both moist (75% field moisture capacity at 0.33 bar) and air-dry microbially viable soils at 5 microg/g. All compounds were applied to sandy soil except for propoxur, which was applied to sandy loam soil. Diazinon was applied to both sandy soil and sandy loam soil. The samples were exposed for up to 360 h, depending on the half-life of the compound. Moisture and temperature were maintained through the use of a specially designed soil photolysis apparatus. Corresponding dark control studies were performed concurrently. With the exception of esfenvalerate, the other compounds exhibited significantly shorter half-lives in moist soils, attributed to the increased hydrolysis and microbial activity of the moist soil. The esfenvalerate metabolism was not first order due to limited mobility in the soil because of its very low water solubility. The overall half-life for esfenvalerate was 740 h, as the percent remaining did not drop below 60%. The imidacloprid half-life in irradiated moist soil was 1.8 times shorter than in air-dry soils. However, on dry soil the photodegradation showed poor first-order kinetics after 24 h of exposure. The metabolism of carbofuran and diazinon was highly dependent on soil moisture. Carbofuran exhibited 2.2 times longer half-lives when less moisture was available in the soil. Diazinon in moist sandy soil degraded rapidly, but slowed significantly in irradiated and dark control air-dry sandy soil. Diazinon photolysis on sandy loam soil was not first order, as it attained a constant concentration of 54.9%, attributed to decreased mobility in this soil. Chlorpyrifos photolysis was 30% shorter on moist sand than on air-dry sand. Pyridaben photolyzed rapidly throughout the first 72 h of irradiation but maintained 48% through 168 h. Propoxur metabolism in moist sandy loam soil was not first order and did not degrade below 50% after 360 h of exposure, but the overall half-life was still nearly half of that on irradiated air-dry soil. Three of the compounds showed differences in metabolism patterns during exposure on moist or air-dry soil. Typically, the moist soils produced a more linear decline than that seen in the dry soils, corresponding to the susceptibility of the particular chemical to hydrolysis and/or biodegradation. Four of the eight experiments had shorter half-lives in dark control moist soils than in irradiated dry soils. [Journal Article; In English; United States]

Grafton-Cardwell, E. E. and Hoy, M. A. (1985). Intraspecific Variability in Response to Pesticides in the Common Green Lacewing, Chrysoperla carnea (Stephens) (Neuroptera: Chrysopidae). *Hilgardia* 53: 1-31.

EcoReference No.: 73696  
Chemical of Concern: MOM,DZ,PMR,FNV,CBL,PSM; Habitat: T; Effect Codes: MOR,REP; Rejection Code: TARGET(DZ).

Granifo, J., Vargas, M. E., Costamagna, J., and Francois, M. A. (1988). Coordination of a polyfunctional cyclic ligand containing a P---P bond to the fragment [Mo(CO)3(NN)] (NN = 2,2&prime;-bipyridine, 1,10-phenanthroline). Spectroscopic and electrochemical characterization. *Polyhedron* 7: 489-494.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
The reaction of 1,3,4,6-tetramethyl-1H,4H-1,3,4,6-tetraaza-3a, 6a-diphosphapentalen-2,5(3H,6H)-dithion-3a-sulphide (TDP) with the derivatives of metal carbonyls [Mo(CO)3(NN)(CH3CN)] (NN = 2,2&prime;-bipyridine, 1, 10-phenanthroline) leads to fac-Mo(CO)3(NN)(TDP) complexes with the ligand coordinated through the trivalent phosphorus atom. The IR and visible spectra of the new complexes as well as their electrochemical and general properties are discussed.

Granon, S. (1986). Spectrofluorimetric study of the bile salt micelle binding site of pig and horse colipases. *Biochimica et Biophysica Acta (BBA) - Protein Structure and Molecular Enzymology* 874: 54-60.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Pig and horse colipases contain three tyrosine residues. In addition, horse colipase possesses a tryptophan residue. Some of the tyrosine residues are involved in the association of colipase and a bile salt micelle. The present report demonstrates that the aromatic residues responsible for colipase fluorescence are in an aqueous environment. In the presence of bile salt micelles, changes in colipase fluorescence properties indicate that the intrinsic fluorophores are located in a more hydrophobic environment upon colipase-micelle complex formation. In addition, the fluorescence of an NBD group fixed on lysine 60, which is very close to the aromatic region in the pig colipase, is also altered in the presence of micelles. These results show that the micelle binding site is not limited to the tyrosine residues but may be broadened to adjacent residues such as lysine 60 and also tryptophan 52 in horse colipase. Colipase/ Bile-salt micelle/ Lipid-protein interaction

Graves, David E., Yielding, Lerena W., Watkins, Charles L., and Yielding, K. Lemone (1977). Synthesis, separation and characterization of the mono- and diazide analogs of ethidium bromide. *Biochimica et Biophysica Acta (BBA) - Nucleic Acids and Protein Synthesis* 479: 98-104.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Ethidium bromide is used to characterize nucleic acid secondary and tertiary structural properties and the biological consequences of drug interactions. The mono- and diazido analogs of ethidium have proven valuable as photoaffinity probes in chemical and biological studies on nucleic acids, since they render the ethidium-nucleic acid interaction covalent. Although both of these compounds have been synthesized previously, the published synthesis procedure for the monoazide is inadequate since a major portion of the product has been identified as the diazide analog. This lack of purity severely limits the usefulness for nucleic acid research. The procedure presented here for the synthesis, separation, purification and crystallization of these analogs should provide the quantities and quality of these important reagents needed to perform a variety of chemical and biological experiments.

Gray, R. A., Gauger, G. W., Dulaney, E. L., Kaczka, E. A., and Woodruff, H. B. (1964). Hadacidin, A New Plant Growth Inhibitor Produced by Fermentation. *Plant Physl* 39: 204-207.

EcoReference No.: 42125  
Chemical of Concern: DZ; Habitat: T; Effect Codes: GRO; Rejection Code: NO COC(DZ),NO ENDPOINT(ALL CHEMS).

Grechishnikova, Irina V., Bergstrom, Fredric, Johansson, Lennart B. A., Brown, Rhoderick E., and Molotkovsky, Julian G. (1999). New fluorescent cholesterol analogs as membrane probes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1420: 189-202.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
New fluorescent cholesterol analogs, (22E,20R)-3[beta]-hydroxy-23-(9-anthryl)-24-norchola-5,22-diene (R-AV-Ch), and the 20S-isomer (S-AV-Ch) were synthesized, their spectral and membrane properties were characterized. The probes bear a 9-anthrylvinyl (AV) group instead of C22-C27 segment of the cholesterol alkyl chain. Computer simulations show that both of the probes have bulkier tail regions than cholesterol and predict some perturbation in the packing of membranes, particularly for R-AV-Ch. In monolayer experiments, the force-area behavior of the probes was compared with that of cholesterol, pure and in mixtures with palmitoyloleoyl phosphatidylcholine (POPC) and N-stearoyl sphingomyelin (SSM). The results show that pure R-AV-Ch occupies 35-40% more cross-sectional area than cholesterol at surface pressures below film collapse (0-22 mN/m); whereas S-AV-Ch occupies nearly the same molecular area as cholesterol. Isotherms of POPC or SSM mixed with 0.1 mol fraction of either probe are similar to isotherms of the corresponding mixtures of POPC or SSM with cholesterol. The probes show typical AV absorption ([lambda] 386, 368, 350 and 256 nm) and fluorescence ([lambda] 412-435 nm) spectra. Steady-state anisotropies of R-AV-Ch and S-AV-Ch in isotropic medium or liquid-crystalline bilayers are higher than the values obtained for other AV probes reflecting hindered intramolecular mobility of the fluorophore and decreased overall rotational rate of the rigid cholesterol derivatives. This suggestion is confirmed by time-resolved fluorescence experiments which show also, in accordance with monolayer data, that S-AV-Ch is better accommodated in POPC-cholesterol bilayers than R-AV-Ch. Model and natural membranes can be labeled by either injecting the probes via a water-soluble organic solvent or by co-lyophilizing probe and phospholipid prior to vesicle production. Detergent-solubilization studies involving &lsquo;raft&rsquo; lipids showed that S-AV-Ch almost identically mimicked the behavior of cholesterol and that of R-AV-Ch was only slightly inferior. Overall, the data suggest that the AV-labeled cholesterol analogs mimic cholesterol behavior in membrane systems and will be useful in related studies. Sterol analog/ Fluorescence parameter/ Anthrylvinyl/ Monolayer/ Model bilayer/ Detergent-insolubility

GREEN, D. E. II, BURPEE LL, and STEVENSON KL (1999). Integrated effects of host resistance and fungicide concentration on the progress of Rhizoctonia blight in tall fescue turf. *CROP PROTECTION; 18* 131-138.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
BIOSIS COPYRIGHT: BIOL ABS. Efficacy of the fungicide flutolanil was assessed for control of Rhizoctonia blight, caused by Rhizoctonia solani Kuehn, on monostands and blends of two tall fescue (Festuca arundinacea Schreb.) cultivars. The cultivars Kentucky 31 (moderately resistant to R. solani) and Mojave (susceptible) were seeded in six treatments of ratios between 100:0 and 0:100 of each cultivar, respectively. The monostands and blends were raised to maturity and treated with six rates of flutolanil ranging from 3.4 to into tall fescue cultivars before host resistance can be used to limit fungicide applications. Plants/Cytology/ Plants/Genetics/ Plants/Growth & Development/ Fungi/ Plant Diseases/ Immunity, Natural/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Mitosporic Fungi/ Grasses

Greve, P. A., Freudenthal, J., and Wit, S. L. ( Potentially hazardous substances in surface waters. 2. Cholinesterase inhibitors in Dutch surface waters. *Science of the Total Environment [Sci. Total Environ.]. Vol. 1, no. 3, pp. 253-265. 1972.*  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO SPECIES.  
  
Several analytical methods were employed to determine the concs of cholinesterase inhibitors in several Dutch surface waters. An auto-analyzer method was used for screening purposes; TLC and GLC-mass spectrometry were used for identification and quantitation of Malathion, parathion, dimethoate, diazinon and carbaryl in extracts of the river Rhine. AFSA Input Center Number: 1974  
Classification: Q5 01503 Characteristics, behavior and fate

Greve, P. A., Freudenthal, J., and Wit, S. L. (1972). Potentially hazardous substances in surface waters. 2. Cholinesterase inhibitors in Dutch surface waters. *Science of the Total Environment [Sci. Total Environ.]. Vol. 1, no. 3, pp. 253-265. 1972.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: Indexing in process  
Abstract: Several analytical methods were employed to determine the concs of cholinesterase inhibitors in several Dutch surface waters. An auto-analyzer method was used for screening purposes; TLC and GLC-mass spectrometry were used for identification and quantitation of Malathion, parathion, dimethoate, diazinon and carbaryl in extracts of the river Rhine.  
records keyed from 1974 ASFA printed journals  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Grewal, P. S., Richardson, P. N., COLLINS, G., and Edmondson, R. N. (1992). Comparative Effects of Steinernema feltiae (Nematoda: Steinernematidae) and Insecticides on Yield and Cropping of the Mushroom Agaricus bisporus. *Ann.Appl.Biol.* 121: 511-520.

EcoReference No.: 85030  
Chemical of Concern: DZ,DFZ; Habitat: T; Effect Codes: GRO,POP; Rejection Code: NO MIXTURE(DZ),OK(DFZ).

Griffiths, John and Lockwood, Martin (1975). Photochemical ring contraction reactions of some 9,10-anthraquinone ortho - quinone diazides. *Tetrahedron Letters* 16: 683-686.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

Grosch, D. S. (1973). Reproduction Tests: The Toxicity for Artemia of Derivatives From Non-Persistent Pesticides. *Biol.Bull.* 145: 340-351.

EcoReference No.: 8852  
Chemical of Concern: DZ,NP; Habitat: A; Effect Codes: REP,MOR,POP; Rejection Code: NO ENDPOINT(DZ).

Gruber, Hermann J. and Schindler, Hansgeorg (1994). External surface and lamellarity of lipid vesicles: a practice-oriented set of assay methods. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1189: 212-224.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Three methods are presented for the determination of external surface of large lipid vesicles of different lamellarity with 2% absolute accuracy. These methods (referred to as EPR, NBD and TNBS assays) use different marker lipids which provide signals (electron paramagnetic resonance, fluorescence of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) residues, and UV absorption increase of 2,4,6-trinitrobenzenesulfonic acid after reaction with aminolipids, respectively). The signals change upon addition of different membrane-impermeant reagents due to reaction with marker lipids at the external vesicle surface. They were applied to the same vesicle samples, including unilamellar and multilamellar vesicles, both at two different lipid compositions. External surface data matched for the three assays within 2%, but only after appropriate redesign or adaptation of so far published procedures. Main improvements related to slow influx of reagents (TNBS and NBD assays) or to redistribution of marker lipids (EPR assay), obscuring determination of outer vesicle surface from fast reaction between reagent and readily accessible marker lipids. Furthermore, suitable stategies were found to obtain accurate 100% values (reaction of all marker lipids present), required to relate external vesicle surface total surface. This included corrections for light scattering (NBD assay) and for turbidity (TNBS assay). These three methods appear to close a gap in the methodology to determine external surface of vesicles for typical practical needs. In particular, the reliability range of the NBD assay could be extended to marker lipid densities as low as 1 marker lipid per 3000 lipids. Ascorbate/ Lipid vesicle/ External surface/ CAT-16/ NBD-PE/ TNBS/ EPR

Gruber, S. J. and Munn, M. D. (1998). Organophosphate and Carbamate Insecticides in Agricultural Waters and Cholinesterase (ChE) Inhibition in Common Carp (Cyprinus carpio). *Arch.Environ.Contam.Toxicol.* 35: 391-396.  
Chem Codes: Chemical of Concern: DZ,CPY,AZ,DS,CBL,MLN,EP Rejection Code: MIXTURE.

Grunwald, Jacob, Segall, Yoffi, Shirin, Ezra, Waysbort, Daniel, Steinberg, Nitza, Silman, Israel, and Ashani, Yacov (1989). Aged and non-aged pyrenebutyl-containing organophosphoryl conjugates of chymotrypsin : Preparation and comparison by 31P-NMR spectroscopy. *Biochemical Pharmacology* 38: 3157-3168.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Homologous pairs of non-aged and aged pyrene-containing phosphoryl conjugates of chymotrypsin were prepared in order to characterize by NMR and optical spectroscopy putative differences in the conformation of non-aged and aged organophosphoryl conjugates of serine hydrolases. Pyrenebutyl-O-P(O)(OC2H5)F and pyrenebutyl-O-P(O)(OC2H5)Cl were used to obtain the non-aged form pyrenebutyl-O-P(O)(OC2H5)-Cht, whereas pyrenebutyl-O-P(O)Cl2, pyrenebutyl-O-P(O)(p-nitrophenoxy) Cl, and pyrenebutyl-O-P(O)(p-nitrophenoxy)2 were used to produce the aged conjugate pyrenebutyl-O-P(O)(O-)-Cht. These ligands bind covalently to the active site of serine hydrolases. The absorption spectra of both the non-aged and aged conjugates fitted approximately a 1:1 stoichiometry of bound organophosphate and enzyme in the non-aged and aged conjugates. Pyrenebutyl-O-P (O)(OC2H5)-Cht could be reactivated by pyridine-3-aldoxime methiodide, whereas no reactivation was observed for the similarly treated pyrenebutyl-O-P(O)(O-)-Cht. The 31P-NMR and reactivation data taken together strongly support the hypothesis that the aged form of the OP-Cht conjugate contains a P-O- bond. These results provide a partial interpretation for the known resistance of the aged conjugates of serine hydrolases to reactivation.

Guddewar, Madhukar B. and Dauterman, Walter C. (1979). Purification and properties of a glutathione-S-transferase from corn which conjugates s-triazine herbicides. *Phytochemistry* 18: 735-740.  
Chem Codes: Chemical of Concern: SZ Rejection Code: NO TOX DATA.  
  
A glutathione-S-transferase involved in atrazine conjugation was purified 43-fold from corn with a total yield of 36%. The purified enzyme has a MW of 45 000 as determined by gel filtration. The estimated activation energy of the enzyme is 6.4 kcal/mol and the optimum pH for activity between 8 and 8.5. Substrate specificity studies with s-triazines indicated that atrazine was the best substrate followed by simazine and propazine. The ---Cl group at the 2-position was essential for enzyme activity, and replacement by a ---SCH3 group resulted in a total loss of activity. The absence of an alkyl group resulted in a reduction of conjugation and 2-chloro-4,6-bis-amino-s-triazine was the poorest substrate. With insecticidal substrates (organophosphates), conjugating activity was observed only with diazinon and little or no activity was observed with ethyl parathion, malathion and etrimfos. No activity was found using methyl iodide as a substrate. The purified enzyme has properties similar to those of an aryl-S-transferase. Quinones were inhibitors of this enzyme. http://www.sciencedirect.com/science/article/B6TH7-42K6G0C-NH/2/887ffde4ea07935d2af78f2add052974

Guddewar, Madhukar B. and Dauterman, Walter C. (1979). Purification and properties of a glutathione-S-transferase from corn which conjugates s-triazine herbicides. *Phytochemistry* 18: 735-740.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
A glutathione-S-transferase involved in atrazine conjugation was purified 43-fold from corn with a total yield of 36%. The purified enzyme has a MW of 45 000 as determined by gel filtration. The estimated activation energy of the enzyme is 6.4 kcal/mol and the optimum pH for activity between 8 and 8.5. Substrate specificity studies with s-triazines indicated that atrazine was the best substrate followed by simazine and propazine. The ---Cl group at the 2-position was essential for enzyme activity, and replacement by a ---SCH3 group resulted in a total loss of activity. The absence of an alkyl group resulted in a reduction of conjugation and 2-chloro-4,6-bis-amino-s-triazine was the poorest substrate. With insecticidal substrates (organophosphates), conjugating activity was observed only with diazinon and little or no activity was observed with ethyl parathion, malathion and etrimfos. No activity was found using methyl iodide as a substrate. The purified enzyme has properties similar to those of an aryl-S-transferase. Quinones were inhibitors of this enzyme. Zea mays/ Gramineae/ corn/ glutathione-S-transferase/ s-triazine herbicides/ conjugation.

Guerrero, F. D., Alison, M. W. Jr., Kammlah, D. M., and Foil, L. D. (2002). Use of the Polymerase Chain Reaction to Investigate the Dynamics of Pyrethroid Resistance in Haematobia irritans irritans (Diptera: Muscidae). *J.Med.Entomol.* 39: 747-754 .

EcoReference No.: 69411  
Chemical of Concern: DZ,CYH; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS,TARGET-DZ).

Guerrero, F. D., Pruett, J. H., Kunz, S. E., and Kammlah, D. M. (1999). Esterase Profiles of Diazinon-Susceptible and -Resistant Horn Flies (Diptera: Muscidae). *J.Econ.Entomol.* 92: 286-292.

EcoReference No.: 64557  
Chemical of Concern: DZ; Habitat: T; Effect Codes: MOR,BCM; Rejection Code: OK TARGET(DZ).

Guerrero, Felix D. (2000 ). Cloning of a horn fly cDNA, Hi[alpha]E7, encoding an esterase whose transcript concentration is elevated in diazinon-resistant flies. *Insect Biochemistry and Molecular Biology* 30: 1107-1115.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Reverse transcriptase-polymerase chain reaction (PCR) was used to clone two esterase cDNAs from a diazinon-resistant field population of horn flies that expresses qualitative and quantitative differences in esterases compared with a susceptible population. The open reading frame from one of the esterase cDNAs, Hi[alpha]E7, exhibits substantial amino-acid identity to an esterase associated with diazinon resistance in Lucilia cuprina. RNA Northern blots showed that Hi[alpha]E7 mRNA was more abundant in the diazinon-resistant population than the susceptible population. DNA copy number analysis did not reveal major differences in Hi[alpha]E7 gene copy number between the two populations. The full-length cDNA to Hi[alpha]E7 was cloned and sequenced, and found to contain all of the highly conserved sequence elements associated with carboxyl/cholinesterases. The Hi[alpha]E7 homologs in diazinon-resistant strains of L. cuprina and Musca domestica have been shown to possess an amino-acid substitution conferring diazinon hydrolytic activity to the esterase enzyme. This amino-acid substitution was not found in diazinon-resistant horn flies examined by allele-specific PCR. Individual flies from the resistant field population were phenotyped as diazinon-resistant or diazinon-susceptible by topical diazinon application bioassays and total RNA isolated and hybridized to Hi[alpha]E7 probe in ribonuclease protection assays. Hi[alpha]E7 transcript was expressed at a five-fold higher level in resistant female individual flies than in susceptible female individuals. Diazinon resistance/ Ribonuclease protection assays/ Sequence/ Esterases

Guerrero-Rodriguez, E., Davalos-Luna, S., and Corrales-Reynaga, J. (1995). RESPONSE OF MEXICAN CORN ROOTWORM TO INSECTICIDES 1991. *Burditt, A. K. Jr. (Ed.). Arthropod Management Tests, Vol. 20. Iii+399p. Entomological Society of America: Lanham, Maryland, Usa. Isbn 0-938522-53-1.* 0 : 329.  
Chem Codes: CBF Rejection Code: BOOK ORDERED - BURDITT VOL 2O.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER ZEA-MAYS DIABROTICA-VIRGIFERA-ZEAE CHLORPYRIFOS DIAZINON FONOFOS ISAZOFOS PROTHIOFOS TERBUFOS CARBOFURAN LINDANE TEFLUTHRIN INSECTICIDE PESTICIDE EVALUATION ARTHROPOD MANAGEMENT TEST LABORATORY BIOASSAY  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Agronomy-Forage Crops and Fodder  
KEYWORDS: Agronomy-Oil Crops  
KEYWORDS: Horticulture-Vegetables  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Field  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Gramineae  
KEYWORDS: Coleoptera

GUERRERO-RODRIGUEZ, E., PAXTIAN-HERNANDEZ, J., and AGUIRRE-URIBE LA (1993). RESIDUAL FILM BIOASSAY 1989. *BURDITT, A. K. JR. (ED.). INSECTICIDE & ACARICIDE TESTS, VOL. 18. II+405P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA.; 0 (0). 1993. 374.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT,MIXTURE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT POULTRY FOWL TICK CHLORFENVINPHOS DIAZINON COUMAPHOS TRICHLORFON LINDANE INSECTICIDE Congresses/ Biology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Arthropods/ Birds

Guglielmone, A. A., Castelli, M. E., Volpogni, M. M., Medus, P. D., Martins, J. R., Suarez, V. H., Anziani, O. S., and Mangold, A. J. (2001). Toxicity of Cypermethrin and Diazinon to Haematobia irritans (Diptera: Muscidae) in Its American Southern Range. *Vet.Parasitol.* 101: 67-73.

EcoReference No.: 66592  
Chemical of Concern: CYP,DZ; Habitat: T; Rejection Code: TARGET(CYP,DZ).

Guinn, R., Coulter, J., and Dickson, K. (1995). Use of a Constructed Wetland to Reduce Diazinon Toxicity in a Municipal Wastewater Effluent. *Proc.24th Water for Texas Conf., Texas Water Resour.Inst.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Guinn, R., Dickson, K., and Waller, T. (1998). Use of Constructed Wetlands to Treat Diazinon. *Abstract-1.html at twri.tamu.edu* 3.  
Chem Codes: EcoReference No.: 45847  
Chemical of Concern: DZ Rejection Code: NO DURATION.

Gunner, H. B. and Zuckerman, B. M. (1968). Degradation of `Diazinon' by Synergistic Microbial Action. *Nature* 217: 1183-1184.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.

Guo, L., Nordmark, C. E., Spurlock, F. C., Johnson, B. R., Li, L., Lee, J. M., and Goh, K. S. (2004). Characterizing Dependence of Pesticide Load in Surface Water on Precipitation and Pesticide Use for the Sacramento River Watershed. *Environmental Science & Technology [Environ. Sci. Technol.]. Vol. 38, no. 14, pp. 3842-3852. 15 Jul 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0013-936X  
Descriptors: Pesticide content of precipitation  
Descriptors: Pesticides in water  
Descriptors: Rainfall-runoff relationships  
Descriptors: Regression techniques  
Descriptors: Watershed pollution  
Descriptors: Time series analysis  
Descriptors: Pesticides  
Descriptors: Rivers  
Descriptors: Watersheds  
Descriptors: Precipitation  
Descriptors: Surface Water  
Descriptors: Model Studies  
Descriptors: Surface Runoff  
Descriptors: Diazinon  
Descriptors: Contamination  
Descriptors: Technology  
Descriptors: Assessments  
Descriptors: Diuron  
Descriptors: Storms  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Statistical Models  
Descriptors: Rainfall  
Descriptors: Simazine  
Descriptors: Nonpoint pollution  
Descriptors: Stormwater runoff  
Descriptors: Pollution dispersion  
Descriptors: Transport processes  
Descriptors: Atmospheric precipitations  
Descriptors: Water pollution  
Descriptors: Runoff  
Descriptors: Environmental factors  
Descriptors: USA, California, Sacramento R.  
Abstract: Transport of pesticides by surface runoff during rainfall events is a major process contributing to pesticide contamination in rivers. This study presents an empirical regression model that relates pesticide loading over time in the Sacramento River with the precipitation and pesticide use in the Sacramento River watershed. The model closely simulated loading dynamics of diazinon, simazine, and diuron during 1991--1994 and 1997--2000 winter storm seasons. The coefficients of determination for regression ranged from 0.168 to 0.907, all were significant at <0.001. The results of this study provide strong evidence that precipitation and pesticide use are the two major environmental variables dictating the dynamics of pesticide transport into surface water in a watershed. The capability of the statistical model to provide time-series estimates on pesticide loading in rivers is unique and may be useful for total maximum daily load (TMDL) assessments.  
DOI: 10.1021/es0351241  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: M2 551.577.13 Chemical properties of precipitation. Acid precipitation (551.577.13)  
Classification: SW 3020 Sources and fate of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: AQ 00002 Water Quality  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: M2 556.16 Runoff (556.16)  
Classification: M2 556.51 Drainage Areas (556.51)  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Meteorological & Geoastrophysical Abstracts; Environmental Engineering Abstracts; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts

Guo, Lei, Nordmark, Craig E, Spurlock, Frank C, Johnson, Bruce R, Li, Linying, Lee, J Marshall , and Goh, Kean S (2004). Characterizing dependence of pesticide load in surface water on precipitation and pesticide use for the Sacramento River watershed. *Environmental Science & Technology* 38: 3842-3852.  
Chem Codes: Chemical of Concern: SZ Rejection Code: FATE.  
  
Transport of pesticides by surface runoff during rainfall events is a major process contributing to pesticide contamination in rivers. This study presents an empirical regression model that relates pesticide loading over time in the Sacramento River with the precipitation and pesticide use in the Sacramento River watershed. The model closely simulated loading dynamics of diazinon, simazine, and diuron during 1991-1994 and 1997-2000 winter storm seasons. The coefficients of determination for regression ranged from 0.168 to 0.907, all were significant at <0.001. The results of this study provide strong evidence that precipitation and pesticide use are the two major environmental variables dictating the dynamics of pesticide transport into surface water in a watershed. The capability of the statistical model to provide time-series estimates on pesticide loading in rivers is unique and may be useful fortotal maximum daily load (TMDL) assessments. [Journal Article; In English; United States]

Ha Park, Kwan, Kim, Young-Suk, Chung, Ee-Yung, Choe, Sun-Nam, and Choo, Jong-Jae (2004). Cardiac responses of Pacific oyster Crassostrea gigas to agents modulating cholinergic function. *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology* 139: 303-308.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
To examine the functional effects of cholinergic modulation compounds in oyster hearts and to explore their possible use in monitoring intoxication with acetylcholine-esterase (AChE) inhibitors such as organophosphates, tests were performed with in situ oyster heart preparations. The endogenous cholinergic agonist acetylcholine (ACh), AChE-resistant synthetic agonist carbachol, and the reversible carbamate type of AChE inhibitor physostigmine, all potently depressed spontaneous cardiac contractility. The depression was reversed by extensive washout, or prevented by muscarinic cholinergic antagonist atropine. The irreversible organophosphate type AChE inhibitor parathion or its active metabolite paraoxon at concentrations up to 100 [mu]M failed to depress cardiac contractility. While other reversible AChE inhibitors such neostigmine and pyridostigmine also depressed the contractility, organophosphate AChE inhibitors malathion, diazinon, or phenthoate did not. Despite the differential effect in depressing cardiac function between the reversible and irreversible inhibitors, both of these inhibitors effectively inhibited cardiac AChE activity. The results suggest that the activation of muscarinic cholinergic receptors is coupled to inhibitory cardiac modulation, and organophosphate AChE inhibitors may inhibit only an AChE isozyme located at sites that are not important for control of cardiac activity in oysters. Pacific oyster/ Cardiac contractility/ Muscarinic/ ACh/ AChE/ Organophosphates/ Carbamates/ Cholinergic receptors

Hadfield, Anthony F., Hough, Leslie, and Richardson, Anthony C. (1978). The synthesis of 6-deoxy-6-fluoro-[alpha],[alpha]-trehalose and related analogues. *Carbohydrate Research* 63: 51-60.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Selective acid-catalysed methanolysis of 2,3,2&prime;,3&prime;-tetra-O-benzyl-4,6:4&prime;,6&prime;-di-O-benzylidene-[alpha],[alpha]-trehalose yielded the monobenzylidene derivative, which was converted into the 4,6-dimesylate. Selective nucleophilic displacement of the primary sulphonyloxy group then gave 2,3-di-O-benzyl-6-deoxy-6-fluoro-4-O-mesyl-[alpha]--glucopyranosyl 2,3-di-O-benzyl-4,6-O-benzylidene-[alpha]--glucopyranoside. Removal of the protecting groups then yielded 6-deoxy-6-fluoro-[alpha],[alpha]-trehalose. In addition, 6-deoxy-6-fluoro-4-O-mesyl-[alpha],[alpha]-trehalose and a derivative of 4-chloro-4,6-dideoxy-6-fluoro-[alpha]--galactopyranosyl [alpha]--glucopyranoside were also prepared from the same substrate. Iodide displacement of 2,3-di-O-benzyl-4,6-di-O-mesyl-[alpha]--glucopyranosyl 2,3-di-O-benzyl-4,6-di-O-mesyl-[alpha]--glucopyranoside afforded the 6-iodide and 6,6&prime;-di-iodide in yields of 31 and 36%, respectively. Similarly, the 6-azide and 6,6&prime;-diazide were isolated in yields of 17 and 21%, respectively.

Hafeman, Dean G., Seul, Michael, Cliffe, II Charles M., and McConnell, Harden M. (1984 ). Superoxide enhances photobleaching during cellular immune attack against fluorescent lipid monolayer membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 772: 20-28.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lipid hapten-containing monolayer membranes with bound, anti-hapten antibody molecules serve as model immunological target membranes. Targets with bound-IgG trigger guinea pig macrophages to (a) adhere, (b) spread, (c) release lysosomal enzymes, and (d) increase cyanide-insensitive oxygen consumption. When the target membranes are derivatized with fluorescein, there is a 2-3-fold enhancement in the rate of fluorescein photobleaching in regions of cell-monolayer contact. This effect is due to release of O2- from macrophages, as shown by inhibition with superoxide dismutase and by the fact that enhanced photobleaching is not observed with cells of the RAW264 macrophage line, which undergo responses (a)-(d), but do not release O2- extracellularly. The O2--dependent photobleaching reaction appears to be relatively specific for fluorescein, as it did not occur with two other fluorophores, 4-nitrobenz-2-oxa-1,3-diazole and tetramethylrhodamine. Because stimulated neutrophils release large quantities of O2-, the photobleaching of fluorescein-labeled target membranes in response to neutrophils was examined. Monolayer membranes with specifically bound IgG caused neutrophils to adhere and become markedly motile during incubation at 37[deg]C. Like macrophages, neutrophils induced O2--dependent photobleaching of fluorescein-labeled IgG in regions of cell-monolayer contact. In addition, neutrophils gave rise to a slower, nonphotochemical loss of fluorescence in the same contact regions. The latter effect is apparently due to cleavage of target-bound fluorescent IgG by proteolytic enzymes secreted by the neutrophils in response to the target surface. Immune attack/ Phospholipid monolayer/ Lipid hapten/ Photobleaching/ Superoxide release/ (Neutrophil)

Haga, T., Tsujii, Y., Hayashi, K., Kimura, F., Sakashita, N., and Fujikawa, K. I. (1990). Trifluoromethylpyridines as Building Blocks for a New Agrochemicals. Discovery of a New Turf Herbicide. *In: D.R.Baker, J.G.Fenyes and W.K.Moberg (Eds.), ACS (Am.Chem.Soc.) Symp.Ser.No.443, Chapter 9, Synthesis and Chemistry of Agrochemicals II, Meet.Am.Chem.Soc., Washington, D.C.* 107-120.

EcoReference No.: 74373  
Chemical of Concern: DFZ,FNV,PMR,DCM,CPYM,MOM,ACP,DDVP,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(MOM,TARGET-DZ).

HAGA, T., TSUJII, Y., HAYASHI, K., KIMURA, F., SAKASHITA, N., and FUJIKAWA K-I (1990). TRIFLUOROMETHYLPYRIDINES AS BUILDING BLOCKS FOR NEW AGROCHEMICALS DISCOVERY OF A NEW TURF HERBICIDE. *BAKER, D. R., J. G. FENYES AND W. K. MOBERG (ED.). ACS (AMERICAN CHEMICAL SOCIETY) SYMPOSIUM SERIES, 443. SYNTHESIS AND CHEMISTRY OF AGROCHEMICALS II; MEETING. XIII+609P. AMERICAN CHEMICAL SOCIETY: WASHINGTON, D.C., USA. ILLUS. ISBN 0-8412-1885-4.; 0 (0). 1990 (1991). 107-120.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM SL-160 HIGH ACTIVITY LOW MAMMALIAN TOXICITY RAPID SOIL DEGRADATION CHEMICAL MECHANISM Congresses/ Biology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Grasses/Growth & Development/ Soil/ Plants/Growth & Development/ Herbicides/ Pest Control/ Pesticides

Hall, L. W. Jr (2003). Analysis of diazinon monitoring data from the Sacramento and Feather River watersheds: 1991-2001. *Environmental Monitoring and Assessment [Environ. Monit. Assess.]. Vol. 86, no. 3, pp. 233-253. 2 Aug 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0167-6369  
Descriptors: Diazinon  
Descriptors: Insecticides  
Descriptors: Historical account  
Descriptors: Watersheds  
Descriptors: Rain  
Descriptors: Freshwater pollution  
Descriptors: Rivers  
Descriptors: Pesticides  
Descriptors: History  
Descriptors: Catchment Areas  
Descriptors: Water Quality  
Descriptors: Water Pollution  
Descriptors: Rainfall-runoff Relationships  
Descriptors: River water  
Descriptors: Tributaries  
Descriptors: Catchment area  
Descriptors: Pollution monitoring  
Descriptors: Rainfall  
Descriptors: Stormwater runoff  
Descriptors: Environmental monitoring  
Descriptors: USA, California, Sacramento R.  
Descriptors: USA, California, Feather R.  
Abstract: The objectives of this study were to: (1) analyze historical diazinon water column monitoring data from inconsistent monitoring programs in mainstem and tributary sites in the Sacramento and Feather River watersheds from 1991 to 2001 to assess possible spatial and temporal trends and (2) determine the probability of measured diazinon concentrations by site or similar pooled sites exceeding various proposed effects benchmarks such as Water Quality Criteria and 10th centiles derived from species sensitivity distributions proposed as target concentrations for Total Maximum Daily Loads (TMDLs). An analysis of diazinon monitoring data from both fixed and rain event sampling from the Sacramento/Feather River watersheds from 1991 to 2001 showed that 90th centiles for 27 different mainstem and tributary sites ranged from 12 to 14,897 ng L super(-1). The 90th centiles were generally higher at tributary sites (as compared to mainstem sites) during rain event sampling prior to 1995. A comparison of rain event samples for similar sites sampled in 1994 and 2000 showed that 90th centiles were lower in seven of eight sites in 2000. A comparison of pooled mainstem sites between 1994 and 2000 for rain event data showed a lower 90th centile value for 2000; 90th centiles were also lower in 2000 at all pooled tributary sites and all sites when data from a highly influential site was removed. For various site designations (all sites, pooled mainstem sites etc.) the probability of exceeding the acute and chronic diazinon targets developed by California Department of Fish and Game decreased from 1994 to 2000. These data clearly show progress in the 6 yr period in reducing environmental concentrations of diazinon. Probability of exceeding the 10th centile targets based on species sensitivity distributions for arthropods (the most sensitive taxa to diazinon exposure) was similar and fairly low between years; the highest percent probability of exceedance for any site designation was 20%. Results from a two-way ANOVA using individual measurements from all sites sampled showed a significant decrease during rain events between 1994 and 2000, although the decrease was not equivalent for all sites. Sources of uncertainty identified in the analysis of rain event data from 1994 and 2000 were inconsistent frequency of sampling during rain events for each year, unknown definition of rain events between the two years and non-defined measurement point within the hydrograph of rain events sampled in each year. Analysis of diazinon trends from fixed sampling was limited due to lack of yearly data by site; therefore, only parametric analysis could be conducted. Based on parametric analysis of diazinon monitoring data from fixed sampling sites, the percent detected concentrations were greater than 20% for 12 tributary sites and 5 mainstem sites from samples collected during January-March. On the average over all sites and months, diazinon concentrations have decreased at fixed sampling sites in the Sacramento/Feather River watershed from 1991 to 2001.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: AQ 00002 Water Quality  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Environmental Engineering Abstracts; Pollution Abstracts

Hall, W. C. (1951). Morphological and Physiological Responses of Carnation and Tomato to Organic Phosphorus Insecticides and Inorganic Soil Phosphorus. *Plant Physl* 26: 502-524.

EcoReference No.: 41058  
Chemical of Concern: DZ; Habitat: T; Effect Codes: GRO,BCM,PHY; Rejection Code: NO ENDPOINT(DZ).

Halling, Katrin K. and Slotte, J. Peter (2004). Membrane properties of plant sterols in phospholipid bilayers as determined by differential scanning calorimetry, resonance energy transfer and detergent-induced solubilization. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1664: 161-171.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The increased use of plant sterols as cholesterol-lowering agents warrants further research on the possible effects of plant sterols in membranes. In this study, the effects of the incorporation of cholesterol, campesterol, [beta]-sitosterol and stigmasterol in phospholipid bilayers were investigated by differential scanning calorimetry (DSC), resonance energy transfer (RET) between trans parinaric acid (tPA) and 2-(6-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)hexanoyl-1-hexadecanoyl-sn-glycero-3-phosphocholine (NBD-PC), and Triton X-100-induced solubilization. The phospholipids used were 1,2-dipalmitoyl-sn-glycero-3-phosphocholine (DPPC), -erythro-N-palmitoyl-sphingomyelin (PSM), and 1-palmitoyl-2-oleoyl-sn-glycero-3-phosphocholine (POPC). In DSC experiments, it was demonstrated that the sterols differed in their effect on the melting temperatures of both the sterol-poor and the sterol-rich domains in DPPC and PSM bilayers. The plant sterols gave rise to lower temperatures of both transitions, when compared with cholesterol. The plant sterols also resulted in lower transition temperatures, in comparison with cholesterol, when sterol-containing DPPC and PSM bilayers were investigated by RET. In the detergent solubilization experiments, the total molar ratio between Triton X-100 and POPC at the onset of solubilization (Rt,sat) was higher for bilayers containing plant sterols, in comparison with membranes containing cholesterol. Taken together, the observations presented in this study indicate that campesterol, [beta]-sitosterol and stigmasterol interacted less favorably than cholesterol with the phospholipids, leading to measurable differences in their domain properties. Campesterol/ Stigmasterol/ Sitosterol/ Phosphatidylcholine/ Sphingomyelin/ Membrane heterogeneity

HAMM JA, VILIALOBOS SA, and HINTON DE (1998). DEVELOPMENTAL TOXICITY IN A LABORATORY SURROGATE FISH SPECIES ROLE OF EMBRYO DEVELOPMENT AND ENVIRONMENTAL FACTORS IN RESPONSE TO PESTICIDES. *NINTH INTERNATIONAL SYMPOSIUM ON POLLUTANT RESPONSES IN MARINE ORGANISMS, BERGEN, NORWAY, APRIL 27-30, 1997. MARINE ENVIRONMENTAL RESEARCH; 46* 499-500.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT ORYZIAS-LATIPES MEDAKA EMBRYO LABORATORY SURROGATE DEVELOPMENTAL TOXICITY ENVIRONMENTAL FACTORS PESTICIDE TOXIN TOXICOLOGY Ecology/ Oceanography/ Biochemistry/ Poisoning/ Animals, Laboratory/ Cell Differentiation/ Fetal Development/ Morphogenesis/ Embryology/ Herbicides/ Pest Control/ Pesticides/ Fishes

Hanada, Kentaro, Horii, Mio, and Akamatsu, Yuzuru (1991). Functional reconstitution of sphingomyelin synthase in Chinese hamster ovary cell membranes. *Biochimica et Biophysica Acta (BBA) - Lipids and Lipid Metabolism* 1086: 151-156.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Sphingomyelin synthase (phosphatidylcholine: ceramide phosphocholinetransferase) activity in the membranes of Chinese hamster ovary cells was found to be detectable with a fluorescent ceramide analog, containing a short acyl chain, as a substrate. We developed a method for the functional reconstitution of sphingomyelin synthase in detergent-treated membranes. Treatment of membranes with 1.5% octyl glucoside in the absence of exogenous phosphatidylcholine resulted in almost complete loss of sphingomyelin synthase activity, even after removal of the detergent by dialysis. In contrast, membranes treated with the detergent in the presence of exogenous phosphatidyl-choline showed partial activity and, after dialysis of this mixture, enzyme activity was restored to almost the same level as the activity in dialyzed intact membranes. The effects of various lipids on enzyme activity in this reconstitution system suggested that -[alpha]-phosphatidylcholine was the environmental lipid essential for the fucntional reconstitution of the enzyme. Furthermore, diacylglycerol was suggested to serve as an inhibitory regulator of sphingomyelin synthesis. Sphingomyelin/ Phosphatidylcholine/ Ceramide/ Diacylglycerol/ Octyl glucoside

Hansen, J. A., Marr, J. C. A., Lipton, J., Cacela, D., and Bergman, H. L. (1999). Differences in Neurobehavioral Responses of Chinook Salmon (Oncorhynchus tshawytscha) and Rainbow Trout (Oncorhynchus mykiss) Exposed to Copper and Cobalt: Behavioral Avoidance. *Environ.Toxicol.Chem.* 18: 1972-1978.

EcoReference No.: 20216  
Chemical of Concern: CuCl,Co,DZ; Habitat: A; Effect Codes: BEH; Rejection Code: LITE EVAL CODED(CuCl),OK(ALL CHEMS),NO COC(DZ).

Hanula, J. L. (1991). Seasonal Abundance and Control of the Rhododendron Gall Midge, Clinodiplosis rhododendri (Felt), in Container Grown Rhododendron catawbiense Michaux. *J.Environ.Hortic.* 9: 68-71.

EcoReference No.: 70750  
Chemical of Concern: RSM,CYP,DZ; Habitat: T; Effect Codes: POP; Rejection Code: TARGET(CYP,RSM,DZ).

Hao, Zhifeng, Tang, Zongxun, and Shi, Qizhen (1999). Preparation spectroscopy and conductivity of [Pt(SS)(NN)]-type complexes and their iodine oxidized complexes. *Inorganica Chimica Acta* 284: 112-115.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Charge transfer/ Platinum complexes/ Mixed-ligand complexes Complexes of the general formula [Pt(SS)(NN)] have been prepared, where SS is bbdt(1,2-bis(benzylthio)ethylene-1,2-dithiolate) or dpdt (5,6-dihydrophenyl-1,4-dithion-2,3-dithiolate) and NN is bipy (2,2&prime;-bipyridine) or phen (1,10-phenanthroline). The UV-Vis spectra exhibit intense intramolecular ligand-to-ligand charge transfer absorption bands at 440-600 nm. Cyclic voltammograms show a reversible oxidation step assigned to [Pt(SS)(NN)]0/[Pt(SS)(NN)]+. On doping iodine into the complexes, partial oxidation occurs to afford [Pt(SS)(NN)]Ix (x=1.9(2.2). IR, Raman and ESR spectra of the iodine-doped complexes are discussed. Electrical conductivities of the neutral mixed-ligand complexes (10-9-10-10 S cm-1) increase to 10-6-10-7 S cm-1 upon I2 doping.

Hara, T. J., Law, Y. M. C., and MacDonald, S. (1976). Effects of Mercury and Copper on the Olfactory Response in Rainbow Trout, Salmo gairdneri. *J.Fish.Res.Board Can.* 33: 1568-1573.

EcoReference No.: 15717  
Chemical of Concern: HgCl2,CuS,DZ; Habitat: A; Effect Codes: PHY; Rejection Code: NO ENDPOINT(ALL CHEMS),LITE EVAL CODED(OW-TRV-Cu).

HARGITAI, L. (1992). SOME ASPECTS OF CHEMICAL TOPOLOGY FROM THE EVALUATION OF PROPERTIES OF HUMIC SUBSTANCES. *SYMPOSIUM ON ADVANCES IN HUMIC SUBSTANCES RESEARCH HELD AT THE FIFTH INTERNATIONAL MEETING OF THE INTERNATIONAL HUMIC SUBSTANCES SOCIETY, NAGOYA, JAPAN, AUGUST 6-10, 1990. SCI TOTAL ENVIRON; 117-118* 379-392.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM TRIAZINE HERBICIDES PESTICIDES ADSORPTION BINDING Congresses/ Biology/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

HARMAN-FETCHO JA, MCCONNELL LL, and BAKER JE (1999). Agricultural pesticides in the Patuxent River, a tributary of the Chesapeake Bay. *JOURNAL OF ENVIRONMENTAL QUALITY; 28* 928-938.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The Chesapeake Bay estuarine drainage area receives the highest pesticide application of any coastal area in the USA, however, large gaps exist in information on pesticide residues entering Chesapeake Bay tributaries. Twelve pesticides, one pesticide degradation product, and one formulation by-product were measured in the surface waters of the Patuxent River during spring/summer 1995. Pesticide concentrations were compared with river flow and estimated use patterns in the watershed. Atrazine, 6- dation appears to be the main factor leading to decreases in atrazine concentrations. Atrazine levels observed at the mouth of the river correlated more strongly with high river flow events compared with the other analytes. This may be due to a local source of atrazine in the lower Patuxent River. Despite similar use rates in the watershed, metolachlor concentrations were 25 to 40 times lower than atrazine. Overall, triazine herbicides appeared to move quickly into the river and Ecology/ Oceanography/ Fresh Water/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides

Harris, C. R. (1967). Further Studies on the Influence of Soil Moisture on the Toxicity of Insecticides in Soil. *J.Econ.Entomol.* 60: 41-44.  
Chem Codes: Chemical of Concern: HPT,DDT,DZ,PRN Rejection Code: NO DURATION.

Harris, C. R. (1966). Influence of Soil Type on the Activity of Insecticides in Soil. *J.Econ.Entomol.* 59: 1221-1225.

EcoReference No.: 44307  
Chemical of Concern: DDT,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(DZ,DDT).

Harris, C. R. and Svec, H. J. (1970). Laboratory Studies on the Contact Toxicity of Some Insecticides to Honeybees. *Pestic.Prog.* 8: 25-28.

EcoReference No.: 70979  
Chemical of Concern: PRN,CBL,DLD,AND,DZ,EN,CHD,DDT,ES,HPT,MLN,MOM,CPY,CBF,Naled,AZ,DMT; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Harris, C. R., Turnbull, S. A., and McLeod, D. G. R. (1985). Contact Toxicity of Twenty-One Insecticides to Adults of the Carrot Rust Fly (Diptera: Psilidae). *Can.Entomol.* 117: 1025-1027.

EcoReference No.: 72206  
Chemical of Concern: DZ,DDT,AND,PRN,CPY,PSM,PMR,Naled,MOM,MLN,DM,CYP,CBF,AZ,FNV,FNF,ACP,AND,MVP; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CBF),OK(ALL CHEMS),OK TARGET(DZ,CYP,MLN).

HARRIS JP (1993). HORN FLY CONTROL ON BEEF CATTLE WITH EAR TAGS IN SOUTH MISSISSIPPI 1991. *BURDITT, A. K. JR. (ED.). INSECTICIDE & ACARICIDE TESTS, VOL. 18. II+405P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA.; 0 (0). 1993. 357.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT TERMINATOR SABER TOMAHAWK INSECTICIDE Congresses/ Biology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Animals, Domestic/ Animals, Zoo/ Parasitic Diseases/Veterinary/ Animal/ Disease/ Insects/Parasitology/ Diptera/ Artiodactyla

Harris, L. W., Fleisher, J. H., Innerebner, T. A., Cliff, W. J., and Sim, V. M. (1969). The Effects of Atropine-Oxime Therapy on Cholinesterase Activity and the Survival of Animals Poisoned with O,O-Diethyl-O-(2-Isopropyl-6-Methyl-4-Pyrimidinyl) Phosphorothioate. *Toxicol.Appl.Pharmacol.* 15: 216-224.

EcoReference No.: 84767  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Rejection Code: NO CONTROL(DZ).

Harris, M. L., Bishop, C. A., Struger, J., Van den Heuvel, M. R., Van der Kraak, G. J., Dixon, D. G., Ripley, B., and Bogart, J. P. (1998). The Functional Integrity of Northern Leopard Frog (Rana pipiens) and Green Frog (Rana clamitans) Populations in Orchard Wetlands: I. Genetics, Physiology, and Biochemistry of Breeding Adults and Young-of-the-Year. *Environ.Toxicol.Chem.* 17: 1338-1350.  
Chem Codes: EcoReference No.: 83837  
Chemical of Concern: ATZ,SZ,PIM,MTL,ES,DZ,AZ Rejection Code: NO DURATION/SURVEY.

HASEMAN JK (1990). Use of statistical decision rules for evaluating laboratory animal carcinogenicity studies. *FUNDAM APPL TOXICOL; 14* 637-648.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
BIOSIS COPYRIGHT: BIOL ABS. In the evaluation of long-term rodent carcinogenicity studies, many different tumor sites and types are evaluated, which may increase the likelihood of a statistical false positive. To deal with this issue, a number of statistical decision rules have been proposed that take into account multiple comparisons. This paper discusses the various types of decision rules and evaluates the factors that may lead to different interpretations of experimental results. These concepts are illustrated by examining the statistical decision procedures used by three analysts to evaluate the results of 25 long-term rodent carcinogenicity studies carried out by the National Cancer Institute. Agreement among these decision rules is shown to be greater than originally reported. It is also concluded that while the application of statistical decision rules may be of value in some instances to guard against statistical false positives, the final interpretation of the data should be based on bio Mathematics/ Statistics/ Biology/ Poisoning/ Animals, Laboratory/ Carcinogens/ Animal Feed/ Animal Husbandry/ Animals, Laboratory/ Muridae

Hashimoto, Y. and Fukami, J. I. (1969). Toxicity of Orally and Topically Applied Pesticide Ingredients to Carp, Cyprinus carpio Linne. *Sci.Pest Control (Botyu-Kagaku)* 34: 63-66.

EcoReference No.: 9038  
Chemical of Concern: DDT,EN,DLD,AND,PRN,MP,DZ,MOM,RTN,ATN,FBM,Ziram,NaPCP,FNT,ANZ,Zn; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Hashimoto, Y. and Nishiuchi, Y. (1981). Establishment of Bioassay Methods for the Evaluation of Acute Toxicity of Pesticides to Aquatic Organisms. *J.Pestic.Sci.* 6: 257-264 (JPN) (ENG ABS).

EcoReference No.: 5761  
Chemical of Concern: DDT,TPN,FNTH,24OXY,PRN,PAQT,CBL,PYN,Zineb,CZE,FBM,PPX,PPX,MOM,ES,TBC,MLN,FE,SZ,NaPCP,Captan,AND,DZ,ETN,FLAC,PPN,FNT,RTN,EN; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN,CONTROL,(ALL CHEMS).

Hashimoto, Y., Okubo, E., Ito, T., Yamaguchi, M., and Tanaka, S. (1982). Changes in Susceptibility of Carp to Several Pesticides with Growth. *J.Pestic.Sci.* 7: 457-461.

EcoReference No.: 10748  
Chemical of Concern: DZ,NaPCP,FNT,ES,TCF; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Hassan, S. A., Bigler, F., Bogenschutz, H., Boller, E., Brun, J., Chiverton, P., Edwards, P., Mansour, F., Naton, E., Oomen, P. A., Overmeer, W. P. J., Polgar, L., Rieckmann, W., Samsoe-Petersen, L., Staubli, A., Sterk, G., Taveres, K., Tuset, J. J., Viggiani, G., and Vivas, A. G. (1988). Results of the Fourth Joint Pesticide Testing Programme Carried Out by the IOBC/WPRS-Working Group. Pesticides and Beneficial Organisms.  *J.Appl.Entomol.* 105: 321-329.

EcoReference No.: 70387  
Chemical of Concern: CPY,DZ; Habitat: T; Rejection Code: TARGET(DZ).

HASSAN SA, BIGLER, F., BOGENSCHUETZ, H., BOLLER, E., BRUN, J., CHIVERTON, P., EDWARDS, P., MANSOUR, F., NATON, E. and others (1988). RESULTS OF THE FOURTH JOINT PESTICIDE TESTING PROGRAM CARRIED OUT BY THE IOBC-WPRS-WORKING GROUP PESTICIDES AND BENEFICIAL ORGANISMS. *J APPL ENTOMOL;* 105: 321-329.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM VERTICILLIUM-LECANII COLEOPTERA DIPTERA NEUROPTERA HETEROPTERA ACARI ARANEA ENTOMOPATHOGENIC FUNGUS HYMENOPTERA INSECTICIDE FUNGICIDE TOXICITY ASEPTA NEXION BROMOPHOS BIRLANE EC40 CHLORFENVINPHOS DURSBAN SPRITZPULVER CHLORPYRIFOS AMBUSH C CYPERMETHRIN BASUDINE VLOEIBAAR DIAZINON PERFECTHION DIMETHOATE PHOSDRIN W 10 MEVINPHOS DIMECRON 20 PHOSPHAMIDON HOSTATHION TRIAZOPHOS POLYRAM-COMBI METIRAM MILGO-E ERTHIRIMOL CORBEL FENPROPIMORPH TRIMIDAL EC NUARIMOL RUBIGAN VLOEIBAAR FENARIMOL ORTHO-PHALTAN 50 FOLPET INTERNATION ORGANIZATION FOR BIOLOGICAL CONTROL WEST PALEARCTIC REGIONAL SECTION Biology/Methods/ Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Animal/ Disease/ Insects/Parasitology/ Mitosporic Fungi/ Coleoptera/ Diptera/ Insects/ Hymenoptera/ Insects/ Arachnida/ Arthropods

Hatakeyama, S., Shiraishi, H., and Uno, S. (1997). Overall Pesticide Effects on Growth and Emergence of Two Species of Ephemeroptera in a Model Stream Carrying Pesticide-Polluted River Water. *Ecotoxicology* 6: 167-180.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE/MODELING.

Hatjian, B. A., Mutch, E., Williams, F. M., Blain, P. G., and Edwards, J. W. (2000). Cytogenetic response without changes in peripheral cholinesterase enzymes following exposure to a sheep dip containing diazinon in vivo and in vitro. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis* 472: 85-92.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
Occupational exposure to organophosphorus insecticides (OPs), such as diazinon, may be monitored by the measurement of the activity of peripheral cholinesterase enzymes, including erythrocyte acetylcholinesterase (EAChE) and plasma or serum cholinesterase (plasma or serum ChE). Exposures have also been measured by the analysis of dialkyl phosphate metabolites of OPs in urine. The potential health risks associated with exposure, especially those of a neurological nature, may then be estimated, and appropriate measures to reduce or eliminate exposures can be implemented. There is evidence that some OP pesticides may have in vivo genotoxic effects, suggesting a possible link with cancer with long term or repeated heavy exposures. This paper describes work performed in 17 subjects with a single or two exposures to a sheep dip containing diazinon. Urine samples revealed OP metabolites dimethylphosphate (DMP), dimethylthiophosphate (DMTP), diethylphosphate (DEP) and diethylthiophosphate (DETP) in 37% of subjects at low levels which were not elevated after exposure. EAChE and plasma ChE were also unchanged before and after exposure, and were similar to those measured in unexposed control groups. Sister chromatid exchanges (SCE), a marker of chromosome damage, was significantly elevated in peripheral blood lymphocytes after exposure compared with before. SCE were unchanged in a group of non-occupationally exposed workers. In vitro studies with both authentic diazinon (98%) and diazinon in a sheep dip formulation (45%) showed increased SCE and decreased replicative indices, suggesting toxic and genotoxic effects of diazinon. Diazinon/ Erythrocyte acetylcholinesterase/ Serum cholinesterase/ Sister chromatid exchange/ Dialkylphosphate

Hatzell, H. H. ( Pesticides In Surface Water From Three Agricultural Basins In South-Central Georgia, 1993-95.  
Chem Codes: CHLOR Rejection Code: SURVEY.  
  
td3: this report provides a foundation for future examinations of the complex interactions of pesticides in south-central georgia streams by (1) describing pesticide concentrations and occurrence in three streams draining agricultural basins, and (2) evaluating the correlations between the two most frequently detected herbicides, atrazine and metolachlor, and measurements of discharge and concentrations of organic carbon and suspended sediment in the stream. color illustrations reproduced in black and white. pesticides/ water sampling/ agricultural watersheds, little river, withlacoochee river, tuscawhatchee river, herbicides, insecticides, agricultural chemicals, atrazine, carbaryl, dursban, diazinon, organic carbon, bottom sediments, suspended sediments, discharge(water), ecological concentration, environmental transport, seasonal variations, water pollution detection, surface waters/ south central region(georgia), metolachlor

Hatzilazarou, S. P., Charizopoulos, E., Papadopoulou-Mourkidou, E., and Economou, A. S. (2005). Persistence of chlorpyrifos, diazinon and dimethoate sprayed in the greenhouse environment during hydroponic cultivation of Gerbera. *Agronomie, 25 (2) pp. 193-199, 2005*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0249-5627  
Descriptors: Airborne residues  
Descriptors: Greenhouse  
Descriptors: Organophosphate  
Descriptors: Pesticides  
Descriptors: Residue analysis  
Descriptors: Worker safety  
Abstract: The fate and behavior of chlorpyrifos, diazinon and dimethoate in a greenhouse installation during hydroponic cultivation of Gerbera was investigated. Their concentrations in the greenhouse air were related to their physicochemical properties. Thus, diazinon exhibited the highest concentration in the greenhouse air 2 hours after application, while chlorpyrifos and dimethoate were measured at lower concentrations. Afterwards, a rapid decrease was recorded. The concentrations of the above pesticides in the drain water of the open hydroponic system were relatively high immediately after the application but decreased rapidly during the following 3 days. In the closed hydroponic system, all the pesticides were accumulated in the nutrient solution during the first 24 hours after application but their concentration slowly decreased over the following 3 days. The highest concentrations of chlorpyrifos and diazinon were measured on the head of the spray operator. However, the highest concentration of dimethoate was measured on his chest. (copyright) INRA, EDP Sciences, 2005.  
23 refs.  
Language: English  
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Publication Type: Journal  
Publication Type: Article  
Country of Publication: France  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

HAVERHOEK, S., KONING, J., VAN STAVEREN NA, and DE RUYTER MA (1997). ADVANCED TREATMENT OF EFFLUENTS FROM AN AGROCHEMICAL FORMULATION PLANT. *WATER SCIENCE AND TECHNOLOGY; 35* 155-163.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE INDUSTRIAL WASTEWATER TREATMENT AGROCHEMICAL FORMULATION PLANT CHEMICAL OXIDATION BIOLOGICAL OXIDATION CROP PROTECTION AGENT EFFLUENT BIOPROCESS ENGINEERING WASTE MANAGEMENT Biochemistry/ Sanitation/ Sewage/ Biodegradation/ Industrial Microbiology/ Plants/Growth & Development/ Soil

Haverty, M. I. and Wood, J. R. (1981). Residual Toxicity of Eleven Insecticide Formulations to the Mountain Pine Cone Beetle, Conophthorus monticolae Hopkins. *J.Ga.Entomol.Soc.* 16: 77-83.

EcoReference No.: 70899  
Chemical of Concern: RSM,CBL,HCCH,CYP,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(CYP,RSM,DZ).

Hay, Robert W., Clifford, Thomas, and Lightfoot, Philip (1998). Copper(II) and zinc(II) complexes of N,N-bis(benzimidazole-2-ylmethyl)-amine. Synthesis, formation constants and the crystal structure of [ZnLCl]2]. MeOH. Catalytic activity of the complexes in the hydrolysis of the phosphotriester 2,4-dinitrophenyl diethyl phosphate. *Polyhedron* 17: 3575-3581.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
benzimidazole ligand/ crystal structure/ copper(II)/ zinc(II)/ catalytic activity/ phosphotriester The copper(II) and zinc(II) complexes of N,N-bis(benzimidazole-2-ylmethyl)amine (L) have been prepared and the crystal structure of [ZnLCl2]. MeOH determined. The complex is five-coordinate with a distorted square pyramidal geometry on zinc. Two pyridine nitrogen donors from the imidazole groups, the secondary amino group and one chloride act as in-plane donors with the axial site occupied by chloride. The zinc(II) lies some 0.65 A above the basal plane. The stepwise protonation constants of the ligand have been obtained, log K11=5.638(3) and log K12=10.12(1) and the stability constants (log [beta]1mh) for the copper(II) and zinc(II) complexes determined using 50% MeOH-H2O as solvent. The hydroxoaqua complexes [ML(OH) (OH2)]+ show only slight catalytic activity in the hydrolysis of the phosphotriester 2,4-dinitrophenyl diethyl phosphate.

Hay, Robert W., Clifford, Thomas, Richens, David T., and Lightfoot, Philip (2000). Binuclear copper(II), nickel(II), cobalt(II) and zinc(II) complexes of the macrocycle 1,4,7,16,19,22-hexaaza[9.9]metacyclophane (L). Crystal structure of [Cu2LCl4]0.5[middle dot][Cu2LCl3]ClO4[middle dot]dmf and the copper complex catalysed hydrolysis of the phosphotriester 2,4-dinitrophenyldiethylphosphate. *Polyhedron* 19: 1485-1492.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Binucleating hexa-aza macrocycle/ Copper(II)/ Nickel(II)/ Cobalt(II)/ Zinc(II)/ Crystal structures/ Phosphotriester/ Hydrolysis Copper(II), nickel(II), cobalt(II) and zinc(II) complexes of the 22-membered hexa-aza macrocycle 1,4,7,16,19,22-hexa-aza[9.9]metacyclophane (L) have been prepared and characterised. The crystal structure of a copper(II) chloro complex has been determined. The complex exists in two forms, one form (Type 1) with an inversion centre has both copper atoms in essentially square pyramidal stereochemistry with an N3Cl2 donor set and a Cu...Cu distance of 5.82 A. The other form (Type II) has one square pyramidal copper with an N3Cl2 donor set and one planar copper with an N3Cl donor set. The Type II Cu...Cu distance is 6.13 A. The structure is best described as [Cu2LCl4]0.5[middle dot][Cu2LCl3]ClO4[middle dot]dmf (dmf=N,N-dimethylformamide). The copper(II) complex catalyses the hydrolysis of the phosphotriester 2,4-dinitrophenyldiethylphosphate to give diethyl phosphate and the mechanism of the reaction is discussed.

Hay, Robert W. and Govan, Norman (1998). The [Cu([9]aneN3)(OH)(OH2)]+ catalysed hydrolysis of the phosphotriester 2,4-dinitrophenyl diethyl phosphate ([9]aneN3 = 1,4,7-triazacyclononane). *Polyhedron* 17: 463-468.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
copper(II)/ triazacyclononane/ hydrolysis/ catalysis/ phosphotriester The hydrolysis of the phosphotriester 2,4-dinitrophenyl diethyl phosphate to diethyl phosphate is catalysed by the macrocyclic complex [Cu([9]aneN3)(OH2)2]2+ ([9]aneN3 = 1,4,7-triazacyclononane). The pH dependence of the hydrolysis over the pH range 6.2 to 8.7 establishes that the active catalyst is the hydroxoaqua complex. The pK for the equilibrium [Cu([9]aneN3)(OH2)2]2+ [right harpoon over left] [Cu([9]aneN3)(OH)(OH2)]+ + H+ determined by potentiometric titration is 7.5 at 35[deg]C and I = 0.1 mol dm-3 so that catalysis at pH values close to neutrality is observed. Hydrolysis occurs by intramolecular attack of coordinated hydroxide on the phosphate triester which is bonded via the phosphoryl oxygen to the copper centre.

Hay, Robert W. and Govan, Norman (1998). The [Cu(tmen) (OH) (OH2)]+ promoted hydrolysis of 2,4-dinitrophenyl diethyl phosphate and O-isopropyl methylphosphonofluoridate (Sarin) (tmen = N,N,N&prime;,N&prime;-tetramethyl-1,2-diaminoethane). *Polyhedron* 17: 2079-2085.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
copper(11)/ tmen/ catalysis/ phosphotriester/ sarin/ hydrolysis The hydrolysis of the phosphate triester 2,4-dinitrophenyl diethyl phosphate to diethyl phosphate is catalysed by [Cu(tmen)(OH)(OH2)]+ in the pH range 6.5 to 8.0. At pH 7 with a catalyst concentration of 2.5 x 10-3 mol dm-3 the rate enhancement is ca 104 fold. The pH dependence of the catalysis is consistent with the hydroxoaqua complex being the active species in the hydrolysis. The greater kinetic effectiveness of this weak base, compared with hydroxide ion on a molar basis, indicates a bifunctional mechanism in which bound hydroxide acts as a nucleophile in conjunction with electrophilic catalysis by copper at the phosphoryl oxygen. The copper complex is an excellent catalyst for the hydrolysis of O-isopropyl methylphosphonofluoridate (Sarin). At pH 7 and 25[deg]C using a Sarin concentration of 4.5 x 10-2 mol dm-3 and a [Cu(tmen)(OH2)2]2+ concentration of 5 x 10-3 mol dm-3, complete hydrolysis (9 turnovers) occurs in 13 min.

Hay, Robert W. and Govan, Norman (1997). A lanthanum macrocycle catalysed hydrolysis of 2,4-dinitrophenyl diethyl phosphate and O-isopropyl methylfluorophosphote (Sarin). *Polyhedron* 16: 4233-4237.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lanthanum macrocycle/ catalysis/ phosphotriester hydrolysis/ sarin hydrolysis/ kinetics The lanthanum complex of a hexa-aza macrocycle is shown to be an effective catalyst for the hydrolysis of the water soluble phosphate triester 2,4-dinitrophenyl diethyl phosphate. At pH 9, using a catalyst concentration of 2.5 x 10-3 mol dm-3 at 25[deg]C, the rate enhancement is ca 103 fold. The reaction is shown to be catalytic rather than stoichiometric and possible mechanisms involving a metal-bound hydroxide nucleophile are considered to account for the catalysis. The macrocyclic complex is alswn to be an effective catalyst for the hydrolysis of the anticholinesterase agent O-isopropyl methylfluorophosphate (Sarin).

Hay, Robert W. and Govan, Norman (1996). The reactivity of metal-hydroxo nucleophiles and a range of bases in the hydrolysis of the phosphate triester 2,4-dinitrophenyl diethyl phosphate. *Polyhedron* 15: 2381-2386.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The reaction of 16 different nucleophiles with the water-soluble phosphate triester, 2,4-dinitrophenyl diethyl phosphate (1 = DNPDEP) has been studied at 35[deg]C and I = 0.1 mol dm-3 (KNO3). The nucleophiles studied included a number of metal-hydroxo complexes, such as [M(NH3)5OH]2+ (M = CoIII, CrIII), the macrocyclic complexes [Zn(CR)OH]+, [Co([15]aneN5)OH]2+, and the hydroxoaqua complex [Cu (tmen) (OH)(OH2)]+ (tmen = N, N, N&prime;,N&prime;-tetramethylethylenediamine). The Bronsted plot of log kn versus pKa shows good linearity with a slope [beta] of 0.39. The monohydroxo complexes lie on the line, but the hydroxo-aqua complex shows enhanced reactivity due to intramolecular hydrolysis taking place.

Hay, Robert W., Govan, Norman, and Parchment, Karen E. (1998). A metallomicelle catalysed hydrolysis of a phosphate triester, a phosphonate diester and O-isopropyl methylfluorophosphonate (Sarin). *Inorganic Chemistry Communications* 1: 228-231.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
Metallomicelle/ Hydrolysis/ Phosphate triester A metallomicelle based on the copper(II) complex of N,N,N&prime;-trimethyl-W-tetradecylethylenediamine is shown to be an excellent catalyst for the hydrolysis of 2,4-dinitrophenyl diethyl phosphate (DNPDEP), 2,4-dinitrophenyl ethyl methylphosphonate (DNPEMP) and O-isopropyl methylfluorophosphonate (Sarin). At pH 8 and35 [deg]C the hydrolysis of DNPDEP is accelerated by 1.3 x 105 fold, while that of of DNPEMP is increased by 6.6 x 104 fold. The micelle is also an active catalyst for the hydrolysis of the nerve agent Sarin. A mechanism involving binding of the phosphoryl oxygen to copper(II) and intramolecular attack by coordinated hydroxide at the phosphorus centre is consistent with the kinetic data.

Hayashi, A., Shinonaga, S., Hii, J., and Kano, R. (1979). Levels of Resistance to Six Synthetic Insecticides in the Borneo Housefly. *Bull.Tokyo Med.Dent.Univ.* 26: 1-3 .

EcoReference No.: 70021  
Chemical of Concern: RSM,DDT,DZ,DDVP,FNTH; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ,RSM).

Hayashi, Hiroshi, Kono, Kenji, and Takagishi, Toru (1996). Temperature-controlled release property of phospholipid vesicles bearing a thermo-sensitive polymer. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1280: 127-134.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
As a novel temperature-sensitive liposome, dioleoylphosphatidylethanolamine vesicles bearing poly(N-isopropylacrylamide), which shows a lower critical solution temperature (LCST) near 32[deg]C, were designed. Poly(N-isopropylacrylamide) having long alkyl chains which are anchors to the lipid membranes was prepared by radical copolymerization of N-isopropylacrylamide and octadecyl acrylate using azobisisobutyronitrile as the initiator. The copolymer obtained revealed the LCST at about 30[deg]C in an aqueous solution. Dioleoylphosphatidylethanolamine vesicles coated with the copolymer was prepared and release property of the copolymer-coated vesicles was investigated. While release of calcein encapsulated in the copolymer-coated vesicles was limited below 30[deg]C, the release was drastically enhanced between 30 and 35[deg]C. Complete release from the vesicles was achieved within several seconds at 40[deg]C. This temperature-controlled release property of the vesicles can be attributable to stabilization and destabilization of the vesicle membranes induced by the copolymer fixed on the vesicles below and above the LCST, respectively. Moreover, the fluorometric measurement using dioleoyl-N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethanolamine suggested that the extensive release of calcein observed above the LCST is resulted from the bilayer to Hit phase transition of the vesicle membranes. Since LCST of the copolymer is controllable, these vesicles might have potential usefulness as a drug delivery system with high temperature-sensitivity. Liposome/ Temperature-sensitivity/ Dioleoylphosphatidylethanolamine/ Poly(N-isopropylacrylamide)/ Lower critical solution temperature/ Lamellar-hexagonal transition/ Drug delivery system

Hayashi, S. A., Meier, K. H., DeLaney, A., and Olson, K. R. (2004). Delayed Severe Toxicity from Intentional Subcutaneous Injection of Diazinon. *Journal of Toxicology: Clinical Toxicology [J. Toxicol.: Clin. Toxicol.]. Vol. 42, no. 4, p. 515. Jun 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH, INCIDENT.  
  
ISSN: 0731-3810  
Descriptors: Acute toxicity  
Descriptors: Diazinon  
Descriptors: Acetylcholinesterase  
Descriptors: Fasciitis  
Descriptors: Insecticides  
Descriptors: Pesticides (organophosphorus)  
Abstract: Diazinon, a diethyl organophosphorus (OP) insecticide, typically causes onset of toxicity within 6 to 12 hours. We report an unusual case of OP injection resulting in necrotic fasciitis, in which symptoms of severe acetylcholinesterase inhibition were delayed for 5 days.  
Conference: European Association of Poison Centres and Clinical Toxicologists XXIV International Congress, Strasbourg (France), 1-4 Jun 2004  
Publisher: Marcel Dekker Journals, 270 Madison Ave. New York NY 10016-0602 USA, [mailto:journals@dekker.com]  
Language: English  
Publication Type: Journal Article  
Publication Type: Conference  
Classification: X 24131 Acute exposure  
Subfile: Toxicology Abstracts

Headlam, Madeleine J., Wilce, Matthew C. J., and Tuckey, Robert C. (2003). The F-G loop region of cytochrome P450scc (CYP11A1) interacts with the phospholipid membrane. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1617: 96-108.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Cytochrome P450scc (CYP11A1) is a protein attached to the inner surface of the inner mitochondrial membrane that uses cholesterol from the membrane phase as its substrate for the first step in steroid hormone synthesis. We investigated the mechanism by which CYP11A1 interacts with the membrane. Hydrophobicity profiles of CYP11A1 and two other mitochondrial cytochromes P450, plus a model structure of CYP11A1 using CYP2C5 as template, suggest that CYP11A1 has a monotopic association with the membrane which may involve the A&prime; helix and the F-G loop. Deletion of the A&prime; helix reduced the proportion of expressed CYP11A1 associated with the bacterial membrane fraction, indicating a role for the A&prime; helix in membrane binding. However, introduction of a cysteine residue in this helix at position 24 (L24C) and subsequent labelling with the fluorescent probe N&prime;-(7-nitrobenz-2-oxal,3-diazol-4-yl)ethylenediamine (NBD) failed to show a membrane localisation. Cysteine mutagenesis and fluorescent labelling of other residues appearing on the distal surface of the CYP11A1 model revealed that V212C and L219C have enhanced fluorescence and a blue shift following association of the mutant CYP11A1 with phospholipid vesicles. This indicates that these residues, which are located in the F-G loop, become localised to a more hydrophobic environment following membrane binding. Analysis of the quenching of tryptophan residues in CYP11A1 by acrylamide indicates that at least one and probably two tryptophans are involved in membrane binding. We conclude that CYP11A1 has a monotopic association with the membrane that is mediated, at least in part, by the F-G loop region. Cytochrome P450scc/ CYP11A1/ Membrane/ Fluorescence/ Pregnenolone/ Phospholipid vesicle

Hebden, S. P. and O'Neill, D. K (1967). Sheep dips. II. Effect of use and aging on diazinon alone and on a diazinon-lime sulfur mixture. *Australian Veterinary Journal 43* 73-8.  
Chem Codes: Chemical of Concern: CaPS Rejection Code: FATE.  
  
cf. CA 65: 12803g. The effects of use and 7-day-aging on a diazinon (I) emulsion (0.01%) alone and mixed with a lime S soln. in sheep dipping fluids were examd. in 2 plunge-dipping expts. using 63 f Merino-Border Leicester sheep. I concn. in the dipping soln. decreased at a greater rate when mixed with lime S because of phys. depletion and chem. decompn. Initially, more I was deposited on the sheep dipped in the I-lime S mixt. than in I alone. As the dips aged, less I was deposited from the mixt. than from I alone. The polysulfide S concn. decreased, the thiosulfate S concn. increased, and free elemental S was fomed in the I-lime S dipping soln. The amt. of S deposited on the wool of sheep from successive dippings did not decrease as much as the polysulfide S concn. in the dipping fluid. No I was detected on wool taken from sheep grazed in the open for 11 weeks after dipping; S deposits decreased from 50 to 14.3% of the amts. originally deposited. Factors affecting concn. and persistence of I and S in the dipping fluid and on the fleece were discussed. [on SciFinder (R)] SHEEP/ INSECTICIDES/ DIPS;/ INSECTICIDES/ DIPS/ SHEEP;/ DIAZINON/ SULFUR/ DIPS/ SHEEP;/ DIPS/ DIAZINON/ SULFUR/ SHEEP;/ SULFUR/ DIAZINON/ DIPS/ SHEEP;/ FLEECE/ SHEEP/ DIAZINON/ DIPS Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 1967:442853  
Chemical Abstracts Number: CAN 67:42853  
Section Code: 19  
Section Title: Pesticides  
Document Type: Journal  
Language: written in English.

Heikinheimo, Liisa and Somerharju, Pentti (2002). Translocation of pyrene-labeled phosphatidylserine from the plasma membrane to mitochondria diminishes systematically with molecular hydrophobicity: implications on the maintenance of high phosphatidylserine content in the inner leaflet of the plasma membrane. *Biochimica et Biophysica Acta (BBA) - Molecular Cell Research* 1591: 75-85.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
To study the translocation of phosphatidylserine (PS) from plasma membrane to mitochondria, dipyrene PS molecules (diPyrnPS; n=acyl chain length) were introduced to the plasma membrane of baby hamster kidney cells (BHK cells) using either cyclodextrin-mediated monomer transfer or fusion of cationic vesicles. Translocation of diPyrnPS to mitochondria was assessed based on decarboxylation by mitochondrial PS decarboxylase (PSD). It was found that the rate of translocation diminishes systematically with acyl chain length (molecular hydrophobicity) of diPyrnPS. Using an in vitro assay, it was shown that the spontaneous translocation rates of long-chain diPyrnPS species are similar to those of common natural PS species, thus supporting the biological relevance of the data. These results, and other data arguing against the involvement of vesicular traffic and lipid transfer proteins, imply that spontaneous monomeric diffusion via the cytoplasm is the main mechanism of PS movement from the plasma membrane to mitochondria. This finding could explain why a major fraction of PS synthesized by BHK cells consists of hydrophobic species: such species have little tendency to efflux from the plasma membrane to mitochondria where they would be decarboxylated. Thus, adequate molecular hydrophobicity seems to be crucial for the maintenance of high PS content in the inner leaflet of the plasma membrane. Fluorescence/ HPLC/ Lipid trafficking/ Sorting/ Spontaneous translocation

Heinicke, D. R. and Foott, J. W. (1966). The Effect of Several Phosphate Insecticides on Photosynthesis of Red Delicious Apple Leaves. *Can.J.Plant Sci.* 46: 589-591 .

EcoReference No.: 42425  
Chemical of Concern: DZ,AZ; Habitat: T; Effect Codes: PHY; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Hela, D. G., Lambropoulou, D. A., Konstantinou, I. K., and Albanis, T. A. (2005). Environmental monitoring and ecological risk assessment for pesticide contamination and effects in Lake Pamvotis, northwestern Greece. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 24, no. 6, pp. 1548-1556. Jun 2005.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0730-7268  
Descriptors: Pesticides  
Descriptors: Risk  
Descriptors: Sediment Contamination  
Descriptors: Atrazine  
Descriptors: Lakes  
Descriptors: Assessments  
Descriptors: Monitoring  
Descriptors: Contamination  
Descriptors: Diazinon  
Descriptors: Toxicity  
Descriptors: Malathion  
Descriptors: Pesticide Residues  
Descriptors: Ecosystems  
Descriptors: Eutrophic Lakes  
Descriptors: Sediments  
Descriptors: Risk assessment  
Descriptors: Carbofuran  
Descriptors: Herbicides  
Descriptors: Environmental monitoring  
Descriptors: Simazine  
Descriptors: Eutrophication  
Descriptors: Greece, Ipeiros, Ioannina, Pamvotis L.  
Descriptors: Greece  
Abstract: Monitoring of pesticide residues in water and sediments was conducted as a basis for subsequent ecotoxicological risk assessment for the shallow eutrophic Lake Pamvotis, northwestern Greece. During a one-year study period, atrazine, desethylatrazine (DEA), simazine, diazinon, malathion, oxamyl, carbofuran, and ethion were detected in water and atrazine, desethylatrazine, diazinon, and s-ethyl dipropylthiocarbamate (EPTC) in sediments, all at ppb concentration level. Temporal variation in pesticide concentrations was observed. Highest residue levels for most pesticides in both water and sediment matrices occurred in the May to July period with the exception of atrazine and DEA, which show highest levels in water during the September to November period. The ecological risk associated with pesticide contamination was assessed using two different methods: The toxic unit method, which provides a first indication of the relative contribution of detected pesticides to the total toxicity and a probabilistic approach, and the inverse method of Van Straalen and Denneman, which is used to quantify the ecological risk. The maximum percentage of the ecological risk was 10.3 and 51.8% for water and 17.2 and 70.6% for sediment, based on acute and chronic level, respectively. These results show that pesticides exert a significant pressure on the aquatic system of Lake Pamvotis, especially for the chronic-effect level. Simple quotient methods should be coupled with higher-tier risk assessment especially if restoration activities on lake ecosystems are to be undertaken for sustainable development.  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 3030 Effects of pollution  
Classification: AQ 00008 Effects of Pollution  
Classification: D 04800 Pollution studies - general  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Pollution Abstracts; Ecology Abstracts

Hemmerlin, Andrea, Reents, Reinhard, Mutterer, Jerome, Feldtrauer, Jean-Francois, Waldmann, Herbert, and Bach, Thomas J. (2006). Monitoring farnesol-induced toxicity in tobacco BY-2 cells with a fluorescent analog: Highlight Issue on Plant Terpene Biochemistry Honoring Rod Croteau. *Archives of Biochemistry and Biophysics* 448: 93-103.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
In a previous study (A. Hemmerlin, T.J. Bach, Plant Physiol. 123 (2000) 1257-1268), we have demonstrated that above a critical concentration, treatment with all-trans-farnesol induces cell-death in Nicotiana tabacum L. cv Bright Yellow-2 (TBY-2) cells. Now we used a fluorescent analog of farnesol (FolFLUO), in which an isoprene unit is replaced by the fluorochrome 7-nitrobenz-2-oxa-1,3-diazol-4-yl, to visualize how cell integrity is affected. FolFLUO exhibited the same toxicity as the natural compound and was shown to be readily taken up by TBY-2 cells, followed by integration into subcellular membrane structures. Although the plasma membrane seemed not to be labeled, FolFLUO was associated with the tonoplast, endoplasmic reticulum, and Golgi apparatus or lipid bodies. Longer exposure times and increased FolFLUO accumulation triggered the formation and proliferation of new membrane structures of as yet unknown function. Finally, at even higher and clearly cytotoxic concentrations of the analog, the cell contents became clearly disorganized, with cell swelling and ultimately plasmolysis. Farnesol/ NBD/ Toxicity/ Tobacco BY-2 cells/ Subcellular compartmentation

Henderson, M. and Kitos, P. A. (1982). Do Organophosphate Insecticides Inhibit the Conversion of Tryptophan to Nad+ in Ovo? *Teratology* 26: 173-181.

EcoReference No.: 37079  
Chemical of Concern: DZ; Habitat: T; Effect Codes: GRO; Rejection Code: NO ENDPOINT(DZ).

Hendriks, A. J., Pieters, H., and De Boer, J. (1998). Accumulation of Metals, Polycyclic (Halogenated) Aromatic Hydrocarbons, and Biocides in Zebra Mussel and Eel from the Rhine and Meuse Rivers. *Environ.Toxicol.Chem.* 17: 1885-1898.  
Chem Codes: Chemical of Concern: ATZ,PAH,PCB,DZ Rejection Code: NO DURATION/SURVEY.

Hendriks, A. J. and Stouten, M. D. A. (1993). Monitoring the Response of Microcontaminants by Dynamic Daphnia magna and Leuciscus idus Assays in the Rhine Delta: Biological Early Warning as a Useful Supplement. *Ecotoxicol.Environ.Saf.* 26: 265-279 .

EcoReference No.: 13267  
Chemical of Concern: DS,PCP,CPH,DZ,ES,Cd,PAQT,MP,PTP,MTL,ATZ,3CE,4CE,FA,ISO,EN,DS,SZ,NH; Habitat: A; Effect Codes: BEH,MOR; Rejection Code: NO CONTROL(ALL CHEMS).

HENDRIKS AJ, PIETERS, H., and DE BOER J (1998). Accumulation of metals, polycyclic (halogenated) aromatic hydrocarbons, and biocides in zebra mussel and eel from the Rhine and Meuse rivers. *ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY; 17* 1885-1898.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Concentrations of heavy metals and various groups of organic microcontaminants were measured in zebra mussel and eel from the Rhine-Meuse basin. Residues in mussel from the Rhine and Meuse were on average 2.3 and 2.9 times higher than in those from the reference location of IJsselmeer. Total body burdens of organic microcontaminants in mussel and eel varied between 0.05 to 0.07 mmol/kg fat weight in six out of seven samples. The largest contribution in mussels and eel came from polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs), respectively. Concentrations of bromodiphenylethers, chlorobenzenes, chloronitrobenzenes, chloroterphenyls, and chlorobenzyltoluenes were lower. Total polybrominated biphenyl residues appear lower than total PCB levels. The largest chlorobiocide residues were noted for 4,4'-DDE, toxaphene, trichlorophenylmethane, and gamma-hexachlorocyclohexane. An extraordinary high body burden of 1.2 mmol/kg fat weight, largely consis Ecology/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Anatomy, Comparative/ Animal/ Mollusca/Physiology/ Physiology, Comparative/ Pathology/ Mollusca/ Fishes

Henzell, R. F., Skinner, R. A., and Clements, R. O. (1983). Insecticides for Control of Adult Grass Grub, Costelytra zealandica (White). V. Screening and Behaviour of Insecticides in Soil Bioassays. *N.Z.J.Agric.Res.* 26: 129-133.

EcoReference No.: 79045  
Chemical of Concern: PRT,NAPH,PMR,ES,DCB,PSM,DS,DZ,CBF,CBL; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(PRT,DZ,NAPH,DCB).

HEONG KL, ESCALADA MM, and MAI VO (1994). An analysis of insecticide use in rice: Case studies in the Philippines and Vietnam. *INTERNATIONAL JOURNAL OF PEST MANAGEMENT; 40* 173-178.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The majority of pesticide applications by rice farmers in the Mekong Delta, Vietnam, and Leyte, Philippines, were insecticides. Farmers in Vietnam applied more insecticides per season ( 6.1 sprays) than Filipino farmers ( 2.6 sprays). About half of the insecticide sprays were organophosphates and the main chemicals were methyl parathion, monocrotophos, and methamidophos. About 22% and 17% of the chemicals in the Philippines and Vietnam, respectively, were classified as 'extremely hazardous' (Category Ia) by the WHO. Another 17% and 20% in the Philippines and Vietnam, respectively were classified as 'highly hazardous' (Category Ib). High proportions of the sprays were targeted at leaf-feeding insects which accounted for 42% and 28% of insecticide sprays in Vietnam and Philippines, respectively. In the Philippines, sprays against doe bugs accounted for 44% while in Vietnam, those against brown planthoppers accounted for 34%. Since research has shown that leaf feeder con Biochemistry/ Poisoning/ Animals, Laboratory/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Growth & Development/ Cereals/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Grasses/ Insects

HERKIMER, M., KINNEAR, D., KRAUTH, P., LOADER, K., OKEY, R., RAWLINGS, L., and REYNOLDS, F. (1998). BIOMONITORING. *WATER ENVIRONMENT RESEARCH; 70* 954-962.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW BIOMONITORING REGULATIONS METALLIC INORGANICS NONMETALLIC INORGANICS MODELS METHODS PESTICIDES ORGANICS AMMONIA POLLUTANT WASTEWATER SEDIMENTS SOIL WATER QUALITY POLLUTION Biochemistry/ Biophysics/ Cybernetics/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

Herve, J. J. (1985). Agricultural, Public Health and Animal Health Usage. *In: J.P.Leahey (Ed.), The Pyrethroid Insecticides, Chapter 6, Taylor and Francis, London* 343-425.  
Chem Codes: EcoReference No.: 72263  
Chemical of Concern: PRN,ES,CPY,DZ,CBL,DLD,RSM,DDT Rejection Code: REVIEW.

HESS TF, BUYUKSONMEZ, F., WATTS RJ, and TEEL AL (1998). ASSESSMENT MANAGEMENT AND MINIMIZATION. *WATER ENVIRONMENT RESEARCH; 70* 699-705.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW HAZARDOUS WASTES FACILITY ASSESSMENT RISK ASSESSMENT SOIL CONTAMINATION WASTE MANAGEMENT POLLUTION CONTROL ASSESSMENT MANAGEMENT MINIMIZATION Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

Hidaka, H., Hattanda, M., and Tatsukawa, R. (1984). Avoidance of Pesticides with Medakas (Oryzias latipes). *J.Agric.Chem.Soc.Jpn.(Nippon Nogeikagaku Kaishi)* 58: 145-151 (JPN) (ENG ABS).

EcoReference No.: 11710  
Chemical of Concern: PCP,24DXY,DZ; Habitat: A; Effect Codes: BEH; Rejection Code: NO FOREIGN.

Higgs, A R, Love, R A, and Morcombe, P W (1994). Efficacy against sheep lice (Bovicola ovis) and fleece wetting of six shower dip preparations. *Australian Veterinary Journal* 71: 207-210.  
Chem Codes: Chemical of Concern: KSI Rejection Code: NO COC.  
  
The relative efficacy of 6 shower dip chemicals most frequently used for the treatment of sheep lice (Bovicola ovis) in Western Australia was examined. Groups of 20 sheep infested with lice were treated with products containing either alphamethrin, cyhalothrin, diazinon or diazinon plus piperonyl butoxide and rotenone, formulated as emulsifiable concentrates, and with products containing either coumaphos or magnesium fluorosilicate, formulated as wettable powders. All treatments were applied through a shower dip (Sunbeam model SSD). Inspections for lice were conducted until 9 months after dipping. No lice were found on sheep treated with the 4 emulsifiable concentrate products. In contrast, treatment with the wettable powders, which contained either coumaphos or magnesium fluorosilicate as the active ingredient, did not eradicate the lice infestations. The degree to which the fleece was wetted was assessed 20 minutes after dipping and showed that the wettable powder dips penetrated the fleece less than the emulsifiable concentrate dips. Less fluid was retained by wool staples in an in-vitro test when dip wash was made with the wettable powders. It was concluded that the degree of wetting attained at dipping was an important factor in achieving eradication of sheep lice. [Clinical Trial, Journal Article, Randomized Controlled Trial; In English; Australia]

Hildesheim, Jean, Cleophax, Janine, Sepulchre, Anne-Marie, and Gero, Stephan D. (1969). Deplacements en serie methyl furanoside. Synthese de derives du 2,3,5-triamino-2,3,5-tridesoxy--arabinose et --xylose. *Carbohydrate Research* 9: 315-322.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Le methyl 5-azido-5-desoxy-2,3-di-O-p-tolylsulfonyl-[beta]--ribofuranoside, traite par l'azothydrate de sodium dans la N,N-dimethylformamide, fournit apres 2.5 h a 145[deg], le diazide 3 caracterise par un derive di-N-benzoyle cristallin. Le methyl 5-benzamido-2,3-benzoylepimino-2,3,5-tridesoxy-[beta]--lyxofuranoside (7) a ete obtenu avec un rendement de 61 % a partir du diazide 3, par traitement de ce dernier avec l'aluminohydrure de lithium, suivi d'une benzoylation. L'azidolyse de l'aziridine 7 a fourni deux composes dans le rapport 1,8:1 qui, apres hydrogenation et N-benzoylation, ont donne respectivement les methyl 2,3,5-tribenzamido-2,3,5-tridesoxy-[beta]--arabinoside et -xyloside correspondants. L'absence de reactivite du groupement tosyloxy sur C-2, vis-a-vis de deplacements du types SN2 est discutee.

HILL DL, HALL CI, SANDER JE, FLETCHER OJ, PAGE RK, and DAVIS SW (1994). Diazinon toxicity in broilers. *AVIAN DISEASES; 38* 393-396.  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT.  
  
BIOSIS COPYRIGHT: BIOL ABS. Ten 3-day-old chicks were submitted from a flock experiencing high mortality. Necropsy revealed lacrimation, diarrhea, pleural effusion, hemorrhage and ulceration of the proventriculus, and swollen, hemorrhagic livers. Numerous yellow granules were present in the crop. Assayed crop contents contained 39 ppm diazinon (O,O-diethyl O-(2-isopropyl-4-methyl-6-pyrimidyl)phosphorothioate). The insecticide had been applied to the litter to control fire ants. The high mortality abated after new litter was added on top of the old litter. Diazinon toxicosis was traced to ingestion of diazinon-impregnated granules and was reproduced experimentally. Biochemistry/ Diagnosis/ Pathology/ Necrosis/Pathology/ Animal/ Toxicology/ Veterinary Medicine/ Animal Feed/ Animal Nutrition/ Poultry/ Herbicides/ Pest Control/ Pesticides/ Birds

Hill, E. (1995). Organophosphorus and Carbamate Pesticides. *In: D.J.Hoffman, B.A.Rattner, G.A.Burton,Jr., and J.Cairns,Jr.(Eds.), Handbook of Ecotoxicology, Lewis Publ., Boca Raton, FL* 243-275.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Hill, S., Hough, L., and Richardson, A. C. (1968). Nucleophilic replacement reactions of sulphonates : Part I. The preparation of derivatives of 4,6-diamino-4,6-dideoxy--glucose and --galactose. *Carbohydrate Research* 8: 7-18.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The nucleophilic displacement reactions of some 4,6-disulphonates of methyl [alpha]--glucopyranoside and methyl [alpha]--galactopyranoside have been studied by using sodium azide in N,N-dimethylformamide. Displacement occurs at both positions by a bimolecular mechanism, giving the corresponding 4,6-diazides with inversion of configuration at C-4. The azides have been reduced to derivatives of 4,6-diamino-4,6-dideoxy--glucose and --galactose.

Hiltibran, R. C. (1982). Effects of insecticides on the metal-activated hydrolysis of adenosine triphosphate by bluegill liver mitochondria. *Archives of Environmental Contamination and Toxicology. Vol. 11, no. 6, pp. 709-717. 1982.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0090-4341  
Descriptors: insecticides  
Descriptors: liver  
Descriptors: hydrolysis  
Descriptors: ATP  
Descriptors: Lepomis macrochirus  
Abstract: Investigations were made on the effects of the pesticides aldrin, carbofuran, chlordane, DDE, Dasanit super()), diazinon, dieldrin, endrin, heptachlor, Kepone super()), lindane, malathion, methoxychlor, parathion, Thimet super()), Sevin super()), and toxaphene on the metal-ion-activated hydrolysis of adenosine triphosphate (ATP) by bluegill (Lepomis macrochirus) Raf.) liver mitochondria.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: X 24135 Biochemistry  
Classification: Q1 01504 Effects on organisms  
Subfile: ASFA 1: Biological Sciences & Living Resources; Toxicology Abstracts

Hiltibran, R. C. (1982). Effects of Insecticides on the Metal-Activated Hydrolysis of Adenosine Triphosphate by Bluegill Liver Mitochondria. *Arch.Environ.Contam.Toxicol.* 11: 709-717.  
Chem Codes: EcoReference No.: 45635  
Chemical of Concern: ATZ,DZ Rejection Code: IN VITRO.

Hiltibran, R. C. (1974). Oxygen and Phosphate Metabolism of Bluegill Liver Mitochondria in the Presence of Some Insecticides. *Trans.Ill.State Acad.Sci.* 67: 228-237.  
Chem Codes: EcoReference No.: 45273  
Chemical of Concern: DZ Rejection Code: IN VITRO/METABOLISM.

Hincha, D. K., Oliver, A. E., and Crowe, J. H. (1999). Lipid composition determines the effects of arbutin on the stability of membranes. *Biophysical Journal, 77 (4) pp. 2024-2034, 1999*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0006-3495  
Abstract: Arbutin (hydroquinone- beta -D-glucopyranoside) is an abundant solute in the leaves of many freezing- or desiccation-tolerant plants. Its physiological role in plants, however, is not known. Here we show that arbutin protects isolated spinach (Spinacia oleracea L.) thylakoid membranes from freeze-thaw damage. During freezing of liposomes, the presence of only 20 mM arbutin led to complete leakage of a soluble marker from egg PC (EPC) liposomes. When the nonbilayer-forming chloroplast lipid monogalactosyldiacylglycerol (MGDG) was included in the membranes, this leakage was prevented. Inclusion of more than 15% MGDG into the membranes led to a strong destabilization of liposomes during freezing. Under these conditions arbutin became a cryoprotectant, as only 5 mM arbutin reduced leakage from 75% to 20%. The nonbilayer lipid egg phosphatidylethanolamine (EPE) had an effect similar to that of MGDG, but was much less effective, even at concentrations up to 80% in EPC membranes. Arbutin-induced leakage during freezing was accompanied by massive bilayer fusion in EPC and EPC/EPE membranes. Twenty percent MGDG in EPC bilayers completely inhibited the fusogenic effect of arbutin. The membrane surface probes merocyanine 540 and 2-(6-(7-nitrobenz-2-oxa-1,3-diazol-4- yl)amino)hexanoyl-1-hexadecanoyl-sn-glycero-3-phosphocholine (NBD-C inferior 6-HPC) revealed that arbutin reduced the ability of both probes to partition into the membranes. Steady-state anisotropy measurements with probes that localize at different positioris in the membranes showed that headgroup mobility was increased in the presence of arbutin, whereas the mobility of the fatty acyl chains close to the glycerol backbone was reduced. This reduction, however, was not seen in membranes containing 20% MGDG. The effect of arbutin on lipid order was limited to the interfacial region of the membranes and was not evident in the hydrophobic core region. From these data we were able to derive a physical model of the perturbing or nonperturbing interactions of arbutin with lipid bilayers.  
43 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United States  
Classification: 92.2.2 CELL BIOLOGY: Membrane Structure and Function  
Subfile: Plant Science

Hippe, D. J., Wangsness, D. J., Frick, E. A., and Garrett, J. W. (1994 ). Water quality of the Apalachicola-Chattahoochee-Flint and Ocmulgee River basins related to flooding from tropical storm Alberto; pesticides in urban and agricultural watersheds; and nitrate and pesticides in ground water, Georgia, Alabama, and Florida.  
Chem Codes: Chemical of Concern: SZ Rejection Code: HUMAN HEALTH.  
  
This report presents preliminary water-quality information from three studies that are part of the National Water-Quality Assessment (NAWQA) Program in the Apalachicola-Chattahoochee-Flint (ACF) River basin and the adjacent Ocmulgee River basin. During the period July 3-7, 1994, heavy rainfall from tropical storm Alberto caused record flooding on the Ocmulgee and Flint Rivers and several of their tributaries. Much of the nitrogen load transported during the flooding was as organic nitrogen generally derived from organic detritus, rather than nitrate derived from other sources, such as fertilizer. More than half the mean annual loads of total phosphorus and organic nitrogen were transported in the Flint and Ocmulgee Rivers during the flood. Fourteen herbicides, five insecticides, and one fungicide were detected in floodwaters of the Ocmulgee, Flint, and Apalachicola Rivers. In a second study, water samples were collected at nearly weekly intervals from March 1993 through April 1994 from one urban and two agricultural watersheds in the ACF River basin, and analyzed for 84 commonly used pesticides. More pesticides were detected and at generally higher concentrations in water from the urban watershed than the agricultural watersheds, and a greater number of pesticides were persistent throughout much of the year in the urban watershed. Simazine exceeded U.S. Environmental Protection Agency (EPA) drinking-water standards in one of 57 samples from the urban watershed. In a third study, 38 wells were installed in surficial aquifers adjacent to and downgradient of farm fields within agricultural areas in the southern ACF River basin. Even though regional aquifers are generally used for irrigation and domestic- and public-water supplies, degradation of water quality in the surficial aquifers serves as an early warning of potential contamination of regional aquifers. Nitrate concentrations were less than 3 mg/L as N (indicating minimal effect of human activities) in water from about two-thirds of the wells. Water from the remaining wells had elevated nitrate concentrations, probably the result of human activity. Nitrate concentrations in two of these wells exceeded EPA drinking-water standards. Water samples from eight wells had pesticide concentrations above method detection limits. With the exception of two samples for shallow ground-water wells and one surface-water sample from the urban watershed, concentrations of nitrate nitrogen and detected pesticides were below EPA standards and guidelines for drinking water. However, concentrations of the insecticides chlorpyrifos, carbaryl, and diazinon in the surface-water samples approached or exceeded guidelines for protection of aquatic life US GEOLOGICAL SURVEY, EARTH SCIENCE INFORMATION CENTER, OPEN-FILEREPORTS SECTION, BOX 25286, MS 517, DENVER, CO 80225 (USA), 1994, 19 pp  
Water Resources Investigations Report: 94-4183  
English  
English  
Report  
SW 3020 Sources and fate of pollution  
Water Resources Abstracts  
3886309 A1: Alert Info 20030131 Record 162 of 181

Hirakoso, S. (1968). Inactivation of Some Insecticides by Bacteria in Mosquito Breeding Polluted Water. *Jpn.J.Exp.Med.* 38: 327-334.  
Chem Codes: EcoReference No.: 62777  
Chemical of Concern: DZ Rejection Code: BACTERIA.

Hirayama, K. and Tamanoi, S. (1980). Acute Toxicity of MEP and Diazinon (Pesticide) to Larvae of Kuruma Prawn Penaeus japonicus and of Swimming Crab Portunus trituberculatus. *Bull.Jpn.Soc.Sci.Fish.(Nippon Suisan Gakkaishi)* 13: 117-123 (JPN) (ENG ABS) .

EcoReference No.: 5318  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Hirose, K. and Kawakami, K. (1977). Effects of Insecticides, Oil Dispersants and Synthetic Detergent on the Embryonic Development in Medaka, Oryzias latipes. *Bull.Tokai Reg.Fish.Res.Lab.(Tokai-ku Suisan Kenkyusho Kenkyu Hokoku)* 91: 9-17 (JPN) (ENG ABS).

EcoReference No.: 6008  
Chemical of Concern: DZ,DDT; Habitat: A; Effect Codes: MOR,BEH; Rejection Code: NO FOREIGN.

Hirose, K. and Kitsukawa, M. (1976). Acute Toxicity of Agricultural Chemicals to Seawater Teleosts, with Special Respect to TLM and the Vertebral Abnormality. *Bull.Tokai Reg.Fish.Res.Lab.(Tokai-Ku Suisan Kenkyusho Kenkyo Hokoku)* 84: 11-20 (JPN) (ENG ABS).

EcoReference No.: 6128  
Chemical of Concern: CBL,DZ; Habitat: A; Effect Codes: MOR,GRO; Rejection Code: NO FOREIGN.

Hirose, K., Yamazaki, M., and Ishikawa, A. (1979). Effects of Water Temperature on Median Lethal Concentrations (LC50) of a Few Pesticides to Seawater Teleosts. *Bull.Tokai Reg.Fish.Res.Lab.(Tokai-ku Suisan Kenkyusho Kenkyu Hokoku)* 98: 45-53 (JPN) (ENG ABS).

EcoReference No.: 5767  
Chemical of Concern: DZ; Habitat: A; Effect Codes: GRO,MOR; Rejection Code: NO FOREIGN.

Hislop, R. G. and Prokopy, R. J. (1981). Integrated Management of Phytophagous Mites in Massachusetts (U.S.A.) Apple Orchards. 2. Influence of Pesticides on the Predator Amblyseius fallacis (Acarina: Phytoseiidae) Under Laboratory and Field Conditions. *Prot.Ecol.* 3: 157-172.

EcoReference No.: 70632  
Chemical of Concern: SZ,CBL,DZ,PRN,ES,NH,MOM,DMT; Habitat: T; Effect Codes: MOR,REP,POP; Rejection Code: TARGET(DMT,DZ).

Hixon, Sharon C. and Danzey Burnham, A. (1979). Nuclear mutations and mitotic recombination in saccharomyces by light-activated ethidium azides. *Mutation Research/Genetic Toxicology* 66: 385-390.  
Chem Codes: Chemical of Concern: DZ Rejection Code: YEAST.  
  
Ethidium mono- and diazide analogs have been used as photoaffinity probes to study the mechanism of the ethidium-induced petite mutation in yeast [7,10,14]. The azide moiety when exposed to light is converted to a reactive nitrine intermediate. The diradical nitrene effects a covalent attachment to sites of interaction bound reversibly by the drug. Ethidium azide photoaffinity labeling has been used to verify the prerequisite covalent attachment of ethidium to mitochondrial DNA to bring about the petite mutation in yeast [6]. Bastos has also reported a specific photoattachment of ethidium azide to a polypeptide (subunit 9) of the membrane bound ATPase in yeast mitochondria [1].Isolated DNA from yeast cells treated in vivo with [14C]ethidium monoazide plus light contained covalent adducts on both nuclear and mitochondrial DNA, although the specific radioactivity of mitochondrial DNA was more than 10 times higher than nuclear DNA [11]. Drug distribution studies of [14C]ethidium monoazide have indicated that greater than 50% of the covalent adducts in the nuclear centrifugation fraction (2000 x g) reside on nuclear proteins [3]. Nuclear damage in yeast by the photolysis of ethidium azides is apparent from the increased killing effect in cells treated with ethidium azide derivatives plus light as opposed to dark-treated cells [7,10,11]. This communication reports a concomitant increase in nuclear mutations and genetic activity from the photoactivated covalent attachment of ethidium azides to nuclear components.

Hoellinger, H., Sonnier, M., Gray, A. J., Connors, T. A., Pichon, J., and Nguyen-Hoang-Nam (1985). In vitro covalent binding of cismethrin, bioresmethrin, and their common alcohol to hepatic proteins. *Toxicology and Applied Pharmacology* 77: 11-18.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
When [14C]Alcohol-labeled cismethrin, bioresmethrin, and 5-benzyl-3-furylmethyl alcohol (BFA) were incubated with rat liver S 9 homogenates or microsomes, a proportion of the radioactive compounds was covalently bound to proteins. The covalent binding was greater with phenobarbital-pretreated rats, and dependent on a NADPH-generating system. When a S 9 homogenate was used, the bound compounds were twofold higher for cismethrin than for bioresmethrin and BFA. Inversely, when microsomes were used more covalent binding occurred with bioresmethrin and BFA than with cismethrin. The inhibition of esterases by tetraethyl pyrophosphate (TEPP) in a S 9 homogenate did not alter the amount of covalent binding to the three compounds whereas malathion inhibited this binding. Treatment of a S 9 homogenate with piperonyl butoxide, however, greatly reduced covalent binding. Covalent binding was inhibited when the microsomes were incubated with carbon monoxide or modified by thermal denaturation. It is suggested that oxidative metabolism was responsible for the covalent binding.

Hoffman, R. S., Capel, P. D., and Larson, S. J. (2000). Comparison of pesticides in eight U.S. urban streams. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 9, pp. 2249-2258. Aug 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0730-7268  
Descriptors: Pesticides  
Descriptors: Streams  
Descriptors: Herbicides  
Descriptors: Insecticides  
Descriptors: Water Pollution Sources  
Descriptors: Urban Areas  
Descriptors: Agricultural Watersheds  
Descriptors: Surveys  
Descriptors: Data Collections  
Descriptors: Comparison Studies  
Descriptors: Water Pollution  
Descriptors: Catchment Areas  
Descriptors: Comparative studies  
Descriptors: Catchment area  
Descriptors: Surface water  
Descriptors: Agricultural pollution  
Descriptors: Urban runoff  
Descriptors: River water  
Descriptors: Pollution dispersion  
Descriptors: USA  
Abstract: Little is known of the occurrence of pesticides in urban streams compared to streams draining agricultural areas. Water samples from eight urban streams from across the United States were analyzed for 75 pesticides and seven transformation products. For six of the eight urban streams, paired agricultural streams were used for comparisons. The herbicides detected most frequently in the urban streams were prometon, simazine, atrazine, tebuthiuron, and metolachlor, and the insecticides detected most frequently were diazinon, carbaryl, chlorpyrifos, and malathion. In contrast to similar-sized agricultural streams, total insecticide concentrations commonly exceeded total herbicide concentrations in these urban streams. In general, the temporal concentration patterns in the urban streams were consistent with the characteristics of the local growing season. The insecticides carbaryl and diazinon exceeded criteria for the protection of aquatic life in many of the urban streams in the spring and summer. When the country as a whole is considered, the estimated mass of herbicides contributed by urban areas to streams is dwarfed by the estimated contribution from agricultural areas, but for insecticides, contributions from urban and agricultural areas may be similar. The results of this study suggest that urban areas should not be overlooked when assessing sources and monitoring the occurrence of pesticides in surface waters.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: X 24136 Environmental impact  
Classification: SW 3020 Sources and fate of pollution  
Classification: AQ 00002 Water Quality  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Toxicology Abstracts

Hoffmann, Michael P., Gardner, Jeffrey, and Curtis, Paul D (20031023). Fiber-supported pesticidal compositions. 41 pp.  
Chem Codes: Chemical of Concern: FVL, RSM SPM,CaPS Rejection Code: NO TOX DATA.  
  
The invention provides fibrous pest deterrents that combine the useful properties of a phys. barrier in the form of a nonwoven fibrous matrix with a chem. deterrent such as a pesticide, behavior-modifying compd. or a pest repellent. The use of such fibrous pest deterrents protects plants, animals and structures in both agricultural and nonagricultural settings from damage inflicted by pests. Unlike traditional pesticides, the behavior-modifying compd., pesticide or chem. deterrent of the invention is adsorbed or attached to a fibrous matrix, and so it is not so readily dispersed into the environment. Hence, use of the fibrous pest deterrents can reduce the levels of pesticides that inadvertently contaminate nontarget areas and pollute water supplies. [on SciFinder (R)] fiber/ supported/ pesticide/ compn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:836400  
Chemical Abstracts Number: CAN 139:318718  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
Coden: USXXCO  
Index Terms: Glycols Role: MOA (Modifier or additive use), USES (Uses) (alyplastic, fiber; support for pest-behavior-modifying compn.); Polyester fibers Role: MOA (Modifier or additive use), USES (Uses) (arom.; support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (copper salts, mammal repellent; fiber-supported pest-behavior-modifying compn.); Anethum graveolens; Insect attractants; Insect feeding inhibitors; Insect repellents; Nepeta cataria; Piper; Repellents; Zingiber officinale (fiber-supported pest-behavior-modifying compn.); Allomones; Kairomones; Monoterpenes; Phenols; Pheromones Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); Bacillus thuringiensis; Pesticides; Quassia; Schoenocaulon (fiber-supported pesticidal compn.); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); Fibers Role: MOA (Modifier or additive use), USES (Uses) (fiber-supported pesticidal compn.); Albumins; Collagens; Gelatins; Neoprene rubber; Ovalbumin; Polyamides; Polyanhydrides; Polycarbonates; Polyoxyalkylenes; Polysiloxanes; Polyurethane fibers; Rayon Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (glycolide-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (hydroxycarboxylic acid-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (lactide, fiber; support for pest-behavior-modifying compn.); Capsicum annuum annuum (longum group, paprika; fiber-supported pest-behavior-modifying compn.); Capsicum annuum annuum (longum group; fiber-supported pest-behavior-modifying compn.); Polyethers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-, fiber; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-polyethers; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polycarbonates; support for pest-behavior-modifying compn.); Polyamide fibers Role: MOA (Modifier or additive use), USES (Uses) (polyether-; support for pest-behavior-modifying compn.); Aves (repellents; fiber-supported pest-behavior-modifying compn.); Insecticides (sterilants; fiber-supported pest-behavior-modifying compn.); Polyester fibers; Polyolefin fibers Role: MOA (Modifier or additive use), USES (Uses) (support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (zinc salts, mammal repellent; fiber-supported pest-behavior-modifying compn.)  
CAS Registry Numbers: 84-65-1 (Anthraquinone); 137-30-4 (Ziram.); 333-41-5 (Diazinon); 1332-40-7 (Copper oxychloride); 2032-65-7 (Methiocarb); 12407-86-2 (Trimethacarb); 15879-93-3 (Chloralose); 108173-90-6 (Guazatine) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bird repellent; fiber-supported pest-behavior-modifying compn.); 57-50-1D (Sugar); 58-08-2 (, Caffein); 404-86-4 (Capsaicin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); 50-14-6 (> Ergocalciferol); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 55-98-1 (Busulfan); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 56-75-7 (Chloramphenicol); 57-24-9 (Strychnine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 67-66-3 (Chloroform); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 71-55-6 (Methylchloroform); 72-43-5 (Methoxychlor); 74-83-9 (Methyl bromide); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-21-8 (Ethylene oxide); 76-06-2 (,Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-34-5 (Tetrachloroethane); 80-05-7 (Bisphenol A); 81-81-2 (Warfarin); 81-82-3 (Coumachlor); 82-66-6 (Diphacinone); 83-26-1 (Pindone); 83-79-4 (Rotenone); 85-34-7 (Chlorfenac); 86-50-0 (Azinphosmethyl); 86-88-4 (Antu); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 96-24-2 (a-Chlorohydrin); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 97-27-8 (Chlorbetamide); 104-29-0 (Chlorphenesin); 106-46-7 (Paradichlorobenzene); 106-93-4 (Ethylene Dibromide); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoatemethyl); 116-06-3 (Aldicarb); 118-75-2 (Chloranil); 119-12-0 (Pyridaphenthion); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-29-9 (Pyrethrin II); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 126-22-7 (Butonate); 126-75-0 (Demeton-S); 131-89-5 (Dinex); 133-06-2 (Captan); 133-90-4 (,Chloramben); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 152-16-9 (Schradan); 288-14-2 (Isoxazole); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemetonmethyl); 302-04-5 (Thiocyanate); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-20-0 (Potassium thiocyanate); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 470-90-6 (Chlorfenvinphos); 483-63-6 (Crotamiton); 485-31-4 (Binapacryl); 494-52-0 (Anabasine); 500-28-7 (Chlorothion.); 507-60-8 (Scilliroside); 535-89-7 (Crimidine); 555-89-5 (Bis(p-chlorophenoxy)methane); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 584-79-2 (Bioallethrin); 640-15-3 (Thiometon); 640-19-7 (Fluoroacetamide); 644-06-4 (Precocene II); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 682-80-4 (Demephion-O); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 867-27-6 (Demeton-O-methyl); 919-54-0 (Acethion); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 944-22-9 (FOnofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 991-42-4 (Norbormide); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1172-63-0 (Jasmolin II); 1303-96-4 (Borax); 1314-84-7 (Zinc phosphide); 1327-53-3 (Arsenous oxide); 1344-81-6 (Calcium Polysulfide); 1403-17-4 (Candicidin); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1646-88-4 (Aldoxycarb); 1716-09-2 (Fenthionethyl); 2032-59-9 (Aminocarb); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2587-90-8 (Demephion-S); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2674-91-1 (Oxydeprofos); 2699-79-8 (Sulfuryl fluoride); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (,Temephos); 3604-87-3 (.a.-Ecdysone); 3689-24-5 (Sulfotep); 3691-35-8 (Chlorophacinone); 3734-95-0 (Cyanthoate); 3761-41-9 (,Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4097-36-3 (Dinosam); 4104-14-7 (Phosacetim); 4151-50-2 (Sulfluramid); 4466-14-2 (Jasmolin I); 4824-78-6 (Bromophosethyl); 5221-49-8 (Pyrimitate); 5598-13-0 (Chlorpyrifosmethyl); 5598-52-7 (Fospirate); 5826-76-6 (Phosnichlor); 5834-96-8 (Azothoate); 5836-29-3 (Coumatetralyl); 5989-27-5; 6164-98-3 (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7446-18-6 (Thallium sulfate); 7645-25-2 (Lead arsenate); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7723-14-0 (Phosphorus); 7778-44-1 (Calcium arsenate); 7786-34-7 (Mevinphos); 7803-51-2 (Phosphine); 8001-35-2 (Camphechlor); 8022-00-2 (Demetonmethyl); 8065-36-9 (Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10112-91-1 (Mercurous chloride); 10124-50-2 (Potassium Arsenite); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 10605-21-7 (Carbendazim); 11141-17-6 (Azadirachtin); 12002-03-8 (C.I. Pigment Green 21); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13464-37-4 (Sodium arsenite;); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphosmethyl); 13804-51-8 (Juvenile hormone I); 14168-01-5 (Dilor); 14255-88-0 (Fenazaflor); 14816-16-1 (Phoximmethyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15589-31-8 (Terallethrin); 15662-33-6 (Ryania); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 16984-48-8 (Fluoride); 17080-02-3 (Furethrin); 17125-80-3 (Barium hexafluorosilicate); 17598-02-6 (Precocene I); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 22248-79-9 (>Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22569-71-7 (Phosphide); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 22868-13-9 (Sodium Disulfide,<); 22963-93-5 (Juvenile hormone III); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphosethyl); 23526-02-5 (Thuringiensin,<); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25402-06-6 (Cinerin); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 26097-80-3 (Cambendazole); 28434-01-7 (Bioresmethrin); 28772-56-7 (Bromadiolone); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphosmethyl); 29672-19-3 (Nitrilacarb); 29871-13-4 (Copper arsenate); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 33629-47-9 (Butralin); 34218-61-6 (Juvenile hormone II); 34264-24-9 (Promacyl); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 37032-15-8 (Sophamide); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40085-57-2 (Tazimcarb); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 50512-35-1; 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 51877-74-8 (Biopermethrin); 52315-07-8 (,Zetacypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53558-25-1 (Pyrinuron); 54406-48-3 (Empenthrin); 54593-83-8 (Chlorethoxyfos); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 56073-07-5 (Difenacoum); 56073-10-0 (Brodifacoum); 56716-21-3 (Hyquincarb); 57808-65-8 (Closantel); 58481-70-2 (Dicresyl); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 60589-06-2 (Metoxadiazone); 60628-96-8 (Bifonazole); 61444-62-0 (Nifluridide); 61949-77-7 (Trans-Permethrin); 63333-35-7 (Bromethalin); 63771-69-7 (Zolaprofos); 63837-33-2 (Diofenolan); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 64902-72-3 (Chlorsulfuron); 65383-73-5 (Precocene III); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (,Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68359-37-5 (Betacyfluthrin); 68523-18-2 (Fenpirithrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71697-59-1 (Thetacypermethrin); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 75867-00-4 (Fenfluthrin); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 81613-59-4 (Flupropadine); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 90035-08-8 (Flocoumafen); 90338-20-8 (Butathiofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101463-69-8 (,Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 104653-34-1 (Difethialone); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Halfenprox); 112143-82-5 (Triazamate.); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 116714-46-6 (NOvaluron); 117704-25-3 (Doramectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123997-26-2 (Eprinomectin); 129558-76-5 (TOlfenpyrad); 143807-66-3 (Chromafenozide); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 220119-17-5 (Selamectin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); 51-79-6 (Urethane); 78-79-5 (Isoprene); 108-05-4 (Vinyl acetate); 7782-42-5 (Graphite); 9002-88-4 (Polyethylene); 9002-89-5 (Poly(vinyl alcohol); 9003-05-8; 9003-39-8 (Poly(vinylpyrrolidone); 9003-53-6 (,Polystyrene); 9004-32-4 (Carboxymethyl cellulose sodium salt); 9004-34-6D (Cellulose); 9004-65-3 (Hydroxypropyl methylcellulose); 9005-25-8 (Starch); 9005-32-7 (Alginic acid); 9005-49-6 (Heparin sulfate); 9007-28-7 (Chondroitin sulfate); 24980-41-4 (Polycaprolactone); 25085-53-4 (Isotactic polypropylene); 25248-42-4 (Polycaprolactone); 25322-68-3 (Poly(ethylene oxide); 25702-74-3 (Polysucrose); 25805-17-8 (Poly(ethyloxazoline); 26023-30-3 (Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)]); 26100-51-6 (Polylactic acid); 26780-50-7 (Poly(Lactide-co-glycolide); 31621-87-1 (Polydioxanone) Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); 84-74-2 (Dibutyl phthalate); 94-96-2 (Ethohexadiol); 131-11-3 (Dimethyl phthalate); 134-62-3 (DEET); 532-34-3 (Butopyronoxyl); 3653-39-2 (,Hexamide); 19764-43-3 (Methoquin-butyl); 39589-98-5 (Dimethyl carbate); 66257-53-2 (Oxamate); 105726-67-8 (Methylneodecanamide); 119515-38-7 (Picaridin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (insect repellent; fiber-supported pest-behavior-modifying compn.); 7783-06-4 (Hydrogen sulfide) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (mammal repellent; fiber-supported pest-behavior-modifying compn.); 9010-98-4 Role: MOA (Modifier or additive use), USES (Uses) (neoprene rubber, fiber; support for pest-behavior-modifying compn.)  
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Chemical of Concern: FVL, RSM, SPM; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

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Chem Codes: Chemical of Concern: SPM,BDL Rejection Code: NO TOX DATA.  
  
The invention provides fibrous pest deterrents that combine the useful properties of a phys. barrier in the form of a nonwoven fibrous matrix with a chem. deterrent such as a pesticide, behavior-modifying compd. or a pest repellent. The use of such fibrous pest deterrents protects plants, animals and structures in both agricultural and nonagricultural settings from damage inflicted by pests. Unlike traditional pesticides, the behavior-modifying compd., pesticide or chem. deterrent of the invention is adsorbed or attached to a fibrous matrix, and so it is not so readily dispersed into the environment. Hence, use of the fibrous pest deterrents can reduce the levels of pesticides that inadvertently contaminate nontarget areas and pollute water supplies. [on SciFinder (R)] fiber/ supported/ pesticide/ compn Copyright: Copyright 2004 ACS on SciFinder (R))  
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Section Title: Agrochemical Bioregulators  
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Index Terms: Glycols Role: MOA (Modifier or additive use), USES (Uses) (alyplastic, fiber; support for pest-behavior-modifying compn.); Polyester fibers Role: MOA (Modifier or additive use), USES (Uses) (arom.; support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (copper salts, mammal repellent; fiber-supported pest-behavior-modifying compn.); Anethum graveolens; Insect attractants; Insect feeding inhibitors; Insect repellents; Nepeta cataria; Piper; Repellents; Zingiber officinale (fiber-supported pest-behavior-modifying compn.); Allomones; Kairomones; Monoterpenes; Phenols; Pheromones Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); Bacillus thuringiensis; Pesticides; Quassia; Schoenocaulon (fiber-supported pesticidal compn.); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); Fibers Role: MOA (Modifier or additive use), USES (Uses) (fiber-supported pesticidal compn.); Albumins; Collagens; Gelatins; Neoprene rubber; Ovalbumin; Polyamides; Polyanhydrides; Polycarbonates; Polyoxyalkylenes; Polysiloxanes; Polyurethane fibers; Rayon Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (glycolide-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (hydroxycarboxylic acid-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (lactide, fiber; support for pest-behavior-modifying compn.); Capsicum annuum annuum (longum group, paprika; fiber-supported pest-behavior-modifying compn.); Capsicum annuum annuum (longum group; fiber-supported pest-behavior-modifying compn.); Polyethers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-, fiber; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-polyethers; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polycarbonates; support for pest-behavior-modifying compn.); Polyamide fibers Role: MOA (Modifier or additive use), USES (Uses) (polyether-; support for pest-behavior-modifying compn.); Aves (repellents; fiber-supported pest-behavior-modifying compn.); Insecticides (sterilants; fiber-supported pest-behavior-modifying compn.); Polyester fibers; Polyolefin fibers Role: MOA (Modifier or additive use), USES (Uses) (support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (zinc salts, mammal repellent; fiber-supported pest-behavior-modifying compn.)  
CAS Registry Numbers: 84-65-1 (Anthraquinone); 137-30-4 (Ziram.); 333-41-5 (Diazinon); 1332-40-7 (Copper oxychloride); 2032-65-7 (Methiocarb); 12407-86-2 (Trimethacarb); 15879-93-3 (Chloralose); 108173-90-6 (Guazatine) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bird repellent; fiber-supported pest-behavior-modifying compn.); 57-50-1D (Sugar); 58-08-2 (, Caffein); 404-86-4 (Capsaicin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); 50-14-6 (> Ergocalciferol); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 55-98-1 (Busulfan); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 56-75-7 (Chloramphenicol); 57-24-9 (Strychnine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 67-66-3 (Chloroform); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 71-55-6 (Methylchloroform); 72-43-5 (Methoxychlor); 74-83-9 (Methyl bromide); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-21-8 (Ethylene oxide); 76-06-2 (,Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-34-5 (Tetrachloroethane); 80-05-7 (Bisphenol A); 81-81-2 (Warfarin); 81-82-3 (Coumachlor); 82-66-6 (Diphacinone); 83-26-1 (Pindone); 83-79-4 (Rotenone); 85-34-7 (Chlorfenac); 86-50-0 (Azinphosmethyl); 86-88-4 (Antu); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 96-24-2 (a-Chlorohydrin); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 97-27-8 (Chlorbetamide); 104-29-0 (Chlorphenesin); 106-46-7 (Paradichlorobenzene); 106-93-4 (Ethylene Dibromide); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoatemethyl); 116-06-3 (Aldicarb); 118-75-2 (Chloranil); 119-12-0 (Pyridaphenthion); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-29-9 (Pyrethrin II); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 126-22-7 (Butonate); 126-75-0 (Demeton-S); 131-89-5 (Dinex); 133-06-2 (Captan); 133-90-4 (,Chloramben); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 152-16-9 (Schradan); 288-14-2 (Isoxazole); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemetonmethyl); 302-04-5 (Thiocyanate); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-20-0 (Potassium thiocyanate); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 470-90-6 (Chlorfenvinphos); 483-63-6 (Crotamiton); 485-31-4 (Binapacryl); 494-52-0 (Anabasine); 500-28-7 (Chlorothion.); 507-60-8 (Scilliroside); 535-89-7 (Crimidine); 555-89-5 (Bis(p-chlorophenoxy)methane); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 584-79-2 (Bioallethrin); 640-15-3 (Thiometon); 640-19-7 (Fluoroacetamide); 644-06-4 (Precocene II); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 682-80-4 (Demephion-O); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 867-27-6 (Demeton-O-methyl); 919-54-0 (Acethion); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 944-22-9 (FOnofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 991-42-4 (Norbormide); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1172-63-0 (Jasmolin II); 1303-96-4 (Borax); 1314-84-7 (Zinc phosphide); 1327-53-3 (Arsenous oxide); 1344-81-6 (Calcium Polysulfide); 1403-17-4 (Candicidin); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1646-88-4 (Aldoxycarb); 1716-09-2 (Fenthionethyl); 2032-59-9 (Aminocarb); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2587-90-8 (Demephion-S); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2674-91-1 (Oxydeprofos); 2699-79-8 (Sulfuryl fluoride); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (,Temephos); 3604-87-3 (.a.-Ecdysone); 3689-24-5 (Sulfotep); 3691-35-8 (Chlorophacinone); 3734-95-0 (Cyanthoate); 3761-41-9 (,Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4097-36-3 (Dinosam); 4104-14-7 (Phosacetim); 4151-50-2 (Sulfluramid); 4466-14-2 (Jasmolin I); 4824-78-6 (Bromophosethyl); 5221-49-8 (Pyrimitate); 5598-13-0 (Chlorpyrifosmethyl); 5598-52-7 (Fospirate); 5826-76-6 (Phosnichlor); 5834-96-8 (Azothoate); 5836-29-3 (Coumatetralyl); 5989-27-5; 6164-98-3 (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7446-18-6 (Thallium sulfate); 7645-25-2 (Lead arsenate); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7723-14-0 (Phosphorus); 7778-44-1 (Calcium arsenate); 7786-34-7 (Mevinphos); 7803-51-2 (Phosphine); 8001-35-2 (Camphechlor); 8022-00-2 (Demetonmethyl); 8065-36-9 (Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10112-91-1 (Mercurous chloride); 10124-50-2 (Potassium Arsenite); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 10605-21-7 (Carbendazim); 11141-17-6 (Azadirachtin); 12002-03-8 (C.I. Pigment Green 21); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13464-37-4 (Sodium arsenite;); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphosmethyl); 13804-51-8 (Juvenile hormone I); 14168-01-5 (Dilor); 14255-88-0 (Fenazaflor); 14816-16-1 (Phoximmethyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15589-31-8 (Terallethrin); 15662-33-6 (Ryania); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 16984-48-8 (Fluoride); 17080-02-3 (Furethrin); 17125-80-3 (Barium hexafluorosilicate); 17598-02-6 (Precocene I); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 22248-79-9 (>Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22569-71-7 (Phosphide); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 22868-13-9 (Sodium Disulfide,<); 22963-93-5 (Juvenile hormone III); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphosethyl); 23526-02-5 (Thuringiensin,<); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25402-06-6 (Cinerin); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 26097-80-3 (Cambendazole); 28434-01-7 (Bioresmethrin); 28772-56-7 (Bromadiolone); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphosmethyl); 29672-19-3 (Nitrilacarb); 29871-13-4 (Copper arsenate); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 33629-47-9 (Butralin); 34218-61-6 (Juvenile hormone II); 34264-24-9 (Promacyl); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 37032-15-8 (Sophamide); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40085-57-2 (Tazimcarb); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 50512-35-1; 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 51877-74-8 (Biopermethrin); 52315-07-8 (,Zetacypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53558-25-1 (Pyrinuron); 54406-48-3 (Empenthrin); 54593-83-8 (Chlorethoxyfos); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 56073-07-5 (Difenacoum); 56073-10-0 (Brodifacoum); 56716-21-3 (Hyquincarb); 57808-65-8 (Closantel); 58481-70-2 (Dicresyl); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 60589-06-2 (Metoxadiazone); 60628-96-8 (Bifonazole); 61444-62-0 (Nifluridide); 61949-77-7 (Trans-Permethrin); 63333-35-7 (Bromethalin); 63771-69-7 (Zolaprofos); 63837-33-2 (Diofenolan); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 64902-72-3 (Chlorsulfuron); 65383-73-5 (Precocene III); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (,Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68359-37-5 (Betacyfluthrin); 68523-18-2 (Fenpirithrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71697-59-1 (Thetacypermethrin); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 75867-00-4 (Fenfluthrin); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 81613-59-4 (Flupropadine); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 90035-08-8 (Flocoumafen); 90338-20-8 (Butathiofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101463-69-8 (,Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 104653-34-1 (Difethialone); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Halfenprox); 112143-82-5 (Triazamate.); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 116714-46-6 (NOvaluron); 117704-25-3 (Doramectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123997-26-2 (Eprinomectin); 129558-76-5 (TOlfenpyrad); 143807-66-3 (Chromafenozide); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 220119-17-5 (Selamectin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); 51-79-6 (Urethane); 78-79-5 (Isoprene); 108-05-4 (Vinyl acetate); 7782-42-5 (Graphite); 9002-88-4 (Polyethylene); 9002-89-5 (Poly(vinyl alcohol); 9003-05-8; 9003-39-8 (Poly(vinylpyrrolidone); 9003-53-6 (,Polystyrene); 9004-32-4 (Carboxymethyl cellulose sodium salt); 9004-34-6D (Cellulose); 9004-65-3 (Hydroxypropyl methylcellulose); 9005-25-8 (Starch); 9005-32-7 (Alginic acid); 9005-49-6 (Heparin sulfate); 9007-28-7 (Chondroitin sulfate); 24980-41-4 (Polycaprolactone); 25085-53-4 (Isotactic polypropylene); 25248-42-4 (Polycaprolactone); 25322-68-3 (Poly(ethylene oxide); 25702-74-3 (Polysucrose); 25805-17-8 (Poly(ethyloxazoline); 26023-30-3 (Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)]); 26100-51-6 (Polylactic acid); 26780-50-7 (Poly(Lactide-co-glycolide); 31621-87-1 (Polydioxanone) Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); 84-74-2 (Dibutyl phthalate); 94-96-2 (Ethohexadiol); 131-11-3 (Dimethyl phthalate); 134-62-3 (DEET); 532-34-3 (Butopyronoxyl); 3653-39-2 (,Hexamide); 19764-43-3 (Methoquin-butyl); 39589-98-5 (Dimethyl carbate); 66257-53-2 (Oxamate); 105726-67-8 (Methylneodecanamide); 119515-38-7 (Picaridin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (insect repellent; fiber-supported pest-behavior-modifying compn.); 7783-06-4 (Hydrogen sulfide) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (mammal repellent; fiber-supported pest-behavior-modifying compn.); 9010-98-4 Role: MOA (Modifier or additive use), USES (Uses) (neoprene rubber, fiber; support for pest-behavior-modifying compn.)  
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The invention provides fibrous pest deterrents that combine the useful properties of a phys. barrier in the form of a nonwoven fibrous matrix with a chem. deterrent such as a pesticide, behavior-modifying compd. or a pest repellent. The use of such fibrous pest deterrents protects plants, animals and structures in both agricultural and nonagricultural settings from damage inflicted by pests. Unlike traditional pesticides, the behavior-modifying compd., pesticide or chem. deterrent of the invention is adsorbed or attached to a fibrous matrix, and so it is not so readily dispersed into the environment. Hence, use of the fibrous pest deterrents can reduce the levels of pesticides that inadvertently contaminate nontarget areas and pollute water supplies. [on SciFinder (R)] fiber/ supported/ pesticide/ compn Copyright: Copyright 2004 ACS on SciFinder (R))  
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Coden: USXXCO  
Index Terms: Glycols Role: MOA (Modifier or additive use), USES (Uses) (alyplastic, fiber; support for pest-behavior-modifying compn.); Polyester fibers Role: MOA (Modifier or additive use), USES (Uses) (arom.; support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (copper salts, mammal repellent; fiber-supported pest-behavior-modifying compn.); Anethum graveolens; Insect attractants; Insect feeding inhibitors; Insect repellents; Nepeta cataria; Piper; Repellents; Zingiber officinale (fiber-supported pest-behavior-modifying compn.); Allomones; Kairomones; Monoterpenes; Phenols; Pheromones Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); Bacillus thuringiensis; Pesticides; Quassia; Schoenocaulon (fiber-supported pesticidal compn.); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); Fibers Role: MOA (Modifier or additive use), USES (Uses) (fiber-supported pesticidal compn.); Albumins; Collagens; Gelatins; Neoprene rubber; Ovalbumin; Polyamides; Polyanhydrides; Polycarbonates; Polyoxyalkylenes; Polysiloxanes; Polyurethane fibers; Rayon Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (glycolide-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (hydroxycarboxylic acid-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (lactide, fiber; support for pest-behavior-modifying compn.); Capsicum annuum annuum (longum group, paprika; fiber-supported pest-behavior-modifying compn.); Capsicum annuum annuum (longum group; fiber-supported pest-behavior-modifying compn.); Polyethers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-, fiber; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-polyethers; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polycarbonates; support for pest-behavior-modifying compn.); Polyamide fibers Role: MOA (Modifier or additive use), USES (Uses) (polyether-; support for pest-behavior-modifying compn.); Aves (repellents; fiber-supported pest-behavior-modifying compn.); Insecticides (sterilants; fiber-supported pest-behavior-modifying compn.); Polyester fibers; Polyolefin fibers Role: MOA (Modifier or additive use), USES (Uses) (support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (zinc salts, mammal repellent; fiber-supported pest-behavior-modifying compn.)  
CAS Registry Numbers: 84-65-1 (Anthraquinone); 137-30-4 (Ziram.); 333-41-5 (Diazinon); 1332-40-7 (Copper oxychloride); 2032-65-7 (Methiocarb); 12407-86-2 (Trimethacarb); 15879-93-3 (Chloralose); 108173-90-6 (Guazatine) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bird repellent; fiber-supported pest-behavior-modifying compn.); 57-50-1D (Sugar); 58-08-2 (, Caffein); 404-86-4 (Capsaicin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); 50-14-6 (> Ergocalciferol); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 55-98-1 (Busulfan); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 56-75-7 (Chloramphenicol); 57-24-9 (Strychnine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 67-66-3 (Chloroform); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 71-55-6 (Methylchloroform); 72-43-5 (Methoxychlor); 74-83-9 (Methyl bromide); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-21-8 (Ethylene oxide); 76-06-2 (,Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-34-5 (Tetrachloroethane); 80-05-7 (Bisphenol A); 81-81-2 (Warfarin); 81-82-3 (Coumachlor); 82-66-6 (Diphacinone); 83-26-1 (Pindone); 83-79-4 (Rotenone); 85-34-7 (Chlorfenac); 86-50-0 (Azinphosmethyl); 86-88-4 (Antu); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 96-24-2 (a-Chlorohydrin); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 97-27-8 (Chlorbetamide); 104-29-0 (Chlorphenesin); 106-46-7 (Paradichlorobenzene); 106-93-4 (Ethylene Dibromide); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoatemethyl); 116-06-3 (Aldicarb); 118-75-2 (Chloranil); 119-12-0 (Pyridaphenthion); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-29-9 (Pyrethrin II); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 126-22-7 (Butonate); 126-75-0 (Demeton-S); 131-89-5 (Dinex); 133-06-2 (Captan); 133-90-4 (,Chloramben); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 152-16-9 (Schradan); 288-14-2 (Isoxazole); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemetonmethyl); 302-04-5 (Thiocyanate); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-20-0 (Potassium thiocyanate); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 470-90-6 (Chlorfenvinphos); 483-63-6 (Crotamiton); 485-31-4 (Binapacryl); 494-52-0 (Anabasine); 500-28-7 (Chlorothion.); 507-60-8 (Scilliroside); 535-89-7 (Crimidine); 555-89-5 (Bis(p-chlorophenoxy)methane); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 584-79-2 (Bioallethrin); 640-15-3 (Thiometon); 640-19-7 (Fluoroacetamide); 644-06-4 (Precocene II); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 682-80-4 (Demephion-O); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 867-27-6 (Demeton-O-methyl); 919-54-0 (Acethion); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 944-22-9 (FOnofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 991-42-4 (Norbormide); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1172-63-0 (Jasmolin II); 1303-96-4 (Borax); 1314-84-7 (Zinc phosphide); 1327-53-3 (Arsenous oxide); 1344-81-6 (Calcium Polysulfide); 1403-17-4 (Candicidin); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1646-88-4 (Aldoxycarb); 1716-09-2 (Fenthionethyl); 2032-59-9 (Aminocarb); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2587-90-8 (Demephion-S); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2674-91-1 (Oxydeprofos); 2699-79-8 (Sulfuryl fluoride); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (,Temephos); 3604-87-3 (.a.-Ecdysone); 3689-24-5 (Sulfotep); 3691-35-8 (Chlorophacinone); 3734-95-0 (Cyanthoate); 3761-41-9 (,Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4097-36-3 (Dinosam); 4104-14-7 (Phosacetim); 4151-50-2 (Sulfluramid); 4466-14-2 (Jasmolin I); 4824-78-6 (Bromophosethyl); 5221-49-8 (Pyrimitate); 5598-13-0 (Chlorpyrifosmethyl); 5598-52-7 (Fospirate); 5826-76-6 (Phosnichlor); 5834-96-8 (Azothoate); 5836-29-3 (Coumatetralyl); 5989-27-5; 6164-98-3 (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7446-18-6 (Thallium sulfate); 7645-25-2 (Lead arsenate); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7723-14-0 (Phosphorus); 7778-44-1 (Calcium arsenate); 7786-34-7 (Mevinphos); 7803-51-2 (Phosphine); 8001-35-2 (Camphechlor); 8022-00-2 (Demetonmethyl); 8065-36-9 (Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10112-91-1 (Mercurous chloride); 10124-50-2 (Potassium Arsenite); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 10605-21-7 (Carbendazim); 11141-17-6 (Azadirachtin); 12002-03-8 (C.I. Pigment Green 21); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13464-37-4 (Sodium arsenite;); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphosmethyl); 13804-51-8 (Juvenile hormone I); 14168-01-5 (Dilor); 14255-88-0 (Fenazaflor); 14816-16-1 (Phoximmethyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15589-31-8 (Terallethrin); 15662-33-6 (Ryania); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 16984-48-8 (Fluoride); 17080-02-3 (Furethrin); 17125-80-3 (Barium hexafluorosilicate); 17598-02-6 (Precocene I); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 22248-79-9 (>Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22569-71-7 (Phosphide); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 22868-13-9 (Sodium Disulfide,<); 22963-93-5 (Juvenile hormone III); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphosethyl); 23526-02-5 (Thuringiensin,<); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25402-06-6 (Cinerin); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 26097-80-3 (Cambendazole); 28434-01-7 (Bioresmethrin); 28772-56-7 (Bromadiolone); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphosmethyl); 29672-19-3 (Nitrilacarb); 29871-13-4 (Copper arsenate); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 33629-47-9 (Butralin); 34218-61-6 (Juvenile hormone II); 34264-24-9 (Promacyl); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 37032-15-8 (Sophamide); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40085-57-2 (Tazimcarb); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 50512-35-1; 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 51877-74-8 (Biopermethrin); 52315-07-8 (,Zetacypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53558-25-1 (Pyrinuron); 54406-48-3 (Empenthrin); 54593-83-8 (Chlorethoxyfos); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 56073-07-5 (Difenacoum); 56073-10-0 (Brodifacoum); 56716-21-3 (Hyquincarb); 57808-65-8 (Closantel); 58481-70-2 (Dicresyl); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 60589-06-2 (Metoxadiazone); 60628-96-8 (Bifonazole); 61444-62-0 (Nifluridide); 61949-77-7 (Trans-Permethrin); 63333-35-7 (Bromethalin); 63771-69-7 (Zolaprofos); 63837-33-2 (Diofenolan); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 64902-72-3 (Chlorsulfuron); 65383-73-5 (Precocene III); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (,Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68359-37-5 (Betacyfluthrin); 68523-18-2 (Fenpirithrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71697-59-1 (Thetacypermethrin); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 75867-00-4 (Fenfluthrin); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 81613-59-4 (Flupropadine); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 90035-08-8 (Flocoumafen); 90338-20-8 (Butathiofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101463-69-8 (,Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 104653-34-1 (Difethialone); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Halfenprox); 112143-82-5 (Triazamate.); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 116714-46-6 (NOvaluron); 117704-25-3 (Doramectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123997-26-2 (Eprinomectin); 129558-76-5 (TOlfenpyrad); 143807-66-3 (Chromafenozide); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 220119-17-5 (Selamectin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); 51-79-6 (Urethane); 78-79-5 (Isoprene); 108-05-4 (Vinyl acetate); 7782-42-5 (Graphite); 9002-88-4 (Polyethylene); 9002-89-5 (Poly(vinyl alcohol); 9003-05-8; 9003-39-8 (Poly(vinylpyrrolidone); 9003-53-6 (,Polystyrene); 9004-32-4 (Carboxymethyl cellulose sodium salt); 9004-34-6D (Cellulose); 9004-65-3 (Hydroxypropyl methylcellulose); 9005-25-8 (Starch); 9005-32-7 (Alginic acid); 9005-49-6 (Heparin sulfate); 9007-28-7 (Chondroitin sulfate); 24980-41-4 (Polycaprolactone); 25085-53-4 (Isotactic polypropylene); 25248-42-4 (Polycaprolactone); 25322-68-3 (Poly(ethylene oxide); 25702-74-3 (Polysucrose); 25805-17-8 (Poly(ethyloxazoline); 26023-30-3 (Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)]); 26100-51-6 (Polylactic acid); 26780-50-7 (Poly(Lactide-co-glycolide); 31621-87-1 (Polydioxanone) Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); 84-74-2 (Dibutyl phthalate); 94-96-2 (Ethohexadiol); 131-11-3 (Dimethyl phthalate); 134-62-3 (DEET); 532-34-3 (Butopyronoxyl); 3653-39-2 (,Hexamide); 19764-43-3 (Methoquin-butyl); 39589-98-5 (Dimethyl carbate); 66257-53-2 (Oxamate); 105726-67-8 (Methylneodecanamide); 119515-38-7 (Picaridin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (insect repellent; fiber-supported pest-behavior-modifying compn.); 7783-06-4 (Hydrogen sulfide) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (mammal repellent; fiber-supported pest-behavior-modifying compn.); 9010-98-4 Role: MOA (Modifier or additive use), USES (Uses) (neoprene rubber, fiber; support for pest-behavior-modifying compn.)  
Patent Application Country: Application: US  
Priority Application Country: US  
Priority Application Number: 2001-345349  
Priority Application Date: 20011025

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Chem Codes: Chemical of Concern: RTN, SPM Rejection Code: NO TOX DATA.  
  
The invention provides fibrous pest deterrents that combine the useful properties of a phys. barrier in the form of a nonwoven fibrous matrix with a chem. deterrent such as a pesticide, behavior-modifying compd. or a pest repellent. The use of such fibrous pest deterrents protects plants, animals and structures in both agricultural and nonagricultural settings from damage inflicted by pests. Unlike traditional pesticides, the behavior-modifying compd., pesticide or chem. deterrent of the invention is adsorbed or attached to a fibrous matrix, and so it is not so readily dispersed into the environment. Hence, use of the fibrous pest deterrents can reduce the levels of pesticides that inadvertently contaminate nontarget areas and pollute water supplies. [on SciFinder (R)] fiber/ supported/ pesticide/ compn Copyright: Copyright 2004 ACS on SciFinder (R))  
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Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
Coden: USXXCO  
Index Terms: Glycols Role: MOA (Modifier or additive use), USES (Uses) (alyplastic, fiber; support for pest-behavior-modifying compn.); Polyester fibers Role: MOA (Modifier or additive use), USES (Uses) (arom.; support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (copper salts, mammal repellent; fiber-supported pest-behavior-modifying compn.); Anethum graveolens; Insect attractants; Insect feeding inhibitors; Insect repellents; Nepeta cataria; Piper; Repellents; Zingiber officinale (fiber-supported pest-behavior-modifying compn.); Allomones; Kairomones; Monoterpenes; Phenols; Pheromones Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); Bacillus thuringiensis; Pesticides; Quassia; Schoenocaulon (fiber-supported pesticidal compn.); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); Fibers Role: MOA (Modifier or additive use), USES (Uses) (fiber-supported pesticidal compn.); Albumins; Collagens; Gelatins; Neoprene rubber; Ovalbumin; Polyamides; Polyanhydrides; Polycarbonates; Polyoxyalkylenes; Polysiloxanes; Polyurethane fibers; Rayon Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (glycolide-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (hydroxycarboxylic acid-based, fiber; support for pest-behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (lactide, fiber; support for pest-behavior-modifying compn.); Capsicum annuum annuum (longum group, paprika; fiber-supported pest-behavior-modifying compn.); Capsicum annuum annuum (longum group; fiber-supported pest-behavior-modifying compn.); Polyethers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-, fiber; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-polyethers; support for pest-behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polycarbonates; support for pest-behavior-modifying compn.); Polyamide fibers Role: MOA (Modifier or additive use), USES (Uses) (polyether-; support for pest-behavior-modifying compn.); Aves (repellents; fiber-supported pest-behavior-modifying compn.); Insecticides (sterilants; fiber-supported pest-behavior-modifying compn.); Polyester fibers; Polyolefin fibers Role: MOA (Modifier or additive use), USES (Uses) (support for pest-behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (zinc salts, mammal repellent; fiber-supported pest-behavior-modifying compn.)  
CAS Registry Numbers: 84-65-1 (Anthraquinone); 137-30-4 (Ziram.); 333-41-5 (Diazinon); 1332-40-7 (Copper oxychloride); 2032-65-7 (Methiocarb); 12407-86-2 (Trimethacarb); 15879-93-3 (Chloralose); 108173-90-6 (Guazatine) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bird repellent; fiber-supported pest-behavior-modifying compn.); 57-50-1D (Sugar); 58-08-2 (, Caffein); 404-86-4 (Capsaicin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest-behavior-modifying compn.); 50-14-6 (> Ergocalciferol); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 55-98-1 (Busulfan); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 56-75-7 (Chloramphenicol); 57-24-9 (Strychnine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 67-66-3 (Chloroform); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 71-55-6 (Methylchloroform); 72-43-5 (Methoxychlor); 74-83-9 (Methyl bromide); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-21-8 (Ethylene oxide); 76-06-2 (,Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-34-5 (Tetrachloroethane); 80-05-7 (Bisphenol A); 81-81-2 (Warfarin); 81-82-3 (Coumachlor); 82-66-6 (Diphacinone); 83-26-1 (Pindone); 83-79-4 (Rotenone); 85-34-7 (Chlorfenac); 86-50-0 (Azinphosmethyl); 86-88-4 (Antu); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 96-24-2 (a-Chlorohydrin); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 97-27-8 (Chlorbetamide); 104-29-0 (Chlorphenesin); 106-46-7 (Paradichlorobenzene); 106-93-4 (Ethylene Dibromide); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoatemethyl); 116-06-3 (Aldicarb); 118-75-2 (Chloranil); 119-12-0 (Pyridaphenthion); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-29-9 (Pyrethrin II); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 126-22-7 (Butonate); 126-75-0 (Demeton-S); 131-89-5 (Dinex); 133-06-2 (Captan); 133-90-4 (,Chloramben); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 152-16-9 (Schradan); 288-14-2 (Isoxazole); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemetonmethyl); 302-04-5 (Thiocyanate); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-20-0 (Potassium thiocyanate); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 470-90-6 (Chlorfenvinphos); 483-63-6 (Crotamiton); 485-31-4 (Binapacryl); 494-52-0 (Anabasine); 500-28-7 (Chlorothion.); 507-60-8 (Scilliroside); 535-89-7 (Crimidine); 555-89-5 (Bis(p-chlorophenoxy)methane); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 584-79-2 (Bioallethrin); 640-15-3 (Thiometon); 640-19-7 (Fluoroacetamide); 644-06-4 (Precocene II); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 682-80-4 (Demephion-O); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 867-27-6 (Demeton-O-methyl); 919-54-0 (Acethion); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 944-22-9 (FOnofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 991-42-4 (Norbormide); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1172-63-0 (Jasmolin II); 1303-96-4 (Borax); 1314-84-7 (Zinc phosphide); 1327-53-3 (Arsenous oxide); 1344-81-6 (Calcium Polysulfide); 1403-17-4 (Candicidin); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1646-88-4 (Aldoxycarb); 1716-09-2 (Fenthionethyl); 2032-59-9 (Aminocarb); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2587-90-8 (Demephion-S); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2674-91-1 (Oxydeprofos); 2699-79-8 (Sulfuryl fluoride); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (,Temephos); 3604-87-3 (.a.-Ecdysone); 3689-24-5 (Sulfotep); 3691-35-8 (Chlorophacinone); 3734-95-0 (Cyanthoate); 3761-41-9 (,Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4097-36-3 (Dinosam); 4104-14-7 (Phosacetim); 4151-50-2 (Sulfluramid); 4466-14-2 (Jasmolin I); 4824-78-6 (Bromophosethyl); 5221-49-8 (Pyrimitate); 5598-13-0 (Chlorpyrifosmethyl); 5598-52-7 (Fospirate); 5826-76-6 (Phosnichlor); 5834-96-8 (Azothoate); 5836-29-3 (Coumatetralyl); 5989-27-5; 6164-98-3 (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7446-18-6 (Thallium sulfate); 7645-25-2 (Lead arsenate); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7723-14-0 (Phosphorus); 7778-44-1 (Calcium arsenate); 7786-34-7 (Mevinphos); 7803-51-2 (Phosphine); 8001-35-2 (Camphechlor); 8022-00-2 (Demetonmethyl); 8065-36-9 (Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10112-91-1 (Mercurous chloride); 10124-50-2 (Potassium Arsenite); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 10605-21-7 (Carbendazim); 11141-17-6 (Azadirachtin); 12002-03-8 (C.I. Pigment Green 21); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13464-37-4 (Sodium arsenite;); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphosmethyl); 13804-51-8 (Juvenile hormone I); 14168-01-5 (Dilor); 14255-88-0 (Fenazaflor); 14816-16-1 (Phoximmethyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15589-31-8 (Terallethrin); 15662-33-6 (Ryania); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 16984-48-8 (Fluoride); 17080-02-3 (Furethrin); 17125-80-3 (Barium hexafluorosilicate); 17598-02-6 (Precocene I); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 22248-79-9 (>Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22569-71-7 (Phosphide); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 22868-13-9 (Sodium Disulfide,<); 22963-93-5 (Juvenile hormone III); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphosethyl); 23526-02-5 (Thuringiensin,<); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25402-06-6 (Cinerin); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 26097-80-3 (Cambendazole); 28434-01-7 (Bioresmethrin); 28772-56-7 (Bromadiolone); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphosmethyl); 29672-19-3 (Nitrilacarb); 29871-13-4 (Copper arsenate); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 33629-47-9 (Butralin); 34218-61-6 (Juvenile hormone II); 34264-24-9 (Promacyl); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 37032-15-8 (Sophamide); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40085-57-2 (Tazimcarb); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 50512-35-1; 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 51877-74-8 (Biopermethrin); 52315-07-8 (,Zetacypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53558-25-1 (Pyrinuron); 54406-48-3 (Empenthrin); 54593-83-8 (Chlorethoxyfos); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 56073-07-5 (Difenacoum); 56073-10-0 (Brodifacoum); 56716-21-3 (Hyquincarb); 57808-65-8 (Closantel); 58481-70-2 (Dicresyl); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 60589-06-2 (Metoxadiazone); 60628-96-8 (Bifonazole); 61444-62-0 (Nifluridide); 61949-77-7 (Trans-Permethrin); 63333-35-7 (Bromethalin); 63771-69-7 (Zolaprofos); 63837-33-2 (Diofenolan); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 64902-72-3 (Chlorsulfuron); 65383-73-5 (Precocene III); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (,Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68359-37-5 (Betacyfluthrin); 68523-18-2 (Fenpirithrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71697-59-1 (Thetacypermethrin); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 75867-00-4 (Fenfluthrin); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 81613-59-4 (Flupropadine); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 90035-08-8 (Flocoumafen); 90338-20-8 (Butathiofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101463-69-8 (,Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 104653-34-1 (Difethialone); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Halfenprox); 112143-82-5 (Triazamate.); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 116714-46-6 (NOvaluron); 117704-25-3 (Doramectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123997-26-2 (Eprinomectin); 129558-76-5 (TOlfenpyrad); 143807-66-3 (Chromafenozide); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 220119-17-5 (Selamectin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); 51-79-6 (Urethane); 78-79-5 (Isoprene); 108-05-4 (Vinyl acetate); 7782-42-5 (Graphite); 9002-88-4 (Polyethylene); 9002-89-5 (Poly(vinyl alcohol); 9003-05-8; 9003-39-8 (Poly(vinylpyrrolidone); 9003-53-6 (,Polystyrene); 9004-32-4 (Carboxymethyl cellulose sodium salt); 9004-34-6D (Cellulose); 9004-65-3 (Hydroxypropyl methylcellulose); 9005-25-8 (Starch); 9005-32-7 (Alginic acid); 9005-49-6 (Heparin sulfate); 9007-28-7 (Chondroitin sulfate); 24980-41-4 (Polycaprolactone); 25085-53-4 (Isotactic polypropylene); 25248-42-4 (Polycaprolactone); 25322-68-3 (Poly(ethylene oxide); 25702-74-3 (Polysucrose); 25805-17-8 (Poly(ethyloxazoline); 26023-30-3 (Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)]); 26100-51-6 (Polylactic acid); 26780-50-7 (Poly(Lactide-co-glycolide); 31621-87-1 (Polydioxanone) Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest-behavior-modifying compn.); 84-74-2 (Dibutyl phthalate); 94-96-2 (Ethohexadiol); 131-11-3 (Dimethyl phthalate); 134-62-3 (DEET); 532-34-3 (Butopyronoxyl); 3653-39-2 (,Hexamide); 19764-43-3 (Methoquin-butyl); 39589-98-5 (Dimethyl carbate); 66257-53-2 (Oxamate); 105726-67-8 (Methylneodecanamide); 119515-38-7 (Picaridin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (insect repellent; fiber-supported pest-behavior-modifying compn.); 7783-06-4 (Hydrogen sulfide) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (mammal repellent; fiber-supported pest-behavior-modifying compn.); 9010-98-4 Role: MOA (Modifier or additive use), USES (Uses) (neoprene rubber, fiber; support for pest-behavior-modifying compn.)  
Patent Application Country: Application: US  
Priority Application Country: US  
Priority Application Number: 2001-345349  
Priority Application Date: 20011025

Hogan, J. W. and Knowles, C. O. (1972). Metabolism of Diazinon by Fish Liver Microsomes. *Bull.Environ.Contam.Toxicol.* 8: 61-64.  
Chem Codes: EcoReference No.: 62781  
Chemical of Concern: DZ Rejection Code: IN VITRO/METABOLISM.

Hogsette, Jerome A., Prichard, David L., Ruff, Joseph P., and Jones, Carl J. (1991). Development of a refillable ear tag for control of horn flies (Diptera: Muscidae) on beef cattle. *Journal of Controlled Release* 15: 167-176.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A refillable ear tag charged with 20% (AI) diazinon or 10% (AI) permethrin with 40% piperonyl butoxide kept horn flies (Diptera:Muscidae) below 200 flies per animal for 12 weeks. The average release rate of insecticide from tags was 0.052 g per day during an 84-day study. Tag loss was relatively high (ca. 27%) presumably because of the tags' weight when filled (25-30 g). Tags are designed to be used for several fly seasons. Because they can be refilled alternately with approved pesticide formulations from different pesticide classes, these tags should be useful for future management of insecticide resistance in fly populations. Haematobia irritans (L.)/ Ear tags/ Beef cattle/ Diazinon/ Permethrin

HOLLAND JM and JEPSON PC (1996). Droplet dynamics and initial field tests for microencapsulated pesticide formulations applied at ultra low volume using rotary atomisers for control of locusts and grasshoppers. *PESTICIDE SCIENCE; 48* 125-134.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. The physical properties and field efficacy of microencapsulated acridicides (ME) were investigated to determine their suitability for application at Ultra Low Volume (ULV) rates in Sahelian conditions. Microcapsules were not damaged during application using Micronair AU7000 rotary atomizers. Drop size was dependent upon microcapsule size, smaller microcapsules tending to form dense aggregates within large droplets. The aggregation effect was counteracted by larger microcapsule sizes and by dilution of the concentrated formulation. There was a tendency for microcapsules to land dry at increasing distances from the point of application and at high temperatures and low humidities. In the field in Mali (W. Africa) diluted ME formulations were found to be suitable for ULV application by Berthoud C8 hand-held sprayers, vehicle-mounted Micronair AU7000 pest control kits and helicopter-mounted Beecomist rotary atomizers. ME formulations of fenitrothion, chlorpyriphos and diazin Biology/Methods/ Temperature/ Humidity/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Orthoptera

HOLMSTEDT, B. (1985). HISTORICAL DEVELOPMENT OF CARBAMATES. *THIRD SYMPOSIUM ON PROPHYLAXIS AND TREATMENT OF CHEMICAL POISONING, STOCKHOLM, SWEDEN, APR. 22-24, 1985. FUNDAM APPL TOXICOL; 5 (6 PART 2). 1985 (RECD. 1986). S1-S9.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ATROPINE PYRIDINE-2-ALDOXIME METHIODIDE ANTIDOTE-DRUG METABOLIC-DRUG TABUN TETRAETHYLPYROPHOSPHATE PHYSOSTIGMINE DFP INSECTICIDE PHARMACODYNAMICS NEUROTOXICITY Congresses/ Biology/ Biochemistry/ Amino Acids/ Peptides/ Proteins/ Enzymes/Physiology/ Therapeutics/ Nervous System Diseases/Pathology/ Pharmaceutical Preparations/Metabolism/ Poisoning/ Animals, Laboratory/ Antidotes/ Poisoning/Prevention & Control/ Biophysics/ Plants/Chemistry/ Pharmacognosy/ Plants, Medicinal/ Herbicides/ Pest Control/ Pesticides

HOLSTEGE DM, SCHARBERG DL, TOR ER, HART LC, and GALEY FD (1994). A rapid multiresidue screen for organophosphorus, organochlorine, and N-methyl carbamate insecticides in plant and animal tissues. *JOURNAL OF AOAC INTERNATIONAL; 77* 1263-1274.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. A multiresidue screen for the quantitative determination of 43 organophosphorus, 17 organochlorine, and 11 N-methyl carbamate insecticides in 10 g of plant or animal tissues is described. The insecticides are extracted with 5% ethanol in ethyl acetate (v/v). Samples with high lipid content are cleaned up by automated gel permeation chromatography with a 30% ethyl acetate in hexane (v/v) eluant and in-line silica gel minicolumns. Highly pigmented samples are cleaned up with class-specific solid-phase extraction columns. The concentrated extracts are analyzed by selective detection with gas chromatography or liquid chromatography. Recovery of 71 insecticides ranged from 77 to 113%. Analysis of fortified bovine liver (n = 5) resulted in an average recovery of 96 | 4% at the 0.5 to 0.05 mug/g level. Analysis of fortified alfalfa hay (n = 5) resulted in a mean recovery of 94 | 4% at the 0.06 to 0.5 mug/g level, and analysis of fortified fresh tomatoes (n = 5) resulted in an Food Technology/ Poisoning/ Animals, Laboratory

Homan, Reynold and Eisenberg, Moises (1985). A fluorescence quenching technique for the measurement of paramagnetic ion concentrations at the membrane/water interface. Intrinsic and X537A-mediated cobalt fluxes across lipid bilayer membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 812: 485-492.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have characterized the quenching of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethanolamine by Co2+ in egg phosphatidylcholine (PC) lipid bilayer vesicles. The quenching constant obtained is 59 M-1. We demonstrate one use of this fluorescence quenching technique by measuring intrinsic and X537A-mediated transmembrane Co2+ fluxes in large unilamellar PC vesicles. The intrinsic rate constant for Co2+ flux we measure is 3 [middle dot] 10-6s-1. We confirm that the neutral Co [approximate] (X537A)2 complex is the main component of the X537A-mediated cobalt flux. Since this method measures the concentration of Co2+ at the site of the fluorophore, it is generally applicable to the measurement of paramagnetic ion concentrations in the region of the membrane/water interface. Fluorescence quenching/ Membrane/water interface/ Membrane permeability/ Co2+/ Ionophore X537A/ Transmembrane flux/ Fluorescent probe/ Lipid vesicle

Hon-Cheng, C. (2001). Studies on Water Quality Criteria of Pesticides for Farming Black Tiger Shrimp Penaeus monodon. *Asian Fish.Forum, Nov.25-30, 2001, Kaohsiung, Taiwan*.  
Chem Codes: Chemical of Concern: DZ,BTC,GYP,RTN,TXP,CBF,PQT,MLN,PRN,ES,PPX Rejection Code: ABSTRACT .

Horowitz, Ann D. (1995). Exclusion of SP-C, but not SP-B, by gel phase palmitoyl lipids. *Chemistry and Physics of Lipids* 76: 27-39.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interactions of the hydrophobic pulmonary surfactant proteins, SP-C and SP-B, with lipid bilayers were assessed by fluorescence energy transfer. SP-C and SP-B were labeled with the fluorescent probe, succinimidyl nitrobenzoxadiazolyl amino hexanoate (NBD). Fluorescence energy transfer from NBD-SP-C and NBD-SP-B to four distinct indocarbocyanine probes (CnDiI) was utilized to determine the association of the surfactant proteins with various lipid acyl chains. In lipid mixtures including DPPC and DPPG, SP-C was associated with shorter chain and unsaturated lipids below the bulk lipid phase transition. Longer chain saturated CnDiI were excluded from SP-C aggregates. In contrast, SP-B demonstrated little acyl chain preference. The association of SP-C with shorter chain and unsaturated lipids below the bulk phase transition is interpreted to arise from a mismatch in the length of the hydrophobic region of the SP-C a-helix relative to the length of the hydrophobic region of dipalmitoyl lipids in the gel phase. Pulmonary surfactant/ Acyl chain length/ Energy transfer/ Indocarbocyanine dye

Horowitz, Ann D., Elledge, Barry, Whitsett, Jeffrey A., and Baatz, John E. (1992). Effects of lung surfactant proteolipid SP-C on the organization of model membrane lipids: A fluorescence study. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1107: 44-54.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lipid-protein interactions of pulmonary surfactant-associated protein SP-C in model DPPC/DPPG and DPPC/DPPG/eggPC vesicles were studied using steady-state and time-resolved fluorescence measurements of two fluorescent phospholipid probes, NBD-PC and NBD-PG. These fluorescent probes were utilized to determine SP-C-induced lipid perturbations near the bilayer surface, and to investigate possible lipid headgroup-specific interactions of SP-C. The presence of SP-C in DPPC/DPPG membrane vesicles resulted in (1) a dramatic increase in steady-state anisotropy of NBD-PC and NBD-PG at gel phase temperatures, (2) a broadening of the gel-fluid phase transition, (3) a decrease in self-quenching of NBD-PC and NBD-PG probes, and (4) a slight increase in steady-state anisotropy of NBD-PG at fluid phase temperatures. Time-resolved measurements, as well as steady-state intensity measurements indicate that incorporation of SP-C into DPPC/DPPG or DPPC/DPPG/eggPC vesicles results in a increase in the fraction of the long-lifetime species of NBD-PC. The results presented here indicate that SP-C orders the membrane bilayer surface, disrupts acyl chain packing and may increase the lateral pressure within the bilayer. Surfactant/ Fluorescence/ Lipid-protein interaction/ Model membrane

HORTON BJ, BEST DJ, BUTLER LG, and GREGORY GG (1997). Organophosphorus residues in wool grease resulting from specified on-farm lice and flystrike control treatments. *AUSTRALIAN VETERINARY JOURNAL; 75* 500-503.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. Objective: To investigate wool organophosphorus concentrations resulting from a range of farm pesticide application methods. Design: Random sampling of wool for pesticide residues and on-farm interviews to determine associated treatments. Procedure: Tasmanian fleece wool lots were sampled at random and tested for organophosphorus residues. The grower was identified and the pesticide treatments applied to the sheep were ascertained by on-farm interview. Results: The residue concentrations showed a large variation that was not accounted for by differences in treatments by growers. Organophosphorus concentrations were proportional to the number of treatments applied, and inversely related to the time between pesticide application and the subsequent shearing, and were significantly influenced by the method of application. After allowing for the time of application, plunge dipping resulted in pesticide residue concentrations 2 to 2.5 times greater than shower dipping, using Animal Husbandry/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insects

Hough, L. and Mufti, K. S. (1972). Sucrochemistry : Part VI. Further reactions of 6,6&prime;--O-tosylsucrose and a comparison of the reactivity at the 6 and 6&prime; positions. *Carbohydrate Research* 25: 497-503.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Reaction of 6,6&prime;-di-O-tosylsucrose hexa-acetate (1) with sodium chloride in hexamethylphosphoric triamide gave a mixture containing preponderantly the hexa-acetates of 6,6&prime;-dichloro-6,6&prime;-dideoxysucrose (2) and 6-chloro-6-deoxy-6&prime;-O-tosyl-sucrose (3). Reaction of 3 with sodium benzoate in (Me2N)3PO gave the 6-chloro-6-deoxy-6&prime;-O-benzoyl derivative 4. Subsequent O-de-esterification afforded syrupy 6-chloro-6-deoxysucrose (5), which gave a crystalline heptamethanesulphonate. The chloro groups in the heptabenzoate 7 and the hexa-acetate 2 were replaced by azide in (Me2N)3PO to give the corresponding derivatives of 6-azido-6-deoxysucrose (12) and 6,6&prime;-diazido-6,6&prime;-dideoxysucrose (8), respectively. O-De-esterification of the hexa-acetates 2 and 8 yielded the parent 6,6&prime;-dichloride 6 and 6,6&prime;-diazide 9, respectively. 6,6&prime;-Di-O-tosylsucrose hexabenzoate (10) reacted with sodium bromide in (Me2N)3PO to give the 6,6&prime;-dibromide 11, in high yield, which afforded 6-deoxy-[beta]--xylo-hex-5-enopyranosyl 6&prime;-deoxy-[beta]--threo-hex-5&prime;-enofuranoside hexabenzoate on treatment with silver fluoride in pyridine.

Hsiao Cheng-Ting, Yang Chen-Chang, Deng Jou-Fang, Bullard, M. J., and Liaw Shiumn-Jen (1996). Acute pancreatitis following organophosphate intoxication. *Journal of Toxicology: Clinical Toxicology [J. TOXICOL.: CLIN. TOXICOL.]* 34: 343-347.  
Chem Codes: Chemical of Concern: DMT Rejection Code: HUMAN HEALTH.  
  
Acute pancreatitis as a complication of organophosphate intoxication has been infrequently addressed. Previous reports have suggested that acute pancreatitis may follow the oral ingestion of several organophosphates, including parathion, malathion, difonate, coumaphos, and diazinon, or after cutaneous exposure to dimethoate. No cases of acute pancreatitis following mevinphos (CAS 7786-34-71) poisoning have been reported to date. The possible pathogeneses of the pancreatic insult in organophosphate intoxication are excessive cholinergic stimulation of the pancreas and ductular hypertension. We describe a patient presenting with painless acute pancreatitis following an intentional ingestion of large amounts of mevinphos. Serum amylase and lipase values were increased and determination of amylase isoenzymes confirmed a pancreatic origin. A computerized tomograph of the abdomen showed diffuse swelling of the pancreas. The patient was discharged after a seven week clinical course, complicated by a delayed neuropathy. As acute pancreatitis in organophosphate intoxication may be more common than reported, serum pancreatic enzymes and appropriate imaging studies should be more liberally utilized. Early recognition and appropriate therapy for acute pancreatitis may lead to an improved prognosis. Classification: X 24131 Acute exposure; H SE4.20 POISONS AND POISONING mevinphos/ pesticides (organophosphorus)/ pancreatitis/ organophosphorus compounds/ pesticides

Hsiao Cheng-Ting, Yang Chen-Chang, Deng Jou-Fang , Bullard, M. J., and Liaw Shiumn-Jen (1996). Acute pancreatitis following organophosphate intoxication. *Journal of Toxicology: Clinical Toxicology [J. TOXICOL.: CLIN. TOXICOL.]. Vol. 34, no. 3, pp. 343-347. May 1996.*   
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0731-3810  
Descriptors: pancreatitis  
Descriptors: pesticides  
Descriptors: organophosphorus compounds  
Abstract: Acute pancreatitis as a complication of organophosphate intoxication has been infrequently addressed. Previous reports have suggested that acute pancreatitis may follow the oral ingestion of several organophosphates, including parathion, malathion, difonate, coumaphos, and diazinon, or after cutaneous exposure to dimethoate. No cases of acute pancreatitis following mevinphos (CAS 7786-34-71) poisoning have been reported to date. The possible pathogeneses of the pancreatic insult in organophosphate intoxication are excessive cholinergic stimulation of the pancreas and ductular hypertension. We describe a patient presenting with painless acute pancreatitis following an intentional ingestion of large amounts of mevinphos. Serum amylase and lipase values were increased and determination of amylase isoenzymes confirmed a pancreatic origin. A computerized tomograph of the abdomen showed diffuse swelling of the pancreas. The patient was discharged after a seven week clinical course, complicated by a delayed neuropathy. As acute pancreatitis in organophosphate intoxication may be more common than reported, serum pancreatic enzymes and appropriate imaging studies should be more liberally utilized. Early recognition and appropriate therapy for acute pancreatitis may lead to an improved prognosis.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24131 Acute exposure  
Classification: H SE4.20 POISONS AND POISONING  
Subfile: Health & Safety Science Abstracts; Toxicology Abstracts

Huang, T. H. Jackson, Yang, Dun-Sheng, Plaskos, Nicholas P., Go, Sandy, Yip, Christopher M., Fraser, Paul E., and Chakrabartty, Avijit (2000). Structural studies of soluble oligomers of the alzheimer [beta]-amyloid peptide. *Journal of Molecular Biology* 297: 73-87.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Recent studies have suggested that non-fibrillar soluble forms of A[beta] peptides possess neurotoxic properties and may therefore play a role in the molecular pathogenesis of Alzheimer&rsquo;s disease. We have identified solution conditions under which two types of soluble oligomers of A[beta]40 could be trapped and stabilized for an extended period of time. The first type of oligomers comprises a mixture of dimers/tetramers which are stable at neutral pH and low micromolar concentration, for a period of at least four weeks. The second type of oligomer comprises a narrow distribution of particles that are spherical when examined by electron microscopy and atomic force microscopy. The number average molecular mass of this distribution of particles is 0.94 MDa, and they are are stable at pH 3 for at least four weeks. Circular dichroism studies indicate that the dimers/tetramers possess irregular secondary structure that is not [alpha]-helix or [beta]-structure, while the 0.94 MDa particles contain [beta]-structure. Fluorescence resonance energy transfer experiments indicate that A[beta]40 moieties in amyloid fibrils or protofibrils are more similar in structure to those in the 0.94 MDa particles than those in the dimers/tetramers. These findings indicate that soluble oligomeric forms of A[beta] peptides can be trapped for extended periods of time, enabling their study by high resolution techniques that would not otherwise be possible. amyloid/ fibril/ protein structure/ protofibril/ Alzheimer&rsquo/ s disease

Huang, Zhengping, Pearce, Kenneth H., and Thompson, Nancy L. (1992). Effect of bovine prothrombin fragment 1 on the translational diffusion of phospholipids in Langmuir-Blodgett monolayers. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1112: 259-265.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Previous work has shown that bovine prothrombin fragment 1 binds to supported planar membranes composed of phosphatidylcholine and phosphatidylserine in a Ca2+-specific manner (Tendian et al. (1991) Biochemistry 30, 10991; Pearce et al. (1992) Biochemistry 31, 5983-5995). In the present work, fluorescence pattern photobleaching recovery has been used to examine the effect of membrane-bound fragment 1 on the translational diffusion coefficients of two fluorescent phospholipids in fluid-like phosphatidylserine/phosphatidylcholine Langmuir-Blodgett monolayers. The results show that saturating concentrations of fragment 1, in the presence of Ca2+, reduce the diffusion coefficient of nitrobenzoxadiazolyl-conjugated phosphatidylserine (NBD-PS) and nitrobenzoxadiazolyl-conjugated phosphatidylcholine (NBD-PC) by factors of approximately four and two, respectively. Ca2+ or fragment 1 alone do not have a statistically significant effect on NBD-PS or NBD-PC diffusion. In addition, a nonspecific protein (ovalbumin) does not change the diffusion coefficients of the fluorescent phospholipids either in the absence or presence of Ca2+. The fractions of the fluorescent phospholipids that are laterally mobile are approximately 0.9 for all samples. These results are interpreted with several models for possible mechanisms by which extrinsically bound proteins might retard phospholipid diffusion in membranes. Thrombosis/ Hemostasis/ Blood coagulation/ Planar model membrane/ Fluorescesce photobleaching recovery/ Fluorescence microscopy/ Fluorescent phospholipid

Hudson, R. H., Haegele, M. A., and Tucker, R. K. (1979). Acute Oral and Percutaneous Toxicity of Pesticides to Mallards: Correlations with Mammalian Toxicity Data. *Toxicol.Appl.Pharmacol.* 47: 451-460.

EcoReference No.: 35259  
Chemical of Concern: ADC,DEM,DCTP,EN,EP,FNT,FNTH,MP,MVP,PAQT,PRN,PRT,PPHD,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

HUESKES, R. and LEVSEN, K. (1997). Pesticides in rain. *CHEMOSPHERE; 35* 3013-3024.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. 40 rainwater samples were collected in Hannover and near Peine (Lower Saxony, Germany) in 1992 using a wet-only collector. The samples were extracted by solid phase extraction and analyzed by GC for 59 pesticides. 11 pesticides were found in more than 10 samples. The highest concentrations were observed for terbuthylazine (0.003-0.52 mug/L), metolachlor (0.003-0.51 mug/L, mean: 0.10 mug/L), metalaxyl (0.006-0.48 mug/L, mean: 0.10 mug/L) and chlorothalonil (0.003-1.1 mug/L, mean: 0.16 mug/L). The concentrations show a seasonal dependence reflecting the application periods./PHYSIOLOGY Climate/ Ecology/ Meteorological Factors/ Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Hughes, Kenneth Andrew, Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (20040812). Preparation of cyano anthranilamide insecticides. 63 pp.  
Chem Codes: Chemical of Concern: SPM,MAL,AZD,RTN Rejection Code: CHEM METHODS.  
  
The title compds. [I; R1 = Me, Cl, Br, F; R2 = F, Cl, Br, haloalkyl or haloalkoxy; R3 = F, Cl, Br; R4 = H, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, each optionally substituted with one substituent selected from the group consisting of halo, CN, SMe S(O)Me, S(O)2Me and OMe; R5 = H, Me; R6 = H, F, Cl; R7 = H, F, Cl], useful for controlling an invertebrate pest, were prepd. E.g., a multi-step synthesis of compd. I [R1 = Me; R2 = CF3; R3 = Cl; R4, R5 = H], was given. The compds. I were tested in various biol. tests (data given). This invention also pertains to a compn. for controlling an invertebrate pest comprising a biol. effective amt. of a compd. I, an N-oxide thereof or a suitable salt of the compd. I and at least one addnl. component selected from the group consisting of a surfactant, a solid diluent and a liq. diluent. [on SciFinder (R)] cyano/ anthranilamide/ prepn/ insecticide/ invertebrate/ pest Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2004:648522  
Chemical Abstracts Number: CAN 141:190786  
Section Code: 28-8  
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)  
CA Section Cross-References: 5  
Coden: PIXXD2  
Index Terms: Bacillus thuringiensis (co-administration with a member of Bacillus thuringiensis; prepn. of cyano anthranilamide insecticides); Macrolides Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (co-administration with insecticidal macrocyclic lactone; prepn. of cyano anthranilamide insecticides); Hormones Role: BSU (Biological study, unclassified), BIOL (Biological study) (co-administration with juvenile hormone mimic; prepn. of cyano anthranilamide insecticides); GABA antagonists (co-administration with g-aminobutyric acid (GABA) antagonist; prepn. of cyano anthranilamide insecticides); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae (co-administration; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Microorganism (entomopathogenic, co-administration with entomopathogenic virus; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Eubacteria; Fungi (entomopathogenic, co-administration; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Tabanidae (horse fly, deer fly; prepn. of cyano anthranilamide insecticides for controlling the invertebrate pest); Acari; Araneae; Culicidae; Formicidae; Gnat; Simuliidae; Stomoxys calcitrans; Vespa; Vespula; Wasp (prepn. of cyano anthranilamide insecticides for controlling the invertebrate pest); Insecticides (prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pyrethroids, co-administration; prepn. of cyano anthranilamide insecticides); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, co-administration with a Bacillus thuringiensis d-endotoxin; prepn. of cyano anthranilamide insecticides)  
CAS Registry Numbers: 57-13-6D (Urea) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (co-administration with insecticidal ureas; prepn. of cyano anthranilamide insecticides); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphosmethyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifosmethyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultapsodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Beta-Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 76703-62-3; 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 129558-76-5 (Tolfenpyrad); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (co-administration; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); 500011-03-0P; 736994-59-5P; 736994-60-8P; 736994-61-9P; 736994-62-0P; 736994-63-1P; 736994-64-2P; 736994-65-3P; 736994-66-4P; 736994-67-5P; 736994-68-6P; 736994-69-7P; 736994-70-0P; 736994-71-1P; 736994-72-2P; 736994-73-3P; 736994-74-4P; 736994-75-5P; 736994-76-6P; 736994-77-7P; 736994-78-8P; 736994-79-9P; 736994-80-2P; 736994-81-3P; 736994-82-4P; 736994-83-5P; 736994-84-6P; 736994-85-7P; 736994-86-8P; 736994-87-9P; 736994-88-0P; 736994-89-1P; 736994-90-4P; 736994-91-5P; 736994-92-6P; 736994-93-7P; 736994-94-8P; 736994-95-9P; 736994-96-0P; 736994-97-1P; 736994-98-2P; 736994-99-3P; 736995-00-9P; 736995-01-0P; 736995-02-1P; 736995-03-2P; 736995-04-3P; 736995-05-4P; 736995-06-5P; 736995-07-6P; 736995-08-7P; 736995-09-8P; 736995-10-1P; 736995-11-2P; 736995-12-3P; 736995-13-4P; 736995-14-5P; 736995-15-6P; 736995-16-7P; 736995-17-8P; 736995-18-9P; 736995-19-0P; 736995-20-3P; 736995-21-4P; 736995-22-5P; 736995-23-6P; 736995-24-7P; 736995-25-8P; 736995-26-9P; 736995-27-0P; 736995-28-1P; 736995-29-2P; 736995-30-5P; 736995-31-6P; 736995-32-7P; 736995-33-8P; 736995-34-9P; 736995-35-0P; 736995-36-1P; 736995-37-2P; 736995-38-3P; 736995-39-4P; 736995-40-7P; 736995-41-8P; 736995-42-9P; 736995-43-0P; 736995-44-1P; 736995-45-2P; 736995-46-3P; 736995-47-4P; 736995-48-5P; 736995-49-6P; 736995-50-9P; 736995-51-0P; 736995-52-1P; 736995-53-2P; 736995-54-3P; 736995-55-4P; 736995-56-5P; 736995-57-6P; 736995-58-7P; 736995-59-8P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of cyano anthranilamide insecticides); 2402-77-9 (2,3-Dichloropyridine); 6388-47-2 (2-Amino-3-chlorobenzoic acid); 20154-03-4 (3-Trifluoromethylpyrazole) Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of cyano anthranilamide insecticides); 4389-45-1P; 14339-33-4P; 14521-80-3P; 101012-31-1P; 438450-38-5P; 438450-39-6P; 458543-77-6P; 458543-78-7P; 458543-79-8P; 500008-69-5P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500028-90-0P; 736995-60-1P; 736995-61-2P; 736995-62-3P; 736995-63-4P; 736995-64-5P; 736995-65-6P; 736995-66-7P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of cyano anthranilamide insecticides)  
PCT Designated States: Designated States W: AE.  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2003-443256  
Priority Application Date: 20030128

Hughes, P. B. (1982). Organophosphorus Resistance for the Sheep Blowfly, Lucilia cuprina (Wiedemann) (Diptera: Calliphoridae): A Genetic Study Incorporating Synergists. *Bull.Entomol.Res.* 72: 573-582.

EcoReference No.: 71767  
Chemical of Concern: PRN,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Hughes, P. B. and Devonshire, A. L. (1982). The Biochemical Basis of Resistance to Organophosphorus Insecticides in the Sheep Blowfly, Lucilia cuprina. *Pestic.Biochem.Physiol.* 18: 289-297.

EcoReference No.: 71995  
Chemical of Concern: DZ,PRN; Habitat: T; Effect Codes: ACC; Rejection Code: TARGET(DZ).

Hughes, P. B. and Devonshire, A. L. (1982). The biochemical basis of resistance to organophosphorus insecticides in the sheep blowfly, Lucilia cuprina. *Pesticide Biochemistry and Physiology* 18: 289-297.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
The metabolism in vivo and in vitro of [14C]parathion and [14C]paraoxon was studied in a susceptible (LS) and an organophosphorus-resistant (Q) strain of the sheep blowfly, Lucilia cuprina. Both strains detoxified the insecticides in vivo via a number of pathways, but the resistant strain produced more of the metabolites diethyl phosphate and diethyl phosphorothionate. No difference was found between strains in the rate of penetration of the compounds used. Also, in vitro studies showed no difference between strains in the sensitivity of head acetylcholinesterase to inhibition by paraoxon. Both the microsomal and the 100,000g supernatant fractions degraded paraoxon, but resistance in Q could be explained by the eightfold greater rate of diethyl phosphate production with or without added NADPH. Parathion was also degraded to diethyl phosphorothionate by an NADPH-requiring enzyme in microsomal preparations from both strains. However, Q produced significantly more diethyl phosphorothionate in vivo than LS. It was concluded that organophosphorus resistance in Q was due mainly to a microsomal phosphatase hydrolyzing phosphate but not phosphorothionate esters, probably enhanced by a microsomal oxidase detoxifying the latter.

Hunt, J. W., Anderson, B. S., Phillips, B. M., Nicely, P. N., Tjeerdema, R. S., Puckett, H. M. , Stephenson, M., Worcester, K., and De Vlaming, V. (2003). Ambient toxicity due to chlorpyrifos and diazinon in a central California coastal watershed. *Environmental Monitoring and Assessment [Environ. Monit. Assess.]. Vol. 82, no. 1, pp. 83-112. 11 Feb 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0167-6369  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Diazinon  
Descriptors: Water pollution  
Descriptors: Catchments  
Descriptors: Watersheds  
Descriptors: Toxicity  
Descriptors: Agricultural runoff  
Descriptors: Organophosphates  
Descriptors: Pesticides  
Descriptors: Mortality  
Descriptors: Surveys  
Descriptors: Catchment areas  
Descriptors: Toxicity (see also Lethal limits)  
Descriptors: Agriculture  
Descriptors: Runoff  
Descriptors: Phosphate (Organic)  
Descriptors: Survey  
Descriptors: Crustaceans (Cladocera)  
Descriptors: Water Pollution Effects  
Descriptors: Ecological Effects  
Descriptors: Data Collections  
Descriptors: Organophosphorus Pesticides  
Descriptors: Spatial Distribution  
Descriptors: Land Use  
Descriptors: Data Interpretation  
Descriptors: Ceriodaphnia dubia  
Descriptors: USA, California  
Descriptors: USA, California, Salinas R.  
Abstract: The Salinas River watershed along the central coast of California, U.S.A., supports rapidly growing urban areas and intensive agricultural operations. The river drains to an estuarine National Wildlife Refuge and a National Marine Sanctuary. The occurrence, spatial patterns, sources and causes of aquatic toxicity in the watershed were investigated by sampling four sites in the main river and four sites in representative tributaries during 15 surveys between September 1998 and January 2000. In 96 hr toxicity tests, significant Ceriodaphnia dubia mortality was observed in 11% of the main river samples, 87% of the samples from a channel draining an urban/agricultural watershed, 13% of the samples from channels conveying agricultural tile drain runoff, and in 100% of the samples from a channel conveying agricultural surface furrow runoff. In six of nine toxicity identification evaluations (TIEs), the organophosphate pesticides diazinon and/or chlorpyrifos were implicated as causes of observed toxicity, and these compounds were the most probable causes of toxicity in two of the other three TIEs. Every sample collected in the watershed that exhibited greater than 50% C. dubia mortality (n = 31) had sufficient diazinon and/or chlorpyrifos concentrations to account for the observed effects. Results are interpreted with respect to potential effects on other ecologically important species.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24131 Acute exposure  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: AQ 00008 Effects of Pollution  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: SW 3030 Effects of pollution  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Pollution Abstracts; Toxicology Abstracts

Hunt, John W., Anderson, Brian S., Phillips, Bryn M., Tjeerdema, Ron S., Puckett, H. Max, and deVlaming, Victor (1999). Patterns of aquatic toxicity in an agriculturally dominated coastal watershed in California. *Agriculture, Ecosystems & Environment* 75: 75-91.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
This study was designed to investigate the occurrence, severity, sources and causes of aquatic toxicity in a coastal river and estuary subject to non-point source pollutant inputs from adjacent agricultural and urban areas. The Pajaro River estuarine system on the central coast of California, USA, receives subsurface tile drain runoff from irrigated cropland, and seasonal surface runoff from agricultural, urban, industrial, and residential areas. Seven sites in the estuary, upstream river, tributary sloughs, and agricultural drainage ditches were selected to identify tributaries that might contribute toxic runoff to the estuary. These sites were each sampled 18 times over an 18-month period, and water samples were tested for toxicity to the mysid Neomysis mercedis, a resident crustacean. Results indicated toxicity in 78% of agricultural ditch samples, 25% of tributary slough samples, and 11% of river and estuary samples. Temporal patterns in the occurrence of toxicity indicated that agricultural ditches and upper river were more important than the freshwater sloughs as sources of toxic runoff to the estuary. Chemical analyses were conducted on samples collected at each site on two occasions. Organophosphate pesticides were detected in samples collected when the river flow rate was low, and persistent hydrophobic organochlorine pesticides were detected after high surface runoff. Three pesticides (toxaphene, DDT, and diazinon) were found at concentrations higher than published toxicity thresholds for resident aquatic species. Toxicity in the estuary was significantly correlated with increased river flow. Chemical causes of toxicity were investigated in two preliminary and four full Phase I Toxicity Identification Evaluations (TIEs ) on six separate samples from the agricultural drainage ditches receiving tile drain discharges. The TIE results indicated that multiple compounds were responsible for toxicity in all samples evaluated, and that non-polar and perhaps polar organic compounds were present in toxic concentrations. Pesticides/ Erosion/ Runoff/ Neomysis mercedis/ Pajaro River/ Estuary

Hunter, R. S. and Culver, F. D. (1988). QSAR Sysytem User Manual. A Structure-Activity Based Chemical Modeling and Information System. *Inst.for Biological and Chemical Process Analysis, Montana State Univ., Bozeman, MT* I1-R5.  
Chem Codes: EcoReference No.: 62963  
Chemical of Concern: DZ,ATZ Rejection Code: MODELING/QSAR.

HURTO KA (1992). DISSIPATION OF TOTAL AND DISLODGEABLE RESIDUES OF PESTICIDES FOLLOWING APPLICATION TO TURFGRASS. *203RD ACS (AMERICAN CHEMICAL SOCIETY) NATIONAL MEETING, SAN FRANCISCO, CALIFORNIA, USA, APRIL 5-10, 1992. ABSTR PAP AM CHEM SOC; 203 (1-3). 1992. AGRO75.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM KENTUCKY BLUEGRASS IRRIGATION TREATMENT DCPA 75WP PENDIMETHALIN 60DG CHLORPYRIFOS 4EC DIAZINON 4EC ISOFENPHOS 2F Congresses/ Biology/ Biochemistry/ Metabolism/ Air Pollution/ Soil Pollutants/ Water Pollution/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides/ Grasses

HURTO KA and PRINSTER MG ( 1993). DISSIPATION OF TURFGRASS FOLIAR DISLODGEABLE RESIDUES OF CHLORPYRIFOS DCPA DIAZINON ISOFENPHOS AND PENDIMETHALIN. *RACKE, K. D. AND A. R. LESLIE (ED.). ACS SYMPOSIUM SERIES, 522. PESTICIDES IN URBAN ENVIRONMENTS: FATE AND SIGNIFICANCE; 203RD NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, SAN FRANCISCO, CALIFORNIA, USA, APRIL 5-10, 1992. XII+378P. AMERICAN CHEMICAL SOCIETY: WASHINGTON, DC, USA. ISBN 0-8412-2627-X.; 0 (0). 1993. 86-99.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM POA-PRATENSIS DIMETHYL-2 3 5 6-TETRACHLORO-1 4-BENZENEDICARBOXYLATE HERBICIDE INSECTICIDE Congresses/ Biology/ Biochemistry/ Grasses/Growth & Development/ Soil/ Plants/Growth & Development/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Grasses

Hutchings, M., Johnson, I., Hayes, E., Girling, A. E., Thain, J., Thomas, K., Benstead, R., Whale, G., Wordon, J., Maddox, R., and Chown, P. (2004). Toxicity Reduction Evaluation, Toxicity Identification Evaluation and Toxicity Tracking in Direct Toxicity Assessment. *Ecotoxicology [Ecotoxicology]. Vol. 13, no. 5, pp. 475-484. Jul 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0963-9292  
Descriptors: Toxicity  
Descriptors: Toxicants  
Descriptors: Effluents  
Descriptors: Pesticides  
Descriptors: Cyanide  
Descriptors: Organophosphates  
Descriptors: Chemical analysis  
Descriptors: Estuaries  
Descriptors: Industrial effluents  
Descriptors: Diazinon  
Descriptors: Wastewater discharges  
Descriptors: British Isles, England, Tees Estuary  
Descriptors: British Isles, Scotland, Esk R.  
Abstract: Toxicity reduction evaluations (TREs) in the River Esk and Lower Tees Estuary were based on the approach described by USEPA, but adapted to tackle the specific problems of the two sites. A combination of toxicity tracking and toxicity identification evaluation (TIE) was used at both locations to enhance the understanding of source and type of toxicants present. The assessment of toxicity at Langholm focussed on pesticides present in the sewerage network. The TIE programme indicated that the most likely toxic agents within the effluent were the organophosphate pesticides diazinon and to lesser extent propetamphos, although these did not account for all of the observed toxicity. The exact source of these toxicants was not clear although toxicity tracking identified two potential candidates. The TRE undertaken on the discharge to the lower Tees utilised high-throughput methods with standard test organisms to generate toxicity information throughout a complex sewerage network. The toxicity tracking information was used in conjunction with TIEs to identify a number of key sources of toxicity. Substantial toxicity was associated with a currently untreated industrial effluent. Chemical analysis and TIE highlighted cyanide as the likely toxicant in this effluent and its possible significance in the final discharge.  
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DOI: 10.1023/B:ECTX.0000035297.90620.73  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 1000 MARINE POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: P 2000 FRESHWATER POLLUTION  
Subfile: Pollution Abstracts; Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Ibrahim, M. M., Ichikawa, Kazuhiko, and Shiro, Motoo (2003). Solution studies of N&prime;,N&Prime;,N&Prime;&prime;-tris(3-aminopropyl)amine-based zinc(II) complexes and X-ray crystal structures of [Zn(trpn)](ClO4)2 and [Zn(trpn)(DETP)]ClO4, DETP-=O,O-diethyl thiophospate. Catalytic activity of the complexes in the hydrolysis of the phosphotriester 2,4-dinitrophenyl diethyl phosphate. *Inorganica Chimica Acta* 353: 187-196.  
 Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Syntheses/ Biomimetics/ Tripodal amines/ Solution studies (pH and 1H NMR titrations)/ Crystal structures/ Phosphoester hydrolysis Solution studies (pH and 1H NMR titrations) on Zn2+ complexes 1 and 2 derived from N&prime;,N&Prime;,N&Prime;&prime;-tris(3-aminopropyl)amine L1 and N&prime;,N&Prime;,N&Prime;&prime;-tris(3-dimethyl-aminopropyl)amine L2 revealed that the presence of the hydrophobic (methyl) groups attached to the tripodal ligand side arms decreased the pKa of Zn-bound water molecule from 9.99 for 1 to 8.01 for 2, respectively. The X-ray diffraction studies have established the structures [L1Zn](ClO4)2 1 and [L1Zn(DETP)](ClO4) 3, DETP-=O,O-diethyl thiophospate. Compound 1 consists of a monomeric cation and ClO4 - counter ions. The coordination geometry of the Zn(II) centers may be described as distorted tetrahedral. Whereas in compound 3 the zinc atom adopts the slightly distorted trigonal-bipyramidal coordination geometry with the three primary nitrogen's on the basal plane and the tertiary nitrogen and the oxygen of DETP- at the apex. The hydroxo complexes [ZnL(OH)]+ species showed slight catalytic activity in the hydrolysis of the phosphotriester 2,4-dinitrophenyl diethyl phosphate.

IGLESIAS-JIMENEZ, E., POVEDA, E., SANCHEZ-MARTIN MJ, and SANCHEZ-CAMAZANO, M. (1997). Effect of the nature of exogenous organic matter on pesticide sorption by the soil. *ARCHIVES OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 33* 117-124.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. A study was carried out on the sorption of two sparingly water-soluble pesticides (diazinon and linuron) by a sandy loam soil modified with different exogenous organic materials (EOMs) containing humic-like substances: city refuse compost (CRC), peat (P), commercial "humic" acid (HA), liquid "humic" acid (LHA), and two (nonhumic) model compounds (surfactants), tetradecyltrimethylammonium bromide (TDTMA) and sodium dodecyl sulphate (SDS), before and after 2- and 8-month incubation periods with the soil. In all cases, the isotherms fitted the Freundlich sorption equation (x/m = KCen), generally with r2 values greater than 0.99. The value of the sorption constant K for the natural soil was 8.81 for diazinon and 2.29 for linuron. These values increased significantly for EOM modified soils with respect to natural soil, with the exception of the samples modified with SDS and LHA, in which cases they decreased, possibly due to the micellar properties of these compounds. Incuba Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Iglesias-Jimenez, E., Sanchez-Martin, M. J., and Sanchez-Camazano, M. (1996). Pesticide adsorption in a soil-water system in the presence of surfactants. *Chemosphere* 32: 1771-1782.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
In the present work changes in the adsorption of four 14C-labelled pesticides -diazinon, acephate, atrazine and ethofumesate- on a sandy loam soil, induced by application of anionic, cationic and nonionic surfactants - tetradecyltrimethylammonium bromide (TDTMA), sodium dodecyl sulphate (SDS) and polyoxyethylene sorbitanmonooleate (Tween 80)-, were determined using a batch equilibrium method. Three concentrations of each surfactant were used: lower, equal to or higher than the critical micellar concentration. The increases or decreases in the values of the Freundlich constant K for adsorption of the different pesticides by soil in the experiments revealed that the behaviour of pesticides in soil-water systems with micelle-forming surfactants mainly depends on the degree of hydrophobicity of the pesticide and the type of surfactant, as well as on the concentration of surfactant in the system.

Iglesias-Jiminez, E., Poveda, E., Sanchez-Martin, M. J., and Sanchez-Camazano, M. (1997). Effect of the Nature of Exogenous Organic Matter on Pesticide Sorption by the Soil. *Arch.Environ.Contam.Toxicol.* 33: 117-124.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Ikeda, Takanori, Tsuda, Shuji, and Shirasu, Yasuhiko (1991). Metabolic induction of the hepatic cytochrome P450 system by chlorfenvinphos in rats. *Fundamental and Applied Toxicology* 17: 361-367.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
Previous studies have shown that a single oral pretreatment of rats with the organophosphorus insecticide 2-chloro-1-(2,4-dichlorophenyl)vinyl diethyl phosphate (chlorfenvinphos, CVP) afforded protection against the toxicity of a subsequent challenge with the same compound within 24 hr. This protection may be due to the reduction in brain cholinesterase inhibition caused by the decrease in plasma CVP concentration. The purpose of this study was to investigate the mechanism of the decrease in plasma CVP concentration in relation to metabolic induction. CVP was preferentially metabolized by a liver microsomal fraction with an NADPH-generating system, compared with serum or kidney subcellular fractions. A single oral 24-hr pretreatment with CVP (15 mg/kg) increased the oral LD50 of its next dosage to threefold. The same treatment also increased CVP metabolism (to 178%(, cytochrome P450 content (to 130%), cytochrome P450 reductase activity (to 130%), cytochrome b5 content (to 121%), and cytochrome P450-linked activities such as aminopyrine demethylase (to 140%) and aniline hydroxylase (to 127%) in the hepatic microsomal fraction. A single oral 24-hr pretreatment of phenobarbital (50 mg/kg), which is known as an inducer of cytochrome P450, increased the oral LD50 of CVP and all the related metabolic parameters listed above in an order of magnitude similar to that of CVP, although the increments induced by the phenobarbital treatment were greater than those induced by the CVP treatment. These results indicate that the increase in hepatic CVP metabolism may be due to the induction of the hepatic cytochrome P450 system caused by the single oral short-term treatment with CVP. This induction may be one of the reasons for the decrease in plasma CVP concentration which may be responsible for the reduction in toxicity of its next dosage.

Illinger, Dominique, Duportail, Guy, Mely, Yves, Poirel-Morales, Nathalie, Gerard, Dominique, and Kuhry, Jean-Georges (1995). A comparison of the fluorescence properties of TMA-DPH as a probe for plasma membrane and for endocytic membrane. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1239: 58-66.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In earlier studies, the fluorescence probe 1-(4-(trimethylamino)phenyl)-6-phenylhexa-1,3,5-triene (TMA-DPH) was shown to interact with living cells by instantaneous incorporation into the plasma membrane, according to a water (probe not fluorescent)/membrane (probe highly fluorescent) partition equilibrium. This made it interesting both as a fluorescence anisotropy probe for plasma membrane fluidity determinations and as a quantitative tracer for endocytosis and intracellular membrane traffic. In order to ascertain the limiting concentrations for its use in these applications, we performed a systematic study of its fluorescence properties (intensity, lifetime, anisotropy) in the plasma membrane and in endocytic membranes of intact L929 mouse fibroblasts. Some of the experiments were repeated on mouse-bone-marrow-derived macrophages and on phospholipidic LUV to confirm the results. Rather unexpectedly, it was observed that: (i) the incorporation of TMA-DPH into the membranes, monitored by UV absorption measurements, remained proportional to the probe concentration over the wide range explored (5 [middle dot] 10-7 M-2.5 [middle dot] 10-5 M); (ii) however, concerning fluorescence, quenching effects occurred in the membranes above certain critical concentrations. These effects were shown to result from Forster-type resonance auto-transfer; (iii) strikingly, the critical concentrations were considerably higher in early-endocytic-vesicle membranes than in the bulk plasma membrane. It was established that membrane fluidity was involved and this was confirmed by the parallel study on phospholipidic vesicles. Potential applications of these properties as a novel approach for evaluating membrane fluidity are suggested. Plasma membrane/ Endocytic membrane/ Fluorescence probe/ TMA-DPH

Ingham, E. R. (1985). Review of the effects of 12 selected biocides on target and non-target soil organisms. *Crop Protection* 4: 3-32.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
This literature review investigates biocides that claim to reduce the populations of specific target groups, i.e. bacteria, saprophytic fungi, vesicular-arbuscular mycorrhizae, protozoa, nematodes, or soil-dwelling microarthropods. Removal or reduction of organism groups in natural ecosystems would allow study of their functional role in non-laboratory situations. The biocides considered in this review are those which are supposed to have a &lsquo;narrow spectrum&rsquo; (affect only one group), and can be applied as a solution or suspension to the soil. The effects of aldrin, benomyl, captan, carbofuran, chloroneb, cycloheximide, diazinon, oxytetracycline, parachloronitrobenzene (PCNB), streptomycin, thiabendazole, and thiram on both target and non-target soil organisms are summarized. Each soil organism group except protozoa was reduced by at least one biocide, and usually by several biocides. Of the biocides reviewed, none had effects which were strictly limited to their target group and all have been reported to reduce more than one group of organisms. The responses of soil organisms to these biocides are tabulated.

Ioannou, Y. M. and Dauterman, W. C. (1979). In vitro metabolism of diazinon and etrimfos by corn plant preparations. *Pesticide Biochemistry and Physiology* 10: 212-218.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Homogenates prepared from excised roots or stems and leaves of corn seedlings metabolize up to 72% of [14C]pyrimidinyl-labeled diazinon (O,O-diethyl-O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl]phosphorothioate) to 6-methyl-2-(1-methylethyl)-4-hydroxypyrimidine and one unidentified metabolite. Six-day-old corn seedling homogenate had the highest degradative activity. The optimum pH for activity was 6.0 and the activity was found to reside in the cytosol. Etrimfos [O,O-dimethyl-O-(6-ethyl-4-pyrimidinyl)phosphorothioate] was not susceptible to degradation by the corn plant preparation.

Ioannou, Y. M. and Dauterman, W. C. (1979). In vitro metabolism of etrimfos by house flies. *Pesticide Biochemistry and Physiology* 10: 31-39.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The metabolism of etrimfos, O,O-dimethyl-O-(6-ethoxy-2-ethyl-4-pyrimidinyl) phosphorothioate was studied in vitro in a diazinon-resistant (Rutgers) and a susceptible (CSMA) strain of house flies. Practically no metabolism of etrimfos occurred without the addition of cofactors. However, the addition of the cofactor, reduced glutathione, resulted in a substantial amount of metabolism in both strains, the metabolism being higher in the resistant strain. The major route of metabolism was via the glutathione transferase system and the predominant metabolite was desmethyl etrimfos. Although the oxygen analog could not be isolated, microsomal oxidation of etrimfos resulted in the inhibition of acetylcholinesterase, suggesting the formation of the oxygen analog. Bovine serum albumin also degraded etrimfos yielding desmethyl etrimfos and 6-ethoxy-2-ethyl-4-hydroxypyrimidine.

Ioannou, Yiannakis M., Dauterman, Walter C., and Tucker, William P. (1980). Degradation of diazinon by 2,4-dihydroxy-7-methoxy-2h-1, 4-benzoxazin-3(4h)-one in maize. *Phytochemistry* 19: 1607-1611.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
A cyclic hydroxamate, 2,4-dihydroxy-7-methoxy-2H- 1,4-benzoxazin-3(4H)-one (DIMBOA), was isolated and identified from shoots of 6-day-old corn seedlings grown in the dark. From 100 g of plant tissue 100 mg of DIMBOA were isolated. This hydroxamate was very effective in catalysing the hydrolysis of the pyrimidinyl organophosphate insecticide, diazinon (O, O-diethyl- O-[6- methyl-2-(1-methylethyl)-4-pyrimidinyl] phosphorothioate) to 6- methyl-2-(1-methylethyl)-4-hydroxypyrimidine and diethyl phosphorothioic acid. The optimum pH for hydrolytic activity was 5 and at pH values equal to or higher than the pKa of the hydroxamic group (6.95) most of the activity was lost. Zea mays/ Gramineae/ corn/ diazinon/ degradation.

Iriarte Capaccio, Christian A. and Varela, Oscar (2000). Enantiospecific synthesis of a glycoside of -epi-purpurosamine. *Tetrahedron: Asymmetry* 11: 4945-4954.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
2-Propyl -epi-purpurosaminide dihydrochloride 14 and its di-N-acetylated derivative 15 were synthesized by an enantiospecific sequence which involves the 2-propyl 6-O-acetyl-3,4-dideoxy-[alpha]--erythro-hex-3-enopyranosid-2-ulose 2 as the key precursor. The first approach through the saturated diol 4, prepared by reduction of the enone system of 2, was unsuccessful as the C-2 position of 2,6-di-O-sulfonyl derivatives 5 and 6 resisted substitution by azide. Therefore, an alternative sequence starting from the allylic alcohol 3, also derived from 2, was developed. In this case, the 2,6-di-O-tosyl derivative 9 gave the expected 2,6-diazide 10 with additional unwanted rearrangement of the double bond to the 2-propyl 4,6-diazido-2,3,4,6-tetradeoxy-[alpha]--threo-hex-2-enopyranoside 11 isomer. However, the ditriflate derivative 13, analogous to 9, underwent substitution to afford the diazide 10 in good yield. Upon reduction of the azide functions and saturation of the double bond of 10 by catalytic hydrogenation under acidic conditions, the dihydrochloride salt 14 was obtained as a crystalline product (43% overall yield from 3).

Ishiwata, Shigemasa and Kamiya, Mamoru (1999). Cyclodextrin inclusion: catalytic effects on the degradation of organophosphorus pesticides in neutral aqueous solution. *Chemosphere* 39: 1595-1600.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
[alpha] -,[beta]- and [gamma]-Cyclodextrins were found to have promotive inclusion-catalytic effects on the degradation of organophosphorus pesticides solubilized in neutral aqueous media. Pesticide degradations were especially accelerated in such systems as [alpha] -cyclodextrin plus diazinon and [beta]-cyclodextrin plus chloropyrifos. The above findings are in contrast with the inhibitive catalytic effects of cyclodextrins on pesticide degradations in alkaline media.Cyclodextrin catalytic effects found here were considerably affected by differences in the substitutional and hetero-cyclic properties of the aromatic rings of pesticides and also by the sizes of cyclodextrin cavities. Cyclodextrin inclusion-catalytic effects/ organophosphorus pesticide degradation/ diazinon/ chloropyrifos

Itoh, Toyofumi, Hisada, Hiroyuki, Usui, Yoshiharu, and Fujii, Yuki (1998). Hydrolysis of phosphate esters catalyzed by copper(II)-triamine complexes. The effect of triamine ligands on the reactivity of the copper(II) catalysts. *Inorganica Chimica Acta* 283: 51-60.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Hydrolysis/ Phosphate esters/ Copper complexes/ Triamine complexes/ Kinetics and mechanism Hydrolyses of lithium 2,4-dinitrophenyl ethyl phosphate (7) and 2,4-dinitrophenyl diethyl phosphate (8) catalyzed by copper(II)--triamine complexes (triamine = cis,cis-triaminocyclohexane (1), 1,5,9-triazacyclododecane (2), 1,4,7-triazacyclononane (3), dipropylenetriamine (4), N-(2-aminoethyl)-1,3-propanediamine (5), diethylenetriamine (6)) were investigated at pH 7.0-9.5, and the reactivity of the catalysts was found to increase in the order 5 ~ 6 ~ 4 3 1 2. From the pH dependence of the apparent rate constants, and the deprotonation constant (pKa) of the coordinated water, the active species was confirmed to be CuL(OH)+ for all of the catalysts. Furthermore, the reactions were confirmed to proceed via a phosphate ester-coordinated intermediate on the basis of a good fit between the reciprocal of the stability constant (Kester-1) of a mixed complex of CuL(OH)+ with diethyl phosphate (9) and the Michaelis constant KM for 1-4, and of crystal structure analysis of [mu]-(diethyl phosphato)-(dipropylenetriamine)copper(II) hexafluorophosphate (10). In addition, it was found that the increasing order (5 ~ 6 ~ 4 ) in the estimated rate constant (kcat) corresponded closely to the decreasing order in the coordination strength of triamine ligands. The effect of triamine ligands was discussed in relation to the Lewis acidity of central copper(II) ion and the reaction mechanism.

Iverson, F., Grant, D. L., and Lacroix, J. (1975). Diazinon Metabolism in the Dog. *Bull.Environ.Contam.Toxicol.* 13: 611-618.

EcoReference No.: 37257  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,ACC; Rejection Code: NO ENDPOINT(DZ).

Iyaniwura, T. T. (1990). In vitro toxicology of organophosphorus pesticide combinations. *In Vitro Toxicology [IN VITRO TOXICOL.]. Vol. 3, no. 4, pp. 373-377. 1990.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0888-319X  
Descriptors: enzymes  
Descriptors: toxicology  
Descriptors: diazinon  
Descriptors: malathion  
Descriptors: organophosphorus compounds  
Abstract: The anticholinesterase effects of four organophosphate pesticides were studied in vitro: these include azinphosethyl, azinphosmethyl, diazinon, and malathion. All compounds inhibited the cholinesterase enzyme dose dependently, but malathion inhibited the cholinesterase enzyme to less than 10% at all concentrations studied ranging from 10- super(10) - 10- super(5)M. A combination of equal proportions of azinphosethyl and azinphosmethyl acted additively, while malathion and diazinon combinations were synergistic. The potentiation of malathion toxicity by diazinon was underscored.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Classification: H SE5.23 ORGANOPHOSPHATES  
Subfile: Health & Safety Science Abstracts; Toxicology Abstracts

Jaaskelainen, Ilpo, Monkkonen, Jukka, and Urtti, Arto (1994). Oligonucleotide-cationic liposome interactions. A physicochemical study. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1195: 115-123.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Cationic liposomes are effective in delivering antisense oligonucleotides into cells in culture, but their interactions with the oligonucleotides are poorly understood. We studied the aggregation and fusion reactions during the formation of cationic lipid/oligonucleotide complexes in solution and their interactions with lipid bilayers. Phosphorothioate oligonucleotides (15-mer) were complexed with cationic liposomes composed of dimethyldioctadecylammonium bromide (DDAB) and dioleoylphosphatidylethanolamine (DOPE) at 8:15 molar ratio or of a commercial formulation DOTAP (N-(1-(2,3-dioleoyloxy)propyl)-N,N,N-trimethylammoniummethylsulfate), at different ratios with apparent -/+ charge ratios of 0.03-5.6. Mean size of the complexes increased with -/+ ratio so that at charge ratios 0.4-2.0 the size increased by at least an order magnitude due to the oligonucleotide induced aggregation. Resonance energy transfer experiments showed that in addition to aggregation oligonucleotides induced fusion of cationic liposomes, but the fusion was rate-controlled by the initial aggregation step. Rate constants for oligonucleotide induced aggregation were dependent on lipid concentration and were in the range of (0.2-1) [middle dot] 107 M-1 s-1 and (1-10) [middle dot] 107 M-1 s-1 for DDAB/DOPE and DOTAP, respectively. Increase in oligonucleotide concentration induced the aggregation and fusion until at high -/+ ratios electrostatic repulsion of negative surfaces inhibited further aggregation and fusion. DOTAP/oligonucleotide complexes did not induce leakage of calcein from neutral EPC liposomes, but did cause leakage at -/+ charge ratios of 2.0 from EPC/DOPE liposomes. Also at -/+ charge ratios below 0.8 DOTAP/oligonucleotide complexes induced leaking from negatively charged DPPC/DPPG liposomes. These results indicate that either phosphatidylethanolamine or negative charge are required in the cell membrane for fusion of cationic liposome-oligonucleotide complexes. The ratio of oligonucleotide to cationic lipid is critical in determining the physicochemical properties of the mixture. Cationic lipid/ Oligonucleotide/ Particle size/ Calcein leakage/ Fusion/ Aggregation

Jabbari, Esmaiel and Khakpour, Maziar (2000). Morphology of and release behavior from porous polyurethane microspheres. *Biomaterials* 21: 2073-2079.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A novel biomaterial application of porous microspheres is for sustained delivery of biologically active agents. Recent studies have pointed out the importance of biomaterial porosity in promoting biocompatibility and controlling release rate of active agents. The objective of this research was to investigate the effect of chain-extending agent on the porosity and release behavior of polyurethane (PU) microspheres prepared using a two-step suspension polycondensation method with methylene diphenyl diisocyanate (MDI) as the isocyanate, polyethylene glycol (PEG400) as the diol, and 1,4-butanediol as the chain-extending agent. Chain-extending agent was used to increase the ratio of hard to soft segments of the PU network, and its effect on microsphere morphology was studied with scanning electron microscopy. According to the results, porosity was significantly affected by the amount of chain-extending agent. The pore size decreased as the concentration of chain-extending agent increased from zero to 50 mole%. With further increase of chain-extending agent to 60 and 67%, PU chains became stiffer and formation of pores was inhibited. Therefore, pore morphology was significantly affected by variations in the amount of chain-extending agent. The release behavior of microspheres was investigated with diazinon as the active agent. After an initial burst, corresponding to 3% of the incorporated amount of active agent, the release rate was zero order. Polyurethane microspheres/ Suspension polycondensation/ Morphology/ Pore size/ Chain-extending agent

Jackson, D. M. and Lam, J. J. Jr. (1989). Jalysus wickhami (Hemiptera: Berytidae): Toxicity of Pesticides Applied to the Soil or in the Transplant Water of Flue-Cured Tobacco. *J.Econ.Entomol.* 82: 913-918.

EcoReference No.: 68596  
Chemical of Concern: ADC,CBF,PRN,FNF,MLX,OML,EP,CPY,DZ,ACP; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CBF,ADC),OK(ALL CHEMS),OK TARGET(DZ).

JACOBS RM and YESS NJ (1993). Survey of imported green coffee beans for pesticide residues. *FOOD ADDIT CONTAM; 10* 575-577.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The US Food and Drug Administration carries out incidence/level monitoring in order to acquire data on the presence and amounts of pesticide residues in particular commodity/chemical combinations. In the survey reported here, imported green coffee beans were analysed for a variety of pesticide chemicals. A total of 60 green coffee samples were collected from 21 countries that are major exporters of coffee to the United States. The samples were analysed for organochlorine/organophosphorus, N-methyl carbamate, benomyl group and EBDC residues. Four samples had detectable residues: chlorpyrifos, 0.01, 0.02 and 0.04 ppm and pirimiphos-methyl, 0.01 ppm. The majority (93%) of the green coffee samples analysed in this survey had no detectable pesticide residues. Biochemistry/ Food Technology/ Food Analysis/ Food Technology/ Food-Processing Industry/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Public Health Administration/ Statistics/ Herbicides/ Pest Control/ Pesticides

Jacoby, P. W., Slosser, J. E., and Meadors, C. H. (1983). Vegetational responses following control of sand shinnery oak with tebuthiuron. *Journal of Range Management. Vol. 36, no. 4, pp. 510-512. 1983.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
ISSN: 0022-409X  
Descriptors: chemical control  
Descriptors: vegetation patterns  
Descriptors: Quercus havardii  
Abstract: Tebuthiuron (N-(5-1,1-dimethylethyl)-1,3,4-thia-diazol-2-yl)-N,N'-dimethylurea ) pellets were applied aerially in April 1979 at rates of 0.5 and 1.0 kg ai./ha to rangelands supporting a uniform stand of sand shinnery oak (Quercus havardii Rybd.) near Andrews (Texas). Tebuthiuron pellets were applied at 1.1 kg ai/ha to a second location near Jayton, Texas, in March 1980. Sand shinnery oak was significantly reduced in treated plots at both locations. Yield of annual and perennial grasses were significantly greater and those of forbs significantly less on tebuthiuron-treated plots at Andrews. Untreated plots at Andrews had more bare soil than those treated with tebuthiuron after 18 and 30 months. Grass yields at the Jayton site were greater, although no significant differences occurred with forb yields.  
Language: English  
English  
Publication Type: Journal Article  
Classification: D 04700 Management  
Subfile: Ecology Abstracts

JAMAL GA (1997). NEUROLOGICAL SYNDROMES OF ORGANOPHOSPHORUS COMPOUNDS. *ADVERSE DRUG REACTIONS AND TOXICOLOGICAL REVIEWS; 16* 133-170.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW TOXICOLOGY ORGANOPHOSPHORUS COMPOUNDS NEUROLOGICAL SYNDROMES JITTER NERVE CONDUCTION NEUROMUSCULAR JUNCTION INSECTICIDES EVOKED POTENTIALS COGNITIVE DYSFUNCTION NERVOUS SYSTEM TOXICITY NERVOUS SYSTEM DISEASE NERVOUS SYSTEM Diagnosis/ Nervous System/ Pharmacology/ Poisoning/ Animals, Laboratory

James, D. G. (2003). Pesticide Susceptibility of Two Coccinellids (Stethorus punctum picipes and Harmonia axyridis) Important in Biological Control of Mites and Aphids in Washington Hops. *Biocontrol Sci.Technol.* 13: 253-259.

EcoReference No.: 76934  
Chemical of Concern: CPY,MLN,PSM,DZ,DMT,CBL,PIM,MOM,ES,IMC,TMX,BFT; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(BFT,DZ).

James, D. G. and Rayner, M. (1995). Toxicity of Viticultural Pesticides to the Predatory Mites Amblyseius victoriensis and Typhlodromus doreenae. *Plant Prot.Q.* 10: 99-102.

EcoReference No.: 67984  
Chemical of Concern: CaPS,BMY,CBD,CTN,MZB,FRM,IPD,MLX,Cu,PCZ,TDM,VCZ,Zineb,Ziram,CuOH,AZ,CBL,CPY,DZ,DMT,ES,MLN,MDT,DCF; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CaPS),OK(ALL CHEMS),OK TARGET(DZ).

James, P. J., Mitchell, H. K., Cockrum, K. S., and Ancell, P. M. C. (1994). Controlled release insecticide devices for protection of sheep against head strike caused by Lucilia cuprina. *Veterinary Parasitology* 52: 113-128.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
The effectiveness of polymer matrix tags containing (w/w) 8.5% cypermethrin, 7.5% flucythrinate, 13.7% tetrachlorvinphos or 20.0% diazinon in protecting sheep against head strike by the sheep blowfly (Lucilia cuprina Wiedemann) was investigated in larval implant, fly cage and field studies.Tags impregnated with cypermethrin reduced the total number of egg masses deposited on the heads of sheep in fly cage studies over a 6 week period by 73.3% compared with no treatment. Tags impregnated with flucythrinate reduced the number of egg masses by 25.3% over 21 weeks but there were no significant differences (P L. cuprina larvae by either cypermethrin or flucythrinate tags.Tags impregnated with diazinon gave longer protection than treatment with a liquid formulation containing 400 ppm diazinon in larval implant, fly cage and field studies. Over a 12 week period in field studies, 6.6% of rams treated with diazinon tags became struck compared with 30% treated by diazinon jetting 35.7% treated with plastic tags not impregnated with insecticide and 24.2% of untreated rams. When the rams were exposed to high populations of L. cuprina in an exposure house from 13 to 18 weeks after treatment, 3.3% of rams treated with diazinon tags, 57.1% treated by diazinon jetting, 43.8% treated with plastic tags and 23.5% of untreated rams became struck. Most strikes in the diazinon tagged sheep occurred at sites which were not contacted by the tags. Tags impregnated with tetrachlorvinphos reduced the number of strikes in comparison with no treatment in larval implant and fly cage studies but the results were inconsistent and not as good as those from diazinon tags.It is concluded that well designed controlled release devices that reliably contact the wool on the heads of sheep at sites of flystrike risk and which are able to withstand damage from rams fighting may be able to give prolonged protection against head strike. Lucilia cuprina/ Sheep-Arthropoda/ Controlled release technology/ Head strike/ Cypermethrin/ Flucythrinate/ Tetrachlorvinphos/ Diazinon/ Control methods-Arthropoda

Jamnback, H. and Frempong-Boadu, J. (1966). Testing Blackfly Larvicides in the Laboratory and in Streams. *Bull.W.H.O.* 34: 405-421.

EcoReference No.: 2837  
Chemical of Concern: CBL,CPY,DMT,DZ,MDT,Naled,ATN; Habitat: A; Effect Codes: BEH,POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Jeffery, John C., Liard, Davina J., and Ward, Michael D. ( A very strong metal-metal interaction in a dinuclear ruthenium(II) complex with the dianion of 2,3-dihydroxy-but-2-enal as a compartmental bridging ligand. *Inorganica Chimica Acta* 251: 9-12.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
An unexpected reaction between [Ru(bipy)2Cl2] (bipy=2,2&prime;-bipyridine) and ethylene glycol at high temperatures affords the dinuclear complex [{Ru(bipy)2}2([mu]-C4H4O3)][PF6]2 (1), in which the compartmental bridging ligand is the dianon of 2,3-dihydroxy-but-2-enal. Electrochemical and spectroscopic properties indicate a very strong electronic interaction between the metals across the delocalised bridge, with a 0.77 V separation between the Ru(II)/Ru(III) couples and a strong near-IR transition ([lambda]max=1210 nm; [epsilon]=5000 dm3 mol-1 cm-1) in the mixed-valence state. Crystal structures/ Metal-metal interaction/ Ruthenium complexes/ Compartmental ligand complexes/ Dinuclear complexes

Jenkins, D., Klein, S. A., Yang, M. S., Wagenet, R. J., and Biggar, J. W. (1978). The Accumulation, Translocation and Degradation of Biocides at Land Wastewater Disposal Sites: the Fate of Malathion, Carbaryl, Diazinon and 2,4-D Butoxyethyl Ester. *Water Res.* 12: 713-723.  
Chem Codes: Chemical of Concern: CBL,MLN,DZ Rejection Code: NO SPECIES.

Jenkins, David, Klein, Stephen A., Yang, M. S., Wagenet, R. J., and Biggar, James W. (1978). The accumulation, translocation and degradation of biocides at land wastewater disposal sites: the fate of malathion, carbaryl, diazinon and 2,4-D butoxyethyl ester. *Water Research* 12: 713-723.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Waste disposal on the land has been practiced since pre-Biblical times and the capacity of the land to purify wastewater has often been demonstrated. It is, however, necessary to examine the large-scale and widespread use of land wastewater disposal in the context of current regulatory attitudes, for its effect on both the land, the water quality of adjacent or underlying waters, and for associated risks (public health or otherwise). This research addresses the specific problem of translocation and accumulation of biocides during the spray irrigation of wastewater.

Jensen, I. H. and Bile, N. (1993). Scientific and Technical Work. 6. Flies. *Dan.Pest Infest.Lab.Annu.Rep.* 1992: 36-85.  
Chem Codes: EcoReference No.: 70762  
Chemical of Concern: DDT,HCCH,DZ,MTPN,PPB,ATN,DMT,MOM,CYP,DFT,PPC,BDL,BRSM,TVP,BDF Rejection Code: ABSTRACT/REVIEW.

Jensen, I. H. and Bile, N. (1994). Scientific and Technical Work. 6. Flies. *Dan.Pest Infest.Lab.Annu.Rep.* 1993: 35-74.  
Chem Codes: EcoReference No.: 70763  
Chemical of Concern: DDT,HCCH,DZ,PPB,ATN,DMT,MOM,CLC,BDL,CYP,MTPN,TVP,BRSM,BDF Rejection Code: ABSTRACT/REVIEW.

Jensen, I. H. and Bile, N. (1995). Scientific and Technical Work. 6. Flies. *Dan.Pest Infest.Lab.Annu.Rep.* 1994: 35-80.  
Chem Codes: EcoReference No.: 70764  
Chemical of Concern: DDT,HCCH,DZ,PPB,ATN,MOM,BDL,CLC,BRSM,MTPN,BDF,BDL,TVP Rejection Code: REVIEW.

Jensen, I. H. and Bile, N. (1996). Scientific and Technical Work. 6. Flies. *Dan.Pest Infest.Lab.Annu.Rep.* 1995: 37-71.  
Chem Codes: EcoReference No.: 70761  
Chemical of Concern: DDT,HCCH,DZ Rejection Code: REVIEW.

JENSEN IH and BILE, N. (1996). DANISH PEST INFESTATION LABORATORY ANNUAL REPORT 1995. *DANISH PEST INFESTATION LABORATORY ANNUAL REPORT; 1995* I-II, 1-85.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ANNUAL REPORT CHECKLIST ANNUAL REPORT INSECT PESTS RODENT PESTS STORED PRODUCTS PESTS PESTICIDES EFFICACY PEST MANAGEMENT AGRICULTURE GOVERNMENT AND LAW NATIONAL AGENCY OF ENVIRONMENTAL PROTECTION DANISH PEST INFESTATION LABORATORY DENMARK EUROPE Legislation/ Organization and Administration/ Biology/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides

Jeong, T. a. e. Cheon, Jordan, S. D., Matulka, R. A., Stanulis, E. D., Kaminski, E. J., and Holsapple, M. P. \*. (1995). Role of metabolism by esterase and cytochrome P-450 in cocaine-induced suppression of the antibody response. *Journal of Pharmacology and Experimental Therapeutics [J. PHARMACOL. EXP. THER.]. Vol. 272, no. 1, pp. 407-416. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0022-3565  
Descriptors: immune response (humoral)  
Descriptors: immunosuppression  
Descriptors: antibody response  
Abstract: To investigate the role of metabolism in cocaine-induced immunosuppression, diazinon and beta -ionone were administered as an esterase inhibitor and a cytochrome P-450 (P-450) inducer, respectively, to B6C3F1 female mice. When 10 or 30 mg/kg of diazinon was administered 30 min before cocaine (30 mg/kg) was administered i.p. for 7 consecutive days, the suppression of the T-dependent antibody response to sheep red blood cells was potentiated greatly when compared to the suppression by cocaine alone. Spleen and thymus weights were decreased significantly and serum glutamate-pyruvate transaminase activities were elevated dramatically when cocaine and diazinon were administered together. beta -Ionone was administered s.c. for 7 consecutive days and the P-450 activities were determined 3 days after the last administration. beta -Ionone induced cocaine N-demethylation, which is the first step in the activation of cocaine to the metabolites capable of producing hepatotoxicity, as well as P-450IA1- and P-450IIB1-specific monooxygenases. The inductive effects of beta -ionone on P-450IA1/2 and P-450IIB1/2 proteins were confirmed by using Western immunoblotting with selective monoclonal antibodies. In addition, when beta -ionone (600 mg/kg) was administered with cocaine for 7 days, the suppression of the antibody response was potentiated greatly, thymus weight was decreased significantly and serum glutamate-pyruvate transaminase was elevated. Our present results suggest that inhibition of the esterase pathway of cocaine shunts the metabolism of cocaine into an immunotoxic pathway, and that the metabolism of cocaine by P-450 may be the critical pathway for the generation of the metabolites capable of suppressing the antibody response.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24180 Social poisons & drug abuse  
Classification: F 06791 Experimental  
Subfile: Immunology Abstracts; Toxicology Abstracts

Johnen, B. G. (1978). Rhizosphere microorganisms and roots stained with europium chelate and fluorescent brightener. *Soil Biology and Biochemistry* 10: 495-502.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Roots, root hairs and associated microorganisms were stained with a mixture of europium-(III)thenoyltrifluoroacetonate (Eu(TTA)3) and the disodium salt of 4.41-bis(4-anilino-6-bis(2-hydroxy-ethyl)amino-S-triazin-2-ylamino)2.21-stilbene disulphonic acid and fluorescent brightener (FB). Eu(TTA)3 stained cells containing nucleic acid, resulting in red fluorescence, and FB stained dead cells and organic matter, which fluoresced green.Differentiation between root tissue and microbial cells was achieved by applying the FB stain directly to soil or growth solution during the last 2 days of growth before slide preparation. The FB stain was readily absorbed by the roots during this period. Subsequent staining with Eu(TTA)3 for 30 min was sufficient to thoroughly stain the microorganisms associated with the roots and root hairs. During this period, Eu(TTA)3 did not penetrate into the root tissue to any great extent. Microorganisms which fluoresced bright red could therefore be distinguished easily from root tissue, which fluoresced green. Variable degrees of red or green fluorescence, which were brought about by different age of root and subsequent differences in stain absorption, could he compensated for by adjusting the microscope filter combination to favour either FB or Eu(TTA)3 fluorescence.The method was used to obtain information on the effect of the insecticide diazinon and of several plant growth regulators on the rhizosphere microflora and to study the efficiency of methods to remove microorganisms from the root surface

Johnson, K. A. and Weisskopf, C. P. (1997). The Use Of Passive Sampling Devices For The Assessment Of Soil Pesticide Residues. 213: Agro 49.  
Chem Codes: CHLOR Rejection Code: METHODS.  
  
biosis copyright: biol abs. rrm meeting abstract pesticides pollution methodology soil science passive sampling methods site assessment alachlor herbicide atrazine metolachlor chlorpyrifos organophosphorus pesticide diazinon terbufos pcb congeners chlorinated organics polychlorinated biphenyl congeners dieldrin p p'-ddt methoxychlor field method general biology-symposia, transactions and proceedings of conferences, congresses, revie/ methods, materials and apparatus, general-field methods/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ soil science-general/ methods (1970- )/ pest control, general/ pesticides/ herbicides

Johnson, N. C. and Pfleger, F. L. (1992). Vesicular-Arbuscular Mycorrhizae and Cultural Stresses. *In: G.J.Bethlenfalvay and R.G.Linderman (Eds.), ASA (Am.Soc.of Agron.), Spec.Publ.No.54, Oct.31, 1991, Denver, CO, Am.Soc.of Agron.Inc., Crop Sci.Soc.of Am.Inc., Soil Sci.Soc.of Am.Inc., Madison, WI* 71-99.  
Chem Codes: EcoReference No.: 70839  
Chemical of Concern: SZ,PNB,CBL,DZ,PRN,CBF,ADC,DCNA,PHMD Rejection Code: REFS CHECKED/REVIEW.

Johnson, R., Tietge, J., Stokes, G., and Lothenbach, D. (1993). The Medaka Carcinogenesis Model. *In: Tech.Rep.9306, Compendium of the FY1988 & FY1989 Res.Rev.for the Res.Methods Branch, U.S.Army Biomedical Res.& Dev.Lab., Ft.Detrick, Frederick, MD* 147, 172 (U.S.NTIS AD-A272667).

EcoReference No.: 17126  
Chemical of Concern: ADC,DXN,ASCN,FML,BNZ,ISO,AN,24DXY,PL,DDT,NAPH,ISO,DPDP,Se,TOL,MXC,DCB,DZ; Habitat: A; Effect Codes: MOR,CEL,GRO; Rejection Code: LITE EVAL CODED(ASCN),NO ENDPOINT(NAPH,DZ,ADC).

Johnson, W. E., Fendinger, N. J., and Plimmer, J. R. (1991). Solid-Phase Extraction Of Pesticides From Water: Possible Interferences From Dissolved Organic Material. 63: 1510-1513.  
Chem Codes: Chemical of Concern: SZ, CHLOR Rejection Code: CHEM METHOD .  
  
biosis copyright: biol abs. a multiresidue analysis for trifluralin, simazine, atrazine, propazine, diazinon, parathion-methyl, alachlor, malathion, parathion, chlorpyrifos, pendimethalin, methidathlion, and def in water that utilizes liquid-solid extraction (lse) with octadecyl-bonded silica cartridges (c18bscs) followed by gas chromatography/mass spectrometric analysis was developed. recoveries of most pesticides were greater than 80% with c18bscs from fortified water at concentration levels from about 1 to 500 ppb. reco humic acid solution (10 ppm dissolved organic carbon) made to simulate a natural water with a high dissolved organic content, ranged from 29 to 153% and in general were lower than recoveries obtained from pure water. 14c-labeled diazinon and parathion were recovered from the humic acid solution at levels of 57 and 68%, respectively, with c18bscs; the remainder of the labeled pesticides was found in the cartridge eluents. partition coefficients with humic acid were calculated based on recovery of 14c-labeled pesticides from the c18bscs. ecology/ environmental biology-general/ methods/ ecology/ environmental biology-oceanography and limnology/ biochemical methods-general/ biochemical studies-general/ toxicology-general/ methods and experimental/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides

Johnson, W E, Fendinger, N J, and Plimmer, J R ( 1991). Solid-phase extraction of pesticides from water: possible interferences from dissolved organic material. *Analytical Chemistry* 63: 1510-1513.  
Chem Codes: Chemical of Concern: SZ Rejection Code: CHEM METHOD.  
  
A multiresidue analysis for trifluralin, simazine, atrazine, propazine, diazinon, parathion-methyl, alachlor, malathion, parathion, chlorpyrifos, pendimethalin, methidathion, and DEF in water that utilizes liquid-solid extraction (LSE) with octadecyl-bonded silica cartridges (C18BSCs) followed by gas chromatography/mass spectrometric analysis was developed. Recoveries of most pesticides were greater than 80% with C18BSCs from fortified water at concentration levels from about 1 to 500 ppb. Recoveries with C18BSCs, from an optically adjusted humic acid solution (10 ppm dissolved organic carbon) made to simulate a natural water with a high dissolved organic content, ranged from 29 to 153% and in general were lower than recoveries obtained from pure water. 14C-Labeled diazinon and parathion were recovered from the humic acid solution at levels of 57 and 68%, respectively, with C18BSCs; the remainder of the labeled pesticides was found in the cartridge eluents. Partition coefficients with human acid were calculated based on recovery of 14C-labeled pesticides from the C18BSCs. [Journal Article; In English; United States] http://www.sciencedirect.com/science/article/B6WVB-45CP509-4MS/2/c71f63d671ab501f1b6f61db9d52e4d8

Johnson, W. E., Fendinger, N. J., and Plimmer, J. R. (1990). SOLID PHASE EXTRACTION OF PESTICIDES FROM WATER POSSIBLE INTERFERENCES FROM DISSOLVED ORGANIC MATERIAL. *200th American Chemical Society National Meeting, Washington, D.c., Usa, August 26-31, 1990. Abstr Pap Am Chem Soc* 200 : Agro 56.  
Chem Codes: Chemical of Concern: SZ Rejection Code: CHEM METHOD.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT TRIFLURALIN SIMAZINE ATRAZINE PROPAZINE DIAZINON PARATHION-METHYL ALACHLOR MALATHION PARATHION CHLORPYRIFOS PENDIMETHALIN METHIDATHION INSECTICIDE GAS CHROMATOGRAPHY-MASS SPECTROMETRY METHYLENE CHLORIDE LIQUID-LIQUID EXTRACTION  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Radiation-Radiation and Isotope Techniques  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-General Biophysical Techniques  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control

Johnson, W. W. and Finley, M. T. (1980). Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates. *Resour.Publ.137, Fish Wildl.Serv., U.S.D.I., Washington, D.C* 98 p. (OECDG Data File) (Publ As 6797).  
Chem Codes: EDT,RSM,Captan,CBF,CBL,DFZ,PSM,24DXY,ACP,ACR,AZ,BS,Captan,CMPH,CPY,DBN,DMB,DMT,DPDP,DS,DU,DZ,FO,GYP,HCCH,HXZ,MDT,MLN,MLT,MOM,MP,Naled,OYZ,PRT,SZ,TBC,TPR Rejection Code: PUBL AS.  
  
Quell#915//Diazinon DRAFT/REFs 1999//Lead DRAFT/REFs 1999//Parathion '86//Duplicate data with 6797 deleted, ALP 08/03//  
EcoReference No.: 666  
User Define 2: ECOTOX NA,REPS,WASH,CALF,CORE  
Chemical of Concern: EDT,RSM,Captan,CBF,CBL,DFZ,PSM,24DXY,ACP,ACR,AZ,BS,Captan,CMPH,CPY,DBN,DMB,DMT,DPDP,DS,DU,DZ,FO,GYP,HCCH,HXZ,MDT,MLN,MLT,MOM,MP,Naled,OYZ,PRT,SZ,TBC,TPR  
Endpoint: MOR,ITX,BEH

Johnson, W. W. and Finley, M. T. (1980). Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates. *Resour.Publ.137, Fish Wildl.Serv., U.S.D.I., Washington, D.C* 98 p. (OECDG Data File) (Publ As 6797).  
Chem Codes: EcoReference No.: 666  
Chemical of Concern: EDT,RSM,Captan,CBF,CBL,DFZ,PSM,24DXY,ACP,ACR,AZ,BS,Captan,CMPH,CPY,DBN,DMB,DMT,DPDP,DS,DU,DZ,FO,GYP,HCCH,HXZ,MDT,MLN,MLT,MOM,MP,Naled,OYZ,PRT,SZ,TBC,TPR,As,Pb Rejection Code: PUBL AS.

Johnston, G. (1995). The Study of Interactive Effects of Pollutants: A Biomarker Approach. *Sci.Total Environ.* 171: 205-212.

EcoReference No.: 59499  
Chemical of Concern: PCZ,MLN,CYP,DMT,DZ; Habitat: T; Effect Codes: BCM; Rejection Code: OK(MLN,CYP),NO CONTROL(DMT,DZ),MIXTURE(PCZ).

Johnston, G., Walker, C. H., and Dawson, A. (1994). Interactive Effects Between EBI Fungicides (Prochloraz, Propiconazole and Penconazole) and OP Insecticides (Dimethoate, Chlorpyrifos, Diazinon and Malathion) in the Hybrid Red-Legged Partridge. *Environ.Toxicol.Chem.* 13: 615-620.

EcoReference No.: 67235  
Chemical of Concern: DMT,DZ,CPY,MLN,PCZ; Habitat: T; Effect Codes: BCM; Rejection Code: NO MIXTURE(DMT,PCZ),NO ENDPOINT(DZ).

Johnston, G., Walker, C. H., and Dawson, A. (1994). Interactive effects between EBI fungicides (prochloraz, propiconazole and penconazole) and OP insecticides (dimethoate, chlorpyrifos, diazinon and malathion) in the hybrid red-legged partridge. *Environmental Toxicology and Chemistry [ENVIRON. TOXICOL. CHEM.]. Vol. 13, no. 4, pp. 615-620. 1994.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0730-7268  
Descriptors: toxicity  
Descriptors: fungicides  
Descriptors: insecticides  
Descriptors: organophosphorus compounds  
Descriptors: Alectoris rufa  
Abstract: The toxicokinetic interactions between the ergosterol-biosynthesis-inhibiting (EBI) fungicides prochloraz, propiconazole, and penconazole and the organophosphorus (OP) insecticides dimethoate, chlorpyrifos, and diazinon have been studied in the hybrid red-legged partridge. The inhibition of serum butyrylcholinesterase (BuChE) activity provided a useful biochemical indicator of the generation of the toxic oxon metabolites of these OP insecticides. Birds pretreated with 180 mg/kg prochloraz tended to show a greater inhibition of serum BuChE activity at 1, 4, and 24 h following oral exposure to either of the OPs dimethoate (3 mg/kg) or chlorpyrifos (9 mg/kg) compared to birds pretreated with corn oil. Prochloraz-pretreated birds also showed a tendency toward an increased inhibition at 24 h following dosing with the OP diazinon (4.3 mg/kg) compared to corn oil controls. In the case of dimethoate, the inhibition of serum BuChE activity was significantly greater in treated birds than controls at 24 h. Birds pretreated with the EBI fungicide propiconazole (200 mg/kg) showed a similar inhibition of serum BuChE activity to those pretreated with corn oil following administration of 167 mg/kg malathion. Pretreatment with the EBI fungicide penconazole (200 mg/kg) produced significantly greater depression of serum BuChE activity at 1, 4, and 24 h after dosing with malathion, when compared to corn oil controls. The tendency toward increased inhibition of serum BuChE activity by each of the OPs in prochloraz-pretreated birds was attributed to an increased activation of the compound to its active oxon form as a consequence of induction of microsomal monooxygenases by prochloraz.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts; Pollution Abstracts

Jokanovic, M. and Maksimovic, M. (1995). A Comparison of Trimedoxime, Obidoxime, Pralidoxime and HI-6 in the Treatment of Oral Organophosphorus Insecticide Poisoning in the Rat. *Arch.Toxicol.* 70: 119-123.

EcoReference No.: 74883  
Chemical of Concern: DMT,DDVP,FNT,PPHD,FNTH,TCF,PRIM,DZ,PRT,DEM,AZ,DPY,PSM,PHSL,MLN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Jonas, R., Klockow, M., Lues, I., and Wurziger, H. (1994). Stereoselectivity of the positive inotropic effects of newer diazinone-cardiotonics. *Bioorganic & Medicinal Chemistry Letters* 4: 2585-2588.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In 5-methyl-dihydropyridazinones, a stereoselectivity is observed only with respect to the phosphodiesterase III-inhibition. The (-)-enantiomers are very strong inhibitors whereas their (+)-counterparts exhibit only a weak activity. In the case of the thiadiazinone EMD 53998 a pronounced stereoselectivity regarding Ca-sensitivity and phosphodiesterase inhibition is apparent. It is concluded that Levosimendan exerts its positive inotropism almost exclusively through its potent phosphodiesterase III-inhibitory effect.

Jones, D. P. ( Taint Hazards In Pesticides.  
Chem Codes: Chemical of Concern: DCNA Rejection Code: NO TOX DATA.  
  
hapab despite the wide assortment and large quantities of pesticides in use, the varying conditions of usage, and the numerous crops involved, instances of flavor impairment are rare, but do occur. the mixed isomers of bhc are known for the characteristic taint produced in several crops, notably potatoes, carrots and black currants. its persistance in soil can result in tainting many years after application. bhc should not be used on arabica coffee because of production of so-called bricky flavor. in amercian tests of 23 crops, bhc, lindane, toxaphene, endrin and malathion were individually associated with a depreciation of flavor. chlordane has been implicated in flavor loss in potatoes, and aldrin and dieldrin, in carrots; a fusty flavor in strawberries is attributed to demeton-s- methyl. acaricides have been reported very infrequently in flavor impairment, although genite 923 is likely to cause changes in peaches and chlorfenson in pears, while dmc, chlorobenzilate and possibly diazinon may be responsible for flavor changes developing during storage. among the fungicides, an outstanding problem is the production of off-flavors by certain sulphur compounds in canned produce; lime-sulphur and the thiocarbamates are suspect here: examples are captan in canned and fresh strawberries, ferbam in black currants, thiram in canned and quick frozen black currants and canned and fren strawberries, nabam in canned black currants, dicloran in canned carrots and strawberries, dinocap in hops, and pcnb in potatoes. herbicides are not associated with as much flavor impairment as insecticides. residues and their monitoring 67/06/00, 15 1967 ai: yes db: tox sf: hapab

JONES FW and WESTMORELAND DJ (1999). Removal of wool wax, nonylphenol ethoxylates and pesticide residues from wool scour effluent. *WATER RESEARCH; 33* 1775-1780.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
BIOSIS COPYRIGHT: BIOL ABS. The aqueous scouring of raw wool produces a highly polluting effluent that primarily contains emulsified wool wax, together with high levels of nonionic detergents and trace levels of various agricultural pesticides. The SIROLAN CF chemical flocculation process transferred over 95% of the wool wax and detergent and greater than 98% of the pesticide residues from the wastewater stream to a spadeable sludge that was used as a starting material to produce a high quality compost. During the composti Biochemistry/ Public Health

Jones, K. H., Sanderson, D. M., and Noakes, D. N. (1968). Acute Toxicity Data for Pesticides (1968). *World Rev.Pest Control* 7: 135-143.

EcoReference No.: 70074  
Chemical of Concern: 24DXY,ABT,ACL,ADC,AMTL,AMTR,AND,ASM,ATN,ATZ,AZ,BFL,BMC,BMN,BS,BTY,Captan,CBL,CCA,CHD,CMPH,CPP,CPY,CQTC,CTHM,Cu,CuFRA,DBN,DCB,DCNA,DDD,DDT,DDVP,DEM,DINO,DLD,DMB,DMT,DOD,DPP1,DQTBr,DS,DU,DZ,DZM,EDT,EN,EP,EPTC,ES,ETN,FLAC,FMU,FNF,FNT,FNTH,Folpet,HCCH,HPT,LNR,Maneb,MCB,MCPA,MCPB,MCPP1MDT,MLH,MLN,MLT,MRX,MTM,MVP,MXC,Naled,NPM,PB,PCH,PCL,PCP,PEB,PHMD,PHSL,PMT,PPHD,PPN,PPX,PPZ,PQT,PRN,PRO,PRT,PYN,PYZ,RTN,SFT,SID,SZ,TCF,TFN,THM,TRB,TRL,TXP,VNT,Zineb; Habitat: T; Effect Codes: MOR; Rejection Code: NO PUBL AS(24DXY,ABT,ACL,AMTL,AMTR,ASM,ATN,AZ,BFL,BMC,BMN,BS,BTY,CCA,CMPH,CPP,CPY,CQTC,CTHM,DBN,DCB,DCNA,DDT,DINO,DOD,DPP1,DQTBr,DU,DZM,EP,EPTC,ES,FMU,FNF,FNT,Folpet,HCCH,HPT,LNR,MCB,MCPP1,MLT,MP,MRX,MTM,MXC,Naled,NPM,Pb,PCH,PCL,PEB,PHSL,PPN,PPZ,PQT,PRO,PYN,PYZ,RTN,RYA,SFT,SID,TFN,THM,TRL,VNT),NO CONTROL,DURATION(ALL CHEMS).

Jones, Simon and Selitsianos, Dimitrios (2005). Stereochemical consequences of the use of chiral N-phosphoryl oxazolidinones in the attempted kinetic resolution of bromomagnesium alkoxides. *Tetrahedron: Asymmetry* 16: 3128-3138.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A number of chiral N-phosphoryl oxazolidinones have been prepared and evaluated as asymmetric phosphoryl transfer agents with the magnesium alkoxide of 1-phenyl ethanol. The reaction proceeded with little stereoselection, which was shown to be a consequence of the reaction mechanism that occurs with inversion of configuration at phosphorus consistent with in-line attack opposite the leaving group.

Joyce, B. A., Wallender, W. W., Angermann, T., Wilson, B. W., Werner, I., Oliver, M. N., Zalom, F. G., and Henderson, J. D. (2004). Using infiltration enhancement and soil water management to reduce diazinon in runoff. *Journal of the American Water Resources Association [J. Am. Water Resour. Assoc.]. Vol. 40, no. 4, pp. 1063-1070. Aug 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 1093-474X  
Descriptors: Runoff  
Descriptors: Pesticides  
Descriptors: Soil Treatment  
Descriptors: Infiltration  
Descriptors: Storm Runoff  
Descriptors: Diazinon  
Descriptors: Orchards  
Descriptors: Water Quality  
Descriptors: Water Management  
Descriptors: Toxicity  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Irrigation Effects  
Descriptors: Surface Water  
Descriptors: Rivers  
Descriptors: Water Pollution Control  
Descriptors: Soil Water  
Descriptors: Field Tests  
Descriptors: Irrigation Practices  
Descriptors: Stormwater runoff  
Descriptors: Irrigation  
Descriptors: Nonpoint pollution  
Descriptors: USA, California, Central Valley  
Abstract: Pesticide runoff from dormant sprayed orchards is a major water quality problem in California's Central Valley. During the past several years, diazinon levels in the Sacramento and San Joaquin Rivers have exceeded water quality criteria for aquatic organisms. Orchard water management, via post-application irrigation, and infiltration enhancement, through the use of a vegetative ground cover, are management practices that are believed to reduce pesticide loading to surface waters. Field experiments were conducted in Davis, California, to measure the effectiveness of these management practices in reducing the toxicity of storm water runoff. Treatments using a vegetative ground cover significantly reduced peak concentrations and cumulative pesticide mass in runoff for first flush experiments compared with bare soil treatments. Post-application irrigation was found to be an effective means of reducing peak concentrations and cumulative mass in runoff from bare soil treatments, but showed no significant effect on vegetated treatments.  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 3070 Water quality control  
Classification: AQ 00002 Water Quality  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; ASFA 2: Ocean Technology Policy & Non-Living Resources; Meteorological & Geoastrophysical Abstracts; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts

Jubb, G. L. Jr. (1984). Patterns of Pesticide Use on 'Concord' Grapes in Erie County, Pennsylvania: 1970-1982. *Melsheimer Entomol.Ser.* 34: 1-11.  
Chem Codes: User Define 2: REPS,WASH,CALF,CORE,SENT,NA  
Chemical of Concern: SZ,PRN,CBL,DZ,Cu Rejection Code: NO TOX DATA.

Jubb, G. L. Jr. (1984). Patterns of Pesticide Use on 'Concord' Grapes in Erie County, Pennsylvania: 1970-1982. *Melsheimer Entomol.Ser.* 34: 1-11.  
Chem Codes: Chemical of Concern: SZ,PRN,CBL,DZ,Cu Rejection Code: NO TOX DATA.

Julien, Michel, Millot, Claire, Tocanne, Jean-Francois, and Tournier, Jean-Francois ( 1997). 12-O-Tetradecanoylphorbol-13-Acetate Inhibits Aminophospholipid Translocase Activity and Modifies the Lateral Motions of Fluorescent Phospholipid Analogs in the Plasma Membrane of Bovine Aortic Endothelial Cells. *Experimental Cell Research* 234: 125-131.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The tumor promoter 12-O-tetradecanoylphorbol-13-acetate (TPA) is a potent mitogenic factor which can replace the growth promoting activity of basic fibroblast growth factor (bFGF) on bovine aortic endothelial cells. However, TPA-treated cells lose their strict contact inhibition at confluence, which is a characteristic of cells grown in the presence of bFGF. We have examined whether these changes could be related to modifications of the transbilayer and lateral motions of fluorescent lipids, namely 1-acyl-2-[6-[N-(7-nitrobenz2-oxa-1,3-diazol-4-yl)amino]caproyl]-phosphatidyl-choline (C6-NBD-PC), -phosphatidylserine (C6-NBD-PS), and -phosphatidylethanolamine (C6-NBD-PE) inserted in the outer leaflet of the cell plasma membrane. In TPA-treated cells, the three fluorescent phospholipids remained located in the outer leaflet for at least 1 h at 20[deg]C after their insertion, indicating a blockade of the aminophospholipid translocase activity which is normally present in the plasma membrane of bFGF-treated cells [1, 2]. TPA also induced a large increase in the percentage of C6-NBD-PC and C6-NBD-PE probes which were free to diffuse laterally. The mobile fractionsMreached values of ~100% for the two lipids, while for bFGF-treated cells they were found around 85 and 75%, respectively. For the C6-NBD-PS probe,Mremained unchanged in bFGF and TPA-treated cells, at around 85%. TPA treatment also induced a twofold increase in the lateral diffusion coefficients of C6-NBD-PC and C6-NBD-PE, while that of C6-NBD-PS remained nearly unchanged. These effects of TPA may be related to the observed loss of differentiated properties of vascular endothelial cells and not to its mitogenic properties.

Kabir, S. M. H. and Ahmed, N. (1979). Histopathological Changes in Climbing Perch, Anabas testudineus (Bloch) (Anabantidae: Perciformes) due to Three Granular Insecticides. *Bangladesh J.Zool.* 7: 21-29.

EcoReference No.: 6885  
Chemical of Concern: CBF,DZ; Habitat: A; Effect Codes: CEL,PHY; Rejection Code: NO ENDPOINT(ALL CHEMS).

Kabir, S. M. H. and Begum, R. (1978). Toxicity of Three Organophosphorus Insecticides to Shinghi Fish, Heteropneustes fossilis (Bloch). *Dacca.Univ.Stud.Part B* 26: 115-122.

EcoReference No.: 7060  
Chemical of Concern: DZ; Habitat: A; Effect Codes: BEH,MOR,CEL; Rejection Code: NO ENDPOINT(ALL CHEMS).

Kaiser, K. L. E., Niculescu, S. P., and Schuurmann, G. (1997). Feed Forward Backpropagation Neural Networks and Their Use in Predicting the Acute Toxicity of Chemicals to the Fathead Minnow. *Water Qual.Res.J.Can.* 32: 637-657.  
Chem Codes: Chemical of Concern: Se,DZ Rejection Code: QSAR.

Kalb, Edwin, Frey, Sammy, and Tamm, Lukas K. (1992). Formation of supported planar bilayers by fusion of vesicles to supported phospholipid monolayers. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1103: 307-316.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A technique for the production of supported phospholipid bilayers by adsorption and fusion of small unilamellar vesicles to supported phospholipid monolayers on quartz is described. The physical properties of these supported bilayers are compared with those of supported bilayers which are prepared by Langmuir-Blodgett deposition or by direct vesicle fusion to plain quartz slides. The time courses of vesicle adsorption, fusion and desorption are followed by total internal reflection fluorescence microscopy and the lateral diffusion of the lipids in the adsorbed layers by fluorescence recovery after photobleaching. Complete supported bilayers can be formed with phosphatidylcholine vesicles at concentrations as low as 35 [mu]M. However, the adsorption, fusion and desorption kinetics strongly depend on the used lipid, NaCl and Ca2+ concentrations. Asymmetric negatively charged supported bilayers can be produced by incubating a phosphatidylcholine monolayer with vesicles composed of 80% phosphatidylcholine and 20% phosphatidylglycerol. Adsorbed vesicles can be removed by washing with buffer. The measured fluorescence intensities after washing are consistent with single supported bilayers. The lateral diffusion experiments confirm that continuous extended bilayers are formed by the monolayer-fusion technique. The measured lateral diffusion coefficient of NBD-labeled phosphatidylethanolamine is (3.6+/-0.5)[middle dot]10-8 cm2/s in supported phosphatidylcholine bilayers, independent of the method by which the bilayers were prepared. Phospholipid bilayer, supported/ Langmuir-Blodgett film/ Membrane fusion/ Total internal reflection/ Fluorescence microscopy/ FRAP

Kalender, Yusuf, Uzunhisarcikli, Meltem, Ogutcu, Ayse, Acikgoz, Fatma, and Kalender, Suna ( Effects of diazinon on pseudocholinesterase activity and haematological indices in rats: The protective role of Vitamin E. *Environmental Toxicology and Pharmacology* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SOURCE.  
  
Diazinon (DZN) is an organophosphate insecticide has been used in agriculture and domestic for several years. Vitamin E (200 mg/kg, twice a week), diazinon (10 mg/kg, per day) and Vitamin E (200 mg/kg, twice a week) + diazinon (10 mg/kg, per day) combination were given to rats orally via gavage for 7 weeks. Pseudocholinesterase in serum and haematological indices were investigated at the end of the 1st, 4th and 7th weeks comparatively with control group. At the end of 1st, 4th and 7th weeks, statistically significant decrease of pseudocholinesterase activity in serum were detected when diazinon- and Vitamin E + diazinon-treated groups compared to control group. When diazinon- and Vitamin E + diazinon-treated groups were compared to each other there were no significant changes. When diazinon-treated group was compared to control group, body weight decreased significantly at the end of the 4th and 7th weeks. It was observed that at the end of 1st, 4th and 7th weeks, there was a statistically significance in haematological indices except mean corpuscular hemoglobin (MCH) when diazinon-treated group was compared to control group. At the end of 1st week increase of thrombocyte, at the end of the 4th week increase of hemoglobin and thrombocyte and at the end of the 7th week increase of red blood cell (RBC), hemoglobin, hematocrit, mean corpuscular hemoglobin concentration (MCHC) and thrombocyte were observed statistically significant when Vitamin E + diazinon treated group was compared with diazinon treated group. According to the present study, we conclude that Vitamin E reduces diazinon toxicity, but it does not protect completely. Organophosphate insecticides/ Diazinon/ Vitamin E/ Pseudocholinesterase/ Haematology

Kalibabchuk, V. A. (1980 ). Spectroscopic study of the electronic structure and donor-acceptor properties of substituted ortho-naphthaquinone diazides. *Journal of Molecular Structure* 61: 369-372.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Methods of PMR, electron and oscillation spectroscopy used to study electron structure and donor-acceptor interaction of 1,2-napbtaquinondiazid-2-(5)-sulphonic acid (A) ester series with aliphatic amines. Besides, kinetics of photolyses A in the presence of amines was studied. It is defined that A forms with aliphatic amines complexes with the transfer of charge. Defined are kinetic and thermodynamic parameters of the formation of complexes. Kinetic diagrams are offered and photolysis. A rate and their complexes with amines are studied.

Kalmanzon, Eliahu, Zlotkin, Eliahu, Cohen, Rivka, and Barenholz, Yechezkel (1992). Liposomes as a model for the study of the mechanism of fish toxicity of sodium dodecyl sulfate in sea water. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1103: 148-156.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The mechanism underlying the shark repellency of SDS was studied by comparing it with the shark nonrepelling detergent, Triton X-100. The findings can be summarized as follows: (1) The effective concentration of SDS for termination of shark tonic immobility (an immediate and fast response) was close to its critical micellar concentration in sea water (70 [mu]M). The fish lethal concentrations (LD50) were far below the CMC value for SDS, and at CMC level for Triton X-100. (2) In sea water SDS possesses a strong affinity for lipid membranes, expressed in a lipid sea water partition coefficient (Kp) of about 3000. (3) In liposomal systems examined by assays of turbidity, fluorescence resonance energy transfer and kinetics of carboxyfluorescein (CF) release, the pattern of SDS induced changes in the phospholipid bilayer suggests: (a) absence of vesicle-vesicle fusion; (b) occurrence of vesicle size increase, and (c) nonlytic gradual release of CF above and below its CMC values. In contrast, Triton X-100 above its CMC induces membrane solubilization. (4) Assays coupling CF release from liposomes to potassium diffusion potential induced by valinomycin indicate that SDS related CF release can also be attributed to a specific mechanism such as cation pore formation and not only to membrane solubilization. The hypothesis of pore formation by SDS is discussed. Liposome/ Lipid bilayer/ Detergent/ Fish toxicity/ (Shark)

Kamha, A. A., Al Omary, I. Y. M., Zalabany, H. A., Hanssens, Y., and Adheir, F. S. (2005). Organophosphate Poisoning in Pregnancy: A Case Report. *Pharmacology & Toxicology [Pharmacol. Toxicol.]. Vol. 95, no. 5, pp. 397-398. May 2005.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0901-9928  
Descriptors: organophosphates  
Descriptors: Atropine  
Descriptors: Poisoning  
Descriptors: Gestation  
Descriptors: Case reports  
Descriptors: Cesarean section  
Descriptors: Insecticides  
Descriptors: Vision  
Descriptors: Diazinon  
Descriptors: Pregnancy  
Descriptors: Vomiting  
Abstract: A 42-year-old pregnant woman (26 weeks of gestation, G sub(4)P sub(0+3)) presented at the emergency department with a two-hour history of dizziness, blurred vision and repeated vomiting. These symptoms started during the use of an undiluted insecticide liquid (diazinon 60 EC) while cleaning a small non-aired bathroom. After clinical and laboratory confirmation for organophosphate poisoning (plasma pseudocholinesterase levels 161 U/l), treatment with atropine and pralidoxime was started. She recovered within 7 days and delivered a healthy baby 12 weeks later (Apgar score 9 and 10) by elective cesarean section. The child showed no signs or symptoms of organophospate, atropine or pralidoxime exposure.  
DOI: 10.1111/j.1742-7843.2005.pto\_09.x  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24131 Acute exposure  
Subfile: Toxicology Abstracts

KAMIYA, M. and KAMEYAMA, K. (1998). Photochemical effects of humic substances on the degradation of organophosphorus pesticides. *CHEMOSPHERE; 36* 2337-2344.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Photochemical effects of humic substances on the aquatic degradation of organophosphorus pesticides were studied on the basis of Photo-induced radical generation abilities of humic substances and the increase percentage of the humic-sensitized photodegradation rate constants relative to those measured in the humic-less system. The increase percentages above stated were enhanced depending on the radical generation abilities of humic substances. Also, the degree of the sensitization effects of humic acids to be expressed by the increase percentages of the rate constants tended to enhance with the decrease in the inherent photodegradation reactivities of pesticides in the humic-less system. This suggests that the sensitization action of humic acids depends on binding affinities of pesticides to the radical generation source of humic acids, as the affinities may hinder the pesticide photodegradation in humic-less aquatic systems possibly initiated by any route other than th Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Darkness/ Light/ Lighting/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Kanazawa, J. (1981). Bioconcentration Potential of Pesticides by Aquatic Organisms. *Jpn.Pestic.Inf.* 39: 12-74.

EcoReference No.: 12534  
Chemical of Concern: PNB,DZ,DLD,CBL,TBC,HCCH,TFN,MLT; Habitat: A; Effect Codes: ACC,GRO; Rejection Code: NO CONTROL(ALL CHEMS).

Kanazawa, J. (1978). Bioconcentration Ratio of Diazinon by Freshwater Fish and Snail. *Bull.Environ.Contam.Toxicol.* 20: 613-617.

EcoReference No.: 4476  
Chemical of Concern: DZ; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(ALL CHEMS).

Kanazawa, J. (1983). In Vitro and In Vivo Effects of Organophosphorus and Carbamate Insecticides on Brain Acetylcholinesterase Activity of Fresh-Water Fish, Topmouth gudgeon. *Bull.Natl.Inst.Agric.Sci.Sect.C* 37: 19-30.

EcoReference No.: 11600  
Chemical of Concern: DZ,FNT,PRN,PPX,CBL,MOM; Habitat: A; Effect Codes: BCM,MOR,BEH,PHY; Rejection Code: NO ENDPOINT(ALL CHEMS).

Kanazawa, J. (1981). Measurement of the Bioconcentration Factors of Pesticides by Freshwater Fish and Their Correlation with Physicochemical Properties or Acute Toxicities. *Pestic.Sci.* 12: 417-424.

EcoReference No.: 15599  
Chemical of Concern: DLD,DZ,MLT,FNT,CBL,TBC,PNB,HCCH; Habitat: A; Effect Codes: MOR,ACC; Rejection Code: NO CONTROL(ALL CHEMS).

Kanazawa, J. (1983). A Method of Predicting the Bioconcentration Potential of Pesticides by Using Fish. *J.A.R.Q.(Jpn.Agric.Res.Q.)* 17: 173-179.

EcoReference No.: 10750  
Chemical of Concern: PNB,CBL,DZ,HCCH,MLT,TBC,TFN,DLD,FNT; Habitat: A; Effect Codes: ACC,BCM,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Kanazawa, J. (1980). Prediction of Biological Concentration Potential of Pesticides in Aquatic Organisms.  *Rev.Plant Prot.Res.* 13 : 27-74.

EcoReference No.: 59925  
Chemical of Concern: PNB,DZ,MLT,TBC,HCCH,TFN,FNT,CBL,DLD; Habitat: A; Effect Codes: ACC,MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Kanazawa, J. (1982). Relationship Between the Molecular Weights of Pesticides and Their Bioconcentration Factors by Fish. *Experientia (Basel)* 38: 1045-1046.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

Kanazawa, J. (1975). Uptake and excretion of organophosphorus and carbamate insecticides by fresh water fish, Motsugo, Pseudorasbora parva. *Bull. Environ. Contam. Toxicol. Vol. 14, no. 3, pp. 346-352. 1975.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Descriptors: Insecticides  
Descriptors: Bioaccumulation  
Descriptors: Excretion  
Descriptors: Pollution effects  
Descriptors: Pseudorasbora parva  
Abstract: The fresh water fish, Motsugo, was reared in an aquarium water tank containing{approx} 1 ppm of 3 organophosphorus and 3 carbamate insecticides for {approx} 30 days. The persistence of these insecticides in water and uptake and excretion of insecticides by fish were examined. Among organophosphorus insecticides, malathion is the most unstable in water, and degraded >99% for 7 days. Fenitrothion is moderately stable, and degraded 97% for 29 days. Diazinon is the most stable, and degraded 72% for 30 days. Among carbamates, carbaryl is the most unstable in water, and degraded >95% for 6 days. BPMC is moderately stable, and degraded 80% for 32 days. XMC is the most stable, and degraded 45% for 34 days. As for the uptake of the pesticides by fish, organophosphorus insecticides were generally higher than carbamate insecticides. The conc of diazinon in fish reached 211 ppm of the maximum level after 3 days, and that of fenitrothion reached 162 ppm of the maximum level after 4 days. Afterwards, the conc of both the insecticides decreased gradually due to metabolism and excretion of the insecticides in the fish. Uptake of malathion was very low and metabolized rapidly, and its conc became < 0.01 ppm after 7 days. Among carbamate insecticides, the conc of carbaryl in fish after one day reached 7.5 ppm which was the maximum level of uptake. On the other band, the conc of BPMC in fish after 4 days became 4.8 ppm, which was the maximum level, and decreased gradually. The conc of XMC in fish was only 1.4 ppm after one day, but the metabolism rate of XMC in fish was fairly slow. Therefore, 0.55 ppm of XMC in fish remained even after 34 days. Moreover, in the test tank of diazinon. Fenitrothion and BPMC, the appearance of deformed fish with spinal curvature of the back bone was at the rate of 10 to 30%.  
Records keyed from 1976 ASFA printed journals.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01505 Prevention and control  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

KANG J-W, PARK H-S, WANG R-Y, KOGA, M., KODOKAMI, K., KIM H-Y, LEE E-T, and OH S-M (1997). Effect of ozonation for treatment of micropollutants present in drinking water source. *WATER SCIENCE AND TECHNOLOGY; 36* 299-307.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. Pilot tests were performed to investigate the effectiveness of ozonation for the treatment of drinking water. Prior to the experiment, four regional target water were analyzed for determining target compounds. Various organics including pesticides were identified and present also in the conventionally treated tap water. The contamination of pesticides in most raw water was severe and ozonation was found to be effective to remove pesticides significantly. Other organic species were removed effectively as the order of aromatic amines, nitro compounds, ketones and ethers. On the whole, volatile organics were removed effectively than DOC, CH2Cl2 extractable organics. Accompanying with the increasement of AOC, aldehydes have increased after ozonation and reduced by post-GAC. Also, bromate was produced after ozonation and it was validated to suppress the production of bromate on the presence of ammonia and DOC. Conservation of Natural Resources/ Biochemistry/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Kano, R., Lok, C. K., Hayashi, A., and Shinonaga, S. (1978). Resistant Level of Houseflies to Seven Kinds of Synthetic Insecticides and Effect of Synergists to the Malathion Resistant Strain in Singapore . *Bull.Tokyo Med.Dent.Univ.* 25: 143-146 .

EcoReference No.: 70019  
Chemical of Concern: RSM,DZ,DDT,MLN,DDVP; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ,RSM).

Kao, Chao-Hsing and Sun, Chih-Ning (1991). In vitro degradation of some organophosphorus insecticides by susceptible and resistant diamondback moth. *Pesticide Biochemistry and Physiology* 41: 132-141.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
In vitro degradation of several organophosphorus insecticides by larval homogenates of susceptible, parathion- and methyl parathion-selected strains of diamondback moth, Plutella xylostella (L.), was measured in an attempt to assess the role of glutathione S-transferase in resistance. The action of glutathione S-transferase was confirmed by the requirement of reduced glutathione as the cofactor and the inhibitory effects of diethyl maleate and N-ethylmaleimide. The involvement of other detoxifying enzymes, microsomal P450 monooxygenases and hydrolases, was also examined with a pertinent cofactor or inhibitor. Glutathione conjugation was confirmed as a major detoxifying reaction for parathion and methyl parathion, and a considerably higher degradation of both insecticides was found in the resistant than in the susceptible strains. A much reduced degradation of paraoxon and, especially, methyl paraoxon by glutathione S-transferase was observed in these strains. Low levels of cross-resistance to and limited glutathione conjugation of several other organophosphorus insecticides, i.e., diazinon, azinphosmethyl, tetrachlorvinphos, and prothiofos, were detected in the two resistant strains. Existence of isozymes of glutathione S-transferase in diamondback moth larvae is proposed. The degradation of malathion in all strains tested was mainly mediated by carboxylesterase.

Kappers, W. A., Edwards, R. J., Murray, S., and Boobis, A. R. (2001). Diazinon Is Activated by CYP2C19 in Human Liver. *Toxicology and Applied Pharmacology [Toxicol. Appl. Pharmacol.]. Vol. 177, no. 1, pp. 68-76. 15 Nov 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0041-008X  
Descriptors: Diazinon  
Descriptors: Pesticides  
Descriptors: Cytochrome P450  
Descriptors: Liver  
Abstract: Phosphorothioate compounds are used throughout the world as agricultural and domestic pesticides. Here, the activation of the phosphorothioate diazinon to diazoxon in human liver is described. In an initial study using three human liver microsomal samples, K sub(m) for diazoxon formation varied markedly (31, 208, and 660 mu M; V sub(max) 1125, 685, and 1028 pmol/min/mg protein, respectively), suggesting the involvement of more than one P450 enzyme. A wide variation in activity was found using 50 mu M diazinon as substrate, (11-648 pmol/min/mg protein, n = 15), whereas, with 500 mu M, variation was less (164-978 pmol/min/mg protein). Among eight P450-catalyzed reactions, the putative high-affinity component (50 mu M diazinon) correlated with S-mephenytoin 4'-hydroxylase activity (r = 0.686, p < 0.01), suggesting the involvement of CYP2C19. The putative low-affinity component (500 mu M diazinon) correlated with both S-mephenytoin 4'-hydroxylase (r = 0.714; p < 0.005) and high-affinity phenacetin O-deethylase activity (r = 0.625; p < 0.05). This activity was partially inhibited by furafylline, troleandomycin, and ketoconazole. These data suggest contributions from CYP2C19, CYP1A2, and CYP3A4. None of the inhibitors affected the high-affinity component. Of seven heterologously expressed human P450 enzymes, CYP2C19 activated diazinon (500 mu M) at the fastest rate, followed by CYP3A4, CYP1A2, and CYP2C9. Both hepatic microsomal S-mephenytoin 4'-hydroxylase and high-affinity phenacetin O-deethylase activities were strongly inhibited by diazinon (IC50 < 2.5 mu M), while no effect was seen on midazolam 1'-hydroxylase activity. These data indicate that CYP2C19 is the major enzyme involved in diazinon activation in human liver, while other enzymes including CYP1A2 may play a more minor role. Copyright 2001 Academic Press.  
Publisher: Academic Press  
DOI: 10.1006/taap.2001.9294  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

KARAM, J. and NICELL JA (1997). Potential applications of enzymes in waste treatment. *JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY; 69* 141-153.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. The implementation of increasingly stringent standards for the discharge of wastes into the environment has necessitated the need for the development of alternative waste treatment processes. A review of research directed toward developing enzymatic treatment systems for solid, liquid and hazardous wastes is presented. A large number of enzymes from a variety of different plants and microorganisms have been reported to play an important role in an array of waste treatment applications. Enzymes can act on specific recalcitrant pollutants to remove them by precipitation or transformation to other products. They also can change the characteristics of a given waste to render it more amenable to treatment or aid in converting waste material to value-added products. Before the full potential of enzymes may be realized, it is recommended that a number of issues be addressed in future research endeavors including the identification and characterization of reaction by-products, Biomedical Engineering/ Biophysics/ Engineering/ Enzymes/Analysis/ Microbiology/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution/ Fermentation/ Industrial Microbiology/ Food Microbiology/ Biophysics/ Plants/Enzymology/ Microbiology/ Plants

Karczmar, A. G., Koketsu, K., and Soeda, S. (1968). Possible reactivating and sensitizing action of neuromyally acting agents. *Neuropharmacology* 7: 241-252.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The effects of a bisquaternary oxamide, methoxyambenonium (Meamb), d-tubocurarine (d-tbc), and of an oxime, pyridine-2-aldoxime methiodide (P-2-AM), upon the frog neuromyal junction, treated by organophosphorus anticholinesterases, TEPP and DFP, were studied.The oxamide and d-tbc resembled P-2-AM and other reactivators in that they caused a return of the sustained tetanic response and of the post-tetanic potentiation, after these were blocked by TEPP or DFP. Ringer's solution was did not reverse these actions of the oxamides and of d-tbc. In these actions, these drugs resembled two types of reactivators, NaF and P-2-AM.The well-known marked prolongation of the endplate potential (e.p.p.) by TEPP or DFP was markedly shortened by the oxamide and by d-tbc. The former also increased the amplitude of the e.p.p. These effects were obtained whether the transmission was blocked by Mg or by d-tbc itself.The finding of earlier investigators that d-tbc lowers the amplitude but does not shorten the duration of the e.p.p. was confirmed.P-2-AM antagonized the d-tbc block of the twitch response, increased the amplitude but not the duration of the e.p.p. and augmented but did not prolong acetylcholine depolarization of the e.p. This effect, described in this laboratory as sensitization, and distinct from anticholinesterase action, is shown by several reactivators, oxamides and several other neuromyal facilitators.It is suggested that the actions of the oxamide and of d-tbc upon TEPP or DFP response of the neuromyal junction may be explained by their reactivation capacity. Conversely, reactivators may exhibit sensitizing and facilitating actions.

Karlstrom, Amelie and Nygren, Per-Ake (2001). Dual Labeling of a Binding Protein Allows for Specific Fluorescence Detection of Native Protein. *Analytical Biochemistry* 295: 22-30.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Fluorescence resonance energy transfer has been investigated in the context of specific detection of unlabeled proteins. A model system based on the staphylococcal protein A (SPA)-IgG interaction was designed, in which a single domain was engineered to facilitate site-specific incorporation of fluorophores. An Asn23Cys mutant of the B domain from SPA was expressed in Escherichia coli and subsequently labeled at the introduced unique thiol and at an amino group, using N-iodoacetyl-N&prime;-(5-sulfo-1-naphthyl)ethylenediamine (1,5-IAEDANS) and succinimidyl 6-(N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)hexanoate (NBD-X, SE), respectively. Biosensor analysis of purified doubly labeled protein showed that high-affinity binding to the Fc region of IgG was retained. The fluorescence emission spectrum of the doubly labeled protein showed a shift in the relative emission of the two fluorophores in the presence of Fc3(1) fragments, which bind specifically to the B domain. In addition, the fluorescence emission ratio 480/525 nm was shown to increase with increasing concentration of Fc3(1), whereas the presence of a control protein did not affect the emission ratio over the same concentration range. biosensor/ fluorescent labeling/ fluorescence resonance energy transfer/ protein engineering/ staphylococcal protein A/ affibody

Karsouh, A. S. H. and Hopkins, T. L. (1968). Diazinon Absorption, Translocation, and Metabolism in Bean Plants. *J.Agric.Food Chem.* 16: 446-450.

EcoReference No.: 72817  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(DZ).

KASHEM MA and MIAN AJ (1993). Rice husk as a carrier for granular pesticides. *DHAKA UNIV STUD PART B SCI; 41* 103-106.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. Rice husks of the high yielding varieties are primarily composed or organic matters. n-Hexane treated rice husk on formulations with diazinon for granular pesticides indicated about 98% efficacy having satisfactory heat and chemical stability. Biochemistry/ Cereals/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Grasses

Kasiotis, Konstantinos M., Mendorou, Christina, Haroutounian, Serkos A., and Alexis, Michael N. (2006). High affinity 17[alpha]-substituted estradiol derivatives: Synthesis and evaluation of estrogen receptor agonist activity. *Steroids* 71: 249-255.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We synthesized four derivatives of 17[beta]-estradiol (E2) with an azide substitution on a 17[alpha]-side chain of varying length, namely 17[alpha]-(azidopropargyl)-3,17[beta]-estradiol (5), its 17[beta]-azido derivative (diazide 7), 17[alpha]-(5-azido-pent-1-ynyl)-3,17[beta]-estradiol (6) and 17[alpha]-(azidopentyn-2-yl)-3,17[beta]-estradiol (10). While most of the derivatives had low (7) or marginal (6 and 10) relative binding affinity (RBA) for both types of estrogen receptor (ER[alpha] and ER[beta]), the RBA[alpha] and RBA[beta] of 5 were practically identical to those of E2. The estrogenic activity of the derivatives was assessed using estrogen-responsive breast (MCF-7) and endometrial cancer (Ishikawa) cells. While 5 was a potent and effective inducer of alkaline phosphatase in Ishikawa cells and 7 was less potent but as effective as 5, 6 was marginally active and 10 was totally inactive in this respect. In the presence of 0.1 nM E2, however, 6 exhibited some ER antagonist activity at the highest concentration tested (1 [mu]M). Similar results were obtained as regards the potency and efficacy of stimulation of MCF-7 cell proliferation and induction of luciferase gene expression in MCF-7:D5L cells, a clone stably transfected with an estrogen-responsive form of the gene. These data suggest that, while 5, 6, 7 and 10 interact with either type of ER in isolation, only 5 and 7 exhibit substantial ER agonist activity in the different estrogen-target cells examined, which could provide for photoaffinity labelling of the receptor in the cell as well as in isolation. 17[alpha]-Alkynylazido estradiol derivatives/ Estrogenic activity

KATAYAMA, A. and KUWATSUKA, S. (1991). Effect of pesticides on cellulose degradation in soil under upland and flooded conditions.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The effect of pesticides on cellulose degradation in a soil was estimated by incubation experiments under upland conditions, transitional flooded conditions from aerobic to anaerobic, and fully anaerobic flooded conditions. Pesticides examined were trichlamide ((RS)-N-(1-butoxy-2,2,2-trichloroethyl)salicylamide), chlorothalonil (TPN, 2,4,5,6-tetrachloro-1,3-isophthalonitrile), quintozene (PCNB, pentachloronitrobenzene), and hymexazol (3-hydroxy-5-methylisoxazol) as fungicides, paraquat (1,1'-dimethyl-4,4'-bipyridium dichloride), thiobencarb (benthiocarb, S-p-chlorobenzyldiethyl thiocarbamate), propanil (DCPA, 3',4'-dichloropropionanilide), and butachlor (2-chloro-2',6'-diethyl-N-(butoxymethyl)acetoanilide) as herbicides, and diazinon (2-isopropyl-4-methylpyrimidyl-6-diethylthiophosphate) as insecticide. Trichlamine inhibited completely the cellulose degradation under the tow flooded conditions, while the inhibition under upland conditions was weak. The inhibition by chl Biochemistry/ Carbohydrates/ Biophysics/ Plants/Chemistry/ Grasses/Growth & Development/ Soil/ Soil/ Herbicides/ Pest Control/ Pesticides

KATHEIN, R. (1986). THE DEVELOPMENT OF POULTRY SLAUGHTER AND POULTRY MEAT INSPECTION IN ISRAEL A REVIEW. *ISR J VET MED; 42* 146-157.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BACTERIAL CONTAMINATION TOXIC FOOD RESIDUES VETERINARY INSPECTION REGULATION GOVERNMENT Legislation/ Organization and Administration/ Biology/ Eggs/ Food Technology/ Poultry/ Food Analysis/ Food Technology/ Food-Processing Industry/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Animal Husbandry/ Poultry/ Veterinary Medicine/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology/ Food Microbiology/ Food Contamination/ Beverages/ Industrial Microbiology

Kato, T., Ogiso, T., Kato, K., Sano, M., Hasegawa, R., Shirai, T., and Ito, N. (1995). Lack of promoting activity of four pesticides on induction of preneoplastic liver cell foci in rats. *Teratogenesis, Carcinogenesis and Mutagenesis [TERATOG. CARCINOG. MUTAG.]. Vol. 15, no. 5, pp. 251-257. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0270-3211  
Descriptors: pesticides  
Descriptors: carcinogenesis  
Descriptors: liver  
Descriptors: preneoplasia  
Abstract: Four pesticides were examined for hepatopromoting activity using a medium-term bioassay based upon induction of glutathione S-transferase placental form (GST-P) positive foci in the rat liver. Male F344 rats were initially injected with diethylnitrosamine (DEN; 200 mg/kg body weight) intraperitoneally and 2 weeks later were treated with O-ethyl O-4-nitrophenyl phenylphosphonothioate (EPN; 75 and 150 ppm), diazinon (500 and 1,000 ppm), phenthoate (500 and 1,000 ppm), or iprobenfos (500 and 1,000 ppm) in the diet for 6 weeks and then killed, all rats being subjected to partial hepatectomy at week 3. All of the pesticides gave negative results, the numbers and areas of GST-P positive foci not exceeding the control values for animals given DEN alone. Indeed, a significant reduction of foci development was seen for EPN (75 ppm). These findings provide experimental evidence that the presently examined four pesticides do not have hepatocarcinogenic potential in rats.  
Publisher: JOHN WILEY & SONS  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24134 Pathology  
Subfile: Toxicology Abstracts

Katragadda, Suresh, Talluri, Ravi S., and Mitra, Ashim K. ( Simultaneous modulation of transport and metabolism of acyclovir prodrugs across rabbit cornea: An approach involving enzyme inhibitors. *International Journal of Pharmaceutics* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
Enzyme inhibitors/ Corneal hydrolysis/ Prodrugs/ Transporters/ Hydrolytic enzymes The aim of this study is to identify the class of enzymes responsible for the hydrolysis of amino acid and dipeptide prodrugs of acyclovir (ACV) and to modulate transport and metabolism of amino acid and dipeptide prodrugs of acyclovir by enzyme inhibitors across rabbit cornea. l-Valine ester of acyclovir, valacyclovir (VACV) and l-glycine-valine ester of acyclovir, gly-val-acyclovir (GVACV) were used as model compounds. Hydrolysis studies of VACV and GVACV in corneal homogenate were conducted in presence of various enzyme inhibitors. IC50 values were determined for the enzyme inhibitors. Transport studies were conducted with isolated rabbit corneas at 34 [deg]C. Complete inhibition of VACV hydrolysis was observed in the presence of Pefabloc SC (4-(2-aminoethyl)-benzenesulfonyl-fluoride) and PCMB (p-chloromercuribenzoic acid). Similar trend was also observed with GVACV in the presence of bestatin. IC50 values of PCMB and bestatin for VACV and GVACV were found to be 3.81 [plus-or-minus sign] 0.94 and 0.34 [plus-or-minus sign] 0.08 [mu]M respectively. Eserine, tetraethyl pyrophosphate (TEPP) and diisopropyl fluorophosphate (DFP) also produced significant inhibition of VACV hydrolysis. Transport of VACV and GVACV across cornea showed decreased metabolic rate and modulation of transport in presence of PCMB and bestain respectively. The principle enzyme classes responsible for the hydrolysis of VACV and GVACV were carboxylesterases and aminopeptidases respectively. Enzyme inhibitors modulated the transport and metabolism of prodrugs simultaneously even though their affinity towards prodrugs was distinct. In conclusion, utility of enzyme inhibitors to modulate transport and metabolism of prodrugs appears to be promising strategy for enhancing drug transport across cornea.

Kaufman, D. D. (1977). Biodegradation and persistence of several acetamide, acylanilide, azide, carbamate, and organophosphate pesticide combinations. *Soil Biology and Biochemistry* 9: 49-57.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The effect of potassium azide (KN3), O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (diazinon), O,O-diethyl S-[(ethylthio)- methyl] phosphorodithioate (phorate), 1-naphthyl methylcarbamate (carbaryl), and p-chlorophenyl methylcarbamate (PCMC) on the biodegradation and persistence of several amide, carbamate, and urea herbicides in soil and microbial culture systems was examined. KN3 inhibited the biodegration of isopropyi m-chlorocarbanilate (chlorpropham) in both soil perfusion and microbial culture system, but was limited in increasing chlorpropham persistence in soil under greenhouse conditions. PCMC and diazinon, inhibited the metabolism of chlorpropham by isolated cultures of soil bacteria (Pseudonwnas striata Chester and Achromobacter sp). Phorate inhibited chlorpropham metabolism by P. striata, but did not inhibit chlorpropham metabolism by Achromobacter sp. Carbaryl, PCMC, and diazinon increased the persistence of chlorpropham in soil under greenhouse conditions. PCMC also inhibited the microbial metabolism of isopropyl carbanilate (propham), 3',4'-dichloropropionanilide (propanil), 2-chloro-N,N-diallylacetamide (CDAA), 1,1-dimethyl-3 ([alpha],ga,[alpha]-trifluoro-m-tolyl)urea (fluometuron) and 3-(3,4-dichlorophenyl)-1,1-dimethylurea (diuron), but not that of 2-chloro-N-isopropylacetanilide (propachlor) in isolated culture systems.

Kawai, S., Fukushima, M., Tsuchinaga, T., and Oda, K. (1984). Metals and Synthetic Organic Compounds in Plankton from the Estuary and Harbor Area in Osaka City. *Bull.Jpn.Soc.Sci.Fish.(Nippon Suisan Gakkaishi)* 50: 1777-1783.  
Chem Codes: EcoReference No.: 10820  
Chemical of Concern: DZ Rejection Code: NO DURATION/SURVEY.

KAWATA, K., MUKAI, H., TANABE, H., and YASUHARA, A. (1996). ANNUAL VARIATION OF INSECTICIDES IN PRECIPITATION IN RURAL JAPAN. *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 57* 853-858.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE ATMOSPHERIC INSECTICIDES ANNUAL VARIATION PRECIPITATION POLLUTION CLIMATOLOGY RURAL AREA NIIGATA PREFECTURE JAPAN Climate/ Ecology/ Meteorological Factors/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Keizer, J., D' Agostino, G., Nagel, R., Volpe, T., Gnemi, P., and Vittozzi, L. (1995). Enzymological Differences of AChE and Diazinon Hepatic Metabolism: Correlation of In Vitro Data with the Selective Toxicity of Diazinon to Fish Species. *Sci.Total Environ.* 171: 213-220.  
Chem Codes: EcoReference No.: 45859  
Chemical of Concern: DZ Rejection Code: IN VITRO/METABOLISM.

Keizer, J., D'Agostino, G., Nagel, R., Volpe, T., Gnemi, P., Vittozzi, L. \*., and Vittozzi, L. (ed) (1995). Enzymological differences of AChE and diazinon hepatic metabolism: Correlation of in vitro data with the selective toxicity of diazinon to fish species.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0048-9697  
Descriptors: pesticides  
Descriptors: insecticides  
Descriptors: liver  
Descriptors: metabolism  
Descriptors: toxicity  
Descriptors: enzymes  
Descriptors: enzymatic activity  
Descriptors: neurotransmitters  
Descriptors: toxicology  
Descriptors: pollution effects  
Descriptors: diazinon  
Descriptors: fish  
Descriptors: enzyme inhibitors  
Descriptors: comparative studies  
Descriptors: Oncorhynchus mykiss  
Descriptors: Poecilia reticulata  
Descriptors: Danio rerio  
Descriptors: Cyprinus carpio  
Abstract: The in vitro hepatic metabolism of diazinon, as well as the sensitivity of the brain acetylcholine esterase, to diazoxon inhibitory action have been studied in order to explain the different toxicity of diazinon to Oncorhynchus mykiss (rainbow trout), Poecilia reticulata (guppy), Brachydanio rerio (zebra fish) and Cyprinus carpio (carp). In spite of a very sensitive acetylcholine esterase the carp is very resistant to diazinon toxicity because of its very low rate of bioactivation and relatively high activity of detoxicating enzymes. The trout is very sensitive towards diazinon in spite of its low activity of bioactivation, because of its lack of detoxicating enzymes and a very sensitive acetylcholine esterase. Diazinon is very toxic for the guppy, because this fish combines a relatively sensitive acetylcholine esterase with a high rate of bioactivation. The zebra fish has the most insensitive acetylcholine esterase, associated with a limited activation rate, thus resulting a rather resistant species. The results obtained indicate that diazinon toxicity differences among the fish species studied can largely be explained in relation to metabolic balances in the liver and with the features of the target enzyme.  
Conference: Regional Meeting of the Society of Ecotoxicology and Environmental Safety, Rome (Italy), 26-29 Sep 1993  
Language: English  
English  
Publication Type: Book Monograph  
Publication Type: Conference  
Environmental Regime: Freshwater  
Classification: X 24135 Biochemistry  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: SW 3030 Effects of pollution  
Classification: Q5 01504 Effects on organisms  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Pollution Abstracts; Toxicology Abstracts

Kelch, W. J. and New, J. C. Jr. (1993). The Reported Use of Drugs to Prevent Diseases in Beef Cattle in Tennessee. *Prev.Vet.Med.* 15: 291-302.

EcoReference No.: 76627  
Chemical of Concern: CYP,PYT,PMR,FYT,PSM,MXC,MLN,FNTH,DDVP,DZ,CMPH; Habitat: T; Effect Codes: PHY; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Kenaga, E. E. (1982). Predictability of Chronic Toxicity from Acute Toxicity of Chemicals in Fish and Aquatic Invertebrates. *Environ.Toxicol.Chem.* 1: 347-358.  
Chem Codes: EcoReference No.: 45649  
Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

Kenaga, E. F. (1979). Aquatic Test Organisms and Methods Useful for Assessment of Chronic Toxicity of Chemicals. *In: K.L.Dickson, A.W.Maki, and J.Cairns,Jr.(Eds.), Analyzing the Hazard Evaluation Process, Am.Fish.Soc.* 101-111.  
Chem Codes: EcoReference No.: 64340  
Chemical of Concern: DZ Rejection Code: METHODS/REVIEW.

Kendall, T. J., Brewer, L. W., Hitchcock, R. R., and Mayer, J. R. (1992). American Wigeon Mortality Associated with Turf Application of Diazinon AG500. *J.Wild.Dis.* 28: 263-267.

EcoReference No.: 85643  
Chemical of Concern: DZ; Habitat: T; Effect Codes: MOR,BCM,ACC; Rejection Code: NO ENDPOINT(DZ).

Keplinger, M. L. and Deichmann, William B. (1967). Acute toxicity of combinations of pesticides. *Toxicology and Applied Pharmacology* 10: 586-595.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
The acute oral toxicity (LD50) of equitoxic doses of combinations of 15 pesticides was determined in rats and mice. The Expected LD50 of a &ldquo;mixture&rdquo; was compared with the Observed or Actual LD50 and expressed as a ratio. The compounds studied included the chlorinated hydrocarbons aldrin, Aramite, chlordane, DDT, dieldrin, endrin, methoxychlor, and toxaphene; the organic phosphates Delnav, diazinon, malathion, parathion, trithion, and V-C 13; and a carbamate, carbaryl.Most of the combinations of two or three of these pesticides induced essentially additive effects in both species, with the exception of the combination of aldrin and chlordane. These two compounds induced an additive effect in rats, while in mice there was a potentiation.Less than additive effects (antagonism or protection) were noted with: aldrin plus diazinon, malathion, V-C 13, Delnav, or trithion (rat); DDT plus malathion, V-C 13, or diazinon (rat); toxaphene plus trithion (rat); endrin plus DDT or Delnav (mouse); and aldrin plus parathion (mouse).More than additive effects (possibly some degree of potentiation) were noted with: endrin plus chlordane or aldrin (mouse); Aramite plus Delnav, diazinon, or parathion (mouse); methoxychlor plus chlordane, dieldrin or Delnav (mouse); aldrin plus chlordane (mouse); and chlordane plus parathion plus malathion (mouse).The data in the combinations of three pesticides did not reveal effects of toxicity which could not have been predicted from the combinations of two compounds.

Keren-Zur, Mordechai, Beigel, Michael, and Loyter, Abraham (1989). Induction of fusion in aggregated and nonaggregated liposomes bearing cationic detergents. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 983: 253-258.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The addition of polyanionic polymers such as poly(aspartic acid) (PASP), DNA or dextran sulfate to liposomes composed of phosphatidylcholine (PC) and cholesterol (chol), and bearing the quaternary ammonium detergent [[[(1,1,3,3-tetramethylbutyl)cresoxy]ethoxy]ethyl]dimethylbenzylammonium hydroxide (DEBDA]OH]) resulted in liposome aggregation and fusion. Liposome-liposome fusion was studied by using fluorescently labeled liposomes and fluorescence-dequenching (DQ) methods. Addition of monoanions, such as aspartate or acetate, to liposomes bearing DEBDA[OH] caused neither their aggregation nor liposome-liposome fusion. Aggregation of liposomes bearing DEBDA[OH] by the binding pair avidin-biotin did not result in their fusion. Fusion in such aggregated liposomes was observed by the addition of chaotropic anions, such as nitrate or thiocynate, or by PASP. A variety of other quaternary ammonium detergents behaved similarly to DEBDA[OH] in their ability to confer fusogenic properties upon PC/chol liposomes. The relevance of these findings to the mechanism of liposome-liposome fusion is discussed. Liposome fusion/ Cationic detergent/ Biotin/ Avidin/ Chaotropic ion/ Fluorescence energy transfer

KERTESZ MA, COOK AM, and LEISINGER, T. (1994). MICROBIAL METABOLISM OF SULFUR-AND PHOSPHORUS-CONTAINING XENOBIOTICS. *FEMS MICROBIOLOGY REVIEWS; 15* 195-215.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW BACTERIA ENZYME CHARACTERIZATION GENETIC ANALYSIS REGULATION Biochemistry/ Minerals/ Enzymes/Physiology/ Metabolism/ Minerals/Metabolism/ Bacteria/Physiology/ Bacteria/Metabolism/ Bacteria/Genetics/ Viruses/Genetics/ Biodegradation/ Industrial Microbiology/ Bacteria

Key, P. B., Fulton, M. H., Harman Fetcho, J. A., and McConnell, L. L. (2003). Acetylcholinesterase Activity in Grass Shrimp and Aqueous Pesticide Levels from South Florida Drainage Canals. *Archives of Environmental Contamination and Toxicology [Arch. Environ. Contam. Toxicol.]. Vol. 45, no. 3, pp. 371-377. Oct 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0090-4341  
Descriptors: Canals  
Descriptors: Pesticides  
Descriptors: Acetylcholinesterase  
Descriptors: Runoff  
Descriptors: Drainage  
Descriptors: Insecticides  
Descriptors: Metolachlor  
Descriptors: Land use  
Descriptors: Atrazine  
Descriptors: Water conservation  
Descriptors: Diazinon  
Descriptors: Surface water  
Descriptors: Contamination  
Descriptors: Malathion  
Descriptors: organophosphates  
Descriptors: Fresh water  
Descriptors: Chlorpyrifos  
Descriptors: Penaeidae  
Descriptors: Palaemonetes intermedius  
Descriptors: USA, Florida  
Abstract: Freshwater drainage canals in South Florida are utilized to manage water in agricultural, urban, and water conservation areas and, as a result, collect urban and agricultural storm runoff that is discharged into the Atlantic Ocean and Gulf of Mexico. Pesticides in this runoff may be toxic to the biota inhabiting these waters. This study evaluated the effects of contaminants in South Florida canals draining into Biscayne Bay on the estuarine grass shrimp (Palaemonetes intermedius), a representative invertebrate species. Results of surface water analysis for pesticides indicated that eight pesticides out of 52 analyzed were detected. The herbicide metolachlor was found at all nine sites in the five canals sampled at concentrations up to 119 ng/L. Atrazine was detected at seven sites at concentrations up to 29 ng/L. Three organophosphate insecticides (chlorpyrifos, malathion, diazinon) were detected at three sites in two canals (Military and North). Grass shrimp from these three sites showed significantly reduced levels of the acetylcholinesterase enzyme as compared to control shrimp. These two canals are similar in the land use areas drained-urban and suburban and agriculture. The results suggest that monitoring organisms for AChE levels can be a means of detecting exposure to organophosphorus pesticide contamination.  
Publisher: Springer-Verlag  
DOI: 10.1007/s00244-003-0173-7  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; Pollution Abstracts; Oceanic Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Toxicology Abstracts

Khan, M. A. Q. (1977). Elimination of Pesticides by Aquatic Animals. *In: M.A.Q.Khan (Ed.), Pesticides in Aquatic Environments, Plenum Press, NY* 107-125.

EcoReference No.: 4929  
Chemical of Concern: 24DXY,DZ,CPY,AZ,PRN,MXC,EDT,HPT,DDT,DLD,HCCH,CHD,SZ,MLN,As; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(ALL CHEMS).

Khan, M. A. Q. and Matsumura, F. (1972). Induction of mixed-function oxidase and protein synthesis by DDT and dieldrin in German and American cockroaches. *Pesticide Biochemistry and Physiology* 2: 236-243.  
Chem Codes : Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Pretreatment with dieldrin of the German cockroach, Blattella germanica L., while making a susceptible strain more sensitive, made a dieldrin-resistant strain and the hybrids between the two strains more tolerant to diazinon and carbaryl. Pretreatment of the American cockroach, Periplaneta americana L. (normally tolerant to DDT), with a high dose of DDT also made them more tolerant to these insecticides. The treated cockroaches of both species showed higher in vitro benzo[[alpha]]pyrene hydroxylase as well as [14C]leucine incorporation activities in their fat body than the control roaches. The induction is associated with increased synthesis of proteins and nuclear and nonnuclear RNA. These RNA from DDT-treated roaches showed higher template activity with leucine as compared with untreated roaches.

Khazraji, A. L., Al-Iraqi, R. A., and Al-Saffar, Z. Y. (1984). The Relative Susceptibility of Culex pipiens molestus Forskal to Certain Insecticides in Nineva District, Iraq. *J.Biol.Sci.Res.* 15: 7-12.  
Chem Codes: Chemical of Concern: DZ,CBL Rejection Code: NO DURATION.

Khera, K. S. and Bedok, S. (1967). Effects of Thiol Phosphates on Notochordal and Vertebral Morphogenesis in Chick and Duck Embryos. *Food Cosmet.Toxicol.* 5: 359-365.

EcoReference No.: 85503  
Chemical of Concern: DZ,PRN; Habitat: T; Effect Codes: GRO; Rejection Code: NO ENDPOINT(ALL CHEMS).

Khoshbavar-Rostami, H. A., Soltani, M., and Hassan, H. M. D. ( Immune response of great sturgeon (Huso huso) subjected to long-term exposure to sublethal concentration of the organophosphate, diazinon. *Aquaculture* In Press, Corrected Proof.  
Chem Codes : Chemical of Concern: DZ Rejection Code: NO SOURCE.  
  
Lysozyme activity, chemiluminuscence (CL) response and immunocompetent cells population size were assessed in great sturgeon (Huso huso) weighing about 425 g following long-term exposure of fish to sublethal concentration of diazinon at 1.5 mg L- 1 at 22 [plus-or-minus sign] 1 [deg]C and acceptable water quality conditions. Samples were collected after 24 h and then every week interval for 9 weeks. Values of white blood cells (WBC) and lymphocyte in fish exposed to diazinon (group B) were significantly lower than unexposed group (group A) while, the level of neutrophils was higher (P P > 0.05). Also, values of WBC and neutrophils in intraperitoneally glucan injected fish (0.3 mg/kg body weight intraperitoneally as a single dose) plus diazinon bath (group D) were lower and higher than glucan received fish without diazinon bath (group C), respectively (P P > 0.05). The level of lysozyme in liver and kidney tissues of group B was significantly and insignificantly higher (P P > 0.05). There was no significant difference in the lysozyme contents of liver, kidney, spleen and serum between groups C and D (P > 0.05). Mean spontaneous CL response in groups B and D was significantly lower than groups A and C throughout the experiment (P < 0.05). Maximum peak of CL response was found in group C for 5 weeks post-exposure, while the minimum peak was found in group B throughout the experiment. Also, peak of CL response in group D was almost similar to that of group C up to 2 weeks post-exposure, but it significantly reduced to lower level than group C during the rest of the experiment. Huso huso/ Diazinon/ Lysozyme/ Chemiluminescence/ Hematology

Kiec-Kononowicz, Katarzyna, Karolak-Wojciechowska, Janina, Muller, Christa E., Schumacher, Britta, Pekala, Elzbieta, and Szymanska, Ewa (2001). Imidazo-thiazine, -diazinone and -diazepinone derivatives. Synthesis, structure and benzodiazepine receptor binding. *European Journal of Medicinal Chemistry* 36: 407-419.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In our search for new compounds acting on benzodiazepine receptors among the fused 2-thiohydantoin derivatives, a series of arylidene imidazo[2,1-b]thiazines was synthesized. The 1,2- and 2,3- cyclized derivatives of mono- and di-substituted Z-5-arylidene-2-thiohydantoins were examined (the X-ray crystal structure of Z-2-cinnamylidene-6,7-dihydro-5H-imidazo[2,1-b][1,3]thiazin-3(2H)-one was determined) and compared with the diphenyl derivatives. To investigate the influence of the type of annelated ring on the biological activity, imidazo[2,1-b]pyrimidinone and imidazo[2,1-b]diazepinone derivatives were obtained. The method used in annelation (1,2- and 2,3-cyclized isomers with the exception of fused arylidene imidazothiazines), the substitution pattern (arylidene towards diphenyl) as well as the character of the annelated ring had minor influence on the benzodiazepine receptor affinity of the investigated compounds. It appears that the greatest influence on the biological activity has the character and position of the substituents on the arylidene ring. benzodiazepine receptor/ GABAA receptor/ imidazo[2,1-b]thiazines/ imidazo[2,1-b]pyrimidinone/ imidazo[2,1-b]diazepinone

Kieckhefer, R. W., Beck, D. A., Boetel, M. A., Fuller, B. W., and Voss, T. S. (1994). RUSSIAN WHEAT APHID CONTROL USING SEED AND RESCUE TREATMENTS 1993. *Burditt, A. K. Jr. (Ed.). Arthropod Management Tests, Vol. 19. Iii+403p. Entomological Society of America: Lanham, Maryland, Usa.* 0 : 296-297.  
Chem Codes: CBF Rejection Code: BOOK ORDERED - BURDITT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER TRITICUM-AESTIVUM DIURAPHIS-NOXIA INSECTICIDE DIAZINON 4E FURADAN 4F KARATE 1E LORSBAN 4E PENNCAP-C 2FM PENNCAP-S 2FM TD-2328 2FM TD-2340 2FM TD-2342 2FM GAUCHO 480FS  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-General  
KEYWORDS: Plant Physiology  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Field  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Invertebrata  
KEYWORDS: Gramineae  
KEYWORDS: Homoptera

Kienhuis, Paul G. M. (1993). Radiofrequency-only daughter scan mode to provide more spectral information in liquid chromatography--thermospray tandem mass spectrometry. *Journal of Chromatography A* 647: 39-50.  
Chem Codes: Chemical of Concern: SZ,MTL ,DMT,SXD Rejection Code: CHEM METHODS.  
  
A method is presented for increasing the number of specific ions in LC-thermospray mass spectra by means of a quadrupole tandem mass spectrometer (Finnigan TSQ-70) in the radiofrequency-only daughter (RFD) scan mode. The method can be used for screening a large number of compounds eluted from an HPLC system. MS-MS in the usual daughter, parent or neutral loss scan mode (on retention time altered for each eluted compound) in this particular instance is very laborious or even impossible. In the RFD scan mode the first quadrupole is operating as a high-pass mass filter. Only ions with masses equal to or above the arbitrary selected cut-off mass will enter the collision cell. With a low collision offset voltage mainly molecular ions will be present in the third quadrupole, which is acting as a mass analyser in the full-scan mode. With medium and high collision offset voltages, daughter ions are generated in the collision cell. By using two or three different alternating collision offset voltages during one analysis, both molecular and daughter ions can be acquired, increasing the specificity of the mass spectrum. First, data on optimization of the low collision offset voltage and the collision gas (argon) pressure with a mixture of alachlor, atrazine, aldicarb and barban are presented. Next, spectral information and data about the sensitivity of twenty compounds (alachlor, aldicarb, aniline, atrazine, benzothiazole, carbendazim, chloridazon, diazinon, dimethoate, diuron, ethylenethiourea, isocarbamide, isoproturon, metamitron, metolachlor, monolinuron, propachlor, sethoxydim, simazine and warfarin) in the RFD scan mode at three collision offset voltages (-6, -20 and -40 V) are presented and compared with the single-stage Q3MS scan mode. The sensitivity proved to be the same or better at collision offset voltages of -6 and -20 V, partly because adducts and eluent clusters were decreased significantly or even disappeared. At a collision offset of -40 V the sensitivity decreased for many compounds and the more intense ions mainly had low m/z values, which are less specific. The RFD scan mode, using a -6 and -20 V collision offset voltage alternating in each scan, is demonstrated by screening a surface water sample (river Rhine) spiked with ten compounds at a level of 1 [mu]g/1. It resulted in chromatograms with increased spectral information, the same or better signal-to-noise ratios, less eluent clusters and no adducts. http://www.sciencedirect.com/science/article/B6TG8-44CPVPV-CC/2/0bb68fc0b900c19c15a245d479a6fbc5

Kienhuis, Paul G. M. (1993). Radiofrequency-only daughter scan mode to provide more spectral information in liquid chromatography--thermospray tandem mass spectrometry. *Journal of Chromatography A* 647: 39-50.  
Chem Codes: Chemical of Concern:PCZ,SZ,MTL,PYZ,WFN Rejection Code: CHEM METHODS.  
  
A method is presented for increasing the number of specific ions in LC-thermospray mass spectra by means of a quadrupole tandem mass spectrometer (Finnigan TSQ-70) in the radiofrequency-only daughter (RFD) scan mode. The method can be used for screening a large number of compounds eluted from an HPLC system. MS-MS in the usual daughter, parent or neutral loss scan mode (on retention time altered for each eluted compound) in this particular instance is very laborious or even impossible. In the RFD scan mode the first quadrupole is operating as a high-pass mass filter. Only ions with masses equal to or above the arbitrary selected cut-off mass will enter the collision cell. With a low collision offset voltage mainly molecular ions will be present in the third quadrupole, which is acting as a mass analyser in the full-scan mode. With medium and high collision offset voltages, daughter ions are generated in the collision cell. By using two or three different alternating collision offset voltages during one analysis, both molecular and daughter ions can be acquired, increasing the specificity of the mass spectrum. First, data on optimization of the low collision offset voltage and the collision gas (argon) pressure with a mixture of alachlor, atrazine, aldicarb and barban are presented. Next, spectral information and data about the sensitivity of twenty compounds (alachlor, aldicarb, aniline, atrazine, benzothiazole, carbendazim, chloridazon, diazinon, dimethoate, diuron, ethylenethiourea, isocarbamide, isoproturon, metamitron, metolachlor, monolinuron, propachlor, sethoxydim, simazine and warfarin) in the RFD scan mode at three collision offset voltages (-6, -20 and -40 V) are presented and compared with the single-stage Q3MS scan mode. The sensitivity proved to be the same or better at collision offset voltages of -6 and -20 V, partly because adducts and eluent clusters were decreased significantly or even disappeared. At a collision offset of -40 V the sensitivity decreased for many compounds and the more intense ions mainly had low m/z values, which are less specific. The RFD scan mode, using a -6 and -20 V collision offset voltage alternating in each scan, is demonstrated by screening a surface water sample (river Rhine) spiked with ten compounds at a level of 1 [mu]g/1. It resulted in chromatograms with increased spectral information, the same or better signal-to-noise ratios, less eluent clusters and no adducts. http://www.sciencedirect.com/science/article/B6TG8-44CPVPV-CC/2/0bb68fc0b900c19c15a245d479a6fbc5

Kikuchi, M. (1993). Toxicity Evaluation of Selected Pesticides Used in Golf Links by Algal Growth Inhibition Test. *J.Jpn.Soc.Water Environ.* 16: 704-710 (JPN)(ENG ABS) .

EcoReference No.: 2478  
Chemical of Concern: DZ,TCF,FNT,CAPTAN,FTL,CTN,PDM,BS,MCPP1,NPP; Habitat: A; Effect Codes: POP; Rejection Code: NO FOREIGN.

Kikuchi, M., Miyagaki, T., and Wakabayashi, M. (1996). Evaluation of Pesticides Used in Golf Links by Acute Toxicity Test on Rainbow Trout. *Bull.Jpn.Soc.Sci.Fish.(Nippon Suisan Gakkaishi)* 62: 414-419 (JPN) (ENG ABS).

EcoReference No.: 18916  
Chemical of Concern: CPY,BFL,BS,CAPTAN,IFP,PDM,FTL,TCF,FNT,DZ,CTN,MCPP1; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Kikuchi, T., Kamei, M., Okubo, S., and Yasuno, M. (1992). Effects of the Insect Growth Regulator Methoprene and Organophosphorus Insecticides Against Non-target Aquatic Organisms in Urban Drains. *Jpn.J.Sanit.Zool./Eisei Dobutsu* 43: 65-70(JPN) (ENG ABS).

EcoReference No.: 7690  
Chemical of Concern: DZ,FNT,MTPN,DDVP,FNTH; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Kim, Ji-Young, Park, Hee-Sae, Kang, Soo Im, Choi, Eui-Ju, and Kim, Ick Young (2002). Redox regulation of cytosolic glycerol-3-phosphate dehydrogenase: Cys102 is the target of the redox control and essential for the catalytic activity. *Biochimica et Biophysica Acta (BBA) - General Subjects* 1569: 67-74.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Cytosolic glycerol-3-phosphate dehydrogenase (cG3PDH) occupies the branch point between the glycolytic pathway and triglyceride biosynthesis. However, the regulatory mechanism of the cG3PDH activity has remained obscure. Here we report that cG3PDH is efficiently inhibited by modification of the thiol group through a redox mechanism. In this study, we found that sodium selenite and nitric oxide (NO) donors such as S-nitroso-N-acetylpenicillamine and 3-morpholinosydnonimine inhibited cG3PDH activity, and that similar effects could be achieved with selenium metabolites such as selenocysteine and selenomethionine. Furthermore, we found that reducing agents, such as dithiothreitol and [beta]-mercaptoethanol, restored the cG3PDH activity suppressed by selenite and NO both in vitro and in cultured cells. Buthionine sulfoximine depleted levels of both reduced glutathione and the oxidized form but had no effect on the suppression of cG3PDH activity by selenite in cultured cells. Moreover, thiol-reactive agents, such as N-ethylmaleimide and o-iodosobenzoic acid, blocked the enzyme activity of cG3PDH through the modification of redox-sensitive cysteine residues in cG3PDH. The inhibitor of NO synthase, -NG-nitro-arginine, restored the cG3PDH activity inhibited by NO in cultured cells, whereas the inhibitor of guanylyl cyclase, 1H-[1,2,4] oxadiazole[4,3-[alpha]] quinoxalin-1-one (ODQ), has no effect. NO directly inhibits cG3PDH activity not via a cGMP-dependent mechanism. Finally, using site-directed mutagenesis, we found that Cys102 of cG3PDH was sensitive to both selenite and NO. From the results, we suggest that cG3PDH is a target of cellular redox regulation. Cytosolic glycerol-3-phosphate dehydrogenase/ Sodium selenite/ S-Nitroso-N-acetylpenicillamine/ Thiol/ Reducing agent/ Redox mechanism

Kim, Moon Suk and Diamond, Scott L. ( Photocleavage of o-nitrobenzyl ether derivatives for rapid biomedical release applications. *Bioorganic & Medicinal Chemistry Letters* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Photocleavage/ o-Nitrobenzyl/ Drug delivery The externally controlled cleavage of covalently linked prodrugs, proteins, or solid-phase formulation vehicles offers potential advantages for controlled drug or gene delivery. A series of o-nitrobenzyl ester compounds (1-8) were synthesized to allow a systematic study of photolability. The o-nitrobenzyl ester was strictly required for photolability, while imido esters were not photolabile. The degradation kinetics of 1-o-phenylethyl ester was an order of magnitude faster than that of o-nitrobenzyl ester. Tosylate, phosphate, and benzoate derivatives of 1-o-nitrophenylethyl displayed similar photolability (>80% decomposition within 10 min at 3.5 mW/cm2 at 365 nm). O-o-Nitrobenzyl O',O''-diethyl phosphate displayed the fastest decomposition at photoirradiation condition (3.5 mW/cm2, 365 nm) suitable for biological systems. We report the synthesis and photo-decomposition of 1-o-nitrophenylethyl derivatives amenable for the creation of photolabile prodrugs or formulation particles for drug depots, DNA condensation, or tissue engineering applications.

Kim, Sunggak, Chang, Heung, and Young Kwan Ko (1985). Benzotriazol-1-yl diethyl phosphate. A new convenient coupling reagent for the synthesis of amides and peptides. *Tetrahedron Letters* 26: 1341-1342.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Benzotriazol-1-yl diethyl phosphate is found to be a new convenient coupling reagent for the synthesis of amides and practically racemization-free peptides.

Kimura, T. and Keegan, H. L. (1966). Toxicity of Some Insecticides and Molluscicides for the Asian Blood Sucking Leech, Hirudo nipponia Whitman. *Am.J.Trop.Med.Hyg.* 15: 113-115.

EcoReference No.: 2890  
Chemical of Concern: CBL,DZ,CHD,HCCH,MLN,CuS,DDT,DLD,NaPCP; Habitat: A; Effect Codes: MOR,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Kirkwood, A. C. and Quick, M. P. (1981). Diazinon for the Control of Sheep Scab. *Vet Rec* 279-280.

EcoReference No.: 50992  
Chemical of Concern: DZ; Habitat: T; Effect Codes: POP; Rejection Code: NO CONTROL(TARGET-DZ).

Kirpnick, Zhanna, Homiski, Michael, Rubitski, Elizabeth, Repnevskaya, Marina, Howlett, Niall, Aubrecht, Jiri, and Schiestl, Robert H. (2005). Yeast DEL assay detects clastogens. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis* 582: 116-134.  
Chem Codes: Chemical of Concern: DZ Rejection Code: YEAST.  
  
Chromosomal rearrangements, including DNA deletions are involved in carcinogenesis. The deletion (DEL) assay scoring for DNA deletions in the yeast Saccharomyces cerevisiae is able to detect a wide range of carcinogens. Among approximately 60 compounds of known carcinogenic activity, the DEL assay detected 86% correctly whereas the Ames Salmonella assay detected only 30% correctly [R.J. Brennan, R.H. Schiestl, Detecting carcinogens with the yeast DEL assay, Methods Mol. Biol. 262 (2004) 111-124]. Since the DEL assay is highly inducible by DNA double strand breaks, this study examined the utility of the DEL assay for detecting clastogens. Ten model compounds, with varied mechanisms of genotoxicity, were examined for their effect on the frequency of DNA deletions with the DEL assay. The compounds tested were: actinomycin D, camptothecin, methotrexate and 5-fluorodeoxyuridine, which are anticancer agents, noscapine and furosemide are therapeutics, acridine, methyl acrylate and resorcinol are industrial chemicals and diazinon is an insecticide. The in vitro micronucleus assay (IVMN) in CHO cells, a commonly used tool for detection of clastogens, was performed on the same compounds and the results of the two assays were compared. The results of our study show that there is 70% concordance in the presence of metabolic activation (rat liver S9) and 80% concordance in the absence of metabolic activation between the DEL assay and the standard in vitro micronucleus assay. The lack of cytotoxicity observed for four of the ten compounds examined indicates limited diffusion of lipophilic compounds across the yeast cell wall. Thus, the development of a more permeable yeast tester strain is expected to greatly improve concordance of the DEL assay with the IVMN assay. The yeast DEL assay is inexpensive, amenable to automation and requires less expertise to perform than the IVMN. Thus, it has a strong potential as a robust, fast and economical screen for detecting clastogens in vitro. DNA deletions/ Clastogens/ Short-term assay/ Genotoxicity

Kishino, K. I. (1987). 1986 Evaluation of Candidate Pesticides. (A-I) Insecticides Rice and other Cereals. *Jpn.Pestic.Inf.* 50: 24-36.  
Chem Codes: Chemical of Concern: BFT,DCZ,EFV,CYP,DZ,FVL Rejection Code: NO DURATION.

Kishino, K. I. (1987). 1986 Evaluation of Candidate Pesticides. (A-I) Insecticides Vegetables Ornamental Crops and Industrial Crops. *Jpn.Pestic.Inf.* 50: 24-36.  
Chem Codes: Chemical of Concern: BFT,DCZ,EFV,CYP,DZ Rejection Code: NO DURATION.

Kiso, Y., Li, H., Shigetoh, K., Kitao, T., and Jinno, K. (1996). Pesticide analysis by high-performance liquid chromatography using the direct injection method. *Journal of Chromatography a* 733 : 259-265.  
Chem Codes: Chemical of Concern: SZ Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. HPLC with direct injection was examined as a simple and rapid method for the determination of pesticides in water. Fifteen pesticides listed in the Japanese standard and guidelines for potable water were separated successfully with an ODS column and acetonitrile-phosphate buffer as the mobile phase. All pesticides were separated simultaneously under gradient elution conditions: (CH3CN) = 30% at 0 min to 80% at 60 min, flow-rate = 1.5 ml/min. However, isocratic elution conditions were required for large injection volumes. Even with a 5-ml injection, successful chromatograms were obtained and all pesticides were detected at the ppb or sub-ppb level. A 5-ml environmental water sample was also injected after filtration with a glass-fibre filter (0.3 mum) and propyamide, MEP and diazinon were observed at 0.07, 1.3, 1.1 mug/l, respectively.  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biophysics-General Biophysical Techniques  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

Kitos, P. A., Anderson, D. S., Uyeki, E. M., Misawa, M., and Wyttenbach, C. R. (1981). Teratogenic Effects of Cholinergic Insecticides in Chick Embryos--2 Effects on the Nad Content of Early Embryos. *Biochem.Pharmacol.* 30 (16): 2225-2235.

EcoReference No.: 37504  
Chemical of Concern: DZ; Habitat: T; Effect Codes: GRO,BCM; Rejection Code: NO ENDPOINT(DZ).

Klaeboe, P., Nielsen, C. J., Priebe, H., Schei, S. H., and Sjogren, C. E. (1986). The vibrational spectra, molecular structure and conformations of organic azides. I. A survey. *Journal of Molecular Structure* 141: 161-172.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
A number of organic monoazides (R---N3) have been synthesized in which R is: (1) a saturated group, CH3, C2H5, n---C3H7; (2) an olefinic group, allyl, butadiene; (3) an acetylenic group, N[triple bond; length as m-dash]C---CH2, H---C[triple bond; length as m-dash]C---CH2, CH3---C[triple bond; length as m-dash]C---CH2. Two additional unsaturated diazides (CH2=C(N3)---C(N3)---C(N3)=CH2 and N3---CH2---C[triple bond; length as m-dash]C---CH2---N3) were prepared.The compounds (most of them very explosive) were studied by IR and Raman spectroscopy in the liquid, in solution and in the solid state, and by matrix isolation technique in IR. The spectra were interpreted in terms of one or in some cases two or more conformers and assigned with the aid of normal coordinate analysis.UV photolysis experiments in nitrogen matrices at 12 K were carried out and the reactions monitored by FTIR. The intermediate products could in some cases be identified as imines.Six of the azides were investigated by gaseous electron diffraction and the molecular structures established. The azide group was situated to the hydrocarbon skeleton in N[triple bond; length as m-dash]C---CH2N3, H---C[triple bond; length as m-dash]C---CH2N3 and CH3---C[triple bond; length as m-dash]C---CH2N3. In the butadienes CH2---C(N3)---CH=CH2 and CH2=C(N3)---C(N3)=CH2 the azide group was to the adjacent C=C bond, while in H2C=CH---CH2N3 at least two conformers were detected.Model calculations on the smaller azides by quantum chemical methods were used to establish trends in the geometry and force fields of the azide group.

Klassen, W., Keppler, W. J., and Kitzmiller, J. B. (1965). Toxicities of Certain Larvicides to Resistant and Susceptible Aedes aegypti (L.). *Bull.W.H.O.* 33: 117-122.  
Chem Codes: EcoReference No.: 19938  
Chemical of Concern: DZ Rejection Code: NO DURATION.

Kline, E. R., Mattson, V. R., Pickering, Q. H., Spehar, D. L., and Stephan, C. E. (1987). Effects of Pollution on Freshwater Organisms. *J.Water Pollut.Control Fed.* 59: 539-572.  
Chem Codes: EcoReference No.: 51026  
Chemical of Concern: AND,Al,NH,As,ATZ,Ba,BNZ,Be,Cd,CBL,CTC,CHD,Cl,Cl2,CBZ,CF,CPH,CPY,Cr,Co,cU,CN,DDT,DZ,TCDD,DCB,DPDP,DLD,DMB,DXN,EDT,ES,EN,ETHB,FRN,FML,HPT,HCCH,Fe,Pb,Mn,Hg,PRN,Mo,NAPH,PAH,Ni,NBZ,NP,PCB,PCP,PL,PHTH,Se,Ag,SZ,Sn,TOL,TXP,TPH,TCE,V,Zn Rejection Code: REFS CHECKED/REVIEW.

Knowles, C. O., Errampalli, D. D., and El-Sayed, G. N. (1988). Comparative Toxicities of Selected Pesticides to Bulb Mite (Acari: Acaridae) and Twospotted Spider Mite (Acari: Tetranychidae). *J.Econ.Entomol.* 81: 1586-1591.

EcoReference No.: 81104  
Chemical of Concern: FNV,AZ,PFF,DZ,MP,DMT,CYF,BFT,ADC,MOM; Habitat: T; Effect Codes: MOR; Rejection Code: NO COC(DBAC),ENDPOINT(CYF),REVIEW(BFT),OK(FNV,AZ,PFF,MP,DMT,ADC,MOM),OK TARGET(DZ).

KNOWLES CO and HAMED MS (1988). ACARICIDE TOXICITY PENETRATING AND METABOLISM IN THE BULB MITE. *196TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, LOS ANGELES, CALIFORNIA, USA, SEPTEMBER 25-30, 1988. ABSTR PAP AM CHEM SOC; 196* AGRO-164.  
Chem Codes: Chemical of Concern: BFT Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT RHIZOGLYPHUS-ECHINOPUS FORMETANATE DIAZINON BIFENTHRIN DDT CHLORDIMEFORM BROMOPROPYLATE Congresses/ Biology/ Biochemistry/ Metabolism/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Arthropods

KNOWLES CO and HAMED MS (1988). ACARICIDE TOXICITY PENETRATING AND METABOLISM IN THE BULB MITE. *196TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, LOS ANGELES, CALIFORNIA, USA, SEPTEMBER 25-30, 1988. ABSTR PAP AM CHEM SOC; 196* AGRO-164.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT RHIZOGLYPHUS-ECHINOPUS FORMETANATE DIAZINON BIFENTHRIN DDT CHLORDIMEFORM BROMOPROPYLATE Congresses/ Biology/ Biochemistry/ Metabolism/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Arthropods

Kobayashi, K., Wang, Y., Kimura, S., Rompas, R. M., Imada, N., and Oshima, Y. (1993). Practical Application of Piperonyl Butoxide for the Reduction of Organophosphorus Insecticide-Toxicity to Kuruma Prawn. *Bull.Jpn.Soc.Sci.Fish.(Nippon Suisan Gakkaishi)* 59: 2053-2057.

EcoReference No.: 4270  
Chemical of Concern: DZ,MLN,PPB; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Kobayashi, K., Wang, Y., Kimura, S., Rompas, R. M., Imada, N., and Oshima, Y. (1993). Practical application of piperonyl butoxide for the reduction of organophosphorus insecticide-toxicity to kuruma prawn. *Nippon Suisan Gakkaishi [NIPPON SUISAN GAKKAISHI/BULL. JAP. SOC. SCI. FISH.]. Vol. 59, no. 12, pp. 2053-2057. 1993.*  
Chem Codes : Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0021-5392  
Descriptors: toxicity tolerance  
Descriptors: insecticides  
Descriptors: shrimp culture  
Descriptors: Penaeus japonicus  
Abstract: A study was carried out to set up a practical application of piperonyl butoxide (PB) for the reduction of organophosphorus insecticide-toxicity to kuruma prawn Penaeus japonicus. The absorption and excretion of PB administered through the diet to kuruma prawn was examined, compared with the case of exposure to PB-seawater. The concentration of PB in the prawn reached a maximum of 13 mu g/g at 3-h after feeding with a 1% PB-diet for 6 h, which was a similar level to the PB in kuruma prawn exposed to 1 ppm PB-seawater for 12 h. By feeding with a 1% PB-diet, the survival times of kuruma prawn exposed to fenitrothion (0.01 ppm), malathion (0.2 ppm), dioxabenzofos (0.4 ppm), phenthoate (0.1 ppm), and diazinon (0.1 ppm) were extended by ca. 11, 5, 5, 3, and 2.5 times over those of the respective control prawns fed with a PB-free diet. However, PB was not effective in reducing the toxicity of dichlorvos (1 ppm) (a typical oxo-form insecticide) to kuruma prawn.  
Language: English  
English; Japanese  
Publication Type: Journal Article  
Environmental Regime: Marine  
Classification: Q1 01583 Shellfish culture  
Classification: Q5 01504 Effects on organisms  
Classification: Q3 01583 Shellfish culture  
Subfile: ASFA Aquaculture Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; ASFA 1: Biological Sciences & Living Resources

Kobayashi, Toshihide, Pimplikar, Sanjay W., Parton, Robert G., Bhakdi, Sucharit, and Simons, Kai (1992). Sphingolipid transport from the trans-Golgi network to the apical surface in permeabilized MDCK cells. *FEBS Letters* 300: 227-231.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have measured the transport of de novo synthesized fluorescent analogs of sphingomyelin and glucosylceramide from the trans-Golgi network (TGN) to the apical membrane in basolaterally permeabilized Madin-Darby canine kidney (MDCK) cells. Sphingolipid transport was temperature, ATP and cytosol dependent. Introduction of bovine serum albumin (BSA), which binds fluorescent sphingolipid monomer, into the permeabilized cells, did not affect lipid transport to the apical membrane. Both fluorescent sphingomyelin and glucosylceramide analogs were localized to the lumenal bilayer leaflet of isolated TGN-derived vesicles. These results strongly suggest that both sphingolipids are transported from the TGN to the apical membrane via vesicular traffic. Sphingolipid transport/ Fluorescent lipid analog/ Streptolysin O/ Trans Golgi network/ Permeabilized cell/ Apical membrane/ MDCK cell

Koestler, R. C., Janes, G., and Miller, J. A. (1992). Pesticide Delivery. *In: A.Kydonieus (Ed.), Treatise on Controlled Drug Delivery: Fundamentals, Optimization, Applications, Chapter 11, Marcel Dekker Inc., NY* 492-543.  
Chem Codes: EcoReference No.: 70603  
Chemical of Concern: DZ,PRN,RSM Rejection Code: REVIEW.

Kojima, Hiroyuki, Katsura, Eiji, Takeuchi, Shinji, Niiyama, Kazuhito, and Kobayashi, Kunihiko (2004). Screening for estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells. *Environmental Health Perspectives* 112: 524-531.  
Chem Codes: Chemical of Concern: DZM Rejection Code: IN VITRO.  
  
The authors tested 200 pesticides, including some of their isomers and metabolites, for agonism and antagonism to two human estrogen receptor (hER) subtypes, hERa and hERb, and a human androgen receptor (hAR) by highly sensitive transactivation assays using Chinese hamster ovary cells. The test compds. were classified into nine groups: organochlorines, di-Ph ethers, organophosphorus pesticides, pyrethroids, carbamates, acid amides, triazines, ureas, and others. These pesticides were tested at concns. < 10-5 M. Of the 200 pesticides tested, 47 and 33 showed hERa- and hERb-mediated estrogenic activities, resp. Among them, 29 pesticides had both hERa and hERb agonistic activities, and the effects of the organochlorine insecticides b-benzene hexachloride (BHC) and d-BHC and the carbamate insecticide methiocarb were predominantly hERb rather than hERa agonistic. Weak antagonistic effects toward hERa and hERb were shown in five and two pesticides, resp. On the other hand, none of tested pesticides showed hAR-mediated androgenic activity, but 66 of 200 pesticides exhibited inhibitory activity against the transcriptional activity induced by 5a-dihydrotestosterone. In particular, the antiandrogenic activities of two di-Ph ether herbicides, chlornitrofen and chlomethoxyfen, were higher than those of vinclozolin and p,p'-dichlorodiphenyl dichloroethylene, known AR antagonists. The results of our ER and AR assays show that 34 pesticides possessed both estrogenic and antiandrogenic activities, indicating pleiotropic effects on hER and hAR. The authors also discussed chem. structures related to these activities. Taken together, our findings suggest that a variety of pesticides have estrogenic and/or antiandrogenic potential via ER and/or AR, and that numerous other manmade chems. may also possess such estrogenic and antiandrogenic activities. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2004:358648  
Chemical Abstracts Number: CAN 141:390203  
Section Code: 4-4  
Section Title: Toxicology  
CA Section Cross-References: 2  
Document Type: Journal  
Language: written in English.  
Index Terms: Animal cell line (CHO; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Amides Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (acid; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Ecotoxicity; Environmental pollution; Human; Pesticides; Structure-activity relationship; Transcription (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Androgen receptors; Antiandrogens; Estrogen receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Gene Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (hERa; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Gene Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (hERb; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Insecticides (organochlorine; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Insecticides (organophosphorus; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Environmental pollution (pesticide; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Pyrethrins Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pyrethroids; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Gene Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (reporter; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Pesticides (toxicity; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Estrogen receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (a; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Estrogen receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (b; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells)  
CAS Registry Numbers: 50-29-3; 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 57-13-6D (Urea); 58-89-9 (g-Bhc); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 85-00-7 (Diquat); 87-86-5 (Pentachlorophenol); 90-43-7 (2-Phenylphenol); 91-53-2 (Ethoxyquin); 92-52-4 (Biphenyl); 94-74-6 (4-Chloro-o-tolyloxyacetic acid); 94-75-7 (2,4-Dichlorophenoxyacetic acid); 97-17-6 (Dichlofenthion); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 121-29-9 (Pyrethrin); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiram); 148-79-8 (Thiabendazole); 290-87-9D (Triazine); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-Bhc); 319-86-8 (d-Bhc); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 463-77-4D (Carbamic acid); 510-15-6 (Chlorobenzilate); 533-74-4 (Dazomet); 563-12-2 (Ethion); 640-15-3 (Thiometon); 709-98-8 (Propanil); 732-11-6 (Phosmet); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1014-70-6 (Simetryn); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1071-83-6 (Glyphosate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1698-60-8 (Chloridazon); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1982-47-4 (Chloroxuron); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2255-17-6 (Fenitrothion oxon); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2439-01-2 (Chinomethionat); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3337-71-1 (Asulam); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 3861-47-0 (Ioxynil octanoate); 4685-14-7 (Paraquat); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7292-16-2 (Propaphos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13516-27-3 (Iminoctadine); 13593-03-8 (Quinalphos); 13684-63-4 (Phenmedipham); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17804-35-2 (Benomyl); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanate-methyl); 23950-58-5 (Propyzamide); 24151-93-7 (Piperophos); 25057-89-0 (Bentazone); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 26644-46-2 (Triforine); 27355-22-2 (Fthalide); 27605-76-1 (Probenazole); 28249-77-6 (Thiobencarb); 29104-30-1 (Benzoximate); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 32861-85-1 (Chlomethoxyfen); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 38527-91-2 (Prothiofos oxon); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 42576-02-3 (Bifenox); 42609-52-9 (Daimuron); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 50594-66-6 (Acifluorfen); 50594-67-7 (Acifluorfen-methyl); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57369-32-1 (Pyroquilon); 57837-19-1 (Metalaxyl); 58011-68-0 (Pyrazolynate); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 61432-55-1 (Dimepiperate); 64249-01-0 (Anilofos); 66063-05-6 (Pencycuron); 66332-96-5 (Flutolanil); 66841-25-6 (Tralomethrin); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68505-69-1 (Benfuresate); 68694-11-1 (Triflumizole); 69409-94-5 (Fluvalinate); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71561-11-0 (Pyrazoxyfen); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 79538-32-2 (Tefluthrin); 79622-59-6 (Fluazinam); 80844-07-1 (Etofenprox); 83055-99-6 (Bensulfuron-methyl); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88678-67-5 (Pyributicarb); 89269-64-7 (Ferimzone); 96491-05-3 (Thenylchlor); 97483-08-4 (Tolclofos-methyl oxon); 125306-83-4 (Cafenstrole); 133220-30-1 (Indanofan); 138261-41-3 (Imidacloprid) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); 521-18-6 (5a-Dihydrotestosterone.) Role: BSU (Biological study, unclassified), BIOL (Biological study) (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells)  
Citations: Andersen, H; Toxicol Appl Pharmacol 2002, 179, 1  
Citations: Bauer, E; Analyst 1998, 123, 2485  
Citations: Blair, R; Toxicol Sci 2000, 54, 138  
Citations: Bulger, W; Biochem Pharmacol 1978, 27, 2417  
Citations: Chatterjee, S; Bull Environ Contam Toxicol 1992, 48, 125  
Citations: Chen, H; J Toxicol Environ Health 2002, 65, 1419  
Citations: Colborn, T; Environ Health Perspect 1995, 103, 135  
Citations: Colborn, T; Environ Health Perspect 1993, 101, 378  
Citations: Coosen, R; Toxicol Appl Pharmacol 1989, 101, 310  
Citations: Cummings, A; Crit Rev Toxicol 1997, 27, 367  
Citations: Dejonckheere, W; Toxicol Eur Res 1978, 1, 93  
Citations: Friedmann, A; Reprod Toxicol 2002, 16, 275  
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Citations: Kuiper, G; Proc Natl Acad Sci USA 1996, 93, 5925  
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Citations: Nishihara, T; J Health Sci 2000, 46, 282  
Citations: Ostby, J; Toxicol Ind Health 1999, 15, 80  
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Citations: Sohoni, P; J Appl Toxicol 2001, 21, 173  
Citations: Sohoni, P; J Endocrinol 1998, 158, 327  
Citations: Sonnenschein, C; J Steroid Biochem Mol Biol 1998, 65, 143  
Citations: Soto, A; Environ Health Perspect 1995, 103, 113  
Citations: Tamura, H; Toxicol Sci 2001, 60, 56  
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Citations: Tran, D; Biochem Biophys Res Commun 1996, 227, 140  
Citations: Vinggaard, A; Toxicol Appl Pharmacol 1999, 155, 150  
Citations: Vinggaard, A; Toxicol Sci 2002, 69, 344  
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Citations: Welch, R; Toxicol Appl Pharmacol 1969, 14, 358 estrogen/ androgen/ receptor/ pesticide/ reporter/ gene/ assay/ CHO/ cell

KOJIMA, T., TSUDA, S., and SHIRASU, Y. (1993). Inhibitory effect of fenthion and diazinon on the contraction of rat aorta, and its contribution to lethality. *J VET MED SCI; 55* 383-385.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. Fenthion and diazinon, P=S type organothiophosphates which are precursors of cholinesterase inhibitors, cause remarkable atropine-insensitive hypotension in rats when administered intravenously in lethal doses. We investigated their effects on isolated rat aorta and atria to reveal the site of action. Fenthion and diazinon inhibited both types of contractions induced by high K+ solution and norepinephrine in aortic preparations from which the endothelium was removed. IC50 values (under (Ca2+)=1.5 mM) were 2 10-5 M and 7 10-5 M, respectively. However, the atrial preparations were relatively resistant, since fenthion showed no effect up to 10-3 M and diazinon at 10-4 M exhibited a slight inhibition which was antagonized by atropine. The hypotensive effect of fenthion or diazinon was therefore attributable to the direct inhibiting action on the arterial muscle tone, which may be independent of the activation of muscarinic receptors. The results suggested that fenthion and Biochemistry/ Necrosis/Pathology/ Cardiovascular System/Physiology/ Cardiovascular System/Metabolism/ Heart Diseases/Pathology/ Blood Vessels/Pathology/ Vascular Diseases/Pathology/ Blood Chemical Analysis/ Body Fluids/Chemistry/ Lymph/Chemistry/ Muscles/Physiology/ Muscles/Metabolism/ Cell Differentiation/ Fetal Development/ Morphogenesis/ Embryology/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology/ Herbicides/ Pest Control/ Pesticides/ Muridae

Kojima, T., Tsuda, S., and Shirasu, Y. (1992). Non-cholinergic Mechanisms Underlying the Acute Lethal Effects of P=S Type Organophosphorus Insecticides in Rats. *J.Vet.Med.Sci.* 54: 529-533.

EcoReference No.: 85788  
Chemical of Concern: DZ; Habitat: T; Effect Codes: PHY,MOR; Rejection Code: NO CONTROL,ENDPOINT(DZ).

Kok, L. T. (1972). Toxicity of Insecticides Used for Asiatic Rice Borer Control to Tropical Fish in Rice Paddies. *In: The Careless Technol.: Conf.on the Ecological Aspects of Int.Development* 498.

EcoReference No.: 9114  
Chemical of Concern: DZ,HCCH; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(HCCH,DZ).

Koketsu, K. (1966). Restorative action of fluoride on synaptic transmission blocked by organophosphorous anticholinesterases. *Neuropharmacology* 5: 247-254.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO, MIXTURE.  
  
Neuromuscular transmission in frog, blocked by DFP, TEPP or Sarin, can be restored by 0[middle dot]01-0[middle dot]1 mM NaF. The potency of NaF in restoring transmission is less than that of P-2-AM, the effect of 0[middle dot]02 mM NaF being equivalent to that of 0[middle dot]001 mM P-2-AM. The analysis of end-plate potential indicates that the restoration of transmission is due to the dual actions of fluoride, namely, (1) sensitization of end-plate membrane and (2) reactivation of phosphorylated ChE. A similar conclusion is obtained from the analysis of the effects of TEPP and Sarin as well as of NaF on the post-synaptic potential of frog's sympathetic ganglion cell. A similar effect of NaF is also demonstrated with regard to Renshaw cell activity of cat's spinal cord.

KOLPIN DW, BARBASH JE, and GILLIOM RJ (1998). Occurrence of pesticides in shallow groundwater of the United States: Initial results from the National Water-Quality Assessment Program. *ENVIRONMENTAL SCIENCE & TECHNOLOGY; 32* 558-566.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The first phase of intensive data collection for the National Water-Quality Assessment (NAWQA) was completed during 1993-1995 in 20 major hydrologic basins of the United States. Groundwater land-use studies, designed to sample recently recharged groundwater (generally within 10 years) beneath specific land-use and hydrogeologic settings, are a major component of the groundwater quality assessment for NAWQA. Pesticide results from the 41 land-use studies conducted during 1993-1995 indicate that pesticides were commonly detected in shallow groundwater, having been found at 54.4% of the 1034 sites sampled in agricultural and urban settings across the United States. Pesticide concentrations were generally low, with over 95% of the detections at concentrations less than 1 mug. Of the 46 pesticide compounds examined, 39 were detected. The compounds detected most frequently were atrazine (38.2%), deethylatrazine (34.2%), simazine (18.0%), metolachlor (14.6%), and prometon (13. Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Konno, T. and Kajihara, O. (1985). Synergism of Pirimicarb and Organophosphorus Insecticides Against the Resistant Rice Stem Borer, Chilo suppressalis Walker (Lepidoptera: Pyralidae). *Appl.Entomol.Zool.* 20: 403-410.

EcoReference No.: 74137  
Chemical of Concern: CPYM,FNT,MP,FNTH,DZ,CPY,PRN,MLN,PSM,MDT,DDVP,TVP,CBL,BDC,PIRM,PIM,MOM; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(MLN,DZ).

Kono, Kenji, Henmi, Akiko, and Takagishi, Toru (1999). Temperature-controlled interaction of thermosensitive polymer-modified cationic liposomes with negatively charged phospholipid membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1421: 183-197.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
To obtain cationic liposomes of which affinity to negatively charged membranes can be controlled by temperature, cationic liposomes consisting of 3[beta]-[N-(N&prime;,N&prime;-dimethylaminoethane)carbamoyl]cholesterol and dioleoylphosphatidylethanolamine were modified with poly(N-acryloylpyrrolidine), which is a thermosensitive polymer exhibiting a lower critical solution temperature (LCST) at ca. 52[deg]C. The unmodified cationic liposomes did not change its zeta potential between 20-60[deg]C. The polymer-modified cationic liposomes revealed much lower zeta potential values below the LCST of the polymer than the unmodified cationic liposomes. However, their zeta potential increased significantly above this temperature. The unmodified cationic liposomes formed aggregates and fused intensively with anionic liposomes consisting of egg yolk phosphatidylcholine and phosphatidic acid in the region of 20-60[deg]C, due to the electrostatic interaction. In contrast, aggregation and fusion of the polymer-modified cationic liposomes with the anionic liposomes were strongly suppressed below the LCST. However, these interactions were enhanced remarkably above the LCST. In addition, the polymer-modified cationic liposomes did not cause leakage of calcein from the anionic liposomes below the LCST, but promoted the leakage above this temperature as the unmodified cationic liposomes did. Temperature-induced conformational change of the polymer chains from a hydrated coil to a dehydrated globule might affect the affinity of the polymer-modified cationic liposomes to the anionic liposomes. Temperature-sensitive liposome/ Cationic liposome/ Lower critical solution temperature/ Poly(N-acryloylpyrrolidine)/ Membrane fusion

Kono, Kenji, Igawa, Toshihiro, and Takagishi, Toru (1997). Cytoplasmic delivery of calcein mediated by liposomes modified with a pH-sensitive poly(ethylene glycol) derivative. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1325: 143-154.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Previously, as a new type of pH-sensitive liposome, we prepared egg yolk phosphatidylcholine (EYPC) liposomes bearing succinylated poly(glycidol), that is a poly(ethylene glycol) derivative having carboxyl groups, and showed that fusion ability of the liposomes increases under weakly acidic and acidic conditions (Kono, K., Zenitani, K. and Takagishi, T. (1994) Biochim. Biophys. Acta 1193, 1-9). In this study, we examined intracellular delivery of a water-soluble molecule, calcein, mediated by the succinylated poly(glycidol)-modified liposomes. When CV-1 cells, an established line of African green monkey kidney cells, were incubated with bare EYPC liposomes containing calcein at 37[deg]C, only weak and vesicular fluorescence of calcein was observed by using a fluorescence microscope. In contrast, the cells treated with the polymer-modified liposomes containing calcein displayed more intensive and diffuse fluorescence, indicating that calcein was transferred into the cytoplasm. Uptake of the polymer-modified liposomes by the cells was shown to decrease slightly as amount of the polymer fixed on the liposome increases. However, the fluorescence of calcein observed in the liposome-treated cell was, on the contrary, enhanced as amount of the polymer fixed on the liposome increases, indicating that the liposome modified with a higher amount of the polymer transfers its content into cytoplasm more efficiently after internalization into the cell. Fusion assay by resonance energy transfer using N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethanolamine and lissamine rhodamine B-sulfonylphosphatidylethanolamine suggested occurrence of fusion between the polymer-modified liposomes and endosomal and/or lysosomal membranes. Moreover, the liposome with a higher polymer content revealed higher percent fusion after internalization into the cell. These results imply that the polymer-modified liposomes transfer the content into the cytoplasm by fusing with the endosomal membrane after internalization into the cells through an endocytic pathway. Poly(ethylene glycol) derivative/ pH-sensitive liposome/ Cytoplasmic delivery/ Membrane fusion/ Phosphatidylcholine

Kono, Kenji, Nakai, Ryoichi, Morimoto, Keiji, and Takagishi, Toru (1999). Temperature-dependent interaction of thermo-sensitive polymer-modified liposomes with CV1 cells. *FEBS Letters* 456: 306-310.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Egg yolk phosphatidylcholine liposomes modified with a copolymer of N-acryloylpyrrolidine and N-isopropylacrylamide having a lower critical solution temperature at ca. 40[deg]C were prepared and an effect of temperature on their interaction with CV1 cells was investigated. The unmodified liposomes were taken up by the cells approximately to the same extent after 3 h incubation at 37 and 42[deg]C. In contrast, uptake of the polymer-modified liposomes by CV1 cells decreased slightly at 37[deg]C but increased greatly at 42[deg]C, compared to the unmodified liposomes. Proliferation of the cells was partly prohibited by the incubation with the unmodified liposomes encapsulating methotrexate at 37 and 42[deg]C. The treatment with the polymer-modified liposomes containing methotrexate at 37[deg]C hardly effected the cell growth. However, the treatment at 42[deg]C inhibited the cell growth completely. It is considered that the highly hydrated polymer chains attached to the liposome surface suppressed the liposome-cell interaction below the lower critical solution temperature of the polymer but the dehydrated polymer chains enhanced the interaction above this temperature. Because interaction of the polymer-modified liposomes with cells can be controlled by the ambient temperature, these liposomes may have potential usefulness as efficient site-specific drug delivery systems. Temperature-sensitive liposome/ Lower critical solution temperature/ Poly(N-acryloylpyrrolidine)/ Poly(N-isopropylacrylamide)/ Liposome-cell interaction/ Drug delivery system

Kono, Kenji, Zenitani, Ken-ichi, and Takagishi, Toru (1994). Novel pH-sensitive liposomes: liposomes bearing a poly(ethylene glycol) derivative with carboxyl groups. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1193: 1-9.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Three kinds of succinylated poly(glycidol)s were synthesized as poly(ethylene glycol) derivatives having carboxyl groups by the reaction of poly(glycidol) with varying amounts of succinic anhydride in dimethylformamide. These polymers promoted fusion of egg-yolk phosphatidylcholine liposome more intensively with decreasing content of carboxyl groups at pH 7.4, although the extent of fusion was limited. However, the polymer with 56% of succinylated residues induced fusion of the liposome much more strongly at pH 4.0. Egg-yolk phosphatidylcholine liposomes bearing the succinylated poly(glycidol) which was combined with long alkyl chains as anchors to the liposomal membrane were prepared. The leakage of calcein entrapped in the inner aqueous phase of the liposomes was slight at pH 7.4. However, the leakage increased with decreasing pH. The turbidity measurement and the fusion assay indicate that the liposomes bearing the polymer fuse more intensively with decreasing pH and with increasing amount of the polymer bound to the liposomes. Membrane fusion/ pH-sensitive liposome/ Liposome/ Phosphatidylcholine/ Poly(ethylene glycol) derivative/ Drug delivery system

Konstantinou, Ioannis K., Hela, Dimitra G., and Albanis, Triantafyllos A. (2006). The status of pesticide pollution in surface waters (rivers and lakes) of Greece. Part I. Review on occurrence and levels. *Environmental Pollution* 141: 555-570.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY, REVIEW.  
  
This review evaluates and summarizes the results of long-term research projects, monitoring programs and published papers concerning the pollution of surface waters (rivers and lakes) of Greece by pesticides. Pesticide classes mostly detected involve herbicides used extensively in corn, cotton and rice production, organophosphorus insecticides as well as the banned organochlorines insecticides due to their persistence in the aquatic environment. The compounds most frequently detected were atrazine, simazine, alachlor, metolachlor and trifluralin of the herbicides, diazinon, parathion methyl of the insecticides and lindane, endosulfan and aldrin of the organochlorine pesticides. Rivers were found to be more polluted than lakes. The detected concentrations of most pesticides follow a seasonal variation, with maximum values occurring during the late spring and summer period followed by a decrease during winter. Nationwide, in many cases the reported concentrations ranged in low ppb levels. However, elevated concentrations were recorded in areas of high pesticide use and intense agricultural practices. Generally, similar trends and levels of pesticides were found in Greek rivers compared to pesticide contamination in other European rivers. Monitoring of the Greek water resources for pesticide residues must continue, especially in agricultural regions, because the nationwide patterns of pesticide use are constantly changing. Moreover, emphasis should be placed on degradation products not sufficiently studied so far. Occurrence/ Pesticide residues/ Freshwaters/ Greece

Koo, Hyun-Young, Shin, Incheol, Lee, Zee-Won, Lee, Sang-Ho, Kim, Sang-Hyo, Lee, Chang-Ho, Kang, Ho-Sung, and Ha, Kwon-Soo (1999). Roles of RhoA and Phospholipase A2 in the Elevation of Intracellular H2O2 by Transforming Growth Factor-[beta] in Swiss 3T3 Fibroblasts. *Cellular Signalling* 11: 677-683.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
We have investigated the mechanisms by which transforming growth factor-[beta] (TGF-[beta]) increased intracellular H2O2 in Swiss 3T3 fibroblasts. Increase of intracellular H2O2 by TGF-[beta] was maximal at 30 min and blocked by catalase from Aspergillus niger. Scrape-loading of C3 transferase, which down-regulated RhoA, inhibited the production of H2O2 in response to TGF-[beta]. TGF-[beta] stimulated release of arachidonic acid, which was completely inhibited by mepacrine, a phospholipase A2 inhibitor. Mepacrine also blocked the increase of H2O2 by TGF-[beta]. In addition, arachidonic acid increased intracellular H2O2. Furthermore, TGF-[beta] stimulated stress fibre formation, which was blocked by catalase, without membrane ruffling. Catalase also inhibited stimulation of thymidine incorporation by TGF-[beta]. These results suggested that TGF-[beta] increased intracellular H2O2 through RhoA and phospholipase A2, and also suggested that intracellular H2O2 was required for the stimulation of stress fibre formation and DNA synthesis in response to TGF-[beta]. Transforming growth factor-[beta]/ Intracellular H2O2/ RhoA/ Phospholipase A2/ Arachidonic acid/ Stress fibres/ DNA synthesis

Koprucu, Sibel Simsek, Koprucu, Kenan, Ural, Mevlut Sener, Ispir, Unal, and Pala, Murat ( Acute toxicity of organophosphorous pesticide diazinon and its effects on behavior and some hematological parameters of fingerling European catfish (Silurus glanis L.). *Pesticide Biochemistry and Physiology* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SOURCE.  
  
Diazinon is commonly used for pest control in the agricultural fields surrounding freshwater reservoirs. So this study was conducted to determine the acute toxicity of this organophosphorous pesticide, contaminating aquatic ecosystems as a pollutant, and its effects on behavior, and some hematological parameters of fingerling European catfish, Silurus glanis. Diazinon was applied at concentrations of 1, 2, 4, 8, 16, 32, and 64 mg L-1. The water temperature in the experimental units was kept at 16 [plus-or-minus sign] 1 [deg]C. The number of dead fishes significantly increased in response to diazinon concentrations 2-64 mg L-1 (p diazinon concentrations, the fishes exposed duration 1 to 96 h significantly increased the number of dead fishes (p 50 values (with 95% confidence limits) of diazinon for fingerling European catfish were estimated as 14.597 (12.985-16.340), 12.487 (11.079-14.471), 8.932 (7.907-10.348), 6.326 (no data because of p > 0.05), and 4.142 (no data because of p > 0.05) mg L-1, respectively. Compared to the control specimens, fish after an acute exposure to diazinon was significantly lower erythrocyte, leukocyte, hemoglobin, hematocrit, MCV, MCH, and MCHC values (p diazinon (p < 0.01). European catfish/ Silurus glanis/ Organophosphorous pesticide/ Diazinon/ Acute toxicity/ Behavior/ Hematological parameters

Koren, Eugen, Koscec, Mirna, McConathy, Walter J., and Fugate, Robert D. (1991). Possible role of macrophages in regression of atherosclerosis. *Progress in Lipid Research* 30: 237-243 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Koulov, Atanas V., Vares, Lauri, Jain, Mahim, and Smith, Bradley D. (2002). Cationic triple-chain amphiphiles facilitate vesicle fusion compared to double-chain or single-chain analogues. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1564: 459-465.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Cationic, triple-chain amphiphiles promote vesicle fusion more than structurally related double-chain or single-chain analogues. Two types of vesicle fusion experiments were conducted, mixing of oppositely charged vesicles and acid-triggered self-fusion of vesicles composed of cationic amphiphile and anionic cholesteryl hemisuccinate (CHEMS). Vesicle fusion was monitored by standard fluorescence assays for intermembrane lipid mixing, aqueous contents mixing and leakage. Differential scanning calorimetry was used to show that triple-chain amphiphiles lower the lamellar-inverse hexagonal (L[alpha]-HII) phase transition temperature for dipalmitoleoylphosphatidylethanolamine. The triple-chain amphiphiles may enhance vesicle fusion because they can stabilize the inversely curved membrane surfaces of the fusion intermediates, however, other factors such as extended conformation, packing defects, chain motion, or surface dehydration may also contribute. From the perspective of drug delivery, the results suggest that vesicles containing cationic, triple-chain amphiphiles (and cationic, cone-shaped amphiphiles in general) may be effective as fusogenic delivery capsules. Membrane fusion/ Cationic liposome/ Molecular shape/ Drug delivery/ Membrane curvature/ Calorimetry

Kovacs, Jozsef, Pinter, Istvan, Kajtar-Peredy, Maria, Argay, Gyula, Kalman, Alajos, Descotes, Gerard, and Praly, Jean-Pierre (1999). Synthesis of [nu]-triazole derivatives from anomeric sugar diazides. *Carbohydrate Research* 316: 112-120.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Staudinger reaction of acetylated glycopyranosylidene 1,1-diazides led to resonance-stabilized iminophosphoranes (phosphinimines) of 6,7-dihydro[3,4-d]-1,2,3-triazole. This unprecedented transformation involves [beta]-elimination of acetic acid and cycloaddition of azide anion to the resulting C-2 double bond. Transformation of the new fused heterocyclic iminophosphoranes on treatment with aqueous ethanolic ammonia gives carboxamidine derivatives of [nu]-triazole bearing a chiral trihydroxypropyl side-chain. Crystal structure of 5-(-erythro-1&prime;,2&prime;,3&prime;-trihydroxypropyl)-1,2,3-triazole-4-carboxamidine was established by X-ray crystallography. Azido sugars/ Glycopyranosylidene 1,1-diazides/ Iminophosphoranes (phosphinimines)/ Pyrano[3,4-d]-1,2,3-triazole/ Staudinger reaction/ X-ray structure

Kovacs, Jozsef, Pinter, Istvan, Kajtar-Peredy, Maria, Praly, Jean-Pierre, and Descotes, Gerard (1995). Unexpected transformation of 2,3,4,6-tetra-O-acetyl-d-glucopyranosylidene 1,1-diazide with triphenylphosphine. *Carbohydrate Research* 279: C1-C3.  
 Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Azido sugars/ Sugar phosphinimines/ Pyrano[3,4-d]-1,2,3-triazole

Kratzer, C. R. (1999). Transport of Diazinon in the San Joaquin River Basin, California. *Journal of the American Water Resources Association [J. Am. Water Resour. Assoc.]. Vol. 35, no. 2, 379 p. Apr 1999.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 1093-474X  
Descriptors: Water Pollution Sources  
Descriptors: Path of Pollutants  
Descriptors: Diazinon  
Descriptors: Organophosphorus Pesticides  
Descriptors: Insecticides  
Descriptors: Toxicity  
Descriptors: Storm Runoff  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Pollution dispersion  
Descriptors: Water pollution  
Descriptors: River basins  
Descriptors: Rivers  
Descriptors: Basins  
Descriptors: Organophosphates  
Descriptors: Storms  
Descriptors: Hydrology  
Descriptors: Freshwater pollution  
Descriptors: Pollution (Water)  
Descriptors: Pesticides (Organophosphorus)  
Descriptors: Pesticides (see also Bactericides, Weedkillers)  
Descriptors: Toxicity (see also Lethal limits)  
Descriptors: Runoff  
Descriptors: Pollution (Nonpoint sources)  
Descriptors: USA, California, San Joaquin R. basin  
Descriptors: USA, California, San Joaquin Valley  
Abstract: Most of the application of the organophosphate insecticide diazinon in the San Joaquin River Basin occurs in winter to control wood-boring insects in dormant almond orchards. A federal-state collaborative study found that diazinon accounted for most of the observed toxicity of San Joaquin River water in February 1993. Previous studies focused mainly on west-side inputs to the San Joaquin River. In this 1994 study, the three major east-side tributaries to the San Joaquin River - the Merced, Tuolumne, and Stanislaus rivers - and a downstream site on the San Joaquin River were sampled throughout the hydrographs of a late January and an early February storm. In both storms, the Tuolumne River had the highest concentrations of diazinon and transported the largest load of the three tributaries. The Stanislaus River was a small source in both storms. On the basis of previous storm sampling and estimated travel times, ephemeral west-side creeks probably were the main diazinon source early in the storms, whereas the Tuolumne and Merced Rivers and east-side drainages directly to the San Joaquin River were the main sources later. Although 74 percent of diazinon transport in the San Joaquin River during 1991-1993 occurred in January and February, transport during each of the two 1994 storms was only 0.05 percent of the amount applied during preceding dry periods. Nevertheless, some of the diazinon concentrations in the San Joaquin River during the January storm exceeded 0.35 mu g/L, a concentration shown to be acutely toxic to water fleas. On the basis of this study and previous studies, diazinon concentrations and streamflow are highly variable during January and February storms, and frequent sampling is required to evaluate transport in the San Joaquin River Basin.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Classification: AQ 00002 Water Quality  
Subfile: Environmental Engineering Abstracts; Aqualine Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts

Kratzer, C. R. (1999). Transport of Diazinon in the San Joaquin River Basin, California. *J.Am.Water Res.Assoc.* 35: 379-395.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Kratzer, C. R., Zamora, C., and Knifong, D. L. ( 2002). Diazinon and Chlorpyrifos Loads in the San Joaquin River Basin, California, January and February 2000.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: Water pollution  
Descriptors: Agricultural runoff  
Descriptors: River basins  
Descriptors: Pesticides  
Descriptors: Storms  
Descriptors: Storm Runoff  
Descriptors: Diazinon  
Descriptors: Pollution Load  
Descriptors: Agricultural Chemicals  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Water Pollution Sources  
Descriptors: USA, California, San Joaquin R. basin  
Abstract: The purpose of this report is to describe the loads of diazinon and chlorpyrifos in the San Joaquin Basin during January and February 2000. Loads, storm and nonstorm related, are compared with applications and storm runoff. 1994. A total of 13 sites were sampled weekly during nonstorm periods and more frequently during two storm periods. The sites included five major river and eight minor tributary sites.  
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Publisher: United States Geological Survey  
Other numbers: USGS-WRI-02-4103  
Language: English  
Publication Type: Report  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: SW 3020 Sources and fate of pollution  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Kraus, G. A., Nagy, J. O., and DeLano, J. (1985). Quinone diazide cyclizations - a direct route to dihydrobenzofurans. *Tetrahedron* 41: 2337-2340.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The reaction of ortho-quinone diazides with electron-rich alkenes produces 2,3-dihydrobenzofurans. The ortho-quinone diazides are formed from the ortho-nitrophenols by reduction and diazotization. The reaction of an ortho-quinone diazide with 2,3-dihydrofuran produces a furo-[2,3-b]benzofuran ring system.

Kraus, M. P. (1985). Cyanophage Assay as a New Concept in the Study of Environmental Toxicity. *In: R.D.Cardwell, R.Purdy, and R.C.Bahner (Eds.), Aquatic Toxicology and Hazard Assessment, Seventh Symposium, ASTM STP 854, Philadelphia, PA* 27-41.

EcoReference No.: 64534  
Chemical of Concern: DZ,FML,FNTH; Habitat: A; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Kraus, Marjorie P (1985). Cyanophage assay as a new concept in the study of environmental toxicity. *ASTM Special Technical Publication* 854: 27-41.  
Chem Codes : Chemical of Concern: GTN Rejection Code: BACTERIA.  
  
The use of a cyanophage/host assay as a means of obtaining data at a mol. level on toxicants at low concns. is described. Toxicants are obsd. during the infectious cycle. Five cyanophages and 8 hosts constitute the currently used system. The success of this approach depends on the genetic distinctions by which 1 host differs from another in its sensitivity to certain cyanophages. The physiol. range for measuring the effects of toxicants on cellular vs. viral controls during the infectious cycle is, in general, from 0 to <100 mg/mL. Data acquired on HCHO [50-00-0], Actane [4719-04-4], and the organophosphate pesticides Baytex [55-38-9] and diazinon [333-41-5] indicate that the interaction of low doses of toxicant during the infectious cycle need not be a simple function of dose and imply that an LD50 value, or the extrapolation of a lab.-derived survival curve toward 0, may not be an accurate picture of environmental aquatic toxicity. [on SciFinder (R)] cyanophage/ assay/ aquatic/ toxicity;/ pesticide/ aquatic/ toxicity/ cyanophage/ assay;/ toxicant/ assay/ cyanophage/ host

Krause, R T and August, E M (1983). Applicability of a carbamate insecticide multiresidue method for determining additional types of pesticides in fruits and vegetables. *Journal-Association Of Official Analytical Chemists* 66: 234-240.  
Chem Codes: Chemical of Concern: ADC,CBF,DMT,PPB Rejection Code: METHODS/NO TOX DATA/FOOD.  
  
 Several fruits and vegetables were fortified at a low (0.02-0.5 ppm) and at a high (0.1-5 ppm) level with pesticides and with a synergist, and recoveries were determined. Analyses were performed by using 3 steps of a multiresidue method for determining N-methylcarbamates in crops: methanol extraction followed by removal of plant co-extractives by solvent partitioning and chromatography with a charcoal-silanized Celite column. Eleven compounds were determined by using a high performance liquid chromatograph equipped with a reverse phase column and a fluorescence detector. Twelve additional compounds were determined by using a gas-liquid chromatograph equipped with a nonpolar packed column and an electron capture or flame photometric detector. Recoveries of 10 pesticides (azinphos ethyl, azinphos methyl, azinphos methyl oxygen analog, carbaryl, carbofuran, naphthalene acetamide, naphthalene acetic acid methyl ester, napropamide, phosalone, and phosalone oxygen analog) and the synergist piperonyl butoxide, which were determined by high performance liquid chromatography, averaged 100% (range 86-117) at the low fortification level and 102% (range 93-115) at the high fortification level. Quantitative recovery of naphthalene acetamide through the method required that an additional portion of eluting solution be passed through the charcoal column. Recoveries of 7 additional pesticides (dimethoate, malathion, methyl parathion, mevinphos, parathion, phorate oxygen analog, and pronamide), which were determined by gas-liquid chromatography (GLC), averaged 108% (range 100-120) at the low fortification level and 107% (range 99-122) at the high fortification level. DDT, diazinon, dieldrin, phorate, and pirimiphos ethyl, which were determined by GLC, were not quantitatively recovered. [Journal Article; In English; United States]

Krause, R. T. and August, E. M. (1983). Applicability of a carbamate insecticide multiresidue method for determining additional types of pesticides in fruits and vegetables. *Journal of the Association of Official Analytical Chemists [J. ASSOC. OFF. ANAL. CHEM.]. Vol. 66, no. 2, pp. 234-240. 1983.*  
Chem Codes: Chemical of Concern: NAPH Rejection Code: NO COC.  
  
ISSN: 0004-5756  
Descriptors: pesticides  
Descriptors: fruits  
Descriptors: vegetables  
Descriptors: assays  
Abstract: Several fruits and vegetables were fortified at a low and at a high level with pesticides and with a synergist, and recoveries were determined. Analyses were performed by using 3 steps of a multiresidue method for determining N-methylcarbamates in crops: methanol extraction followed by removal of plant co-extractives by solvent partitioning and chromatography with a charcolal-silanized Celite column. Eleven compounds were determined by using a high performance liquid chromatograph. Twelve additional compounds were determined by using a gas-liquid chromatograph. Recoveries of 10 pesticides (azinphos ethyl, azinphos methyl, azinphos methyl oxygen analog, carbaryl, carbofuran, naphthalene acetamide, naphthalene acetic acid methyl ester, napropamide, phosalone, and phosalone oxygen analog) and the synergist piperonyl butoxide, which were determined by high performance liquid chromatography, averaged 100% at the low fortification level and 102% at the high fortification level. Recoveries of 7 additional pesticides (dimethoate, malathion, methyl parathion, mevinphos, parathion, phorate oxygen analog, and pronamide), which were determined by gas-liquid chromatography (GLC), averaged 108% at the low fortification level and 107% at the high fortification level. DDT, diazinon, dieldrin, phorate, and pirimiphos eithyl, which were determined by GLC, were not quantitatively recovered.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24222 Analytical procedures  
Classification: X 24120 Food, additives & contaminants  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

Krause, R. T. and August, E. M. (1983). Applicability of a carbamate insecticide multiresidue method for determining additional types of pesticides in fruits and vegetables. *Journal of the Association of Official Analytical Chemists [J. ASSOC. OFF. ANAL. CHEM.]. Vol. 66, no. 2, pp. 234-240. 1983.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0004-5756  
Descriptors: pesticides  
Descriptors: fruits  
Descriptors: vegetables  
Descriptors: assays  
Abstract: Several fruits and vegetables were fortified at a low and at a high level with pesticides and with a synergist, and recoveries were determined. Analyses were performed by using 3 steps of a multiresidue method for determining N-methylcarbamates in crops: methanol extraction followed by removal of plant co-extractives by solvent partitioning and chromatography with a charcolal-silanized Celite column. Eleven compounds were determined by using a high performance liquid chromatograph. Twelve additional compounds were determined by using a gas-liquid chromatograph. Recoveries of 10 pesticides (azinphos ethyl, azinphos methyl, azinphos methyl oxygen analog, carbaryl, carbofuran, naphthalene acetamide, naphthalene acetic acid methyl ester, napropamide, phosalone, and phosalone oxygen analog) and the synergist piperonyl butoxide, which were determined by high performance liquid chromatography, averaged 100% at the low fortification level and 102% at the high fortification level. Recoveries of 7 additional pesticides (dimethoate, malathion, methyl parathion, mevinphos, parathion, phorate oxygen analog, and pronamide), which were determined by gas-liquid chromatography (GLC), averaged 108% at the low fortification level and 107% at the high fortification level. DDT, diazinon, dieldrin, phorate, and pirimiphos eithyl, which were determined by GLC, were not quantitatively recovered.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24222 Analytical procedures  
Classification: X 24120 Food, additives & contaminants  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

Krijnen, C. J. and Boyd, E. M. (1971). The Influence of Diets Containing from 0 to 81 per Cent of Protein on Tolerated Doses of Pesticides. *Comp.Gen.Pharmacol.* 2: 373-376.  
Chem Codes: Chemical of Concern: DZ,CBL,HCCH Rejection Code: NO DURATION.

Krijnen, C. J. and Boyd, E. M. (1970). Susceptibility to Captan Pesticide of Albino Rats Fed from Weaning on Diets Containing Various Levels of Protein. *Food Cosmet.Toxicol.* 8: 35-42.

EcoReference No.: 84917  
Chemical of Concern: DZ,HCCH,CBL; Habitat: T; Effect Codes: MOR,GRO; Rejection Code: NO CONTROL(ALL CHEMS).

Ku, Y., Chang, J., and Cheng, S. (1998). Effect of Solution pH on the Hydrolysis and Photolysis of Diazinon in Aqueous Solution. *Water Air Soil Pollut.* 108: 445-456.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SPECIES.

Ku, Y., Chang, J., Shen, Y., and Lin, S. (1998). Decomposition of Diazinon in Aqueous Solution by Ozonation. *Water Res.* 32: 1957-1963.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SPECIES.

KU, Y., CHANG J-L, and CHENG S-C (1998). Effect of solution pH on the hydrolysis and photolysis of diazinon in aqueous solution. *WATER AIR AND SOIL POLLUTION; 108* 445-456.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The hydrolytic and photolytic decomposition of diazinon were found to be highly dependent on the solution pH and can be adequately described with a two species distribution model. At light intensities less than 60 W m-2, the photolytic decomposition rate of diazinon increased linearly with the UV light intensity. Both the hydrolytic and photolytic product of diazinon was identified to be 2-isopropyl-4-methyl-6-pyrimidinol (LAP). No further decomposition of IMP was found by hydrolysis, but the S-P bond of the other portion of diazinon molecule after production of IMP (which could be a thiophosphonate) may be ruptured by UV photolylsis to release a sulfate ion. Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Darkness/ Light/ Lighting/ Herbicides/ Pest Control/ Pesticides

Kubo, Takashi, Urano, Kohei, and Utsumi, Hideo ( 2002). Mutagenicity characteristics of 255 environmental chemicals. *Journal of Health Science* 48: 545-554.  
Chem Codes: Chemical of Concern: APAC Rejection Code: QSAR.  
  
The mutagenicity of 255 compds. were examd. under the same conditions using the improved Ames test. These compds. were detected frequently in environment, were suspected of high toxicity, or were used as the pos. stds. for several toxicity tests. The relationships between the chem. structure and the strength of the mutagenicity were analyzed. Thirty compds. of the 255 tested compds. showed mutagenicity. It was found that the compds., which are unintentionally formed, tended to show mutagenicity in a higher ratio but the artificially synthesized compds. tended to show it in a lower ratio. The no. of compds. showed indirect mutagenicity (+S9) were more than the no. of compds. showed direct mutagenicity (-S9) in the tested compds. The mutagenicity strength was different by several hundred thousand times among the compds. Condensed polycyclic arom. nitrohydrocarbons, on the whole, showed very strong mutagenicity. The compds. were classified by the pos. conditions. All of the tested condensed polycyclic arom. nitrohydrocarbons accounted for the greatest majority of the compds. which showed mutagenicity under all the conditions of TA98+-S9 and TA100+-S9. Only two specific compds. showed mutagenicity under the three conditions except for TA98-S9. Some compds. showed mutagenicity only under the conditions of -S9 but there were various kinds of compds. which showed mutagenicity only under the conditions of +S9. The compds. which showed mutagenicity under only one condition showed weak mutagenicity. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2002:974293  
Chemical Abstracts Number: CAN 139:96574  
Section Code: 4-6  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Structure-activity relationship (mutagenic; mutagenicity characteristics of 255 environmental chems.); Environmental pollution; Mutagens (mutagenicity characteristics of 255 environmental chems.); Endocrine disrupting chemicals Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (mutagenicity characteristics of 255 environmental chems.)  
CAS Registry Numbers: 100-42-5 (Styrene) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (monomer; mutagenicity characteristics of 255 environmental chems.); 50-00-0 (Formaldehyde); 50-02-2 (Dexamethasone); 50-18-0 (Cyclophosphamide); 50-32-8 (Benzo[a]pyrene); 51-28-5 (2,4-Dinitrophenol); 51-79-6 (Ethyl carbamate); 53-70-3 (1,2;5,6-Dibenzanthracene); 55-18-5 (N-Nitrosodiethylamine); 55-38-9; 56-49-5 (3-Methylcholanthrene); 56-53-1 (Diethylstilbestrol); 56-55-3 (1,2-Benzanthracene); 56-57-5 (4-Nitroquinoline-N-oxide); 57-55-6 (Propylene glycol); 57-63-6 (17a-Ethynylestradiol); 58-27-5 (Menadione); 58-89-9 (1,2,3,4,5,6-Hexachlorocyclohexane); 59-50-7 (4-Chloro-3-methylphenol); 60-35-5 (Acetamide); 60-51-5 (Dimethoate); 61-82-5 (3-Amino-1H-1,2,4-triazole); 62-53-3 (Aniline); 62-56-6 (Thiourea); 62-73-7 (2,2-Dichlorovinyl dimethyl phosphate); 62-75-9 (N-Nitrosodimethylamine); 63-25-2 (1-Naphthyl methylcarbamate); 64-67-5 (Diethyl sulfate); 65-85-0 (Benzoic acid); 68-12-2 (N,N-Dimethylformamide); 70-30-4 (Hexachlorophene); 70-55-3 (p-Toluenesulfonamide); 71-36-3 (1-Butanol); 72-43-5 (Methoxychlor); 75-07-0 (Acetaldehyde); 75-25-2 (Bromoform); 75-27-4 (Bromodichloromethane); 77-73-6 (Dicyclopentadiene); 78-51-3; 78-59-1 (Isophorone); 78-83-1 (2-Methyl-1-propanol); 78-98-8 (Methylglyoxal); 79-06-1 (Acrylamide); 79-11-8 (Monochloroacetic acid); 79-94-7 (2,2-Bis(3,5-dibromo-4-hydroxyphenyl)propane); 80-05-7 (Bis-phenol-A); 82-68-8 (Pentachloronitrobenzene); 84-66-2 (Diethyl phthalate); 84-74-2 (Dibutyl phthalate); 85-00-7 (Diquat dibromide); 86-30-6 (N-Nitrosodiphenylamine); 87-61-6 (1,2,3-Trichlorobenzene); 87-68-3 (Hexachloro-1,3-butadiene); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-73-3 (o-Chloronitrobenzene); 88-75-5 (o-Nitrophenol); 90-12-0 (1-Methylnaphthalene); 90-30-2 (N-Phenyl-1-naphthylamine); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 92-52-4 (Biphenyl); 93-76-5 (2,4,5-Trichlorophenoxyacetic acid); 94-75-7 (2,4-Dichlorophenoxy acetic acid); 95-48-7 (2-Methylphenol); 95-50-1 (o-Dichlorobenzene); 95-53-4 (o-Toluidine); 95-54-5 (1,2-Phenylene diamine); 95-76-1 (3,4-Dichloroaniline); 95-80-7 (2,4-Diaminotoluene); 95-82-9 (2,5-Dichloroaniline); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (1,2-Epoxyethylbenzene); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-18-4 (1,2,3-Trichloropropane); 96-23-1 (1,3-Dichloro-2-propanol); 96-45-7 (2-Mercaptoimidazoline); 97-00-7 (1-Chloro-2,4-dinitrobenzene); 97-02-9 (2,4-Dinitroaniline); 98-73-7 (p-t-Butylbenzoic acid); 98-82-8 (Cumene); 98-83-9 (a-Methylstyrene); 98-95-3 (Nitrobenzene); 99-99-0 (p-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-02-7 (p-Nitrophenol); 100-21-0 (Terephthalic acid); 100-41-4 (Ethyl benzene); 100-51-6 (Benzylalcohol); 100-52-7 (Benzaldehyde); 100-61-8 (N-Methylaniline); 100-63-0 (Phenylhydrazine); 101-81-5 (Diphenylmethane); 101-83-7 (Dicyclohexylamine); 102-71-6 (2,2',2''-Nitrilotriethanol); 103-23-1 (Di-2-ethylhexyl adipate); 103-50-4 (Dibenzyl ether); 103-69-5 (N-Ethylaniline); 104-40-5 (p-Nonylphenol); 104-51-8 (n-Butylbenzene); 105-67-9 (2,4-Dimethylphenol); 106-41-2 (p-Bromophenol); 106-43-4 (4-Chlorotoluene); 106-44-5 (p-Cresol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (p-Chlorophenol); 106-89-8 (Epichlorohydrin); 106-93-4 (1,2-Dibromoethane); 107-21-1 (Ethylene glycol); 107-22-2 (Glyoxal); 108-46-3 (Resorcinol); 108-78-1 (Melamine); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexyl amine); 108-93-0 (Cyclohexanol); 108-94-1 (Cyclohexanone); 108-95-2 (Phenol); 109-06-8 (2-Methylpyridine); 110-80-5 (Ethylene glycol monoethyl ether); 110-91-8 (Morpholine); 111-44-4 (Bis(2-chloroethyl) ether); 111-46-6 (Diethylene glycol); 112-24-3 (Triethylenetetramine); 112-30-1 (n-Decyl alcohol); 112-57-2 (Tetraethylenepentamine); 115-09-3 (Methylmercury Chloride); 115-32-2 (Kelthane); 115-96-8 (Tris(2-chloroethyl)phosphate); 116-06-3 (Aldicarb); 117-79-3 (2-Aminoanthraquinone); 117-81-7 (Di-2-ethylhexyl phthalate); 118-79-6 (2,4,6-Tribromophenol); 119-61-9 (Benzophenone); 119-93-7 (o-Tolidine); 120-12-7 (Anthracene); 120-80-9 (Catechol); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-44-8 (Triethylamine); 121-69-7 (N,N-Dimethylaniline); 121-75-5 (Malathion); 122-14-5 (O,O-Dimethyl O-4-nitro-m-tolyl phosphorothioate); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 123-31-9 (Hydroquinone); 123-91-1 (1,4-Dioxane); 124-04-9 (Adipic acid); 126-72-7 (Tris(2,3-dibromopropyl)phosphate); 126-73-8 (Tributyl phosphate); 127-18-4 (Tetrachloroethylene); 128-37-0 (2,6-Di-tert-butyl-4-methylphenol); 129-00-0 (Pyrene); 131-11-3 (Dimethyl phthalate); 133-06-2 (Captan); 135-19-3 (2-Naphthol); 135-88-6 (N-Phenyl-2-naphthylamine); 137-26-8 (Thiram); 137-30-4 (Ziram); 139-13-9 (Nitrilotriacetic acid); 139-33-3; 141-32-2; 141-43-5 (2-Aminoethanol); 143-08-8 (1-Nonanol); 149-30-4 (2-Mercaptobenzothiazole); 151-21-3 (Sodium lauryl sulfate); 151-50-8 (Potassium cyanide); 191-24-2 (Benzo[ghi]perylene); 192-97-2 (Benzo[e]pyrene); 205-99-2 (Benzo[b]fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 298-04-4 (Ethyl thiometon); 310-71-4; 333-41-5 (Diazinon); 446-72-0 (Genistein); 479-13-0 (Coumestrol); 527-60-6 (2,4,6-Trimethylphenol); 528-29-0 (o-Dinitrobenzene); 534-13-4 (1,3-Dimethyl-2-thiourea); 542-75-6D (1,3-Dichloropropene); 554-00-7 (2,4-Dichloroaniline); 554-84-7 (m-Nitrophenol); 569-41-5 (1,8-Dimethylnaphthalene); 573-98-8 (1,2-Dimethylnaphthalene); 581-42-0 (2,6-Dimethylnaphthalene); 583-78-8 (2,5-Dichlorophenol); 591-27-5 (m-Aminophenol); 607-57-8 (2-Nitrofluorene); 613-13-8 (2-Aminoanthracene); 625-38-7 (Vinylacetic acid); 630-20-6 (1,1,1,2-Tetrachloroethane); 639-58-7 (Triphenyltin chloride); 709-98-8 (3',4'-Dichloropropionanilide); 892-21-7 (3-Nitrofluoranthene); 1014-70-6 (Simetryne); 1071-83-6 (Glyphosate); 1162-65-8 (Aflatoxin B1); 1322-06-1 (Pentylphenol); 1461-22-9 (Tributyltin chloride); 1582-09-8 (Trifluralin); 1743-60-8 (b-Estradiol-17-acetate); 1836-75-5 (2,4-Dichlorophenyl 4-nitrophenyl ether); 1836-77-7 (4-Nitrophenyl 2,4,6-trichlorophenyl ether); 1897-45-6 (Tetrachloroisophthalonitrile); 2104-64-5 (O-Ethyl O-4-nitrophenyl phenylphosphonothioate); 2212-67-1 (Molinate); 2597-03-7; 3766-81-2 (BPMC); 4685-14-7 (Paraquat); 5522-43-0 (1-Nitropyrene); 7487-94-7 (Mercury(II)chloride); 7631-95-0 (Sodium molybdate); 7718-54-9 (Nickel(II)chloride); 7758-98-7 (Copper(II)sulfate); 7778-50-9 (Potassium dichromate (VI); 7779-88-6 (Zinc nitrate); 7784-46-5 (Sodium arsenite); 7791-12-0 (Thallium(I)chloride); 8018-01-7 (Manzeb); 10022-31-8 (Barium nitrate); 10025-91-9 (Antimony(III)chloride); 10039-54-0 (Hydroxyl ammonium sulfate); 10043-35-3 (Boric acid); 10099-74-8 (Lead nitrate); 10108-64-2 (Cadmium chloride); 12427-38-2 (Maneb); 13410-01-0 (Sodium selenate); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17109-49-8 (O-Ethyl S,S-diphenyl phosphorodithioate); 18854-01-8 (Isoxathion); 23564-05-8 (Thiophanate-methyl); 25340-17-4D (Diethylbenzene); 26087-47-8 (S-Benzyl O,O-di-isopropyl phosphorothioate); 27355-22-2 (Fthalide); 28249-77-6 (Thiobencarb); 30560-19-1 (Acephate); 42397-64-8 (1,6-Dinitropyrene); 42397-65-9 (1,8-Dinitropyrene); 42576-02-3 (Bifenox); 50471-44-8 (Vinclozolin); 52645-53-1 (Permethrin); 59865-13-3 (Cyclosporin A); 62450-07-1 (Trp-P-2); 73506-94-2; 77500-04-0 (2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline); 78111-17-8 (Okadaic acid); 89383-05-1 (Marthasteroside A1); 92631-72-6 (Coumestrin); 105650-23-5 (2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine); 111755-37-4 (Microcystin RR); 119945-08-3 (Aplysiaterpenoid A); 125640-33-7 (Cucumechinoside D) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (mutagenicity characteristics of 255 environmental chems.)  
Citations: 1) Ministry Of Labor Japan; Mutagenicity assay for the Industrial Safety and Health Act:Test guide line and GLP 1991  
Citations: 2) Urano, K; J Water and Waste 1997, 39, 163  
Citations: 3) Yoshino, H; Sci Total Environ 1998, 215, 41  
Citations: 4) Crebelli, R; Int J Environ Health Res 1995, 5, 19  
Citations: 5) Utsumi, H; Japan J Water Poll Res 1990, 13, 227  
Citations: 6) Kool, H; Water Res 1984, 18, 1011  
Citations: 7) Takanashi, H; J Japan Soc on Water Environ 2000, 23, 352  
Citations: 8) Abe, A; Mutat Res 1996, 351, 61  
Citations: 9) Kubo, T; Proceeding of the 33rd annual meeting of Japan Society on Water Environment 1999, 503  
Citations: 10) Maron, D; Mutat Res 1983, 113, 173  
Citations: 11) Ministry Of Labor Japan; Mutagenicity test data of existing chemical substances based on the toxicity investigation system of the Industrial Safety and Health Law 1996  
Citations: 12) Ishidate, M; Mutagenicity Test Data Used Microorganism 1991  
Citations: 13) Haworth, S; Environ Mutagen 1983, 3  
Citations: 14) Mortelmans, K; Environ Mutagen 1986, 1  
Citations: 15) Zeiger, E; Environ Mutagen 1987, 1  
Citations: 16) Zeiger, E; Environ Mol Mutagen 1988, 1  
Citations: 17) Zeiger, E; Environ Mol Mutagen 1992, 2 mutagenicity/ environmental/ chem

Kuhr, R. J. and Tashiro, H. (1978). Distribution and Persistence of Chloropyrifos and Diazinon Applied to Turf. *Bull.Environ.Contam.Toxicol.* 20: 652-656.

EcoReference No.: 51238  
Chemical of Concern: DZ,CPY; Habitat: T; Effect Codes: ACC; Rejection Code: NO CONTROL(ALL CHEMS).

Kuivila, K. M. (1993). Diazinon Concentrations in the Sacramento and San Joaquin Rivers and San Francisco Bay, California, January 1993. *U.S.Geological Survey, Open-File Report 93-440* 7.  
Chem Codes: EcoReference No.: 45082  
Chemical of Concern: DZ Rejection Code: NO DURATION/SURVEY.

Kuivila, K. M. and Foe, C. G. (1995). Concentrations, transport and biological effects of dormant spray pesticides in the San Francisco Estuary, California. *Environmental Toxicology and Chemistry [ENVIRON. TOXICOL. CHEM.]. Vol. 14, no. 7, pp. 1141-1150. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0730-7268  
Descriptors: pesticides  
Descriptors: freshwater pollution  
Descriptors: pollution effects  
Descriptors: freshwater crustaceans  
Descriptors: indicator species  
Descriptors: agricultural runoff  
Descriptors: Ceriodaphnia dubia  
Descriptors: INE, USA, California, San Francisco Estuary  
Descriptors: USA, California, Sacramento R.  
Descriptors: USA, California, San Joaquin R.  
Abstract: The transport and biological effects of dormant spray pesticides were examined in the San Francisco Estuary, California, by measuring dissolved-pesticide concentrations and estimating toxicity using bioassays at a series of sites in January and February 1993. Distinct pulses of pesticides, including diazinon, methidathion, and chlorpyrifos, were detected in the San Joaquin River in January and February and in the Sacramento River in February following rainfall. The higher pesticide loads in the Sacramento River compared with those in the San Joaquin River can be attributed to the greater amount of rainfall in the Sacramento Valley. The use patterns and water solubility of the pesticides can account for the observed temporal and spatial distributions in the two rivers. The pesticide pulses detected at Sacramento were followed through the northern embayment of San Francisco Estuary. In contrast, the pesticide distribution in the Sacramento-San Joaquin Delta changed from distinct pulses to steady increases in concentration over time. Seven-day bioassays indicated that Sacramento River water at Rio Vista was acutely toxic to Ceriodaphnia dubia (water flea) for 3 consecutive d and San Joaquin River water at Vernalis for 12 consecutive d. These water samples all had the highest diazinon concentrations. Examination of 96-h LC50 values (lethal concentration that kills 50% of test organisms in 96 H) indicates that measured diazinon concentrations could account for most but not all the observed toxicity. Other pesticides present could contribute to the toxicity.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01504 Effects on organisms  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Kuivila, K. M. and Foe, C. G. (1995). Concentrations, Transport and Biological Effects of Dormant Spray Pesticides in the San Francisco Estuary, California. *Environ.Toxicol.Chem.* 14: 1141-1150.  
Chem Codes: EcoReference No.: 45848  
Chemical of Concern: DZ Rejection Code: MIXTURE.

Kump, D. F., Matulka, R. A., Edinboro, L. E., Poklis, A., and Holsapple, M. P. (1994). Disposition of cocaine and norcocaine in blood and tissues of B6C3F1 mice. *Journal of Analytical Toxicology [J. ANAL. TOXICOL.]. Vol. 18, no. 6, pp. 342-345. 1994.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0146-4760  
Descriptors: blood  
Abstract: The biodisposition of cocaine and norcocaine in blood and tissues of immunological importance in B6C3F1 mice following exposure to cocaine or cocaine plus an organophosphate esterase inhibitor, diazinon, is presented. Analysis of specimens was by gas chromatography-mass spectrometry. Results from these studies indicate that pretreatment with diazinon significantly increases cocaine and norcocaine concentrations in the blood, spleen, thymus, and liver. Following acute exposure to cocaine-diazinon, cocaine was found in the spleen and thymus up to 1 hour after exposure. Norcocaine was not detected at this time. Following 7-day exposure to cocaine-diazinon, both cocaine and norcocaine were found in liver, blood, and spleen up to 1 hour after the last exposure; however, only cocaine was detected in the thymus at 1 hour. Cocaine and norcocaine were not detected in any tissues 24 hours after the last exposure.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24180 Social poisons & drug abuse  
Subfile: Toxicology Abstracts

Kunert, M. and Heymann, E. (1975). The equivalent weight of pig liver carboxylesterase (ec 3.1.1.1) and the esterase content of microsomes. *FEBS Letters* 49: 292-296.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Kunz, S. E. and Kemp, D. H. (1994). Insecticides and Acaricides: Resistance and Environmental Impact. *Rev.Sci.Tech.Off.Int.Epizoot.* 13: 1249-1286.  
Chem Codes: EcoReference No.: 70768  
Chemical of Concern: RSM,DDT,DLD,AND,DZ,PRN,EN,CYP Rejection Code: REFS CHECKED/REVIEW.

Kunz, S. E. and Kemp, D. H. (1994). Insecticides and Acaricides: Resistance and Environmental Impact. *Rev.Sci.Tech.Off.Int.Epizoot.* 13: 1249-1286.  
Chem Codes: EcoReference No.: 70768  
Chemical of Concern: RSM,DDT,DLD,AND,DZ,PRN,EN,CYP Rejection Code: REFS CHECKED/REVIEW.

Kurle, J. E. and Pfleger, F. L. (1994). The Effects of Cultural Practices and Pesticides on Vam Fungi. *In: F.L.Pfleger and R.G.Linderman (Eds.), Mycorrhizae and Plant Health, Am.Phytopathol.Soc.(APS) Press, St.Paul, MN* 101-131.  
Chem Codes: EcoReference No.: 70318  
Chemical of Concern: SZ,PNB,CBF,ADC,DCNA,CLNB,DZ Rejection Code: REFS CHECKED/REVIEW.

Kuroda, K. (1975). Lethal Effect of Pesticides on Saghalien Trout Fry. *Mizu Shori Gijutsu (Water Purification Liquid Wastes Treatment)* 16: 441-448 (JPN) (Author Communication Used).

EcoReference No.: 7978  
Chemical of Concern: DZ; Habitat: A; Rejection Code: NO FOREIGN.

Kuroda, K, Yamaguchi, Y, and Endo, G (1992). Mitotic toxicity, sister chromatid exchange, and rec assay of pesticides. *Archives Of Environmental Contamination And Toxicology* 23: 13-18.  
Chem Codes: SZ,MLT Rejection Code: HUMAN HEALTH.  
  
Genotoxicity of 10 pesticides (chlornitrofen, chlomethoxyfen, molinate, thiobencarb, simazine, simetryn, diazinon, iprofenfos, piperofos and oxadiazone) was studied by mitotic toxicity, sister chromatid exchange, and rec assay. The pesticides are detected frequently at high levels in the Yodo River water in Osaka, Japan, which is used for drinking water by thirteen million people. Mitotic toxicity was evaluated by mitotic index (MI) and second mitosis index (SI), using a Chinese hamster cell line V79. SI is the rate of twice divided metaphases in chromosome preparation for sister chromatid exchange. All the pesticides decreased the two indices dose-dependently. MI50 and SI50, the concentrations of pesticides which lowered the indices to 50% of the solvent control, was determined. The MI50 and SI50 of each pesticide were very similar, and the pesticides did not hinder cell division specifically. None of the pesticides induced more sister chromatid exchanges than 1.5 times the solvent control. Chlomethoxyfen and simazine induced sister chromatid exchanges significantly in V79 cells, but the dose dependencies were poor. Simetryn had rec effect and was concluded to have DNA damaging activity. [Journal Article; In English; United States] http://www.sciencedirect.com/science/article/B6WVB-45CT0WR-287/2/e1e158fda98632248f9a84c5ad541f6b

Kuroda, Yasuhisa, Kobayashi, Osamu, Suzuki, Yasuhiko, and Ogoshi, Hisanobu (1989). 5A,5D-dicarboxy-[beta]-cyclodextrin derivatives - a route for regioselectively difunctionalized permethyl-[beta]-cyclodextrin . *Tetrahedron Letters* 30: 7225-7228.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Diazide derivatives of [beta]-cyclodextrin were converted to the corresponding dicarboxylic acid derivatives by the photo-decomposition of azide groups, which was found to proceed normally for both of 6A,6D-diazido-6A,6D-dideoxy- and the corresponding per-O-methylated [beta]-cyclodextrins. The LiAlH4 reduction of the product obtained from the latter compound gave per-O-methylated-[beta]-cyclodextrin which was demethylated at 6A and 6D positions.

Kushaba-Rugaaju, Sem and Kitos, Paul A. (1985). Effects of Diazinon on Nucleotide and Amino Acid Contents of Chick Embryos: Teratogenic Considerations. *Biochem.Pharmacol.* 34: 1937-1943.

EcoReference No.: 84914  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(DZ).

Kuszmann, Janos (1986). 1,4-diamino-1,4-dideoxy--galactitol and 1,5-diamino-1,5-dideoxy--altritol. *Carbohydrate Research* 156: 25-37.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The mesyloxy group of 1-azido-1-deoxy-4-O-mesyl--glucitol could be displaced by azide, in the 2,3:5,6-di-O-isopropylidene derivative 4 or the tetraacetate, yielding, after removal of the protecting groups, 1,4-diazido-1,4-dideoxy--galactitol (7). The 2,3- (10) and 5,6-O-isopropylidene derivative (13) of 7 gave, on mesylation, the corresponding 5,6- (11) and 2,3-dimesylate (15), respectively. Treatment of 11 with hydrochloric acid yielded 3,6-anhydro-1,4-diazido-1,4-dideoxy-5-O-mesyl--galactitol, whereas 15 gave the corresponding 5,6-diol which was converted with base into 2,6-anhydro-1,4-diazido-1,4-dideoxy-3-O-mesyl--talitol. Cleavage of the 5,6-O-isopropylidene group of 4 gave 1-azido-1-deoxy-2,3-O-isopropylidene-4-O-mesyl--glucitol, which could be converted via the corresponding 4,5-epoxide into 1,5-diazido-1,5-dideoxy-2,3-O-isopropylidene--altritol (25). The 6-p-nitrobenzoates of 25 and 13 are derivatives suitable for the synthesis of sorbistin analogues. Reduction of the corresponding deprotected diazides afforded the title compounds.

Kuszmann, Janos and Pelczer, Istvan (1982). 1,6-Diamino-2,5-anhydro-1,6-dideoxy--glucitol and some derivatives thereof. *Carbohydrate Research* 108: 247-260.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
1,6-Diamino-2,5-anhydro-1,6-dideoxy--glucitol dihydrochloride and some derivatives were synthesized from 3,5-di-O-acetyl-1,6-dibromo-1,6-dideoxy--mannitol. Introduction of the 2,5-anhydro ring and subsequent replacement of the terminal bromine atoms by azide gave low yields of the diazide; therefore, a reverse reaction-sequence was applied. The azido groups were reduced with hydrogen sulfide-pyridine, and the amino groups formed were methylated by using formaldehyde-formic acid and subsequently treating with borohydride. According to 13C-n.m.r. investigations, the symmetrically substituted, 2,5-anhydroglucitol derivatives are present mainly in the 4T3 [&ldquo;north&rdquo; (N) type of twist] conformation, whereas the analogous -iditol derivatives mainly adopt the 3T4 [&ldquo;south&rdquo; (S)] type. The different quaternary salts obtained on methylation of the corresponding 1,6-bis(dimethylamino)derivatives with methyl iodide (aiming at the structure of epi-muscarine) showed no muscarine-like, biological activity.

Kuwabara, K., Nakamura, A., and Kashimoto, T. (1980). Effect of Petroleum Oil, Pesticides, PCBs and Other Environmental Contaminants on the Hatchability of Artemia salina Dry Eggs. *Bull.Environ.Contam.Toxicol.* 25: 69-74.

EcoReference No.: 6548  
Chemical of Concern: Captan,CBL,DMT,DS,DZ,MLN,DDT,FNT,DLD,HCCH,ALSV; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS) .

Kuwatuka, S. ( Pesticides In The Soil.).  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO TOX DATA/NO SPECIES/CHEMICAL FATE.  
  
hapab general chemical pollution, movement, adsorption in the soil, and residue and degradation processes are reviewed. in japan the duration of chemical residue in the soil is relatively short because of high humidity and warm temperature; organophosphate residues decompose rapidly and usually disappear within several months. the half life of parathion is six days, or a 67% decrease in 17 days; the half life of dimethoate is two and a half days; that of diazinon is 20-80 days or in some cases less than 17 days. the degradation period for most herbicides is one to two months and depends on soil condition, water content, temperature, and ph. gamma-bhc (lindane) decomposes 30% in six weeks with a water content of 60-80%; in 100% water almost no residue is found in six weeks. seventy-five percent of ddt remains for more than six months under an aerobic condition. the addition of 1% alfalfa or creation of an anaerobic condition reduces ddt to 1% in 12 weeks. the half- life of pcp in a wet rice paddy is 12 days to several months; in soil with extremely limited carbon content almost no portion is degraded in 50 days. if soil is disinfected completely, residues will not be degraded. bacteria and soil and the chemical process of residue degradation are briefly reviewed. ai: yes db: tox sf: hapab

Kwak, Inn-Sil, Chon, Tae-Soo, Kang, Hyun-Min, Chung, Nam-Il, Kim, Jong-Sang, Koh, Sung Cheol, Lee, Sung-Kyu, and Kim, Yoo-Shin (2002). Pattern recognition of the movement tracks of medaka (Oryzias latipes) in response to sub-lethal treatments of an insecticide by using artificial neural networks. *Environmental Pollution* 120: 671-681.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
Specimens of medaka (Oryzias latipes) were observed continuously through an automatic image recognition system before and after treatments of an anti-cholinesterase insecticide, diazinon (0.1 mg/l), for 4 days in semi-natural conditions (2 days before treatment and 2 days after treatment). The &ldquo;smooth&rdquo; pattern was typically shown as a normal movement behavior, while the &ldquo;shaking&rdquo; pattern was frequently observed after treatments of diazinon. These smooth and shaking patterns were selected for training with an artificial neural network. Parameters characterizing the movement tracks, such as speed, degree of backward movements, stop duration, turning rate, meander, and maximum distance movements in the y-axis of 1-min duration, were given as input (six nodes) to a multi-layer perceptron with the backpropagation algorithm. Binary information for the smooth and shaking patterns was separately given as the matching output (one node), while eight nodes were assigned to a single hidden layer. As new input data were given to the trained network, it was possible to recognize the smooth and shaking patterns of the new input data. Average recognition rates of the smooth pattern decreased significantly while those for the shaking pattern increased to a higher degree after treatments of diazinon. The trained network was able to reveal the difference in the shaking pattern in different light phases before treatments of diazinon. This study demonstrated that artificial neural networks could be useful for detecting the presence of toxic chemicals in the environment by serving as in-situ behavioral monitoring tools. Behavioral monitoring/ Artificial neural network/ Pattern recognition/ Medaka/ Diazinon

Kyaw, M. O. (2001). The half-lives of biological activity of some pesticides in water. *Naga [Naga]. Vol. 24, no. 3-4, pp. 11-13. 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 1675-5448  
Descriptors: Pesticides  
Descriptors: Bioassays  
Descriptors: Rice field aquaculture  
Descriptors: Water  
Descriptors: Toxicity tests  
Descriptors: Chemical pollutants  
Abstract: In the absence of analytical methods, the half-lives of biological activity of pesticides can be estimated by bioassays. To determine the half-lives of biological activity of pesticides to fish, static bioassays were conducted in the laboratory with ten different formulations of pesticides using Labeo rohita as a bio-indicator. The half-lives of biological activity for ten different pesticides in soft water at pH 7.5 and 27 degree C, ranged from 4.6 days to 11.8 days. The half-life of biological activity of Sumithion 50% EC was only 4.6 days. In contrast, Dimecron 50% EC degraded very slowly and its half-life of biological activity on L. rohita was about 11.8 days. Sumithion 50% EC, Padan 50% SP, EPN 45% EC, Diazinon 40% EC and Diazinon 10 G degraded in less than five to seven days indicating that these pesticides are desirable for rice-fish culture. Contamination by pesticides with long-term residual toxicity in waters may eventually cause high levels of fish mortality.  
Physical medium: Printed matter, Internet; http:/ /www.worldfishcenter.org/naga/Naga24-3  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Numerical data  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: Q3 01588 Effects of Aquaculture on the Environment  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; ASFA Aquaculture Abstracts

L'Italien, S. and Struger, J. ( 1995). Pesticide concentrations in water and suspended sediment in Lake Erie. *Proceedings of the 38th conference of the international association of great lakes research., International association for great lakes research, 2200 bonisteel boulevard, ann arbor, mi 48109-2099 (usa), 1995, p. 123*.  
Chem Codes: Chemical of Concern: DMB,24DXY,SZ Rejection Code: NO TOX DATA.  
  
Agricultural pesticides are heavily used in agricultural production in the Lake Erie watershed. In 1994, large volume water samples and suspended sediment were collected in April, July, and October from nine stations in the open water portions of Lake Erie. When stratified, surface and hypolimnion were sampled. Samples were analyzed for neutral herbicides (atrazine, simazine, metolachlor), phenoxy acid herbicides (2,4-D, mecoprop, dicamba), organophosphorus insecticides (diazinon, chlorpyrifos, guthion), and organochlorine insecticides (DDT, DDE, chlordane). Atrazine, simazine, and metolachlor were detected in water at all stations. Maximum concentrations of atrazine, simazine and metolachlor were 273 ng/L, 43.1 ng/L, and 191 ng/L respectively. Concentrations were higher in the western basin. Trace amounts of a number of organochlorine compounds were observed in suspended sediment and water. Total PCB levels in water exceeded the Ontario Ministry of Energy and Environment's criterion for the protection of aquatic resources (1 ng/L). High levels of total PCBs were observed in suspended sediment, especially in the western basin. These data will be discussed in relation to inputs and possible sources. Conference: 38. Conference of the International Association for Great Lakes Research, East Lansing, MI (USA), 28 May-1 Jun 1995  
Publisher: INTERNATIONAL ASSOCIATION FOR GREAT LAKES RESEARCH, 2200 BONISTEEL BOULEVARD, ANN ARBOR, MI 48109-2099 (USA)  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

1995). *Ecosystem Health Div., Environ. Canada, Box 5050, Burlington, ON L7R 4A6, Canada38. Conference of the International Association for Great Lakes Research, East Lansing, MI (USA), 28 May-1 Jun 1995PROCEEDINGS OF THE 38TH CONFERENCE OF THE INTERNATIONALAS GREAT LAKES RESEARCH., INTERNATIONAL ASRESEARCH, 2200 BONISTEEL BOULEVARD, ANN ARBOR, MI 48109-2099 (USA), 1995, p. 123Summary only*.  
Chem Codes: Chemical of Concern: DMB, SZ Rejection Code: NO SPECIES.  
  
Agricultural pesticides are heavily used in agricultural production in the Lake Erie watershed. In 1994, large volume water samples and suspended sediment were collected in April, July, and October from nine stations in the open water portions of Lake Erie. When stratified, surface and hypolimnion were sampled. Samples were analyzed for neutral herbicides (atrazine, simazine, metolachlor), phenoxy acid herbicides (2,4-D, mecoprop, dicamba), organophosphorus insecticides (diazinon, chlorpyrifos, guthion), and organochlorine insecticides (DDT, DDE, chlordane). Atrazine, simazine, and metolachlor were detected in water at all stations. Maximum concentrations of atrazine, simazine and metolachlor were 273 ng/L, 43.1 ng/L, and 191 ng/L respectively. Concentrations were higher in the western basin. Trace amounts of a number of organochlorine compounds were observed in suspended sediment and water. Total PCB levels in water exceeded the Ontario Ministry of Energy and Environment's criterion for the protection of aquatic resources (1 ng/L). High levels of total PCBs were observed in suspended sediment, especially in the western basin. These data will be discussed in relation to inputs and possible sources Ecosystem Health Div., Environ. Canada, Box 5050, Burlington, ON L7R 4A6, Canada  
38. Conference of the International Association for Great Lakes Research, East Lansing, MI (USA), 28 May-1 Jun 1995  
PROCEEDINGS OF THE 38TH CONFERENCE OF THE INTERNATIONALAS GREAT LAKES RESEARCH., INTERNATIONAL ASRESEARCH, 2200 BONISTEEL BOULEVARD, ANN ARBOR, MI 48109-2099 (USA), 1995, p. 123  
Summary only  
English  
Book Monograph; Conference; Summary  
Freshwater  
CS9524945  
SW 3020 Sources and fate of pollution; Q5 01503 Characteristics, behavior and fate  
Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality  
3834769 A1: Alert Info 20030131 Record 131 of 181

L'Italien, S. and Struger, J. (1995). Pesticide concentrations in water and suspended sediment in Lake Erie.  
Chem Codes: Chemical of Concern: MCPP1 Rejection Code: METHODS.  
  
Descriptors: pesticides  
Descriptors: suspended sediments  
Descriptors: agricultural chemicals  
Descriptors: water analysis  
Descriptors: nonpoint pollution sources  
Descriptors: polychlorinated biphenyls  
Descriptors: agricultural runoff  
Descriptors: DDT  
Descriptors: DDE  
Descriptors: sediment pollution  
Descriptors: freshwater pollution  
Descriptors: North America, Great Lakes  
Descriptors: North America, Erie L.  
Abstract: Agricultural pesticides are heavily used in agricultural production in the Lake Erie watershed. In 1994, large volume water samples and suspended sediment were collected in April, July, and October from nine stations in the open water portions of Lake Erie. When stratified, surface and hypolimnion were sampled. Samples were analyzed for neutral herbicides (atrazine, simazine, metolachlor), phenoxy acid herbicides (2,4-D, mecoprop, dicamba), organophosphorus insecticides (diazinon, chlorpyrifos, guthion), and organochlorine insecticides (DDT, DDE, chlordane). Atrazine, simazine, and metolachlor were detected in water at all stations. Maximum concentrations of atrazine, simazine and metolachlor were 273 ng/L, 43.1 ng/L, and 191 ng/L respectively. Concentrations were higher in the western basin. Trace amounts of a number of organochlorine compounds were observed in suspended sediment and water. Total PCB levels in water exceeded the Ontario Ministry of Energy and Environment's criterion for the protection of aquatic resources (1 ng/L). High levels of total PCBs were observed in suspended sediment, especially in the western basin. These data will be discussed in relation to inputs and possible sources.  
Conference: 38. Conference of the International Association for Great Lakes Research, East Lansing, MI (USA), 28 May-1 Jun 1995  
Summary only.  
Language: English  
Publication Type: Book Monograph  
Publication Type: Conference  
Publication Type: Summary  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

L'Italien, S. and Struger, J. (1995). Pesticide concentrations in water and suspended sediment in Lake Erie.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: pesticides  
Descriptors: suspended sediments  
Descriptors: agricultural chemicals  
Descriptors: water analysis  
Descriptors: nonpoint pollution sources  
Descriptors: polychlorinated biphenyls  
Descriptors: agricultural runoff  
Descriptors: DDT  
Descriptors: DDE  
Descriptors: sediment pollution  
Descriptors: freshwater pollution  
Descriptors: North America, Great Lakes  
Descriptors: North America, Erie L.  
Abstract: Agricultural pesticides are heavily used in agricultural production in the Lake Erie watershed. In 1994, large volume water samples and suspended sediment were collected in April, July, and October from nine stations in the open water portions of Lake Erie. When stratified, surface and hypolimnion were sampled. Samples were analyzed for neutral herbicides (atrazine, simazine, metolachlor), phenoxy acid herbicides (2,4-D, mecoprop, dicamba), organophosphorus insecticides (diazinon, chlorpyrifos, guthion), and organochlorine insecticides (DDT, DDE, chlordane). Atrazine, simazine, and metolachlor were detected in water at all stations. Maximum concentrations of atrazine, simazine and metolachlor were 273 ng/L, 43.1 ng/L, and 191 ng/L respectively. Concentrations were higher in the western basin. Trace amounts of a number of organochlorine compounds were observed in suspended sediment and water. Total PCB levels in water exceeded the Ontario Ministry of Energy and Environment's criterion for the protection of aquatic resources (1 ng/L). High levels of total PCBs were observed in suspended sediment, especially in the western basin. These data will be discussed in relation to inputs and possible sources.  
Conference: 38. Conference of the International Association for Great Lakes Research, East Lansing, MI (USA), 28 May-1 Jun 1995  
Summary only.  
Language: English  
Publication Type: Book Monograph  
Publication Type: Conference  
Publication Type: Summary  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

La Mar, Gerd N., Del Gaudio, John, and Frye, James S. (1977). Axial pertubations on the electronic and magnetic properties of ferric porphyrins : II. Solvent effects on the proton NMR spectra of low-spin cyano complexes. *Biochimica et Biophysica Acta (BBA) - General Subjects* 498: 422-435.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The proton NMR spectra of a series of low-spin bis-cyano ferric complexes of tetraarylporphyrins and octaethylporphyrin in a variety of solvents have been recorded and analyzed. The hyperfine shifts are shown to be very sensitive to the solvent, experiencing an overall downfield bias as the solvent hydroge-bonding donor strength increased. The characteristic pattern of the contact and dipolar shifts for the meso-aryl group in tetraarylporphyrin complexes are shown to permit a quantitative separation of the dipolar and contact contributions to the hyperfine shift. The separated components indicate that increased solvent hydrogen bonding strength significantly decreases the magnetic anisotropy of the iron and diminishes porphyrin --> iron [pi] bonding. The changes in anisotropy with solvent are shown to be consistent with the coordinated cyanide acting as a proton acceptor. Although similar effects are found to be absent in bis-imidazole complexes, a downfield bias of half the magnitude of the bis-cyano complexes is observed in mixed cyano/imidazole complexes. Hence, the heme hyperfine shifts in cyano-metmyoglobins and -hemoglobins may serve as probes for the protonation of the distal histidyl imidazole.

LABONDE, J. (1996). TOXIC DISORDERS. *ROSSKOPF, W. J. AND R. W. WOERPEL (ED.). DISEASES OF CAGE AND AVIARY BIRDS, THIRD EDITION. XV+1088P. WILLIAMS AND WILKINS CO.: BALTIMORE, MARYLAND, USA; LONDON, ENGLAND, UK. ISBN 0-683-07382-6.; 0 (0). 1996. 511-522.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA, REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER TOXICOLOGY VETERINARY MEDICINE EMERGENCY TREATMENT DIAGNOSIS HEAVY METAL PESTICIDE DIAGNOSTIC METHOD Animal/ Toxicology/ Veterinary Medicine/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology

LaBonde, J. (1996). Toxic Disorders. *In: W.J.Rosskopf and R.W.Woerpel (Eds.), Disease of Cage and Aviary Birds, 3rd Edition, Williams and Wilkins Co., Baltimore, MD* 511-522.  
Chem Codes: Chemical of Concern: Pb,Zn,Fe,CBL,DZ,DLD,Hg,PNB Rejection Code: REFS CHECKED/REVIEW.

LaBrecque, G. C., Noe, J. R., and Gahan, J. B. (1956). Effectiveness of Insecticides on Granular Clay Carriers Against Mosquito Larvae. *Mosq.News* 16: 1-3.

EcoReference No.: 2808  
Chemical of Concern: CMPH,DZ,HCCH,TXP,DLD,DDVP,AND,EN,HPT,PRN,DDT,CHD; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(DZ).

Lacorte, S., Lartiges, S. B., Garrigues, P., and Barcelo, D. \*. (1995). Degradation of organophosphorus pesticides and their transformation products in estuarine waters. *Environmental Science & Technology [ENVIRON. SCI. TECHNOL.]. Vol. 29, no. 2, pp. 431-438. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0013-936X  
Descriptors: degradation  
Descriptors: organophosphorus pesticides  
Descriptors: estuaries  
Descriptors: water sampling  
Descriptors: water analysis  
Descriptors: byproducts  
Descriptors: chemical degradation  
Descriptors: organophosphorus compounds  
Descriptors: pesticides  
Descriptors: chemical speciation  
Descriptors: pollutant persistence  
Descriptors: agricultural pollution  
Abstract: The degradation of 10 organophosphorus pesticides in natural estuarine waters was studied. Estuarine water samples were spiked with organophosphorus pesticides at 50 mu g/L level and were placed into 2-L Pyrex flasks being exposed outdoor to ambient sunlight and temperature. A sample of 10-75 mL of water was collected every week for analysis during a period of 5-6 weeks from January to March. The analytical determinations were performed by solid-phase extraction (SPE) with C sub(18) Empore disks followed by GC-NPD and GC-MS with EI and by on-line SPE using PLRP-s exchangeable cartridges (Prospekt) followed by LC-DAD and LC-thermospray MS in PI mode. Five organophosphorus pesticides were stable for less than 1 week (disulfoton, fenamiphos, fenthion, malathion, and temephos), others had a half-life of ca. 1 week (chlorpyrifos-methyl, methidathion, and diazinon), and the rest showed a half-life of ca. 10 days (isofenphos and pyridafenthion). The half-life of three pesticide transformation products: disulfoton sulfoxide, disulfoton sulfone, and fenthion sulfoxide varied from 7 to 12 days.  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 3020 Sources and fate of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts

Lacy, D. B., Tepp, W., Cohen, A. C., DasGupta, B. R., and Stevens, R. C. \*. (1998). Crystal structure of botulinum neurotoxin type A and implications for toxicity. *Nature Structural Biology [Nat. Struct. Biol.]. Vol. 5, no. 10, pp. 898-902. Oct 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 1072-8368  
Descriptors: Botulinum toxin  
Descriptors: Neurotoxins  
Descriptors: Botulism  
Descriptors: Crystal structure  
Descriptors: Translocation  
Descriptors: Clostridium botulinum  
Abstract: Botulinum neurotoxin type A (BoNT/A) is the potent disease agent in botulism, a potential biological weapon and an effective therapeutic drug for involuntary muscle disorders. The crystal structure of the entire 1,285 amino acid di-chain neurotoxin was determined at 3.3 Angstrom resolution. The structure reveals that the translocation domain contains a central pair of alpha helices 105 Angstrom long and a similar to 50 residue loop or belt that wraps around the catalytic domain. This belt partially occludes a large channel leading to a buried, negative active site -- a feature that calls for radically different inhibitor design strategies from those currently used. The fold of the translocation domain suggests a mechanism of pore formation different from other toxins. Lastly, the toxin appears as a hybrid of varied structural motifs and suggests a modular assembly of functional subunits to yield pathogenesis.  
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Chem Codes: Chemical of Concern: AZD,SPM Rejection Code: CHEM METHODS.  
  
Anthranilamide compds. I (Markush included), N-oxides or an agriculturally suitable salts thereof are prepd. as insecticides for controlling lepidopteran, homopteran, hemipteran, thysanopteran and coleopteran insect pests. Insecticidal compn. contg. anthranilamide compds. I may further comprise addnl. biol. active compds. selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics. [on SciFinder (R)] insecticide/ anthranilamide/ prepn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
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Index Terms: Insecticides (anthranilamide compds. as); Acrosternum hilare; Acyrthosiphon pisum; Adelges; Agriotes; Alabama argillacea; Anasa tristis; Aphis craccivora; Aphis fabae; Aphis gossypii; Aphis pomi; Aphis spiraecola; Archips; Archips argyrospilus; Archips rosana; Athous; Aulacorthum solani; Bemisia argentifolia; Bemisia tabaci; Blissus leucopterus leucopterus; Chaetosiphon fragaefolii; Chilo suppressalis; Cnaphalocrocis medinalis; Coleoptera; Corythucha gossypii; Crambus caliginosellus; Crambus teterrellus; Cyrtopeltis modesta; Dialeurodes citri; Diuraphis noxia; Dysaphis plantaginea; Dysdercus suturellus; Earias insulana; Earias vitella; Empoasca fabae; Epilachna varivestis; Eriosoma lanigerum; Erythroneura; Euschistus servus; Euschistus variolarius; Frankliniella occidentalis; Grapholitha pomonella; Graptostethus; Helicoverpa armigera; Helicoverpa zea; Heliothis virescens; Hemiptera; Herpetogramma licarsisalis; Homoptera; Hyalopterus pruni; Icerya purchasi; Laodelphax striatellus; Lepidoptera; Leptinotarsa decemlineata; Leptoglossus corculus; Limonius; Lipaphis erysimi; Lobesia botrana; Lygus lineolaris; Macrosiphum dirhodum; Macrosiphum euphorbiae; Macrosteles quadrilineatus; Magicicada septendecim; Myzus persicae; Nasonovia ribisnigri; Nephotettix cincticeps; Nephotettix nigropictus; Nezara viridula; Nilaparvata lugens; Oebalus pugnax; Oncopeltus fasciatus; Pectinophora gossypiella; Pemphigus; Peregrinus maidis; Phyllocnistis citrella; Phylloxera devastatrix; Pieris brassicae; Pieris rapae; Planococcus citri; Plutella xylostella; Prodenia litura; Pseudatomoscelis seriatus; Pseudococcus; Psylla pyricola; Quadraspidiotus perniciosus; Rhopalosiphum fitchii; Rhopalosiphum maidis; Schizaphis graminum; Scirtothrips citri; Sericothrips variabilis; Sitobion avenae; Sogatella furcifera; Sogatodes oryzicola; Spodoptera exigua; Spodoptera frugiperda; Therioaphis maculata; Thrips tabaci; Thysanoptera; Toxoptera aurantii; Toxoptera citricida; Trialeurodes vaporariorum; Trichoplusia ni; Trioza diospyri; Tuta absoluta; Typhlocyba pomaria (anthranilamide compds. as insecticides against); Insecticides (carbamate; in insecticidal compns. contg. anthranilamide compds.); Eubacteria; Fungi; Virus (entomopathogenic; in insecticidal compns. contg. anthranilamide compds.); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists (in insecticidal compns. contg. anthranilamide compds.); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in insecticidal compns. contg. anthranilamide compds.); Insecticides (neonicotinoid; in insecticidal compns. contg. anthranilamide compds.); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in insecticidal compns. contg. anthranilamide compds.); Ion channel blockers (sodium; in insecticidal compns. contg. anthranilamide compds.); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; in insecticidal compns. contg. anthranilamide compds.)  
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500010-72-0; 500010-73-1; 500010-74-2; 500010-75-3; 500010-76-4; 500010-77-5; 500010-79-7; 500010-80-0; 500010-81-1; 500010-82-2; 500010-83-3; 500010-84-4; 500010-85-5; 500010-86-6; 500010-87-7; 500010-88-8; 500010-89-9; 500010-90-2; 500010-91-3; 500010-92-4; 500010-93-5; 500010-94-6; 500010-95-7; 500010-96-8; 500010-97-9; 500010-98-0; 500010-99-1; 500011-00-7; 500011-01-8; 500011-02-9; 500011-03-0; 500011-04-1; 500011-05-2; 500011-06-3; 500011-07-4; 500011-08-5; 500011-09-6; 500011-10-9; 500011-11-0; 500011-12-1; 500011-13-2; 500011-14-3; 500011-15-4; 500011-16-5; 500011-17-6; 500011-18-7; 500011-19-8; 500011-20-1; 500011-21-2; 500011-22-3; 500011-23-4; 500011-24-5; 500011-25-6; 500011-26-7; 500011-27-8; 500011-28-9; 500011-29-0; 500011-30-3; 500011-31-4; 500011-32-5; 500011-33-6; 500011-35-8; 500011-36-9; 500011-37-0; 500011-38-1; 500011-39-2; 500011-40-5; 500011-41-6; 500011-42-7; 500011-43-8; 500011-44-9; 500011-45-0; 500011-46-1; 500011-47-2; 500011-48-3; 500011-49-4; 500011-50-7; 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2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); 362637-53-4P; 362637-70-5P; 362638-30-0P; 362639-62-1P; 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500010-10-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of anthranilamide compds. as insecticides); 129585-50-8P Role: BYP (Byproduct), SPN (Synthetic preparation), PREP (Preparation) (prepn. of anthranilamide compds. as insecticides); 74-89-5 (Methylamine); 75-03-6 (Iodoethane); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 100-63-0 (Phenylhydrazine); 109-72-8 (n-Butyllithium); 112-02-7 (Cetyltrimethylammonium chloride); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 367-57-7; 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 541-41-3 (Ethyl chloroformate); 584-08-7 (Potassium carbonate); 630-25-1 (1,2-Dibromotetrachloroethane); 1310-58-3 (Potassium hydroxide); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 5437-38-7 (3-Methyl-2-nitrobenzoic acid); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7087-68-5 (N,N-Diisopropylethylamine); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 14521-80-3 (3-Bromopyrazole); 20154-03-4 (3-Trifluoromethylpyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 65753-47-1 (2-Chloro-3-trifluoromethylpyridine); 66176-17-8 (3-Methylisatoic anhydride); 133228-21-4; 458543-79-8; 499790-43-1; 500011-81-4; 500011-88-1; 500011-94-9 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 14339-33-4P (3-Chloropyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 68289-10-1P (2-Amino-3-methyl-N-(1-methylethyl)benzamide); 120374-68-7P; 128694-66-6P; 362640-53-7P (3-Methyl-N-(1-methylethyl)-2-nitrobenzamide); 362640-58-2P; 362640-59-3P; 362640-60-6P; 362640-61-7P; 362640-62-8P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 499790-45-3P; 499790-46-4P; 500011-82-5P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-89-2P; 500011-90-5P; 500011-91-6P; 500011-92-7P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 500007-49-8 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (anthranilamide compds. as insecticides)  
  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2001-311919  
Priority Application Date: 20010813

Lahm, George Philip, McCann, Stephen Frederick, Patel, Kanu Maganbhai, Selby, Thomas Paul, and Stevenson, Thomas Martin (20030227). Method for controlling particular insect pests by applying anthranilamide compounds. 150 pp.  
Chem Codes: Chemical of Concern: RTN, SPM Rejection Code: CHEM METHODS.  
  
Anthranilamide compds. I (Markush included), N-oxides or an agriculturally suitable salts thereof are prepd. as insecticides for controlling lepidopteran, homopteran, hemipteran, thysanopteran and coleopteran insect pests. Insecticidal compn. contg. anthranilamide compds. I may further comprise addnl. biol. active compds. selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics. [on SciFinder (R)] insecticide/ anthranilamide/ prepn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:154154  
Chemical Abstracts Number: CAN 138:200331  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 28  
Coden: PIXXD2  
Index Terms: Insecticides (anthranilamide compds. as); Acrosternum hilare; Acyrthosiphon pisum; Adelges; Agriotes; Alabama argillacea; Anasa tristis; Aphis craccivora; Aphis fabae; Aphis gossypii; Aphis pomi; Aphis spiraecola; Archips; Archips argyrospilus; Archips rosana; Athous; Aulacorthum solani; Bemisia argentifolia; Bemisia tabaci; Blissus leucopterus leucopterus; Chaetosiphon fragaefolii; Chilo suppressalis; Cnaphalocrocis medinalis; Coleoptera; Corythucha gossypii; Crambus caliginosellus; Crambus teterrellus; Cyrtopeltis modesta; Dialeurodes citri; Diuraphis noxia; Dysaphis plantaginea; Dysdercus suturellus; Earias insulana; Earias vitella; Empoasca fabae; Epilachna varivestis; Eriosoma lanigerum; Erythroneura; Euschistus servus; Euschistus variolarius; Frankliniella occidentalis; Grapholitha pomonella; Graptostethus; Helicoverpa armigera; Helicoverpa zea; Heliothis virescens; Hemiptera; Herpetogramma licarsisalis; Homoptera; Hyalopterus pruni; Icerya purchasi; Laodelphax striatellus; Lepidoptera; Leptinotarsa decemlineata; Leptoglossus corculus; Limonius; Lipaphis erysimi; Lobesia botrana; Lygus lineolaris; Macrosiphum dirhodum; Macrosiphum euphorbiae; Macrosteles quadrilineatus; Magicicada septendecim; Myzus persicae; Nasonovia ribisnigri; Nephotettix cincticeps; Nephotettix nigropictus; Nezara viridula; Nilaparvata lugens; Oebalus pugnax; Oncopeltus fasciatus; Pectinophora gossypiella; Pemphigus; Peregrinus maidis; Phyllocnistis citrella; Phylloxera devastatrix; Pieris brassicae; Pieris rapae; Planococcus citri; Plutella xylostella; Prodenia litura; Pseudatomoscelis seriatus; Pseudococcus; Psylla pyricola; Quadraspidiotus perniciosus; Rhopalosiphum fitchii; Rhopalosiphum maidis; Schizaphis graminum; Scirtothrips citri; Sericothrips variabilis; Sitobion avenae; Sogatella furcifera; Sogatodes oryzicola; Spodoptera exigua; Spodoptera frugiperda; Therioaphis maculata; Thrips tabaci; Thysanoptera; Toxoptera aurantii; Toxoptera citricida; Trialeurodes vaporariorum; Trichoplusia ni; Trioza diospyri; Tuta absoluta; Typhlocyba pomaria (anthranilamide compds. as insecticides against); Insecticides (carbamate; in insecticidal compns. contg. anthranilamide compds.); Eubacteria; Fungi; Virus (entomopathogenic; in insecticidal compns. contg. anthranilamide compds.); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists (in insecticidal compns. contg. anthranilamide compds.); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in insecticidal compns. contg. anthranilamide compds.); Insecticides (neonicotinoid; in insecticidal compns. contg. anthranilamide compds.); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in insecticidal compns. contg. anthranilamide compds.); Ion channel blockers (sodium; in insecticidal compns. contg. anthranilamide compds.); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; in insecticidal compns. contg. anthranilamide compds.)  
CAS Registry Numbers: 362637-52-3; 362637-54-5; 362637-55-6; 362637-56-7; 362637-57-8; 362637-58-9; 362637-59-0; 362637-60-3; 362637-61-4; 362637-62-5; 362637-63-6; 362637-64-7; 362637-65-8; 362637-66-9; 362637-67-0; 362637-68-1; 362637-69-2; 362637-71-6; 362637-72-7; 362637-73-8; 362637-74-9; 362637-75-0; 362637-76-1; 362637-77-2; 362637-78-3; 362637-79-4; 362637-80-7; 362637-81-8; 362637-82-9; 362637-83-0; 362637-84-1; 362637-85-2; 362637-86-3; 362637-87-4; 362637-88-5; 362637-89-6; 362637-90-9; 362637-91-0; 362637-92-1; 362637-93-2; 362637-94-3; 362637-95-4; 362637-96-5; 362637-97-6; 362637-98-7; 362637-99-8; 362638-00-4; 362638-03-7; 362638-04-8; 362638-05-9; 362638-06-0; 362638-07-1; 362638-08-2; 362638-09-3; 362638-10-6; 362638-11-7; 362638-12-8; 362638-13-9; 362638-14-0; 362638-15-1; 362638-16-2; 362638-17-3; 362638-18-4; 362638-19-5; 362638-20-8; 362638-21-9; 362638-22-0; 362638-23-1; 362638-24-2; 362638-25-3; 362638-26-4; 362638-27-5; 362638-28-6; 362638-29-7; 362638-31-1; 362638-32-2; 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2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); 362637-53-4P; 362637-70-5P; 362638-30-0P; 362639-62-1P; 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500010-10-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of anthranilamide compds. as insecticides); 129585-50-8P Role: BYP (Byproduct), SPN (Synthetic preparation), PREP (Preparation) (prepn. of anthranilamide compds. as insecticides); 74-89-5 (Methylamine); 75-03-6 (Iodoethane); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 100-63-0 (Phenylhydrazine); 109-72-8 (n-Butyllithium); 112-02-7 (Cetyltrimethylammonium chloride); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 367-57-7; 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 541-41-3 (Ethyl chloroformate); 584-08-7 (Potassium carbonate); 630-25-1 (1,2-Dibromotetrachloroethane); 1310-58-3 (Potassium hydroxide); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 5437-38-7 (3-Methyl-2-nitrobenzoic acid); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7087-68-5 (N,N-Diisopropylethylamine); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 14521-80-3 (3-Bromopyrazole); 20154-03-4 (3-Trifluoromethylpyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 65753-47-1 (2-Chloro-3-trifluoromethylpyridine); 66176-17-8 (3-Methylisatoic anhydride); 133228-21-4; 458543-79-8; 499790-43-1; 500011-81-4; 500011-88-1; 500011-94-9 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 14339-33-4P (3-Chloropyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 68289-10-1P (2-Amino-3-methyl-N-(1-methylethyl)benzamide); 120374-68-7P; 128694-66-6P; 362640-53-7P (3-Methyl-N-(1-methylethyl)-2-nitrobenzamide); 362640-58-2P; 362640-59-3P; 362640-60-6P; 362640-61-7P; 362640-62-8P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 499790-45-3P; 499790-46-4P; 500011-82-5P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-89-2P; 500011-90-5P; 500011-91-6P; 500011-92-7P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 500007-49-8 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (anthranilamide compds. as insecticides)  
  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2001-311919  
Priority Application Date: 20010813

Lahm, George Philip, McCann, Stephen Frederick, Patel, Kanu Maganbhai, Selby, Thomas Paul, and Stevenson, Thomas Martin (2003). Method for controlling particular insect pests by applying anthranilamide compounds. 150 pp.  
Chem Codes: Chemical of Concern: SPM,MAL Rejection Code: CHEM METHODS.  
  
Anthranilamide compds. I (Markush included), N-oxides or an agriculturally suitable salts thereof are prepd. as insecticides for controlling lepidopteran, homopteran, hemipteran, thysanopteran and coleopteran insect pests. Insecticidal compn. contg. anthranilamide compds. I may further comprise addnl. biol. active compds. selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics. [on SciFinder (R)] insecticide/ anthranilamide/ prepn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:154154  
Chemical Abstracts Number: CAN 138:200331  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 28  
Coden: PIXXD2  
Index Terms: Insecticides (anthranilamide compds. as); Acrosternum hilare; Acyrthosiphon pisum; Adelges; Agriotes; Alabama argillacea; Anasa tristis; Aphis craccivora; Aphis fabae; Aphis gossypii; Aphis pomi; Aphis spiraecola; Archips; Archips argyrospilus; Archips rosana; Athous; Aulacorthum solani; Bemisia argentifolia; Bemisia tabaci; Blissus leucopterus leucopterus; Chaetosiphon fragaefolii; Chilo suppressalis; Cnaphalocrocis medinalis; Coleoptera; Corythucha gossypii; Crambus caliginosellus; Crambus teterrellus; Cyrtopeltis modesta; Dialeurodes citri; Diuraphis noxia; Dysaphis plantaginea; Dysdercus suturellus; Earias insulana; Earias vitella; Empoasca fabae; Epilachna varivestis; Eriosoma lanigerum; Erythroneura; Euschistus servus; Euschistus variolarius; Frankliniella occidentalis; Grapholitha pomonella; Graptostethus; Helicoverpa armigera; Helicoverpa zea; Heliothis virescens; Hemiptera; Herpetogramma licarsisalis; Homoptera; Hyalopterus pruni; Icerya purchasi; Laodelphax striatellus; Lepidoptera; Leptinotarsa decemlineata; Leptoglossus corculus; Limonius; Lipaphis erysimi; Lobesia botrana; Lygus lineolaris; Macrosiphum dirhodum; Macrosiphum euphorbiae; Macrosteles quadrilineatus; Magicicada septendecim; Myzus persicae; Nasonovia ribisnigri; Nephotettix cincticeps; Nephotettix nigropictus; Nezara viridula; Nilaparvata lugens; Oebalus pugnax; Oncopeltus fasciatus; Pectinophora gossypiella; Pemphigus; Peregrinus maidis; Phyllocnistis citrella; Phylloxera devastatrix; Pieris brassicae; Pieris rapae; Planococcus citri; Plutella xylostella; Prodenia litura; Pseudatomoscelis seriatus; Pseudococcus; Psylla pyricola; Quadraspidiotus perniciosus; Rhopalosiphum fitchii; Rhopalosiphum maidis; Schizaphis graminum; Scirtothrips citri; Sericothrips variabilis; Sitobion avenae; Sogatella furcifera; Sogatodes oryzicola; Spodoptera exigua; Spodoptera frugiperda; Therioaphis maculata; Thrips tabaci; Thysanoptera; Toxoptera aurantii; Toxoptera citricida; Trialeurodes vaporariorum; Trichoplusia ni; Trioza diospyri; Tuta absoluta; Typhlocyba pomaria (anthranilamide compds. as insecticides against); Insecticides (carbamate; in insecticidal compns. contg. anthranilamide compds.); Eubacteria; Fungi; Virus (entomopathogenic; in insecticidal compns. contg. anthranilamide compds.); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists (in insecticidal compns. contg. anthranilamide compds.); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in insecticidal compns. contg. anthranilamide compds.); Insecticides (neonicotinoid; in insecticidal compns. contg. anthranilamide compds.); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in insecticidal compns. contg. anthranilamide compds.); Ion channel blockers (sodium; in insecticidal compns. contg. anthranilamide compds.); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; in insecticidal compns. contg. anthranilamide compds.)  
CAS Registry Numbers: 362637-52-3; 362637-54-5; 362637-55-6; 362637-56-7; 362637-57-8; 362637-58-9; 362637-59-0; 362637-60-3; 362637-61-4; 362637-62-5; 362637-63-6; 362637-64-7; 362637-65-8; 362637-66-9; 362637-67-0; 362637-68-1; 362637-69-2; 362637-71-6; 362637-72-7; 362637-73-8; 362637-74-9; 362637-75-0; 362637-76-1; 362637-77-2; 362637-78-3; 362637-79-4; 362637-80-7; 362637-81-8; 362637-82-9; 362637-83-0; 362637-84-1; 362637-85-2; 362637-86-3; 362637-87-4; 362637-88-5; 362637-89-6; 362637-90-9; 362637-91-0; 362637-92-1; 362637-93-2; 362637-94-3; 362637-95-4; 362637-96-5; 362637-97-6; 362637-98-7; 362637-99-8; 362638-00-4; 362638-03-7; 362638-04-8; 362638-05-9; 362638-06-0; 362638-07-1; 362638-08-2; 362638-09-3; 362638-10-6; 362638-11-7; 362638-12-8; 362638-13-9; 362638-14-0; 362638-15-1; 362638-16-2; 362638-17-3; 362638-18-4; 362638-19-5; 362638-20-8; 362638-21-9; 362638-22-0; 362638-23-1; 362638-24-2; 362638-25-3; 362638-26-4; 362638-27-5; 362638-28-6; 362638-29-7; 362638-31-1; 362638-32-2; 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2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); 362637-53-4P; 362637-70-5P; 362638-30-0P; 362639-62-1P; 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500010-10-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of anthranilamide compds. as insecticides); 129585-50-8P Role: BYP (Byproduct), SPN (Synthetic preparation), PREP (Preparation) (prepn. of anthranilamide compds. as insecticides); 74-89-5 (Methylamine); 75-03-6 (Iodoethane); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 100-63-0 (Phenylhydrazine); 109-72-8 (n-Butyllithium); 112-02-7 (Cetyltrimethylammonium chloride); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 367-57-7; 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 541-41-3 (Ethyl chloroformate); 584-08-7 (Potassium carbonate); 630-25-1 (1,2-Dibromotetrachloroethane); 1310-58-3 (Potassium hydroxide); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 5437-38-7 (3-Methyl-2-nitrobenzoic acid); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7087-68-5 (N,N-Diisopropylethylamine); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 14521-80-3 (3-Bromopyrazole); 20154-03-4 (3-Trifluoromethylpyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 65753-47-1 (2-Chloro-3-trifluoromethylpyridine); 66176-17-8 (3-Methylisatoic anhydride); 133228-21-4; 458543-79-8; 499790-43-1; 500011-81-4; 500011-88-1; 500011-94-9 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 14339-33-4P (3-Chloropyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 68289-10-1P (2-Amino-3-methyl-N-(1-methylethyl)benzamide); 120374-68-7P; 128694-66-6P; 362640-53-7P (3-Methyl-N-(1-methylethyl)-2-nitrobenzamide); 362640-58-2P; 362640-59-3P; 362640-60-6P; 362640-61-7P; 362640-62-8P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 499790-45-3P; 499790-46-4P; 500011-82-5P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-89-2P; 500011-90-5P; 500011-91-6P; 500011-92-7P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 500007-49-8 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (anthranilamide compds. as insecticides)  
  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2001-311919  
Priority Application Date: 20010813

Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (20030227). **<04 Article Title>.**  <25 Page(s)>.

Chemical of Concern: FVL, SPM,MAL; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (20030227). Arthropodicidal anthranilamides. 82 pp.  
Chem Codes: Chemical of Concern: AZD,SPM Rejection Code: BACTERIA.  
  
Anthranilamides I (Markush included), their N-oxides and agriculturally suitable salts are prepd. as arthropodicides for controlling invertebrate pests. Arthropodicidal compns. contg. anthranilamides I may further include addnl. biol. active compds. or agents selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics, Bacillus thuringiensis sp. aizawai, B. thuringiensis sp. kurstaki, B. thuringiensis delta endotoxin, baculoviruses, and entomopathogenic bacteria, viruses and fungi. [on SciFinder (R)] anthranilamides/ insecticide/ arthropodicide/ prepn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:154155  
Chemical Abstracts Number: CAN 138:200332  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 28  
Coden: PIXXD2  
Index Terms: Insecticides (carbamates; in arthropodicidal compns. contg. anthranilamide); Eubacteria; Fungi; Virus (entomopathogenic; in arthropodicidal compns. contg. anthranilamide); Acaricides; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists; Insecticides; Nematocides (in arthropodicidal compns. contg. anthranilamide); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in arthropodicidal compns. contg. anthranilamide); Insecticides (neonicotinoid; in arthropodicidal compns. contg. anthranilamide); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in arthropodicidal compns. contg. anthranilamide); Ion channel blockers (sodium; in arthropodicidal compns. contg. anthranilamide); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins, Bacillus thuringiensis; in arthropodicidal compns. contg. anthranilamide)  
CAS Registry Numbers: 500007-97-6; 500008-03-7; 500008-04-8; 500008-05-9; 500008-07-1; 500008-14-0; 500008-18-4; 500008-19-5; 500008-20-8; 500008-21-9; 500008-23-1; 500008-25-3; 500008-27-5; 500008-29-7; 500008-30-0; 500008-32-2; 500008-34-4; 500008-36-6; 500008-47-9; 500008-49-1; 500008-51-5; 500008-53-7; 500008-54-8; 500008-55-9; 500008-56-0; 500008-58-2; 500008-59-3; 500008-64-0; 500008-66-2; 500008-67-3; 500008-68-4; 500008-69-5; 500008-70-8; 500008-71-9; 500008-72-0; 500008-73-1; 500008-74-2; 500008-75-3; 500008-76-4; 500008-77-5; 500008-79-7; 500008-80-0; 500008-81-1; 500008-82-2; 500008-84-4; 500008-85-5; 500008-86-6; 500008-87-7; 500008-88-8; 500008-89-9; 500008-90-2; 500008-91-3; 500008-92-4; 500008-93-5; 500008-94-6; 500008-95-7; 500008-98-0; 500008-99-1; 500009-00-7; 500009-01-8; 500009-03-0; 500009-04-1; 500009-05-2; 500009-06-3; 500009-07-4; 500009-08-5; 500009-26-7; 500009-47-2; 500009-52-9; 500009-66-5; 500009-86-9; 500009-97-2; 500010-06-0; 500010-07-1; 500010-08-2; 500010-09-3; 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83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in arthropodicidal compns. contg. anthranilamide); 57-13-6D (Urea) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500011-91-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of arthropodicidal anthranilamide); 64-17-5 (Ethanol); 67-72-1 (Hexachloroethane); 68-12-2 (N,N-Dimethylformamide); 74-89-5 (Methylamine); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 109-72-8 (n-Butyllithium); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 141-52-6 (Sodium ethoxide); 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 584-08-7 (Potassium carbonate); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 20154-03-4 (3-(Trifluoromethyl)pyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 133228-21-4 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 14339-33-4P (3-Chloropyrazole); 14521-80-3P (3-Bromopyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 120374-68-7P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 458543-79-8P; 499790-43-1P; 499790-45-3P; 499790-46-4P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-88-1P; 500011-89-2P; 500011-92-7P; 500011-93-8P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 500010-10-6P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of arthropodicidal anthranilamide)  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2001-311919  
Priority Application Date: 20010813  
Citations: Rijkslandbouwhogeschool; NL 9202078 A 1994  
Citations: James, M; WO 0248115 A 2002  
Citations: Du Pont; WO 0170671 A 2001  
Citations: Du Pont; WO 02070483 A 2002

Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (20030227). Arthropodicidal anthranilamides. 82 pp.  
Chem Codes: Chemical of Concern: RTN, SPM Rejection Code: BACTERIA.  
  
Anthranilamides I (Markush included), their N-oxides and agriculturally suitable salts are prepd. as arthropodicides for controlling invertebrate pests. Arthropodicidal compns. contg. anthranilamides I may further include addnl. biol. active compds. or agents selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics, Bacillus thuringiensis sp. aizawai, B. thuringiensis sp. kurstaki, B. thuringiensis delta endotoxin, baculoviruses, and entomopathogenic bacteria, viruses and fungi. [on SciFinder (R)] anthranilamides/ insecticide/ arthropodicide/ prepn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:154155  
Chemical Abstracts Number: CAN 138:200332  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 28  
Coden: PIXXD2  
Index Terms: Insecticides (carbamates; in arthropodicidal compns. contg. anthranilamide); Eubacteria; Fungi; Virus (entomopathogenic; in arthropodicidal compns. contg. anthranilamide); Acaricides; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists; Insecticides; Nematocides (in arthropodicidal compns. contg. anthranilamide); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in arthropodicidal compns. contg. anthranilamide); Insecticides (neonicotinoid; in arthropodicidal compns. contg. anthranilamide); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in arthropodicidal compns. contg. anthranilamide); Ion channel blockers (sodium; in arthropodicidal compns. contg. anthranilamide); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins, Bacillus thuringiensis; in arthropodicidal compns. contg. anthranilamide)  
CAS Registry Numbers: 500007-97-6; 500008-03-7; 500008-04-8; 500008-05-9; 500008-07-1; 500008-14-0; 500008-18-4; 500008-19-5; 500008-20-8; 500008-21-9; 500008-23-1; 500008-25-3; 500008-27-5; 500008-29-7; 500008-30-0; 500008-32-2; 500008-34-4; 500008-36-6; 500008-47-9; 500008-49-1; 500008-51-5; 500008-53-7; 500008-54-8; 500008-55-9; 500008-56-0; 500008-58-2; 500008-59-3; 500008-64-0; 500008-66-2; 500008-67-3; 500008-68-4; 500008-69-5; 500008-70-8; 500008-71-9; 500008-72-0; 500008-73-1; 500008-74-2; 500008-75-3; 500008-76-4; 500008-77-5; 500008-79-7; 500008-80-0; 500008-81-1; 500008-82-2; 500008-84-4; 500008-85-5; 500008-86-6; 500008-87-7; 500008-88-8; 500008-89-9; 500008-90-2; 500008-91-3; 500008-92-4; 500008-93-5; 500008-94-6; 500008-95-7; 500008-98-0; 500008-99-1; 500009-00-7; 500009-01-8; 500009-03-0; 500009-04-1; 500009-05-2; 500009-06-3; 500009-07-4; 500009-08-5; 500009-26-7; 500009-47-2; 500009-52-9; 500009-66-5; 500009-86-9; 500009-97-2; 500010-06-0; 500010-07-1; 500010-08-2; 500010-09-3; 500010-11-7; 500010-12-8; 500010-15-1; 500010-22-0; 500010-32-2; 500010-33-3; 500010-34-4; 500010-35-5; 500010-46-8; 500010-47-9; 500010-48-0; 500010-49-1; 500010-50-4; 500010-51-5; 500010-52-6; 500010-53-7; 500010-54-8; 500010-55-9; 500010-57-1; 500010-58-2; 500010-59-3; 500010-60-6; 500010-61-7; 500010-62-8; 500010-67-3; 500010-68-4; 500010-69-5; 500010-70-8; 500010-71-9; 500010-72-0; 500010-73-1; 500010-74-2; 500010-75-3; 500010-76-4; 500010-77-5; 500010-79-7; 500010-80-0; 500010-95-7; 500010-96-8; 500010-98-0; 500010-99-1; 500011-00-7; 500011-01-8; 500011-02-9; 500011-05-2; 500011-13-2; 500011-15-4; 500011-17-6; 500011-18-7; 500011-19-8; 500021-31-8; 500021-32-9; 500021-33-0; 500021-35-2; 500021-36-3; 500021-37-4; 500021-38-5; 500021-39-6; 500021-40-9; 500021-41-0; 500021-42-1 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (arthropodicidal anthranilamide); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in arthropodicidal compns. contg. anthranilamide); 57-13-6D (Urea) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500011-91-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of arthropodicidal anthranilamide); 64-17-5 (Ethanol); 67-72-1 (Hexachloroethane); 68-12-2 (N,N-Dimethylformamide); 74-89-5 (Methylamine); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 109-72-8 (n-Butyllithium); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 141-52-6 (Sodium ethoxide); 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 584-08-7 (Potassium carbonate); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 20154-03-4 (3-(Trifluoromethyl)pyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 133228-21-4 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 14339-33-4P (3-Chloropyrazole); 14521-80-3P (3-Bromopyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 120374-68-7P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 458543-79-8P; 499790-43-1P; 499790-45-3P; 499790-46-4P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-88-1P; 500011-89-2P; 500011-92-7P; 500011-93-8P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 500010-10-6P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of arthropodicidal anthranilamide)  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2001-311919  
Priority Application Date: 20010813  
Citations: Rijkslandbouwhogeschool; NL 9202078 A 1994  
Citations: James, M; WO 0248115 A 2002  
Citations: Du Pont; WO 0170671 A 2001  
Citations: Du Pont; WO 02070483 A 2002

Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (2003). Arthropodicidal anthranilamides. 82 pp.  
Chem Codes: Chemical of Concern: SPM,MAL Rejection Code: BACTERIA.  
  
Anthranilamides I (Markush included), their N-oxides and agriculturally suitable salts are prepd. as arthropodicides for controlling invertebrate pests. Arthropodicidal compns. contg. anthranilamides I may further include addnl. biol. active compds. or agents selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics, Bacillus thuringiensis sp. aizawai, B. thuringiensis sp. kurstaki, B. thuringiensis delta endotoxin, baculoviruses, and entomopathogenic bacteria, viruses and fungi. [on SciFinder (R)] anthranilamides/ insecticide/ arthropodicide/ prepn Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:154155  
Chemical Abstracts Number: CAN 138:200332  
Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 28  
Coden: PIXXD2  
Index Terms: Insecticides (carbamates; in arthropodicidal compns. contg. anthranilamide); Eubacteria; Fungi; Virus (entomopathogenic; in arthropodicidal compns. contg. anthranilamide); Acaricides; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists; Insecticides; Nematocides (in arthropodicidal compns. contg. anthranilamide); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in arthropodicidal compns. contg. anthranilamide); Insecticides (neonicotinoid; in arthropodicidal compns. contg. anthranilamide); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in arthropodicidal compns. contg. anthranilamide); Ion channel blockers (sodium; in arthropodicidal compns. contg. anthranilamide); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins, Bacillus thuringiensis; in arthropodicidal compns. contg. anthranilamide)  
CAS Registry Numbers: 500007-97-6; 500008-03-7; 500008-04-8; 500008-05-9; 500008-07-1; 500008-14-0; 500008-18-4; 500008-19-5; 500008-20-8; 500008-21-9; 500008-23-1; 500008-25-3; 500008-27-5; 500008-29-7; 500008-30-0; 500008-32-2; 500008-34-4; 500008-36-6; 500008-47-9; 500008-49-1; 500008-51-5; 500008-53-7; 500008-54-8; 500008-55-9; 500008-56-0; 500008-58-2; 500008-59-3; 500008-64-0; 500008-66-2; 500008-67-3; 500008-68-4; 500008-69-5; 500008-70-8; 500008-71-9; 500008-72-0; 500008-73-1; 500008-74-2; 500008-75-3; 500008-76-4; 500008-77-5; 500008-79-7; 500008-80-0; 500008-81-1; 500008-82-2; 500008-84-4; 500008-85-5; 500008-86-6; 500008-87-7; 500008-88-8; 500008-89-9; 500008-90-2; 500008-91-3; 500008-92-4; 500008-93-5; 500008-94-6; 500008-95-7; 500008-98-0; 500008-99-1; 500009-00-7; 500009-01-8; 500009-03-0; 500009-04-1; 500009-05-2; 500009-06-3; 500009-07-4; 500009-08-5; 500009-26-7; 500009-47-2; 500009-52-9; 500009-66-5; 500009-86-9; 500009-97-2; 500010-06-0; 500010-07-1; 500010-08-2; 500010-09-3; 500010-11-7; 500010-12-8; 500010-15-1; 500010-22-0; 500010-32-2; 500010-33-3; 500010-34-4; 500010-35-5; 500010-46-8; 500010-47-9; 500010-48-0; 500010-49-1; 500010-50-4; 500010-51-5; 500010-52-6; 500010-53-7; 500010-54-8; 500010-55-9; 500010-57-1; 500010-58-2; 500010-59-3; 500010-60-6; 500010-61-7; 500010-62-8; 500010-67-3; 500010-68-4; 500010-69-5; 500010-70-8; 500010-71-9; 500010-72-0; 500010-73-1; 500010-74-2; 500010-75-3; 500010-76-4; 500010-77-5; 500010-79-7; 500010-80-0; 500010-95-7; 500010-96-8; 500010-98-0; 500010-99-1; 500011-00-7; 500011-01-8; 500011-02-9; 500011-05-2; 500011-13-2; 500011-15-4; 500011-17-6; 500011-18-7; 500011-19-8; 500021-31-8; 500021-32-9; 500021-33-0; 500021-35-2; 500021-36-3; 500021-37-4; 500021-38-5; 500021-39-6; 500021-40-9; 500021-41-0; 500021-42-1 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (arthropodicidal anthranilamide); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in arthropodicidal compns. contg. anthranilamide); 57-13-6D (Urea) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500011-91-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of arthropodicidal anthranilamide); 64-17-5 (Ethanol); 67-72-1 (Hexachloroethane); 68-12-2 (N,N-Dimethylformamide); 74-89-5 (Methylamine); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 109-72-8 (n-Butyllithium); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 141-52-6 (Sodium ethoxide); 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 584-08-7 (Potassium carbonate); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 20154-03-4 (3-(Trifluoromethyl)pyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 133228-21-4 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 14339-33-4P (3-Chloropyrazole); 14521-80-3P (3-Bromopyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 120374-68-7P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 458543-79-8P; 499790-43-1P; 499790-45-3P; 499790-46-4P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-88-1P; 500011-89-2P; 500011-92-7P; 500011-93-8P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 500010-10-6P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of arthropodicidal anthranilamide)  
Patent Application Country: Application: WO  
Priority Application Country: US  
Priority Application Number: 2001-311919  
Priority Application Date: 20010813  
Citations: Rijkslandbouwhogeschool; NL 9202078 A 1994  
Citations: James, M; WO 0248115 A 2002  
Citations: Du Pont; WO 0170671 A 2001  
Citations: Du Pont; WO 02070483 A 2002

Lambropoulou, D. A. and Albanis, T. A. (2001). Optimization of headspace solid-phase microextraction conditions for the determination of organophosphorus insecticides in natural waters. *Journal of Chromatography A [J. Chromatogr.]. Vol. 922, no. 1-2, pp. 243-255. Jul 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0021-9673  
Descriptors: Pollution (Water)  
Descriptors: Water analysis  
Descriptors: Pesticides (Organophosphorus)  
Descriptors: Head space  
Descriptors: Extraction procedures  
Abstract: Headspace solid-phase microextraction (HS-SPME) has been developed for the analysis of seven organophosphorus insecticides, i.e. diazinon, fenitrothion, fenthion, ethyl parathion, methyl bromophos, ethyl bromophos and ethion in natural waters. Their determination was carried out using gas chromatography with flame thermionic and mass spectrometric detection. To perform the HS-SPME, two types of fibre have been assayed and compared: polyacrylate (PA 85 mu m), and polydimethylsiloxane (PDMS 100 mu m). The main parameters affecting the HS-SPME process such as temperature, salt additives, memory effect, stirring rate and adsorption-time profile were studied. The method was developed using spiked natural waters such as ground, sea, river and lake water in a concentration range of 0.05-1 mu g/l. The HS-SPME conditions were optimized in order to obtain the maximum sensitivity. Detection limits varied from 0.01 to 0.04 mu g/l and relative standard deviations (RSD <17%) were obtained showing that the precision of the method is reliable. The method showed also good linearity for the tested concentration range with regression coefficients ranging between 0.985 and 0.999. Recoveries were in relatively high levels for all the analytes and ranged from 80 to 120%. Water samples collected from different stations along the flow of Kalamas river (NW Greece) were analyzed using the optimized conditions in order to evaluate the potential of the proposed method to the trace-level screening determination of organophosphorus insecticides. The analysis with HS-SPME has less background interference and the advantage of its non-destructive nature reveal the possibility of the repetitive use of the SPME fibre.  
DOI: 10.1016/S0021-9673(01)00953-0  
Language: English  
English  
Publication Type: Journal Article  
Classification: AQ 00003 Monitoring and Analysis of Water and Wastes  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts

Lambropoulou, Dimitra A, Sakkas, Vasilios A, Hela, Dimitra G, and Albanis, Triantafyllos A (2002). Application of solid-phase microextraction in the monitoring of priority pesticides in the Kalamas River (N.W. Greece). *Journal Of Chromatography. A* 963: 107-116.  
Chem Codes: Chemical of Concern: DEATZ Rejection Code: METHODS/SURVEY.  
  
A solid-phase microextraction (SPME) method was applied to an extended monitoring survey of priority pesticides for the European Union for a period of 12 months in water of the Kalamas River (Epirus region of northwestern Greece) in order to determine their concentrations and seasonal variations. Polydimethylsiloxane-coated fiber (100 microm) was used. The samples were screened using gas chromatography with flame thermionic detection. Detection was confirmed by gas chromatographymass spectroscopy. The most frequently detected pesticides were some of the more commonly used herbicides, such as S-ethyl-N,N-di-n-propylthiol carbamate (EPTC), trifluralin, atrazine, deethylatrazine, terbuthylazine and alachlor, and insecticides, such as carbofuran, diazinon, disulfoton, parathion methyl, parathion ethyl, fenthion and ethion. Concentrations of individual compounds ranged from 0.020 to 0.3 microg/L. Greater pesticide concentrations occurred during the seasons of application. A comparison with a well-established solid-phase extraction (C18 disks) procedure was performed for samples of high-season application (May-September) in order to confirm the effectiveness of the SPME technique. The results demonstrate the suitability of the SPME method for routine screening multiresidue analysis in natural waters. [Journal Article; In English; Netherlands]

Lamoureux, G. L. and Rusness, D. G. (1995). Status and Future of Synergists in Resistance Management. *In: N.N.Ragsdale, P.C.Kearney, and J.R.Plimmer (Eds.), Proc.8th Int.Congr.of Pestic.Chem., Am.Chem.Soc., Washington, D.C.* 350-366.  
Chem Codes: EcoReference No.: 72034  
Chemical of Concern: ATZ,PPB,PMR,DMT,PRN,CBF,DFZ,CYP,DZ,ACR,SZ,GYP,DMB Rejection Code: REVIEW.

Lan, Yunfeng and Chen, Zhengfu ( Electronic pressure control technique in gas chromatography. 16: 40-41 CODEN: SHUKE9; ISSN: 1000-3975.  
Chem Codes: Chemical of Concern: CHLOR ,DMT Rejection Code: CHEM METHOD.  
  
The flow of carrier gas was adjusted by an electronic pressure control (EPC) system for optimizing gas chromatog. performance. The principles of EPC system in gas chromatog. were introduced, and the application of the system (sample injection and column sepn.) was demonstrated by the GC/MS anal. of pesticides (dimethoate, diazinon, dichlorvos, malathion, and chlorpyrifos).

Land, L. F. and Brown, M. F. ( Water-Quality Assessment of the Trinity River Basin, Texas-Pesticides in Streams Draining an Urban and an Agricultural Area, 1993-95.  
Chem Codes: SZ Rejection Code: HUMAN HEALTH.  
  
Water and bed-sediment samples from streams draining an urban and an agricultural area in the Trinity River Basin, Texas, were analyzed. The samples were collected during March 1993- September 1995 by the Trinity River Basin study- unit team of the National Water-Quality Assessment Program. A comparison of pesticide data for water samples from seven streams in the Dallas-Fort Worth urban area with five streams in an agricultural area in the west-central part of the Trinity River Basin showed detections of 24 herbicides in urban-area streams and 19 herbicides in agricultural-area streams and 10 insecticides in each area. Atrazine, a herbicide, was detected in all samples from both areas. Diazinon, an insecticide, was detected in all samples collected in urban-area streams and in about 60 percent of the samples collected in agricultural-area streams. Concentrations of alachlor, atrazine, fluometuron, metolachlor and pendimethalin (herbicides) were always greater in agricultural-area streams and prometon and simazine concentrations were always greater in urban-area streams. Atrazine was the only herbicide with concentrations greater than a health advisory limit of 3 micrograms per liter. Concentrations were greater in about 20 percent of the samples; all were in the agricultural area and occurred during spring and during higher streamflow. Diazinon was the only insecticide with concentrations greater than the health advisory of 0.6 microgram per liter. Concentrations were greater in about 15 percent of the samples from the urban area. All exceedances were during spring through early fall and during all ranges of streamflow. In the agricultural area, atrazine and metolachlor concentrations peaked during spring and early summer and increased with increasing streamflow; in the urban area, carbaryl, chlorpyrifos and diazinon peaked in April and remained relatively high during the summer and increased with increasing streamflow. A comparison of pesticide data for bed-sediment samples from five urban streams and five agricultural streams showed detections of 11 organochlorine insecticides in the urban area and 1 in the agricultural area. All compounds were either DDT-related or one of the components of chlordane except for mirex and dieldrin USGS Water-Resources Investigations Report  
96-4114  
English  
English  
Report  
SW 3020 Sources and fate of pollution  
Water Resources Abstracts  
4241200 A1: Alert Info 20030131

Land, L. F. and Brown, M. F. (1996). Water-Quality Assessment of the Trinity River Basin, Texas - Pesticides in Streams Draining an Urban and an Agricultural Area, 1993-95. *Water-Resources Investigations Rep.No.96-4114, U.S.Geological Survey, Austin, TX* 22.  
Chem Codes: EcoReference No.: 45849  
Chemical of Concern: DZ Rejection Code: NO SPECIES.

Landen, George and Moore, Harold W. (1976). Chemistry of geminal diazides. Rearrangements to N-Cyano compounds. *Tetrahedron Letters* 17: 2513-2516.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

Landis, W. G., Hughes, J. S., Lewis, M. A., Landis, W. G., Hughes, J. S., and Lewis, M. A. Eds. (1993). American Society for Testing and Materials (ASTM). *ASTM (Am.Soc.for Test.and Mater.) Spec.Tech.Publ.No.1179.Environ.Toxicol.and Risk Assess., 1st Symposium, Apr.14-16, 1991, Atlantic City, NJ* 431 p.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.

Langner, Marek and Hui, SekWen (2000). Effect of free fatty acids on the permeability of 1,2-dimyristoyl-sn-glycero-3-phosphocholine bilayer at the main phase transition. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1463: 439-447.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We measured the influence of saturated and unsaturated free fatty acids on the permeability and partition of ions into 1,2-dimyristoyl-sn-glycero-3-phosphocholine (DMPC) bilayers. The bilayer permeability was measured using the depletion of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-1,2-dihexadecanoyl-sn-glycero-3-phosphatidylethanolamine (N-NBD-PE) fluorescence as a result of its reduction by dithionite. We observed a distinct increase of dithionite permeability at the main gel-fluid phase transition of DMPC. When vesicles were formed from a mixture of DMPC and oleic acid, the membrane permeability at the phase transition was reduced drastically. Stearic acid and methyl ester of oleic acid have little effect. Similar results in the quenching of pyrene-PC in DMPC vesicles by iodide were obtained. Again, the increase of iodide partition into the lipid phase at the main phase transition of DMPC was abolished by the addition of unsaturated free fatty acids. Free fatty acids, in concentrations up to 5 mol%, do not abolish DMPC phase transition when measured by differential scanning calorimetry. It seems that unsaturated, but not saturated, free fatty acids reduce the lipid bilayer permeability to dithionite and iodide ions at the main phase transition of DMPC, without altering the thermodynamic properties of the bilayer. Free fatty acid/ Lipid bilayer/ Molecular packing/ Phase transition/ Ion transport

Larsen, K., Connor, V., Deanovic, L., and Hinto, D. (1998). Sacramento River Program Toxicity Monitoring Results: 1997-1998. *Prepared for the Sacramento Reg.County Sanit.Dist., Central Valley Reg.Water Qual.Control Bd., Sacramento, CA, Univ.of California, Davis, CA*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Larson, S. J., Capel, P. D., Goolsby, D. A., Zaugg, S. D., and Sandstrom, M. W. (1995). Relations between pesticide use and riverine flux in the Mississippi River basin. *Chemosphere* 31 : 3305-3321.  
Chem Codes: Chemical of Concern: SZ,MTL,ADC,CBF Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. In an intensive subcontinental study of pesticides in surface waters of the United States, concentrations of 26 high-use pesticides were measured at nine sites in the Mississippi River basin from May 1991 through March 1992. Calculated total fluxes were combined with agricultural-use data to estimate the percentage of applied pesticide reaching the mouths of the Mississippi River and six major tributaries. For most pesticides, the riverine flux was less than 2% of the mass applied agriculturally. The fluxes were only marginally related to runoff-potential ratings based solely on the pesticides' chemical and environmental properties. The insecticide diazinon was detected frequently in rivers draining the three basins with the highest population densities, apparently as a result of urban use.  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-Molecular Properties and Macromolecules  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

Larson, Steven J., Capel, Paul D., Goolsby, Donald A., Zaugg, Steven D., and Sandstrom, Mark W. (1995). Relations between pesticide use and riverine flux in the Mississippi River basin. *Chemosphere* 31: 3305-3321.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
In an intensive subcontinental study of pesticides in surface waters of the United States, concentrations of 26 high-use pesticides were measured at nine sites in the Mississippi River basin from May 1991 through March 1992. Calculated total fluxes were combined with agricultural-use data to estimate the percentage of applied pesticide reaching the mouths of the Mississippi River and six major tributaries. For most pesticides, the riverine flux was less than 2% of the mass applied agriculturally. The fluxes were only marginally related to runoff-potential ratings based solely on the pesticides' chemical and environmental properties. The insecticide diazinon was detected frequently in rivers draining the three basins with the highest population densities, apparently as a result of urban use.

Lartiges, S. and Garrigues, P. (1993). Determination of organophosphorus and organonitrogen pesticides in water and sediments by GC-NPD and GC-MS. *Analusis* 21 : 157-165.  
Chem Codes: Chemical of Concern: SZ Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. An analytical procedure has been developed for the determination of organophosphorus (OP) and organonitrogen (ON) compounds in the aquatic environment (water, sediments). OP and ON were analysed by a gas chromatography apparatus (GC) equipped with cool on-column injectors and coupled either with a nitrogen-phosphorus detector (NPD) or with a mass selective detector (MSD) in electron impact (EI) and positive chemical ionization (PCI) modes. Chromatographic retention indexes based on a series of organonitrogen internal standards were defined for GC-NPD in order to confirm analytes in environmental samples. Atrazine, simazine and diazinon were identified in surface waters by GC-NPD and GC-MS.  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-General Biophysical Techniques  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

Lauer, Sabine A., Chatterjee, Subroto, and Haldar, Kasturi (2001). Uptake and hydrolysis of sphingomyelin analogues in Plasmodium falciparum-infected red cells. *Molecular and Biochemical Parasitology* 115: 275-281.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Plasmodium falciparum/ Malaria/ Sphingomyelin/ Neutral sphingomyelinase

Laulagnier, Karine, Grand, David, Dujardin, Arnaud, Hamdi, Safouane, Vincent-Schneider, Helene, Lankar, Danielle, Salles, Jean-Pierre, Bonnerot, Christian, Perret, Bertrand, and Record, Michel (2004). PLD2 is enriched on exosomes and its activity is correlated to the release of exosomes. *FEBS Letters* 572: 11-14.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Exosomes are small vesicles secreted by different immune cells and which display anti-tumoral properties. Stimulation of RBL-2H3 cells with ionomycin triggered phospholipase D2 (PLD2) translocation from plasma membrane to intracellular compartments and the release of exosomes. Although exosomes carry the two isoforms of PLD, PLD2 was enriched and specifically sorted on exosomes when overexpressed in cells. PLD activity present on exosomes was clearly increased following PLD2 overexpression. PLD2 activity in cells was correlated to the amount of exosome released, as measured by FACS. Therefore, the present work indicates that exosomes can vehicle signaling enzymes.

Lawaczeck, Rudiger, Gervais, Monique, Nandi, Pradip K., and Nicolau, Claude (1987). Fusion of negatively charged liposomes with clathrin-uncoated vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 903: 112-122.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interaction of lipid vesicles with uncoated vesicles from bovine brain has been studied by fluorescence energy transfer between fluorescent lipid analogs (NBD-PE, Rh-DOPE), by loss of fluorescence self-quenching (NBD-PE, carboxyfluorescein) and by freeze-fracture electron microscopy. The fluorescence techniques monitor the mixing of membranous lipids and the induced release of encapsulated material. The results demonstrate a mixing of the negatively charged lipid (PA, PS) vesicles with the uncoated vesicles. In parallel with the lipid mixing a release of intravesicularly encapsulated material takes place. Lipid vesicles composed of zwitterionic lipids (PC, DOPC, PC:PE) do not specifically interact with uncoated vesicles. The electron micrographs reveal single fusion events. Studies on the kinetics are consistent with a fusional mechanism of the negatively charged lipid vesicles with uncoated vesicles. Liposome/ Vesicle fusion/ Fluorescence/ Resonance energy transfer/ Electron microscopy/ Freeze-fracture/ (Bovine brain)

Lawaczeck, Rudiger, Nandi, Pradip K., and Nicolau, Claude (1987). Interaction of negatively charged liposomes with nuclear membranes: adsorption, lipid mixing and lysis of the vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 903: 123-131.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Fluorescence energy transfer studies reveal that negatively charged lipid vesicles interact with nuclei from mouse liver cells. This interaction was observed with charged lipid vesicles composed of PA or PS but not with the uncharged PC or PE:PC vesicles. The vesicles were prepared by bath sonication and contained either a fluorescent marker in the lipid bilayer or in the vesicular interior. The negatively charged vesicles showed an adsorption to the nuclear membrane visible by fluorescence microscopy. The results obtained by resonance energy transfer experiments are interpreted in terms of a mixing of the lipids from the vesicles with the nuclear membrane. Encapsulation studies documented a staining of the nuclei only if the dye molecules of high or low molecular weight were encapsulated inside negatively charged vesicles. As consequence of the vesicle-nuclei interaction morphological changes on the nuclear surface became visible. Liposome/ Nuclear membrane/ Coated vesicle/ Fluorescence/ (Mouse liver)

Laygo, E. R. and Schulz, J. T. (1963). Persistence of Organophosphate Insecticides and Their Effects on Microfauna in Soils . *Proc.N.D.Acad.Sci.* 17: 64-65.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.

LEBREUX, B., MAYNARD, L., and WACKOWIEZ, G. (1997). EVALUATION OF THE EFFICACY OF A DIAZINON + PYRIPROXYFEN COLLAR IN THE TREATMENT AND CONTROL OF FLEA INFESTATIONS IN CATS. *7TH EUROPEAN ASSOCIATION FOR VETERINARY PHARMACOLOGY AND TOXICOLOGY INTERNATIONAL CONGRESS, MADRID, SPAIN, JULY 6-10, 1997. JOURNAL OF VETERINARY PHARMACOLOGY AND THERAPEUTICS; 20* 157-158.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT MEETING POSTER CAT FLEA HOST INFESTATION PEST VETERINARY MEDICINE DIAZINON ORGANOPHOSPHORUS INSECTICIDE PEST MANAGEMENT PYRIPROXYFEN INSECTICIDE FLEA COLLAR EQUIPMENT MH - CONGRESSES Biology/ Biochemistry/ Veterinary Medicine/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Fleas/ Carnivora

Lee, C. Y., Lee, L. C., Ang, B. H., and Chong, N. L. (1999). Insecticide Resistance in Blattella germanica (L.) (Dictyoptera: Blattellidae) from Hotels and Restaurants in Malaysia.  *In: W.H.Robinson, R.Rettich, and G.Rambo (Eds.), Proc.3rd Int.Conf.on Urban Pests, Graficke Zavody Hronov, Czech Republic* 171-182.

EcoReference No.: 77207  
Chemical of Concern: ES,DLD,DDT,PMSM,FNT,DZ,CPY,CPYM,MLN,CBL,PPX,BFT,PMR,DM,ACT,HMN; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(BFT,DZ).

Lee, Eun Kyung, Kim, Yoo Jung, Park, Won Chul, Chung, Taeowan, and Lee, Yong Tae (2005 ). Monoclonal antibody-based enzyme-linked immunosorbent assays for the detection of the organophosphorus insecticide diazinon. *Analytica Chimica Acta* 530: 143-153.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Four haptens of the organophosphorus (OP) insecticide diazinon were synthesized to develop enzyme-linked immunosorbent assays (ELISAs) for this pesticide. One of them was conjugated to KLH to be used as the immunogen for production of monoclonal antibodies. By using the antibodies and a coating antigen, an indirect competitive ELISA was developed, which showed an IC50 of 4.0 ng/mL with a detection limit of 0.7 ng/mL. A direct competitive ELISA using an enzyme tracer was also developed, which showed an IC50 of 6.0 ng/mL with a detection limit of 0.9 ng/mL. The antibodies in both assays showed negligible cross-reactivity with metabolites of diazinon and other OP pesticides. Recovery of diazinon from fortified lettuce and rice samples was satisfactory except at the fortified concentration of 100 ppb. Diazinon/ Organophosphorus insecticide/ Enzyme-linked immunosorbent assay/ ELISA

Lee, Hye-Sung, Ah Kim, Young, Ae Cho, Young, and Tae Lee, Yong (2002). Oxidation of organophosphorus pesticides for the sensitive detection by a cholinesterase-based biosensor. *Chemosphere* 46: 571-576.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Organophosphorus insecticides/ Oxons/ Acetylcholinesterase/ Sensor/ Flow injection

Lee, S., McLaughlin, R., Harnly, M., Gunier, R., and Kreutzer, R. ( Community Exposures to Airborne Agricultural Pesticides in California: Ranking of Inhalation Risks. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 110, no. 12, pp. 1175-1184. Dec 2002.*  
Chem Codes: Chemical of Concern: CLP Rejection Code: HUMAN HEALTH.  
  
We assessed inhalation risks to California communities from airborne agricultural pesticides by probability distribution analysis using ambient air data provided by the California Air Resources Board and the California Department of Pesticide Regulation. The pesticides evaluated include chloropicrin, chlorothalonil, chlorpyrifos, S,S,S-tributyl phosphorotrithioate, diazinon, 1,3-dichloropropene, dichlorvos (naled breakdown product), endosulfan, eptam, methidathion, methyl bromide, methyl isothiocyanate (MITC; metam sodium breakdown product), molinate, propargite, and simazine. Risks were estimated for the median and 75th and 95th percentiles of probability (50, 25, and 5% of the exposed populations). Exposure estimates greater than or equal to noncancer reference values occurred for 50% of the exposed populations (adults and children) for MITC subchronic and chronic exposures, methyl bromide subchronic exposures (year 2000 monitoring), and 1,3-dichloropropene subchronic exposures (1990 monitoring). Short-term chlorpyrifos exposure estimates exceeded the acute reference value for 50% of children (not adults) in the exposed population. Noncancer risks were uniformly higher for children due to a proportionately greater inhalation rate-to-body weight ratio compared to adults and other factors. Target health effects of potential concern for these exposures include neurologic effects (methyl bromide and chlorpyrifos) and respiratory effects (1,3-dichloropropene and MITC). The lowest noncancer risks occurred for simazine and chlorothalonil. Lifetime cancer risks of one-in-a-million or greater were estimated for 50% of the exposed population for 1,3-dichloropropene (1990 monitoring) and 25% of the exposed populations for methidathion and molinate. Pesticide vapor pressure was found to be a better predictor of inhalation risk compared to other methods of ranking pesticides as potential toxic air contaminants. Classification: X 24136 Environmental impact; P 6000 TOXICOLOGY AND HEALTH; H 5000 Pesticides

Lee, S., McLaughlin, R., Harnly, M., Gunier, R., and Kreutzer, R. (2002). Community Exposures to Airborne Agricultural Pesticides in California: Ranking of Inhalation Risks. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 110, no. 12, pp. 1175-1184. Dec 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0091-6765  
Descriptors: Pesticides  
Descriptors: Risk assessment  
Descriptors: Inhalation  
Descriptors: Aircraft  
Descriptors: Agrochemicals  
Descriptors: Environmental health  
Descriptors: USA, California  
Abstract: We assessed inhalation risks to California communities from airborne agricultural pesticides by probability distribution analysis using ambient air data provided by the California Air Resources Board and the California Department of Pesticide Regulation. The pesticides evaluated include chloropicrin, chlorothalonil, chlorpyrifos, S,S,S-tributyl phosphorotrithioate, diazinon, 1,3-dichloropropene, dichlorvos (naled breakdown product), endosulfan, eptam, methidathion, methyl bromide, methyl isothiocyanate (MITC; metam sodium breakdown product), molinate, propargite, and simazine. Risks were estimated for the median and 75th and 95th percentiles of probability (50, 25, and 5% of the exposed populations). Exposure estimates greater than or equal to noncancer reference values occurred for 50% of the exposed populations (adults and children) for MITC subchronic and chronic exposures, methyl bromide subchronic exposures (year 2000 monitoring), and 1,3-dichloropropene subchronic exposures (1990 monitoring). Short-term chlorpyrifos exposure estimates exceeded the acute reference value for 50% of children (not adults) in the exposed population. Noncancer risks were uniformly higher for children due to a proportionately greater inhalation rate-to-body weight ratio compared to adults and other factors. Target health effects of potential concern for these exposures include neurologic effects (methyl bromide and chlorpyrifos) and respiratory effects (1,3-dichloropropene and MITC). The lowest noncancer risks occurred for simazine and chlorothalonil. Lifetime cancer risks of one-in-a-million or greater were estimated for 50% of the exposed population for 1,3-dichloropropene (1990 monitoring) and 25% of the exposed populations for methidathion and molinate. Pesticide vapor pressure was found to be a better predictor of inhalation risk compared to other methods of ranking pesticides as potential toxic air contaminants.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H 5000 Pesticides  
Subfile: Risk Abstracts; Pollution Abstracts; Health & Safety Science Abstracts; Toxicology Abstracts

Lee, Sharon, McLaughlin, Robert, Harnly, Martha, Gunier, Robert, and Kreutzer, Richard (2002). Community exposures to airborne agricultural pesticides in California: ranking of inhalation risks. *Environmental Health Perspectives* 110: 1175-1184.  
Chem Codes: SZ Rejection Code: HUMAN HEALTH.  
  
We assessed inhalation risks to California communities from airborne agricultural pesticides by probability distribution analysis using ambient air data provided by the California Air Resources Board and the California Department of Pesticide Regulation. The pesticides evaluated include chloropicrin, chlorothalonil, chlorpyrifos, S,S,S-tributyl phosphorotrithioate, diazinon, 1,3-dichloropropene, dichlorvos (naled breakdown product), endosulfan, eptam, methidathion, methyl bromide, methyl isothiocyanate (MITC; metam sodium breakdown product), molinate, propargite, and simazine. Risks were estimated for the median and 75th and 95th percentiles of probability (50, 25, and 5% of the exposed populations). Exposure estimates greater than or equal to noncancer reference values occurred for 50% of the exposed populations (adults and children) for MITC subchronic and chronic exposures, methyl bromide subchronic exposures (year 2000 monitoring), and 1,3-dichloropropene subchronic exposures (1990 monitoring). Short-term chlorpyrifos exposure estimates exceeded the acute reference value for 50% of children (not adults) in the exposed population. Noncancer risks were uniformly higher for children due to a proportionately greater inhalation rate-to-body weight ratio compared to adults and other factors. Target health effects of potential concern for these exposures include neurologic effects (methyl bromide and chlorpyrifos) and respiratory effects (1,3-dichloropropene and MITC). The lowest noncancer risks occurred for simazine and chlorothalonil. Lifetime cancer risks of one-in-a-million or greater were estimated for 50% of the exposed population for 1,3-dichloropropene (1990 monitoring) and 25% of the exposed populations for methidathion and molinate. Pesticide vapor pressure was found to be a better predictor of inhalation risk compared to other methods of ranking pesticides as potential toxic air contaminants. [Journal Article; In English; United States] http://www.sciencedirect.com/science/article/B6WVB-48C802R-TS/2/5429eab2b22c2282288dd17efc0fbef3

Lee, T. T. and Wilkinson, Colleen E. (1973). Differential response of plant cell membranes to some vinyl organophosphorus insecticides. *Pesticide Biochemistry and Physiology* 3: 341-350.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The response of plant cell membranes to vinyl organophosphorus insecticides was studied by determining the release of intracellular materials as a measure of membrane permeability and the uptake of [1-14C]-[alpha]-aminoisobutyric acid as a measure of active transport. A pretreatment with chlorfenvinphos (2-chloro-1-(2,4-dichlorophenyl)-vinyl diethyl phosphate) at 0.4 mM or higher concentrations increased the leakage of cell contents from the tissues of pea, corn, and beet, but two other vinyl organophosphorus insecticides, tetrachlorvinphos (2-chloro-1-(2,4,5-trichlorophenyl)-vinyl diethyl phosphate) and phosphamidon (2-chloro-2-diethyl carbamoyl-1-methyl vinyl dimethyl phosphate), had no effect. Simultaneous addition of phospholipids, [beta]-sitosterol, or Ca2+ inhibited in varying degrees the chlorfenvinphos-induced permeability, suggesting that the leakage of cell contents might be due to alteration in membrane structure.Chlorfenvinphos or tetrachlorvinphos at 0.1 mM or higher concentrations inhibited the uptake of [alpha]-aminoisobutyric acid. The degree of inhibition varied with different plant species. The inhibition was competitive and was not prevented by phospholipids. However, Ca2+ and other divalent cations were stimulatory to the uptake of [alpha]-aminoisobutyric acid, either in the presence or absence of chlorfenvinphos. Chlorfenvinphos also inhibited plant growth in tobacco callus and pea stem assays.From the differences in effective concentration, structural requirement, and interaction with phospholipids, it is suggested that chlorfenvinphos affected the membrane permeability and active transport by different mechanisms. These effects probably underlie its inhibitory action on plant growth.

Lehotay, S J ( Analysis of pesticide residues in mixed fruit and vegetable extracts by direct sample introduction/gas chromatography/tandem mass spectrometry. *Journal Of AOAC International* 83: 680-697.  
Chem Codes: Chemical of Concern: PPB Rejection Code: METHODS/NO TOX DATA.  
  
 Direct sample introduction (DSI), or "dirty sample injection," was investigated in the determination of 22 diverse pesticide residues in mixed apple, green bean, and carrot extracts by benchtop gas chromatography/tandem mass spectrometry (DSI/GC/MS-MS). The targeted pesticides, some of which were incurred in the samples, included chlorpyrifos, azinphos-methyl, parathion-methyl, diazinon, terbufos, p,p'-DDE, endosulfan sulfate, carbofuran, carbaryl, propargite, bifenthrin, dacthal, trifluralin, metalaxyl, pendimethalin, atrazine, piperonyl butoxide, diphenylamine, vinclozolin, chlorothalonil, quintozene, and tetrahydrophthalimide (the breakdown product of captan). The analytical DSI method entailed the following steps: (1) blend 30 g sample with 60 mL acetonitrile for 1 min in a centrifuge bottle; (2) add 6 g NaCl and blend 30 s; (3) centrifuge for 1-2 min; (4) add 5 mL upper layer to 1 g anhydrous MgSO4 in a vial; and (5) analyze 11 microL extract, using DSI/GC/MS-MS. Sample cleanup is not needed because GCIMS-MS is exceptionally selective for the targeted analytes, and nonvolatile coextracted matrix components do not contaminate the injector or the GC/MS-MS system. Average recoveries of the pesticides were 103 +/- 7% with relative standard deviations of 14 +/- 5% on average, and limits of detection were <2 ng/g for nearly all pesticides studied. The DSI/GC/ MS-MS approach for targeted pesticides is quantitative, confirmatory, sensitive, selective, rugged, rapid, simple, and inexpensive. [Journal Article; In English; United States]

Lehotay, S. J., Harman-Fetcho, J. A., and McConnell, L. L. (1998). Agricultural Pesticide Residues in Oysters and Water from Two Chesapeake Bay Tributaries. *Mar.Pollut.Bull.* 37: 32-44.  
Chem Codes: Chemical of Concern: ATZ,DDT,TFN,DZ Rejection Code: NO DURATION/SURVEY .

LEHOTAY SJ, HARMAN-FETCHO JA, and MCCONNELL LL ( 1998). Agricultural pesticide residues in oysters and water from two Chesapeake Bay Tributaries. *MARINE POLLUTION BULLETIN; 37* 32-44.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Little is known of the impact of agricultural activity on oysters in Chesapeake Bay tributaries. As a preliminary assessment of pesticide residues in oyster tissues, this study monitored more than 60 pesticides in oysters and overlying water in two tributaries of the Chesapeake Bay. Paired water and oyster samples were collected throughout 1997 from the Patuxent and Choptank Rivers which discharge into opposite shores of the Chesapeake Bay in Maryland. In water, herbicides such as atrazine, simazine, cyanazine, and metolachlor were present throughout the year with individual water concentrations peaking as high as 430 ng/l in the late spring and summer and subsiding in the fall. These herbicides were not detected in the oysters even when concentrations were highest in the water. Another herbicide, trifluralin, was detected throughout the year at concentrations of less than 0.6 ng/l and 0.4 ng/g (wet weight) in water and oyster samples, respectively. Several insecticides Ecology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides/ Mollusca

LEHOTAY SJ and VALVERDE-GARCIA, A. (1997). Evaluation of different solid-phase traps for automated collection and clean-up in the analysis of multiple pesticides in fruits and vegetables after supercritical fluid extraction. *JOURNAL OF CHROMATOGRAPHY A; 765* 69-84.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. This study was designed to determine which combination of sorbent-trap and elution solvent provided the most efficient automated method of collection in supercritical fluid extraction (SFE), elution of analytes, and clean-up of orange, sweet potato and green bean extracts for analysis of 56 diverse pesticides using GC-ion-trap MS. The solid-phase traps evaluated consisted of octyldecylsilane (ODS), diol, Tenax and Porapak-Q, and the elution solvents compared were acetone, ethyl acetate, acetonitrile and methanol. SFE collection by bubbling into each organic solvent was also compared. Recoveries, elution volumes, limits of detection and clean-up aspects were determined for each combination of commodity, trap and solvent tested. High trapping efficiencies were achieved in each case, and acetone usually eluted the pesticides in the least volume ( < 1 ml) from the traps. The few matrix components that interfered in GC-ion-trap MS continued to interfere in all trap/solvent Biophysics/Methods/ Food Technology/ Fruit/ Nuts/ Vegetables

Lehotay, Steven J ( Determination of pesticide residues in nonfatty foods by supercritical fluid extraction and gas chromatography/mass spectrometry: collaborative study. *Journal Of AOAC International* 85: 1148-1166.  
Rejection Code: METHODS/NO TOX DATA.  
  
A collaborative study was conducted to determine multiple pesticide residues in apple, green bean, and carrot by using supercritical fluid extraction (SFE) and gas chromatography/mass spectrometry (GC/MS). Seventeen laboratories from 7 countries participated in the final study, and a variety of different instruments was used by collaborators. The procedure simply entails 3 steps: (1) mix 1.1 g drying agent (Hydromatrix) per 1 g frozen precomminuted sample, and load 4-5.5 g of this mixture into a 7-10 mL extraction vessel; (2) perform SFE for 20-30 min with a 1-2 mL/min flow rate of carbon dioxide at 0.85 g/mL density (320 atm, 60 degrees C); and (3) inject the extract, which was collected on a solid-phase or in a liquid trap, into the gas chromatograph/mass spectrometer, using either an ion-trap instrument in full-scan mode or a quadrupole-type instrument in selected-ion monitoring mode. The ability of GC/MS to simultaneously quantitate and confirm the identity of the semivolatile analytes at trace concentrations is a strong feature of the approach. The selectivity of SFE and GC/MS avoids the need for post-extraction cleanup steps, and the conversion of the CO2 solvent to a gas after SFE eliminates the solvent evaporation step common in traditional methods. The approach has several advantages, but its main drawback is the lower recoveries for the most polar analytes, such as methamidophos and acephate, and the most nonpolar analytes, such as pyrethroids. Recoveries for most pesticides are >75%, and recoveries of nonpolar analytes are still >50%. The (within-laboratory) repeatability relative standard deviation (RSDr) values of the recoveries are generally carbofuran in apple (75-500 ng/g), 89% recovery, 7% RSDr, 9% reproducibility relative standard deviation (RSDR); diazinon in apple (60-400 ng/g), 83% recovery, 13% RSDr, 17% RSDR; vinclozolin in apple (6-400 ng/g), 97% recovery, 13% RSDr, 18% RSDR; chlorpyrifos in apple (50-300 ng/g), 105% recovery, 11% RSDr, 13% RSDR; endosulfan sulfate in apple (150-1000 ng/g), 95% recovery, 15% RSDr, 17% RSDR; trifluralin in green bean (30-200 ng/g), 58% recovery, 11% RSDr, 27% RSDR; dacthal in green bean (60-400 ng/g), 88% recovery, 11% RSDr, 17% RSDR; quintozene in green bean (60-400 ng/g), 79% recovery, 13% RSDr, 18% RSDR; chlorpyrifos in green bean (50-300 ng/g), 84% recovery, 11% RSDr, 17% RSDR; p,p'-DDE in green bean (45-300 ng/g), 64% recovery, 14% RSDr, 27% RSDR; atrazine in carrot (75-500 ng/g), 90% recovery, 11% RSDr, 15% RSDR; metalaxyl in carrot (75-500 ng/g), 89% recovery, 8% RSDr, 12% RSDR; parathion-methyl in carrot (75-500 ng/g), 84% recovery, 14% RSDr, 15% RSDR; chlorpyrifos in carrot (50-300 ng/g), 77% recovery, 13% RSDr, 19% RSDR; and bifenthrin in carrot (90-600 ng/g), 63% recovery, 12% RSDr, and 25% RSDR. All analytes except for the nonpolar compounds trifluralin, p,p'-DDE, and bifenthrin gave average Horwitz ratios of <1.0 when AOAC criteria were used. These 3 analytes had high RSDr values but lower RSDR values, which indicated that certain SFE instruments gave consistently lower recoveries for nonpolar compounds. The collaborative study results demonstrate that the method meets the purpose of many monitoring programs for pesticide residue analysis, and the Study Director recommends that it be adopted Official First Action. [Journal Article; In English; United States]

Leistra, M. (1985). COMPUTER SIMULATIONS OF THE TRANSPORT OF PESTICIDES WITH NONUNIFORM WATER FLOW IN GREENHOUSE SOIL. *Soil Sci* 140 : 161-169.  
Chem Codes: Chemical of Concern: MOM Rejection Code: MODEL, NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM METHOMYL DIAZINON INSECTICIDES LEACHING  
KEYWORDS: General Biology-Information  
KEYWORDS: Mathematical Biology and Statistical Methods  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Movement (1971- )  
KEYWORDS: Soil Science-Physics and Chemistry (1970- )  
KEYWORDS: Horticulture-General  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control

Lemic, Jovan, Kovacevic, Divna, Tomasevic-Canovic, Magdalena, Kovacevic, Dragana, Stanic, Tanja, and Pfend, Robert (2006). Removal of atrazine, lindane and diazinone from water by organo-zeolites. *Water Research* 40: 1079-1085.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Systematic adsorption tests were carried out to determine the efficiency of organo-zeolite (OZ) for removal of atrazine, lindane and diazinone from water. The hydrophobic character of OZ-pesticide interactions was confirmed by measuring the amount of pesticides sorbed on zeolite samples modified with 25, 50, 75 and 150 mmol of stearyldimethylbenzylammoniumchloride (SDBAC)/kg of zeolite. The effects of adsorbent particle size, solid content in the suspension and the initial pesticide concentration in the solutions were also investigated. For effective adsorption of diazinone onto an OZ, it is necessary for the SDBAC/diazinon ratio to be higher than 25. The adsorption capacities, calculated by fitting the experimental data to the Langmuir-Freundlich equation, were 2.0 [mu]mol/g (atrazine), 4.4 [mu]mol/g (diazinone) and 3.4 [mu]mol/g (lindan). At lower initial concentrations of pesticide solution, a linear dependence existed between the amount adsorbed and the equilibrium concentration of pesticide. Column experiments showed that at volumetric flow of 6 cm3/min, the breakthrough points (at C/C0=0.1) were 560 bed volume (BV) for lindane and 620 for diazinone. Pesticide/ Adsorption/ Organo-zeolite

Lemke, L. A. and Kissam, J. B. (1987). Evaluation of Various Insecticides and Home Remedies for Control of Individual Red Imported Fire Ant Colonies. *J.Entomol.Sci.* 22: 275-281.

EcoReference No.: 78182  
Chemical of Concern: ALSV,DZ,PYN,CBL,ACP,CPY; Habitat: T; Effect Codes: POP; Rejection Code: LITE EVAL CODED(ALSV),OK(ALL CHEMS),OK TARGET(DZ).

LENTZA-RIZOS, C. (1996). Insecticides authorized for use on olive trees and the relationship between their registration and residues in olive oil. *GRASAS Y ACEITES; 47* 392-396.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. In order to eliminate losses due to insect attack, several insecticides are used on olive trees. Their residues in olive oil constitute an important parameter of its quality and must be monitored regularly and kept as low possible in order to ensure consumer protection. In this paper the insecticides authorized for use on olive trees are listed and their ADIs and Codex Alimentarius MRLs reported. The existing registrations are discussed from the point of view of their residues in oil. Biochemistry/ Fats/ Food Technology/ Oils/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Fruit/ Nuts/ Tropical Climate/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants/ Insects

LEPINE FL (1991). Effects of ionizing radiation on pesticides in a food irradiation perspective: A bibliographic review. *J AGRIC FOOD CHEM; 39* 2112-2118.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE, REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. The effect of gamma irradiation on pesticides in solution or in food reviewed. Degradation of pesticides is generally greater in irradiated aqueous solution than in aliphatic solvents or in food. Degradation products of some pesticides have been identified in organic solvents, but very few studies of this type have been performed on irradiated food. Addition products between molecules of solvent and pesticides have been observed. These results are discussed in a food irradiation perspective. Isotopes/ Radiation/ Biochemistry/ Food Analysis/ Food Technology/ Food-Processing Industry/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Disinfectants/ Disinfection/ Sterilization/ Herbicides/ Pest Control/ Pesticides

Levanon, D., Codling, E. E., Meisinger, J. J., and Starr, J. L. (1993). Mobility of agrochemicals through soil from two tillage systems. *J Environ Qual* 22 : 155-161.  
Chem Codes: MTL,CBF Rejection Code: NO TOX DATA.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The fate of agrochemicals is often greatly affected by the surface-soil conditions in the field. This study was conducted to characterize the impact of two contrasting tillage systems on the movement of agrochemicals in soil. The two tillage systems were plow-tillage (PT) and no-tillage (NT) for corn (Zea mays L.) production. The study included incubation and leaching of undisturbed soil columns and disturbed soil samples from 16-yr plots subject to the two tillage regimes. The agrochemicals used in the study were NH4NO3, atrazine (2-chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine-2,4-diamine), carbofuran (2,3-dihydro-2,3-dimethyl-7-benzofuranyl methylcarbamate), diazinon (0,0- diethyl-O-(6-methyl- 2(1-methethyl)-4-pyramidinyl phosphor- othioate), and metolachlor (2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-metoxy-1-methylethyl) aetamide). The results of this study show greater ponded flow movement of all agrochemicals in soils under PT vs. NT conditions. Strong eviden  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Movement (1971- )  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Soil Science-General  
KEYWORDS: Soil Science-Physics and Chemistry (1970- )  
KEYWORDS: Pest Control  
KEYWORDS: Gramineae

Levanon, D., Meisinger, J. J., Codling, E. E., and Starr, J. L. (1994). Impact of tillage on microbial activity and the fate of pesticides in the upper soil. *Water Air and Soil Pollution* 72 : 179-189.  
Chem Codes: MTL,CBF Rejection Code: FATE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The impact of two tillage systems, plow tillage (PT) and no-tillage (NT), on microbial activity and the fate of pesticides in the 0-5 cm soil layer were studied. The insecticides carbofuran and diazinon, and the herbicides atrazine and metolachlor were used in the study, which included the incubation and leaching of pesticides from untreated soils and soils in which microorganisms had been inhibited. The mineralization of ring 14C labeled pesticides was studied. The study differentiated between biotic and abiotic processes that determine the fate of pesticides in the soil. Higher teaching rates of pesticides from PT soils are explaned by the relative importance of each of these processes. In NT soils, higher microbial populations and activity were associated with higher mineralization rates of atrazine, diazinon and carbofuran. Enhanced transformation rates played an important role in minimizing the leaching of metolachlor and carbofuran from NT soils. The role of abiot  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Microorganisms  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Food and Industrial Microbiology-Biodegradation and Biodeterioration  
KEYWORDS: Soil Science-Physics and Chemistry (1970- )  
KEYWORDS: Pest Control  
KEYWORDS: Microorganisms-Unspecified

Levanon, D., Meisinger, J. J., Codling, E. E., and Starr, J. L. (1994). Impact of tillage on microbial activity and the fate of pesticides in the upper soil. *Water, Air, and Soil Pollution, 72 (1-4) pp. 179-189, 1994*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0049-6979  
Abstract: The impact of two tillage systems, plow tillage (PT) and no-tillage (NT), on microbial activity and the fate of pesticides in the 0-5 cm soil layer were studied. The insecticides carbofuran and diazinon, and the herbicides atrazine and metolachlor were used in the study, which included the incubation and leaching of pesticides from untreated soils and soils in which microorganisms had been inhibited. The mineralization of ring superior 1 superior 4C labeled pesticides was studied. The study differentiated between biotic and abiotic processes that determine the fate of pesticides in the soil. Higher leaching rates of pesticides from PT soils are explained by the relative importance of each of these processes. In NT soils, higher microbial populations and activity were associated with higher mineralization rates of atrazine, diazinon and carbofuran. Enhanced transformation rates played an important role in minimizing the leaching of metolachlor and carbofuran from NT soils. The role of abiotic adsorption/retention was important in minimizing the leaching of metolachlor, carbofuran and atrazine from NT soils. The role of fungi and bacteria in the biodegradation process was studied by selective inhibition techniques. Synergistic effects between fungi and bacteria in the degradation of atrazine and diazinon were observed. Carbofuran was also degraded in the soils where fungi were selectively inhibited. Possible mechanisms for enhanced biodegradation and decreased mobility of these pesticides in the upper layer of NT soils are discussed.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: Netherlands  
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

LEVIN PS, CHIASSON, W., and GREEN JM (1997). Geographic differences in recruitment and population structure of a temperate reef fish. *MARINE ECOLOGY PROGRESS SERIES; 161* 23-35.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The purpose of this study was to assess the importance of pre- and post-settlement processes in the temperate reef fish Tautoqolabrus adspersus at multiple spatial scales and in 2 distinct regions, Newfoundland, Canada, and the Gulf of Maine, USA. We examined a total of 20 sites (separated by 100 to 1000 m) nested within 10 locations (separated by ca 10 km). Greater numbers of adult fish were observed in Newfoundland than in the Gulf of Maine; however, higher abundances of newly recruited fish occurred in the Gulf of Maine. An experiment in which we provided standardized habitats in both regions also revealed that recruitment was higher in the Gulf of Maine than Newfoundland. In the Gulf of Maine, variation in the densities of adults and newly recruited fish was most pronounced among sites, but in Newfoundland we detected pronounced variability at both the site and location scales. Algal height was not associated with among-site variability in the abundances of recruits Ecology/ Fishes

Levine, Barry S. and Murphy, Sheldon D. (1977). Effect of piperonyl butoxide on the metabolism of dimethyl and diethyl phosphorothionate insecticides. *Toxicology and Applied Pharmacology* 40: 393-406.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Pretreatment with piperonyl butoxide (400 mg/kg) 1 hr prior to challenge antagonizes the toxicity of the dimethyl phosphorothionate insecticides, methyl parathion and Guthion, but potentiates the toxicity of the diethyl phosphorothionates, parathion and Ethyl Guthion. The effect of piperonyl butoxide on the metabolism of phosphorothionates and their oxygen analogs was studied in livers from male mice in an attempt to correlate metabolism with toxicity. Oxidative desulfuration (activation) and oxidative cleavage of both dimethyl and diethyl phosphorothionates by liver homogenates in vitro was inhibited by piperonyl butoxide to approximately the same extent. Enzymatic hydrolysis of paraoxon and methyl paraoxon was unaffected by piperonyl butoxide. No appreciable metabolism of parathion, Ethyl Guthion, or their oxygen analogs by glutathione-requiring enzyme systems was observed. Glutathione-dependent detoxification of methyl parathion in mouse liver in vitro occurred irrespective of microsomal oxidase activity. In contrast degradation of Guthion by glutathione-requiring enzyme systems only occurred during inhibition of oxidative metabolism. Furthermore, methyl paraoxon was rapidly metabolized by glutathione-dependent enzyme systems in vitro, whereas gutoxon did not appear to be detoxified by these enzymes. In vivo metabolism experiments suggested that methyl paraoxon was more rapidly detoxified than methyl parathion by glutathione-dependent enzymes. These results are consistent with the observation of a 40-fold antagonism of methyl parathion toxicity by piperonyl butoxide compared to the only three-fold antagonism of Guthion toxicity.

Levine, Barry S. and Murphy, Sheldon D. (1977). Esterase inhibition and reactivation in relation to piperonyl butoxide-phosphorothionate interactions. *Toxicology and Applied Pharmacology* 40: 379-391.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO MIXTURE.  
  
The effect of piperonyl butoxide on the acute toxicity of phosphorothionate insecticides was studied in male mice. One hour after piperonyl butoxide (400 mg/kg), the toxicity of the dimethyl phosphorothionates, methyl parathion and Guthion, was antagonized, whereas the toxicity of their respective diethyl homologs, parathion and Ethyl Guthion, was potentiated. Piperonyl butoxide did not appreciably alter the toxicity of the oxygen analogs of these compounds. Pretreatment with SKF 525-A (50 mg/kg) modified the toxicity of the phosphorothionates in a manner qualitatively similar to piperonyl butoxide pretreatment. Plasma concentrations of all four insecticides were increased three- to sevenfold in piperonyl butoxide-pretreated mice. This increase may result in a greater total oxon formation; however, reactivation in vitro of esterases inhibited in vivo was 5 to 10 times more rapid following methyl parathion or Guthion challenge than after their diethyl homologs. Although a greater total oxon formation-cholinesterase inhibition is possible for both dimethyl and diethyl phosphorothionates following piperonyl butoxide pretreatment, rapid reactivation of inhibited nerve tissue cholinesterases after dimethyl phosphorothionate challenge appears to compensate for further inhibition occurring at a decreased rate. The net result would be a reduction in dimethyl phosphorothionate toxicity. In contrast, slow reactivation of inhibited nerve tissue cholinesterases following diethyl phosphorothionate challenge appears unable to compensate for increased oxon formation-cholinesterase inhibition. The net result is a potentiation of the toxicity of the diethyl-substituted compounds.

Levine, Seymour and Sowinski, Richard (1977). Renal papillitis and urinary obstruction caused by a substituted pyrimidine. *Toxicology and Applied Pharmacology* 42: 603-606.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
A single oral administration of 2-amino-5-bromo-6-methyl-4-pyrimidinol caused deposits of crystalline material in collecting tubules of the rat renal medulla, followed by acute inflammation and intrarenal obstruction. Renal pelvis and urinary bladder epithelium developed reactive hyperplastic changes. The lesions were largely reversible. The pathology is of interest for comparison with hyperuricemic nephropathy and drug-induced urothelial hyperplasia.

LEVOT GW (1994). A survey of Organophosphate susceptibility in populations of Bovicola ovis (Schrank) (Phthiraptera: Trichodectidae). *JOURNAL OF THE AUSTRALIAN ENTOMOLOGICAL SOCIETY; 33* 31-34.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A toxicological survey of 28 field populations of the sheep body louse, Bovicola ovis, identified only one strain whose response to diazinon was recognisably separate from the normally distributed responses of the other strains. The resistance factor (at LC50) of this strain was about 9 times. Resistance to diazinon correlated positively with resistance to coumaphos, but not to propetamphos. The lack of correlation between strain resistances to diazinon and cypermethrin indicates that organophosphate chemicals can be recommended to woolgrowers whose flocks are infested by pyrethroid-resistant lice. Conversely, the results presented here suggest that, at least for the diazinon-resistant strain, a pyrethroid or propetamphos treatment would be the most appropriate control option. Biochemistry/ Minerals/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Mallophaga/ Artiodactyla

LEVOT GW and SALES, N. (1997). Insecticide residues in wool from sheep jetted by hand and via automatic jetting races. *AUSTRALIAN JOURNAL OF EXPERIMENTAL AGRICULTURE; 37* 737-742.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Sheep with 8 months wool were jetted according to registered label instructions with diazinon or cyromazine using a standard Harrington automatic jetting race, a modified jetting race or by hand. The modified jetting race delivered more insecticide solution than the standard machine or hand jetting. Sequential insecticide residue analysis of the wool that had been directly treated was used to calculate the half-lives of diazinon and cyromazine when applied by the 3 techniques. The half-life of diazinon applied by hand jetting was about 27 days. The half-life of hand-jetted cyromazine was about 75 days on sheep. Insecticide half life was much lower on sheep treated via the standard Harrington automatic jetting race. This is believed to be because, unlike hand jetting which gives good liquid penetration of the fleece, much of the applied chemical remains on the outside of the fleece where it is subject to greater environmental breakdown. Diazinon residues measured in bale Diagnosis/ Skin/ Animal Husbandry/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Artiodactyla

Lewis, J. B. and Sawicki, R. M. (1971). Characterization of the resistance mechanisms to diazinon, parathion and diazoxon in the organophosphorus-resistant SKA strain of house flies (Musca domestica L.). *Pesticide Biochemistry and Physiology* 1: 275-285.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Subcellular fractions of house flies susceptible and resistant to organophosphorus insecticides were examined to characterize in vitro the mechanisms of resistance to diazinon, parathion and diazoxon controlled by genes on the II and V chromosomes, using radio-labeled insecticides. The microsomal fractions of all the strains cleaved parathion and diazinon to diethyl phosphorothioic acid (DEPTA), and converted the phosphorothionate insectides into the corresponding phosphates, in the presence of NADPH and oxygen. This conversion system, stimulated by added GSH and inhibited by sesamex, is a mixed-function oxygenase and occurred equally in susceptible and resistant house flies. Resistant house flies also had the following breakdown mechanisms: in the microsomal fraction (1) a mixed-function oxygenase, easily inhibited by sesamex which converts diazoxon, and possibly diazinon, into three unidentified metabolites but is inactive with parathion or paraoxon. It is controlled by factor Ses on chromosome V; (2) a phosphatase, controlled by gene a on chromosome II, which hydrolyses diazoxon and paraoxon into diethyl phosphoric acid (DEPA) in the absence of oxygen and NADPH. The resistance mechanism in the soluble fraction is a glutathione-S-transferase that desethylates diazinon, parathion and diazoxon into their corresponding desethyl derivatives with the concomitant formation of S-ethyl glutathione. This GSH-dependent system is unaffected by sesamex, lack of oxygen or NADPH, and is controlled by a factor on chromosome II.The importance of these mechanisms on the resistance to organophosphorus insecticides is discussed.

LEWIS MA (1986). Impact of a municipal wastewater effluent on water quality, periphyton, and invertebrates in the little Miami River near Xenia, Ohio (USA). *OHIO J SCI; 86* 2-8.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY, MIXTURE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Water quality, periphyton, and invertebrates were determined for the Little Miami River above and below a municipal wastewater outfall during July-September 1984. The primary impact of the effluent on water quality was to increase nitrogen-containing compounds. Organosphosphate and chlorinated insecticides were non-detectable in any water sample and levels of potentially toxic metals were low. A total of 122 attached periphyton species were identified from substrates colonized for four weeks during each month. Diatoms dominated the periphyton and were represented by 106 species. The more abundant forms were Amphora perpusilla and Navicula minima which comprised on the average over 70% of the total cell volume. Thirty-one algal species of minor abundance were observed only above the discharge point, relative to eight restricted below the discharge in water containing approximately 15-35% effluent. A. perpusilla comprised on the average 80% of all forms below the outfall r

Li, G. C. and Chen, C. Y. (1981). Study on the Acute Toxicities of Commonly Used Pesticides to Two Kinds of Fish. *K'O Hsueh Fa Chan Yueh K'an* 9: 146-152(CHI)(ENG ABS).

EcoReference No.: 5345  
Chemical of Concern: ACR,CBL,DDZ,TBC,DZ,ES,BTC; Habitat: A; Effect Codes: PHY; Rejection Code: NO FOREIGN.

Li, Gwo-Chen, Wong, Sue-San, and Tsai, Mei-Chen (2002). **<04 Article Title>.**  *Yaowu Shipin Fenxi* 10: <25 Page(s)>.

Chemical of Concern: FVL, TCZ; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Li, Gwo-Chen, Wong, Sue-San, and Tsai, Mei-Chen (2002). Safety evaluation and regulatory control of pesticide residues in Taiwan. *Yaowu Shipin Fenxi* 10: 269-277.  
Chem Codes: Chemical of Concern: TCZ,DCNA Rejection Code: HUMAN HEALTH.  
  
Because agricultural prodn. in Taiwan depends heavily on the use of pesticides, much attention has been focused on pesticide contamination of food and on the effects of pesticide residues on human health. The Taiwan Agricultural Chems. and Toxic Substances Research Institute (TACTRI) conducts tests to evaluate the safe usage of pesticides in Taiwan. In accordance with the Pesticide Control Act, min. harvest intervals and tolerance levels for pesticides used on different crop groups are established before pesticides are approved for use in the field. The \"tolerance\" level of pesticides for different crop groups is detd. on the basis of: (i) the acceptable daily intake value of the pesticide; (ii) the av. daily consumption of each crop group by the Taiwanese people; and (iii) the level of pesticide residues on different crops, estd. from supervised trials. Tolerance levels must be established before registrations can be approved. Pesticide residues on vegetables and fruits are under heavy public scrutiny. Fifteen workstations for pesticide residue control have been set up by the TACTRI in different localities in Taiwan, and multi-residue methods are used for the anal. of these products. Pesticide residues commonly found on vegetables have now been identified. Educational programs for farmers have been devised, based on the anal. results obtained from these workstations. Risk assessments of dietary intakes of pesticides are carried out on a continuing basis. Results have shown that the dietary intake of pesticide residues by consumers is within safe limits. [on SciFinder (R)] food/ risk/ contamination/ pesticide/ vegetable Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:188976  
Chemical Abstracts Number: CAN 139:5880  
Section Code: 17-5  
Section Title: Food and Feed Chemistry  
Document Type: Journal  
Language: written in English.  
Index Terms: Food contamination; Fruit; Human; Pesticides; Risk assessment; Vegetable (safety evaluation and regulatory control of pesticide residues in Taiwan)  
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 90-15-3 (1-Naphthol); 99-30-9 (Dicloran); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 299-84-3 (Fenchlorphos); 300-76-5 (Naled); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-s-methyl); 944-21-8 (Dyfoxon); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1646-87-3 (Aldicarb-sulfoxide); 1646-88-4 (Aldicarb-sulfone); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2439-01-2 (Chinomethionat); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2655-14-3 (XMC); 2921-88-2 (Chlorpyriphos); 3766-81-2 (Fenobucarb); 4658-28-0 (Aziprotryne); 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialiphos); 10605-21-7 (Carbendazim); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 15972-60-8 (Alachlor); 16655-82-6 (3-Hydroxycarbofuran); 16709-30-1 (3-Ketocarbofuran); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19666-30-9 (Oxadiazon); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23184-66-9 (Butachlor); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 27355-22-2 (Fthalide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31972-44-8 (Fenamiphos-sulfone); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 36519-00-3 (Phosdiphen); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenophos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 57511-62-3 (Propaphos-sulfoxide); 57511-63-4 (Propaphos-sulfone); 57837-19-1 (Metalaxyl); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60238-56-4 (Chlorthiophos); 63284-71-9 (Nuarimol); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66841-25-6 (Tralomethrin); 67375-30-8; 68049-83-2 (Azafenidin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Beta-cyfluthrin); 69327-76-0 (Buprofezin); 69377-81-7 (Fluroxypyr); 69409-94-5 (Fluvalinate); 69806-40-2 (Haloxyfop-methyl); 70124-77-5 (Flucythrinate); 76738-62-0; 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 85509-19-9 (Flusilazole); 86479-06-3 (Hexaflumuron); 86598-92-7 (Imibenconazole); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 89784-60-1 (Pyraclofos); 94361-06-5 (Cyproconazole); 95465-99-9 (Cadusafos); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 101463-69-8 (Flufenoxuron); 104030-54-8 (Carpropamid); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 119446-68-3 (Difenoconazole); 133855-98-8 (Epoxiconazole); 143390-89-0 (Kresoxim-methyl); 146887-37-8 (RH9130); 146887-38-9 (RH9129); 172838-11-8 (Tokuoxon) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (safety evaluation and regulatory control of pesticide residues in Taiwan)

Li, L. H. and Hui, S. W. ( 1997). The effect of lipid molecular packing stress on cationic liposome-induced rabbit erythrocyte fusion. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1323: 105-116.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effect of curvature stress on the efficiency of cationic liposome-induced fusion between rabbit erythrocytes was studied. Multilamellar cationic liposomes containing 1,2-dioleoyl-3-trimethylammoniumpropane (DOTAP) and different PEs (1,2-dilinoleoyl-sn-glycero-3-phosphoethanolamine (dilin-PE), 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (DOPE), 1-palmitoyl-2-oleoyl-sn-glycero-3-phosphoethanolamine (POPE), and lysophosphatidylethanolamine, egg (lyso-PE)) were used to induce cell-cell fusion. It was found that high cell-cell fusion yield (FY) of about 50% could be achieved in sucrose solution by using cationic liposomes containing 50% DOTAP. Cell-cell fusion was assayed by shape criterion and was verified by fluorescence microscopy, using a membrane dye mixing method. The curvature stress, as a result of mixing unsaturated PEs in cationic liposomes, had a significant effect on cell-cell FY which increased with the degree of acyl chain unsaturation, in the order dilin-PE>DOPE>POPE>lyso-PE. Replacement of dilin-PE, DOPE, or POPE by lyso-PE gradually in cationic liposomes lowered the cell-cell FY from 50% to 1%. Furthermore, cationic liposome-induced cell lysis, and fusion between cationic liposomes and cells, as assayed by the N-(lissamine rhodamine B sulfonyl)-1,2-dihexadecanoyl-sn-glycero-3-phosphoethanolamine, triethylammonium salt and N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-1,2-dihexadecanoyl-sn-glycero-3-phosphoethanolamine, triethylammonium salt (Rh-PE/NBD-PE) energy transfer method, followed the same order as that for cell-cell fusion. Fusion between the negatively charged PS liposomes and cationic liposomes also followed the same order. The electric double layer screening by electrolytes in NaCl-containing solution and phosphate buffered saline (PBS) was found to reduce the cell-cell FY and cell lysis. These findings suggest that liposome-induced cell-cell fusion was achieved by cationic liposomes serving as fusion-bridges among cells. DOTAP/ Cell-cell fusion/ Liposome cell fusion/ Curvature stress effect/ Bending energy/ Cationic lipid/ Erythrocyte/ (Rabbit)

Li, P. C. H., Swanson, E. J., and Gobas FAPC (2002). Diazinon and Its Degradation Products in Agricultural Water Courses in British Columbia, Canada. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 69, no. 1, pp. 59-65. 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0007-4861  
Descriptors: Diazinon  
Descriptors: Pesticides  
Descriptors: Insecticides  
Descriptors: Enzymes  
Descriptors: Toxicity  
Descriptors: Degradation Products  
Descriptors: Environmental Protection  
Descriptors: Contamination  
Descriptors: Insect Control  
Descriptors: Water  
Descriptors: Canada, British Columbia  
Abstract: Diazinon (O,O'-diethyl O-[4-methyl-2-(1-methylethyl)-4-pyrimidinyl] phosphorothioate) is an organophosphorus insecticide. It was first commercially introduced in 1952, and it is still commonly used in Canada and elsewhere for insect control. The insecticide inhibits an enzyme, acetylcholinesterase (AChE), in insects that breaks down the neurotransmitter, acetylcholine (ACh). Without the functioning enzyme, ACh builds up in the synaptic junction, causing incoordination, convulsions and, ultimately, death of insects. However, it has been established by US Environmental Protection Agency (EPA) that a diazinon concentration of 350 ng/L may be toxic to aquatic organisms (Amato et al. 1992). Toxicity of diazinon to humans has also been reported (Chapman & Hall 1996; Cox 1992). For instance, fatal human dose was reported to be about 90-444 mg/kg (Chapman & Hall 1996), and two EPA surveys found that diazinon was the 6 super(th) most frequent cause of accidental death due to pesticides (USEPA 1988). While diazinon is considered as moderately toxic, a more toxic impurity, O,O,O,O-tetraethyl dithiopyrophosphate (sulfotepp), has been found in the pesticide formulations of diazinon (Meier et al. 1979). Sulfotepp, which is 1000 times more toxic than diazinon (Sovocool et al. 1981), may exist either as an impurity in the manufacture of diazinon or as a breakdown product in the presence of trace water in the pesticide formulation. But, in the presence of large amount of water, sulfotepp was not formed (Ruzicka et al. 1967; Karr 1985). This is probably due to hydrolytic degradation of diazinon into harmless products.  
DOI: 10.1007/s00128-002-0010-0  
Language: English  
Publication Type: Journal Article  
Classification: SW 3020 Sources and fate of pollution  
Classification: X 24136 Environmental impact  
Classification: AQ 00008 Effects of Pollution  
Subfile: Water Resources Abstracts; Aqualine Abstracts; Toxicology Abstracts

Li, Qiu-Tian and Kam, Wai Kuen (1997). Steady-state fluorescence quenching for detecting acyl chain interdigitation in phosphatidylcholine vesicles. *Journal of Biochemical and Biophysical Methods* 35: 11-22.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In the present study we have demonstrated the detection of the transition of 1,2-dipalmitoyl-sn-glycero-3-phosphocholine (DPPC) multilamellar vesicles from the noninterdigitated gel to the fully interdigitated gel phase in the presence of ethanol or ethylene glycol (EG) using the method of fluorescence quenching. This method is based on the change of accessibility of 2-(12-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)dodecanoyl-1-hexadecanoyl-sn-glycero-3-phophatidylcholine (NBD-PC), a membrane-buried fluorophore, to iodide, a quencher in the aqueous solution, during the phase transition. It is found that accessible fluorophore appears to increase at ethanol and EG concentrations known for inducing DPPC interdigitation. This increase in accessibility is either due to the relocation of the fluorescent moiety closer to the lipid-water interface or an increase in the ability of the quencher to penetrate into the loosely packed headgroup region of the interdigitated domain or both. Our results suggest the coexistence of interdigitated and noninterdigitated phases in the phospholipid vesicles and the method of fluorescence quenching might be useful in quantitating the percentage of phospholipids which are interdigitated. Fluorescence quenching/ Interdigitation/ NBD-PC

Li, W., Dobraszczyk, B. J., and Wilde, P. J. (2004). Surface properties and locations of gluten proteins and lipids revealed using confocal scanning laser microscopy in bread dough. *Journal of Cereal Science* 39: 403-411.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Surface properties of gluten proteins were measured in a dilation test and in compression and expansion tests. The results showed that monomeric gliadin was highly surface active, but polymer glutenin had almost no surface activity. The locations of those proteins in bread dough were investigated using confocal scanning laser microscopy and compared with polar and nonpolar lipids. Added gluten proteins participated in the formation of the film or the matrix, surrounding and separating individual gas cells in bread dough. Gliadin was found in the bulk of dough and gas &lsquo;cell walls&rsquo;. Glutenin was found only in the bulk dough. Polar lipids were present in the protein matrix and in gas &lsquo;cell walls&rsquo;, as well as at the surface of some particles, which appeared to be starch granules. However, nonpolar lipid mainly occurred on the surface of particles, which may be starch granules and small lipid droplets. It is suggested that the locations of gluten proteins in bread dough depends on their surface properties. Polar lipid participates the formation of gluten protein matrix and gas &lsquo;cell walls&rsquo;. Nonpolar lipids may have an effect on the rheological properties by associating with starch granule surfaces and may form lipid droplets. Confocal scanning laser microscopy/ Surface tension/ Rheological properties/ Gliadin/ Glutenin/ Polar lipid/ Nonpolar lipid/ Bread dough

Li, Yan-Tuan, Yan, Cui-Wei, Guo, Bing-Ran, and Liao, Dai-Zheng (1997). Synthesis, characterization and magnetic properties of novel [mu]-isophthalato oxovanadium(IV) binuclear complexes. *Polyhedron* 16: 4379-4384.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Four novel oxovanadium(IV) binuclear complexes have been synthesized, namely [(VO)2(IPHTA) (L)2SO4 (L denotes 2,2&prime;-bipyridine (bpy); 1,10-phenanthroline (phen); 4,4&prime;-dimethyl-2,2&prime;-bipyridine (Me2bpy) and 5-nitro-1,10-phenanthroline (NO2-phen)), where IPHTA is the isophthalate dianon. Based on elemental analyses, molar conductivity measurements, IR and electronic spectra studies, it is proposed that these complexes have IPHTA-bridged structures and consist of two vanadium(IV) atoms in a square-pyramidal environment. The complexes [(VO)2(IPHTA)(Me2bpy)2]SO4 (1) and [(VO)2(IPHTA)(bpy)2]SO4 (2) were characterized by variable temperature magnetic susceptibility (4-300 K) and the data could be well fitted by the least-squares method to a susceptibility equation derived from the spin Hamiltonian operator, . The exchange integral, J, was found to be -26.8 cm-1 for (1) and -31.0 cm-1 for (2). These results are commensurate with antifferomagnetic interactions between two oxovanadium(IV) ions within each molecule. The influence of different terminal ligands on magnetic interactions between the metals of this kind of complexes is also discussed. oxovanadium(IV)/ [mu]-isophthalato-bridge/ nuclear complex/ synthesis/ characterization/ magnetism

Lichtenstein, E. P. (1975). Chemical Residue Interactions and Effects in Soil-Plant-Animal Systems. *Proc.and Rep.of Two Resear.Co-Ordination Meetings Organized by the Joint FAO/IAEA Div.of Atomic Energy in Food and Agriculture, Nov.5-9, 1973 and June 4-7, 1974, Vienna, Austria* 3-7.

EcoReference No.: 51519  
Chemical of Concern: HCCH,DDT,ATZ,PCB,DZ,CBF,PRT; Habitat: T; Effect Codes: ACC,GRO,MOR; Rejection Code: NO ENDPOINT(ALL CHEMS,TARGET-ATZ).

Lichtenstein, E. P. (1966). Increase of Persistence and Toxicity of Parathion and Diazinon in Soils with Detergents. *J.Econ.Entomol.* 59: 985-993.

EcoReference No.: 65456  
Chemical of Concern: DZ,PRN,AND,AZ,HCCH; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Lichtenstein, E. P., Liang, T. T., and Anderegg, B. N. (1973). Synergism of Insecticides by Herbicides.  *Science* 181: 847-849.

EcoReference No.: 2939  
Chemical of Concern: SZ,24DXY,ATZ,DZ,PRT,PRN,CBF,DDT,DLD; Habitat: AT; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(ATZ,SZ),OK(24DXY),NO ENDPOINT(DZ,PRT,PRN,CBF,DDT,DLD).

Lichtenstein, E. P., Liang, T. T., and Anderegg, B. N. (1975). Synergism of Insecticides by Herbicides Under Various Environmental Conditions. *Environ.Conserv.* 2: 148.  
Chem Codes: EcoReference No.: 65412  
Chemical of Concern: ATZ,SZ,24DXY,CBF,DDT,PRN,DZ Rejection Code: REVIEW.

Lieber, E., Rao, C. N. R., and Keane, F. M. (1963). Phenyl lead (IV) azides--preparation, properties and infra-red spectra. *Journal of Inorganic and Nuclear Chemistry* 25: 631-635.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Two stable tetravalent lead azides, triphenyl lead azide and diphenyl lead diazide have been prepared and characterized. Physical properties such as crystal morphology, infra-red spectra, X-ray diffraction, solubility and thermal behaviour are reported.

LIESS, M., SCHULZ, R., LIESS, M. H-D, ROTHER, B., and KREUZIG, R. (1999). Determination of insecticide contamination in agricultural headwater streams. *WATER RESEARCH; 33* 239-247.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. A headwater stream in an agricultural catchment in Northern-Germany was intensively monitored for insecticide occurrence (lindane, parathion-ethyl, fenvalerate). Brief insecticide inputs following precipitation with subsequent surface runoff result in high concentrations in water and suspended matter (e.g. fenvalerate: 6.2 mug l-1, 302 mug kg-1). These transient insecticide contaminations are typical for headwater streams with an agricultural catchment area, but have been rarely reported in such extent. Event controlled sampling methods for the determination of this runoff related contamination with a time resolution of up to 1 h are introduced. The temporal distribution of the insecticide concentration is shown on different time scales (years, months, hours) over a period of 4 years. The measured concentrations are compared with other references. Insecticide losses due to surface water runoff were calculated between 0.01-0.07% of the applied insecticide. Air Pollution/ Soil Pollutants/ Water Pollution

Lifshitz, M., Shahak, E., and Sofer, S. (1999Apr). Carbamate and organophosphate poisoning in young children. *Pediatr Emerg Care 1999 Apr;15(2):102-3.* 15: 102-3.  
Chem Codes: Chemical of Concern: MOM Rejection Code: HUMAN HEALTH.  
  
ABSTRACT: OBJECTIVE: Retrospective evaluation of the clinical course of carbamate and organophosphate poisoning in young children. DESIGN: The records of 36 children intoxicated with carbamate and 16 children intoxicated with organophosphate (age range: 2 to 8 years, median: 2.8 years) were examined retrospectively. The carbamate agents were identified as methomyl or aldicarb, and the organophosphate as parathion, fenthion, malathion, and diazinon. The causes of poisoning were accidental ingestion in 46 children and inhalation in six children. CLINICAL SETTING: Pediatric Intensive Care Unit of a teaching hospital. INTERVENTIONS: Gastric lavage was performed, and activated charcoal was administered to all children who had ingested poisonous pesticides. Atropine sulphate was administered intravenously in repeated doses to all children with bradycardia, diarrhea, salivation, and miosis. Obidoxime chloride was administered to patients with organophosphate poisoning and to those in whom the ingested material was unidentified on admission. RESULTS: Predominant symptoms were related to central nervous system depression and severe hypotonia. Other clinical signs such as miosis, diarrhea, salivation, bradycardia, and fasciculation were less frequent, while tearing and diaphoresis were not observed. Pulmonary edema developed in six patients with organophosphte poisoning. Three children required mechanical ventilation for several hours. One child (organophosphate poisoning) died shortly after arrival at the emergency department. All other children recovered completely. CONCLUSION: Based on a relatively large group of young pediatric patients with carbamate and organophosphate poisoning, it is concluded that the clinical presentation differed from those described in adults. Absence of classic muscarinic effects does not exclude the possibility of cholinesterase inhibitor agents poisoning in young children with central nervous system depression.

Lilly, J. H., Mohiyudden, S., Prabhuswamy, H. P., Samuel, J. C., and Shetty, S. V. R. (1969). Effects of Insecticide-Treated Rice Plants and Paddy Water on Vertebrate Animals. *Mysore J.Agric.Res.* 3: 371-379.

EcoReference No.: 37713  
Chemical of Concern: DZ,CBL,PRT; Habitat: AT; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Lima Alejandro and Vega Libia (2005). Methyl-parathion and organophosphorous pesticide metabolites modify the activation status and interleukin-2 secretion of human peripheral blood mononuclear cells. *Toxicology Letters [Toxicol. Lett.]. Vol. 158, no. 1, pp. 30-38. Jul 2005.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0378-4274  
Descriptors: Pesticides  
Descriptors: Interleukin 2  
Descriptors: Metabolites  
Descriptors: Peripheral blood mononuclear cells  
Descriptors: Toxicity  
Descriptors: CD25 antigen  
Descriptors: CD69 antigen  
Descriptors: phytohemagglutinins  
Descriptors: Cell proliferation  
Abstract: Organophosphorous (OP) compounds are the most commonly used pesticides. There are reports on susceptibility to the toxic effects of OP pesticides, but no information exists regarding the toxicity of their metabolites. To determine the metabolites' contribution to the OP pesticide immunotoxic effects, human peripheral blood mononuclear cells (PBMCs) were treated with the parent compound methyl-parathion (MP) and the following OP pesticide alkyl-phosphorous metabolites: diethylphosphate (DEP), diethylthiophosphate (DETP), diethyldithiophosphate (DEDTP), dimethylphosphate (DMP), and dimethyldithiophosphate (DMDTP). Activation and function of the PBMCs were examined by assessment of phytohemagglutinin (PHA)-induced proliferative response, interleukin-2 (IL-2) secretion, and CD25 and CD69 expression. Treatments with DMP, DEP, DETP and DEDTP for 48 h produced significant toxicity in human PBMCs, but did not affect their proliferative response to PHA. Only MP reduced cell proliferation by 30%. DEDTP decreased the proportion of PBMCs expressing CD25. This effect was associated with a reduction of IL-2 secretion, which was also reduced by MP and DMP treatments. In contrast, DETP and DEDTP treatments increased the expression of CD69. DMP, DETP and DEDTP were more consistently involved in modulating the PBMC response to PHA.  
Publisher: Elsevier Science Ireland Ltd., Elsevier House, Brookvale Plaza East Park Shannon, Co. Clare Ireland, [mailto:nlinfo-f@elsevier.nl], [URL:http://www.elsevier.nl/]  
DOI: 10.1016/j.toxlet.2005.02.010  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

Lima de Souza, Debora, Frisch, Benoit, Duportail, Guy, and Schuber, Francis (2002). Membrane-active properties of [alpha]-MSH analogs: aggregation and fusion of liposomes triggered by surface-conjugated peptides. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1558: 222-237.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Reaction of the melanotropin hormone analogs [Nle4,-Phe7]-[alpha]-MSH and [Nle4,-Phe7]-[alpha]-MSH(4-10), which were extended at their N-terminus by a thiol-functionalized spacer arm, with preformed liposomes containing thiol-reactive (phospho)lipid derivatives resulted in the aggregation of the vesicles and in a partial leakage of their inner contents. This aggregation/leakage effect, which was only observed when the peptides were covalently conjugated to the surface of the liposomes, was correlated with the fusion of the vesicles as demonstrated by the observed decrease in resonance energy transfer between probes in a membrane lipid mixing assay. A limited fusion was confirmed by monitoring the mixing of the liposome inner contents (formation of 1-aminonaphthalene-3,6,8-trisulfonic acid/p-xylene bis(pyridinium bromide) complex). The membrane-active properties of the peptides could be correlated with changes in the fluorescence emission spectra of their tryptophan residue, which suggested that after their covalent binding to the outer surface of the liposomes they can partition within the core of the bilayers. A blue shift of 10 nm was observed for [Nle4,-Phe7]-[alpha]-MSH which was correlated with an increase in fluorescence anisotropy and with changes in the accessibility of the coupled peptide as assessed by the quenching of fluorescence of its tryptophan residue by iodide (Stern-Volmer plots). These results should be related to the previously described capacity of [alpha]-MSH, and analogs, to interact with membranes and with the favored conformation of these peptides which, via a [beta]-turn, segregate their central hydrophobic residues into a domain that could insert into membranes and, as shown here, trigger their destabilization. [alpha]-Melanocyte-stimulating hormone/ Membrane-active peptide/ Membrane fusion/ Liposome

Lisi, Paolo, Caraffini, Stefano, and Assalve, Danilo (1987). Irritation and sensitization potential of pesticides. *Contact Dermatitis* 17: 212-18.  
Chem Codes: Chemical of Concern: DZM Rejection Code: HUMAN HEALTH.  
  
A pesticide series of 36 substances was patch tested in 652 subjects to establish the optimal test concn., and the frequency of irritant and allergic reactions. Allergic reactions to fungicides were found in 46 patients: thiophthalimides (captan (I), folpet, and difolatan) were the most common. Irritant and allergic reactions to other pesticides (insecticides, herbicides, etc) were rare. Sensitivity to pesticides was significant in patients who work, or have worked on the land. Cross sensitivity to bisdithiocarbamates or thiophthalimides is possible. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 1988:17485  
Chemical Abstracts Number: CAN 108:17485  
Section Code: 4-4  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Fungicides and Fungistats; Herbicides; Insecticides; Pesticides (allergy to and skin irritation from, in humans); Hydrocarbon oils; Pyrethrins and Pyrethroids Role: BIOL (Biological study) (allergy to and skin irritation from, in humans); Skin (pesticides irritation of, in humans); Allergy (to pesticides, in humans); Health hazard (occupational, from pesticides)  
CAS Registry Numbers: 56-38-2 (Parathion ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 63-25-2; 76-87-9 (Fentin hydroxide); 81-81-2 (Warfarin); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiuram); 137-30-4 (Ziram); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 533-74-4 (Dazomet); 534-52-1 (Dinitro-o-cresol); 709-98-8 (Propanil); 959-98-8 (Endosulfan A); 1698-60-8 (Chloridazon); 1912-24-9 (Atrazine); 2212-67-1 (Molinate); 2425-06-1 (Difolatan); 2764-72-9 (Diquat); 4685-14-7 (Paraquat); 7758-98-7; 8018-01-7 (Mancozeb); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 15972-60-8 (Alachlor); 17804-35-2 (Benomyl); 33213-65-9 (Endosulfan B); 37273-91-9 (Metaldehyde); 39300-45-3 (Dinocap) Role: BIOL (Biological study) (allergy to and skin irritation from, in humans) pesticide/ skin/ irritation/ allergy

Lisi, Paolo, Caraffini, Stefano, and Assalve, Danilo (1986). A test series for pesticide dermatitis. *Contact Dermatitis* 15: 266-9.  
Chem Codes: Chemical of Concern: DZM Rejection Code: HUMAN HEALTH.  
  
A pesticide patch test series was tested in 200 subjects, 50 of whom were agricultural workers. Pos. reactions to fungicides were found in 24, almost all to thiophthalimides, esp. captan (I) [133-06-2], difolatan [2425-06-1], and folpet [133-07-3]. Reactions to bis-dithiocarbamates and benomyl [17804-35-2] were rare, and to other pesticides not significant. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 1987:114892  
Chemical Abstracts Number: CAN 106:114892  
Section Code: 4-4  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Dermatitis (from pesticides, in humans, skin patch test for detection of); Toxicity (of pesticides, in humans, skin patch test for detection of); Fungicides and Fungistats; Herbicides; Insecticides; Pesticides (toxicity of, to human skin, dermatitis patch test in relation to); Pyrethrins and Pyrethroids Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to human skin, dermatitis patch test in relation to)  
CAS Registry Numbers: 56-38-2 (Parathion ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 76-87-9 (Fentin hydroxide); 81-81-2 (Warfarin); 86-50-0 (Azinphos methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 121-75-5 (Malathion); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiram); 137-30-4 (Ziram); 137-42-8 (Metam sodium); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 533-74-4 (Dazomet); 534-52-1 (Dinitro-o-cresol); 709-98-8 (Propanil); 1698-60-8 (Chloridazon); 1912-24-9 (Atrazine); 2212-67-1 (Molinate); 2425-06-1 (Difolatan); 2764-72-9 (Diquat); 4685-14-7 (Paraquat); 7758-98-7; 8018-01-7 (Mancozeb); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 15972-60-8 (Alachlor); 17804-35-2 (Benomyl); 39300-45-3 (Dinocap) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to human skin, dermatitis patch test in relation to) pesticide/ dermatitis/ patch/ test

Littrell, E. E. (1986). Mortality of American Wigeon on a Golf Course Treated with the Organophosphate, Diazinon. *Calif.Fish Game* 72: 122-124.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.

Litzinger, David C. and Huang, Leaf (1992). Phosphatodylethanolamine liposomes: drug delivery, gene transfer and immunodiagnostic applications. *Biochimica et Biophysica Acta (BBA) - Reviews on Biomembranes* 1113: 201-227.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

Liu, B., McConnell, L. L., and Torrents, A. (2002). Herbicide and Insecticide Loadings from the Susquehanna River to the Northern Chesapeake Bay. *Journal of Agricultural and Food Chemistry [J. Agric. Food Chem.]. Vol. 50, no. 15, pp. 4385-4392. 17 Jul 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
ISSN: 0021-8561  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Herbicides  
Descriptors: Insecticides  
Descriptors: Agricultural Chemicals  
Descriptors: Agricultural Runoff  
Descriptors: Watershed Management  
Descriptors: Water Pollution Control  
Descriptors: Chesapeake Bay  
Descriptors: USA, Susquehanna R.  
Abstract: The Susquehanna River watershed has a large drainage area (71200 km super(2)) containing heavy agricultural land usage. The river provides approximately half the total freshwater input to the Chesapeake Bay. Water samples were collected at Conowingo Dam near the mouth of the river every 9 days from February 1997 through March 1998. Atrazine, its transformation product 6-amino-2-chloro-4-(isopropylamino)-s-triazine (CIAT), and metolachlor were found in the highest concentrations with maximums of 500, 150, and 330 ng/L, respectively. The annual mass loads for atrazine, CIAT, metolachlor, simazine, and 6-amino-2-chloro-4-(ethylamino)-s-triazine (CEAT) from the Susquehanna River to the Chesapeake Bay were 1600, 1600, 1100, 820, and 720 kg/year, respectively. Annual loadings of insecticides and organochlorine compounds ranged from 2.8 kg/year for alpha -HCH to 34 kg/year for diazinon. Strong correlations between loading data from this and previous studies and total annual water discharge through the dam were used to estimate total metolachlor and atrazine loads (12400 and 9950 kg, respectively) to the northern Chesapeake Bay from 1992 to 1997.  
DOI: 10.1021/jf010133jS0021-8561(01)00133-9  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 3030 Effects of pollution  
Classification: X 24136 Environmental impact  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; Toxicology Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Liu, Bo, McConnell, Laura L, and Torrents, Alba (2002). Herbicide and insecticide loadings from the Susquehanna River to the northern Chesapeake Bay. *Journal Of Agricultural And Food Chemistry* 50: 4385-4392.  
Chem Codes: SZ,MTL Rejection Code: NO SPECIES.  
  
The Susquehanna River watershed has a large drainage area (71200 km(2)) containing heavy agricultural land usage. The river provides approximately half the total freshwater input to the Chesapeake Bay. Water samples were collected at Conowingo Dam near the mouth of the river every 9 days from February 1997 through March 1998. Atrazine, its transformation product 6-amino-2-chloro-4-(isopropylamino)-s-triazine (CIAT), and metolachlor were found in the highest concentrations with maximums of 500, 150, and 330 ng/L, respectively. The annual mass loads for atrazine, CIAT, metolachlor, simazine, and 6-amino-2-chloro-4-(ethylamino)-s-triazine (CEAT) from the Susquehanna River to the Chesapeake Bay were 1600, 1600, 1100, 820, and 720 kg/year, respectively. Annual loadings of insecticides and organochlorine compounds ranged from 2.8 kg/year for alpha-HCH to 34 kg/year for diazinon. Strong correlations between loading data from this and previous studies and total annual water discharge through the dam were used to estimate total metolachlor and atrazine loads (12400 and 9950 kg, respectively) to the northern Chesapeake Bay from 1992 to 1997. [Journal Article; In English; United States] http://www.sciencedirect.com/science/article/B6WVB-46DFV5F-8B/2/3d14cdd61e7c61a39eada3b395f8a3ab

Liu, Z. W., Han, Z. J., and Zhang, L. C. (2002). Cross Resistance of Methamidophos Resistant Strain of Brown Planthopper and the Biochemical Mechanism Responsible. *Acta Entomol.Sin.* 45: 447-452 (CHI) (ENG ABS) .  
Chem Codes: EcoReference No.: 71636  
Chemical of Concern: DZ Rejection Code: NON-ENGLISH.

Lloyd, J. E. and Matthysse, J. G. (1971). Residues of Dichlorvos, Diazinon, and Dimetilan in Milk of Cows fed Pvc-Insecticide Feed Additives. *J.Econ.Entomol.* 64 (4): 821-822.

EcoReference No.: 37737  
Chemical of Concern: DZ,DDVP; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

LLOYD JE, KUMAR, R., and WAGGONER JW (1993). EVALUATION OF MAX-CON AND OPTIMIZER EAR TAGS APPLIED AT 2 TAGS PER ANIMAL FOR CONTROL OF CATTLE LICE WYOMING 1992. *BURDITT, A. K. JR. (ED.). INSECTICIDE & ACARICIDE TESTS, VOL. 18. II+405P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA.; 0 (0). 1993. 357-358.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT INSECTICIDE Congresses/ Biology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Animals, Domestic/ Animals, Zoo/ Parasitic Diseases/Veterinary/ Animal/ Disease/ Insects/Parasitology/ Arthropods/ Artiodactyla

Lo, P. L. (2004). Toxicity of Pesticides to Halmus chalybeus (Coleoptera: Coccinellidae) and the Effect of Three Fungicides on Their Densities in a Citrus Orchard. *N.Z.J.Crop Hortic.Sci.* 32: 69-76.

EcoReference No.: 78126  
Chemical of Concern: ALSV,BPZ,DZ,CPY,PMR,CuOH,CuS; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(ALSV,DZ).

Loague, K., Miyahira, R. N., Green, R. E., Oki, D. S., Giambelluca, T. W., and Schneider, R. C. (1995). Chemical leaching near the Waiawa Shaft, Oahu, Hawaii: 2. Modeling results. *Ground Water [GROUND WATER]. Vol. 33, no. 1, pp. 124-138. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0017-467X  
Descriptors: organic compounds  
Descriptors: leaching  
Descriptors: groundwater  
Descriptors: urbanization  
Descriptors: environmental effects  
Descriptors: water table  
Descriptors: groundwater pollution  
Descriptors: fate of pollutants  
Descriptors: mathematical models  
Descriptors: land use  
Descriptors: stormwater runoff  
Descriptors: fate  
Descriptors: ecosystem management  
Descriptors: USA, Hawaii, Oahu I.  
Abstract: This paper is the second part of a two-part series concerned with assessing the potential for organic chemical leaching to a ground-water skimming tunnel in the Pearl Harbor Basin, Oahu, Hawaii, as a direct result of proposed urban development. The Pesticide Root Zone Model (PRZM) was used, after testing with field and laboratory data described in the companion paper, to make long-term predictions of the movement of chlorpyrifos, diazinon, metribuzin, and nitrate under various recharge scenarios. The PRZM simulations revealed that, with the exception of chlorpyrifos, detectable levels of all the chemicals considered in this study may leach through the unsaturated zone to the water table from where they may eventually migrate to the skimming tunnel. The simulated concentrations in leachate reaching the water table were sufficiently low, considering subsequent mixing in the ground water, to suggest no adverse health effects. The reliability of the simulated results are laced with enough uncertainty, however, to suggest the need for monitoring for diazinon, metribuzin, and nitrate, if development does proceed. The methodology presented in this series is a first attempt at establishing a protocol for using numerical modeling, supported by field and laboratory measurements to aid in land-use change consideration in Hawaii when nonpoint ground-water contamination from organic chemicals is of concern.  
Contact: Ground Water Publishing Co., 6375 Riverside Dr., Dublin, OH 43017, USA. PH: (800) 332-2104. FAX: (614) 761-3446.  
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Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts

LOCKE JC and LUMSDEN RD (1989). COMPATIBILITY OF SOME COMMONLY USED SOIL DRENCH FUNGICIDES AND INSECTICIDES WITH THE BIOCONTROL AGENT GLIOCLADIUM-VIRENS. *ANNUAL MEETING OF THE AMERICAN PHYTOPATHOLOGICAL SOCIETY, RICHMOND, VIRGINIA, USA, AUGUST 20-24, 1989. PHYTOPATHOLOGY; 79* 1152.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT PYTHIUM-ULTIMUM RHIZOCTONIA-SOLANI ZINNIA PLANT FUNGUS MICROORGANISM ALIETTE 80W DIAZINON AG4E VYDATE L BENLATE BANROT 40WP SUBDUE 2E TERRACLOR 75W TRUBAN 25EC CROP INDUSTRY AGRICULTURE Congresses/ Biology/ Biochemistry/ Plants/Growth & Development/ Fungi/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Mitosporic Fungi/ Phycomycetes/ Plants

Lockridge, Oksana, Duysen, Ellen G., Voelker, Troy, Thompson, Charles M., and Schopfer, Lawrence M. (2005). Life without acetylcholinesterase: the implications of cholinesterase inhibitor toxicity in AChE-knockout mice: The Ninth Meeting of the International Neurotoxicology Association (INA). *Environmental Toxicology and Pharmacology* 19: 463-469.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Organophosphorus agent/ Acetylcholinesterase/ Knockout mouse/ Butyrylcholinesterase/ FP-biotin/ Chlorpyrifos oxon The acetylcholinesterase (AChE)-knockout mouse is a new tool for identifying physiologically relevant targets of organophosphorus toxicants (OP). If AChE were the only important target for OP toxicity, then mice with zero AChE would have been expected to be resistant to OP. The opposite was found. AChE-/- mice were more sensitive to the lethality of DFP, chlorpyrifos oxon, iso-OMPA, and the nerve agent VX. A lethal dose of OP caused the same cholinergic signs of toxicity in mice with zero AChE as in mice with normal amounts of AChE. This implied that the mechanism of toxicity of a lethal dose of OP in AChE-/- mice was the same as in mice that had AChE, namely accumulation of excess acetylcholine followed by overstimulation of receptors. OP lethality in AChE-/- mice could be due to inhibition of BChE, or to inhibition of a set of proteins. A search for additional targets used biotinylated-OP as a marker. In vitro experiments found that biotinylated-OP appeared to label as many as 55 proteins in the 100,000 x g supernatant of mouse brain. Chlorpyrifos oxon bound a set of proteins (bands 12, 41, 45) that did not completely overlap with the set of proteins bound by diazoxon (bands 9, 12, 41, 47) or dichlorvos (bands 12, 23, 24, 32, 44, 45, 51) or malaoxon (band 9). These results support the idea that a variety of proteins could be interacting with a given OP to give the neurotoxic symptoms characteristic of a particular OP.

Loeb, H. A. and Kelly, W. H. (1963). Acute Oral Toxicity of 1,496 Chemicals Force-fed to Carp. *U.S.Fish.Wildl.Serv., Sp.Sci.Rep.-Fish.No.471, Washington, D.C.* 124 p.

EcoReference No.: 15898  
Chemical of Concern: AZ,Captan,CBL,CMPH,HCCH,MLN,Naled,SZ,PNB,ACL,WFN,FUR,DPC,RTN,NaN3,PCP,NaPCP,AsAC,ACL,ATZ,Se,Zn,DZ; Habitat: A; Effect Codes: MOR,BEH; Rejection Code: NO CONTROL(ALL CHEMS).

London, Erwin (1992). Diphtheria toxin: membrane interaction and membrane translocation. *Biochimica et Biophysica Acta (BBA) - Reviews on Biomembranes* 1113: 25-51.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

LONG, J. LA, HOUSE WA, PARKER, A., and RAE JE (1998). Micro-organic compounds associated with sediments in the Humber rivers. *SCIENCE OF THE TOTAL ENVIRONMENT; 210-211* 229-253.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. The study investigates pollution by micro-organic contaminants in riverine systems in NE England with the following four key objectives: (1) to establish the range and concentrations of micro-organic compounds in relation to land use; (2) investigate how the type and concentrations of micro-organics can vary seasonally; (3) compare bed-sediment and suspended-sediment concentrations, and to (4) assess the use of 'whole-water' samples as indicators of environmental water quality in particular with respect to the ecotoxicological impact of contaminant-laden sediments within fluvial systems. Waters, bed- and suspended sediments were collected from six freshwater tributaries of the Humber river at quarterly intervals during the period July 1995-1996. A wide range of micro-organic contaminants were analyzed by GC and GC/NPD, chosen on the basis of information provided through the UK Land Ocean Interaction Study (LOIS) core monitoring and additional data regarding water qualit Climate/ Ecology/ Meteorological Factors/ Ecology/ Fresh Water/ Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

LOPEZ-AVILA, V., YOUNG, R., and BECKERT WF (1997). On-line determination of organophosphorus pesticides in water by solid-phase microextraction and gas chromatography with thermionic-selective detection. *HRC JOURNAL OF HIGH RESOLUTION CHROMATOGRAPHY; 20* 487-492.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. This paper describes the extraction of 49 organophosphorus pesticides (OPPs) from water samples using solid-phase microextraction (SPME). Three fibers, including a 15-mum XAD-coated fiber, a 85-mum polyacrylate-coated fiber, and a 30-mum polydimethylsiloxane-coated fiber (PDMS), were evaluated here. The effects of stirring and the addition of NaCl to the sample were examined for the polyacrylate-coated fiber. The precision of the technique was examined for all three fibers and the extraction kinetics were investigated using the XAD- and polyacrylate-coated fibers. With some exceptions, the XAD- and polyacrylate-coated fibers performed better than the PDMS-coated fiber. The superiority of the XAD- and polyacrylate-coated fibers over the PDMS-coated fiber can be attributed to the aromatic functionalities of the XAD and the polar functionalities in the polyacrylate. The relatively high percent RSDs indicate that the SPME technique needs to be further refined before it can Minerals/Analysis/ Biophysics/Methods/ Herbicides/ Pest Control/ Pesticides

Lord, K. A., Briggs, G. G., Neale, M. C., and Manlove, R. (1980). Uptake of Pesticides from Water and Soil by Earthworms. *Pestic.Sci.* 11: 401-408.

EcoReference No.: 40522  
Chemical of Concern: DLD,DZ,PCB,PRT,CBD; Habitat: T; Effect Codes: ACC; Rejection Code: NO CONTROL,ENDPOINT(ALL CHEMS).

Loura, Luis M. S., Fedorov, Aleksandre, and Prieto, Manuel (2001). Exclusion of a cholesterol analog from the cholesterol-rich phase in model membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1511: 236-243.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Vesicles of phosphatidylcholine/cholesterol mixtures show a wide composition range with coexistence of two fluid phases, the &lsquo;liquid disordered&rsquo; (cholesterol-poor) and &lsquo;liquid ordered&rsquo; (cholesterol-rich) phases. These systems have been widely used as models of membranes exhibiting lateral heterogeneity (membrane domains). The distributions of two fluorescent probes (a fluorescent cholesterol analog, NBD-cholesterol, and a lipophilic rhodamine probe, octadecylrhodamine B) in dimyristoylphosphatidylcholine/cholesterol vesicles were studied, at 30[deg]C and 40[deg]C. The steady-state fluorescence intensity of both probes decreases markedly with increasing cholesterol concentration, unlike the fluorescence lifetimes. The liquid ordered to liquid disordered phase partition coefficients Kp were measured, and values much less than unity were obtained for both probes, pointing to preference for the cholesterol-poor phase. Globally analyzed time-resolved energy transfer results confirmed these findings. It is concluded that, in particular, NBD-cholesterol is not a suitable cholesterol analog and its distribution behavior in phosphatidylcholine/cholesterol bilayers is in fact opposite to that of cholesterol. Model membrane/ Cholesterol/ Phase separation/ Fluorescence/ Energy transfer/ Fluorescence resonance energy transfer/ Partition/ Fluorescent probe

Loura, Luis M. S., Fedorov, Aleksandre, and Prieto, Manuel (2000). Partition of membrane probes in a gel/fluid two-component lipid system: a fluorescence resonance energy transfer study. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1467: 101-112.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A non-ideal lipid binary mixture (dilauroylphosphatidylcholine/ distearoylphosphatidylcholine), which exhibits gel/fluid phase coexistence for wide temperature and composition ranges, was studied using photophysical techniques, namely fluorescence anisotropy, lifetime and resonance energy transfer (FRET) measurements. The FRET donor, N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-dilauroylphosphatidylethanolamine, and a short-tailed FRET acceptor, 1,1&prime;-didodecil-3,3,3&prime;,3&prime;-tetramethylindocarbocyanine (DiIC12(3)), were shown to prefer the fluid phase by both intrinsic anisotropy, lifetime and FRET measurements, in agreement with published reports. The other studied FRET acceptor, long-tailed probe 1,1&prime;-dioctadecil-3,3,3&prime;,3&prime;-tetramethylindocarbocyanine (DiIC18(3)), is usually reported in the literature as partitioning mainly to the gel. While intrinsic lifetime studies indeed indicated preferential partition of DiIC18(3) into a rigidified environment, FRET analysis pointed to an increased donor-acceptor proximity as a consequence of phase separation. These apparently conflicting results were rationalized on the basis of segregation of DiIC18(3) to the gel/fluid interphase. In order to fluid-located donors sense these interphase-located acceptors, fluid domains should be small (not exceed ~10-15 nm). It is concluded that membrane probes which apparently prefer the gel phase may indeed show a non-random distribution in this medium, and tend to locate in an environment which simultaneously leads to less strict packing constraints and to favorable hydrophobic matching interactions. Energy transfer/ Gel/fluid heterogeneity/ Fluorescence/ Membrane domain/ Membrane probe/ Partition

Lourens, J. H. M. and Lyaruu, D. M. (1979). Susceptibility of Some East African Strains of Rhipicephalus appendiculatus to Cholinesterase Inhibiting Acaricides. *PANS (Pest Artic.News Summ.)* 25: 135-142.

EcoReference No.: 72641  
Chemical of Concern: CBL,CPY,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

LOVATT, J. (1991). GROWING PUMPKINS GRAMMAS AND WATERMELONS IN QUEENSLAND. *LOVATT, J. GROWING PUMPKINS, GRAMMAS AND WATERMELONS IN QUEENSLAND. IV+44P. QUEENSLAND DEPARTMENT OF PRIMARY INDUSTRIES: BRISBANE, QUEENSLAND, AUSTRALIA. ILLUS. PAPER. ISBN 0-7242-3995-2.; 0* IV+44P.  
Chem Codes : Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CITRULLUS-LANATUS CUCURBITA-MAXIMA CUCURBITA-MOSCHATA TILLAGE FERTILIZER WEED CONTROL IRRIGATION POLLINATION INSECT PEST CONTROL DISEASE CONTROL PESTICIDES HARVESTING MARKETING AUSTRALIA Biochemistry/ Food, Formulated/ Food, Fortified/ Food Technology/ Biophysics/ Plants/Metabolism/ Plants/Physiology/ Water/Metabolism/ Grasses/Growth & Development/ Soil/ Fertilizers/ Soil/ Vegetables/ Environmental Pollution/ Plant Diseases/ Weather/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants

Lovatt, J. (1991). Growing Pumpkins Grammas and Watermelons in Queensland. *In: J.Lovatt, Growing Pumpkins, Grammas and Watermelons in Queensland, Queensland Dep.of Primary Ind., Brisbane, Queensland, Australia* 44 p.  
Chem Codes: Chemical of Concern: TDF,Zineb,ALSV,DZ,ES,MLN,CuOH,CaPS,SFR,PRN Rejection Code: REFS CHECKED/REVIEW.

LOVELL RA, MCCHESNEY DG, and PRICE WD (1996). Organohalogen and organophosphorus pesticides in mixed feed rations: Findings from FDA's domestic surveillance during fiscal years 1989-1994. *JOURNAL OF AOAC INTERNATIONAL; 79* 544-548.  
Chem Codes: Chemical of Concern: MCPP1 Rejection Code: DRUG.  
  
BIOSIS COPYRIGHT: BIOL ABS. During Fiscal Years 1989-1994, the U.S. Food and Drug Administration (FDA) collected and analyzed 545 domestic surveillance samples of mixed feed rations (172 for cattle, 125 for poultry, 83 for swine, 61 for pets, 56 for fish, and 48 miscellaneous). All samples were analyzed by gas-liquid chromatography for organohalogen and organophosphorus pesticides. Of the 545 samples, 88 (16.1%) did not contain detectable pesticide residues. In the 457 samples with detectable pesticide levels, 804 residues (654 quantitable and 150 trace) were found. None of these 804 residues exceeded regulatory guidance. Malathion, chlorpyrifosmethyl, diazinon, chlorpyrifos, and pirimiphos-methyl were the most commonly detected pesticides. These 5 organophosphorus pesticides accounted for 93.4% of all pesticide residues detected (malathon, 52.9%; chlorpyrifos-methyl, 25.2%; diazinon, 7.7%; chlorpyrifos, 4.9%; and pirimiphos-methyl, 2.7%). Their median values in samples containing quantitable leve Biochemistry/ Food Technology/ Food Technology/ Fruit/ Nuts/ Vegetables/ Fats/ Food Technology/ Oils/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Carcinogens/ Animal Feed/ Animal Nutrition/ Feeding Behavior/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

LOVELL RA, MCCHESNEY DG, and PRICE WD (1996). Organohalogen and organophosphorus pesticides in mixed feed rations: Findings from FDA's domestic surveillance during fiscal years 1989-1994. *JOURNAL OF AOAC INTERNATIONAL; 79* 544-548.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. During Fiscal Years 1989-1994, the U.S. Food and Drug Administration (FDA) collected and analyzed 545 domestic surveillance samples of mixed feed rations (172 for cattle, 125 for poultry, 83 for swine, 61 for pets, 56 for fish, and 48 miscellaneous). All samples were analyzed by gas-liquid chromatography for organohalogen and organophosphorus pesticides. Of the 545 samples, 88 (16.1%) did not contain detectable pesticide residues. In the 457 samples with detectable pesticide levels, 804 residues (654 quantitable and 150 trace) were found. None of these 804 residues exceeded regulatory guidance. Malathion, chlorpyrifosmethyl, diazinon, chlorpyrifos, and pirimiphos-methyl were the most commonly detected pesticides. These 5 organophosphorus pesticides accounted for 93.4% of all pesticide residues detected (malathon, 52.9%; chlorpyrifos-methyl, 25.2%; diazinon, 7.7%; chlorpyrifos, 4.9%; and pirimiphos-methyl, 2.7%). Their median values in samples containing quantitable leve Biochemistry/ Food Technology/ Food Technology/ Fruit/ Nuts/ Vegetables/ Fats/ Food Technology/ Oils/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Carcinogens/ Animal Feed/ Animal Nutrition/ Feeding Behavior/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Lowden, G. F., Saunders, C. L., and Edwards, R. W. (1969). Organo-Chlorine Insecticides in Water - Part II. *Water Treat.Exam.* 18: 275-287.  
Chem Codes: EcoReference No.: 65475  
Chemical of Concern: DZ Rejection Code: EFFLUENT.

Lown, J. William and Mclaughlin, Larry W. (1979). Nitrosourea-induced DNA single-strand breaks. *Biochemical Pharmacology* 28: 1631-1638.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Reaction of DNA with nitrosoureas in vitro results in extensive formation of alkali labile sites. Two types of single-strand scission (SSS) processes may be distinguished by their different rates: (1) type I SSS which occurs relatively fast at high pH, and (2) type II SSS which is a much slower process. Neither of these processes is affected by free radical traps. Dimethyl sulfate, which is known to alkylate DNA bases but not phosphate residues, shows no type I SSS but does show extensive type II SSS. That the latter process involves alkylation of bases followed by the formation of apurinic sites was confirmed by using endonuclease VI, an enzyme specific for apurinic positions. Reactions of chloroethylnitrosoureas with DNA produces both type I and type II SSS. Aliphatic amines produced in the decomposition of alkyl nitrosoureas do not contribute significantly to the scission of apurinic sites via Schiff base formation. However, this process may be significant for aryl nitrosoureas. Ethyl nitrosourea (ENU), 1, 3-bis(2-chloroethyl)nitrosourea (BCNU), and 3-cyclohexyl-1-(2-hydroxyethyl)-1-nitrosourea (CHNU) readily degrade poly A by phosphate alkylation, with rates that parallel their relative rates of decomposition. The relative rates of hydrolysis of triethylphosphate and [beta]-hydroxyethyl diethyl phosphate parallel the type I SSS observed for ENU and CHNU with DNA. The type I SSS of DNA by these compounds appears to involve a similar phosphotriester formation and hydrolysis. The type I SSS is in accord with the observed extreme liability of [beta]-hydroxyethyl diethyl phosphate which is attributed to participation of the OH group, and by the fact that methylation of the OH completely inhibits the type I SSS process.

Lu Chensheng, Irish, R. M., and Fenske, R. A. (2003). Biological monitoring of diazinon exposure using saliva in an animal model. *Journal of Toxicology and Environmental Health, Part A: Current Issues [J. Toxicol. Environ. Health, A: Curr. Iss.]. Vol. 66, no. 24, pp. 2315-2325. 26 Dec 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 1528-7394  
Descriptors: Saliva  
Descriptors: Diazinon  
Descriptors: Plasma  
Descriptors: Pesticides  
Abstract: Alternative biological monitoring methods are currently being pursued to better quantify pesticide exposures. In this study, the feasibility of using saliva as a tool for measuring diazinon exposure was determined in an animal model. Male Spraque-Dawley rats were dosed with 1 or 10 mg/kg diazinon by bolus intravenous injection. Time-matched saliva and arterial blood samples were collected from 10 to 250 min post administration. Diazinon was distributed and eliminated rapidly in rats following intravenous (iv) bolus injection, according to a two-compartmental pharmacokinetic analysis. Salivary concentration of diazinon showed a strong correlation with plasma concentration of diazinon. The saliva/plasma (S/P) concentration ratio of diazinon was not affected by administered dose, sampling time, or salivary flow rate, suggesting that salivary excretion of diazinon in rats is fairly constant. Diazinon concentrations in saliva were consistently lower than those in arterial plasma. The mean S/P concentration ratios of diazinon were 0.16 and 0.13 for 1 and 10 mg/kg iv bolus doses, respectively. It is most likely that the incomplete transfer of diazinon from plasma to saliva is due to protein binding of diazinon in plasma. If the protein-unbound fraction of diazinon in plasma is used to calculate the S/P ratio, the S/P concentration ratio of diazinon is close to unity. The results from this study support the conclusion that diazinon salivary concentrations not only can be used to predict the plasma levels of diazinon in rats, but also reflect the unbound fraction of diazinon in plasma.  
DOI: 10.1080/15287390390244328  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Ludemann, D. and Neumann, H. (1961). Action of Modern Insecticides on the Organisms in Freshwater (Versuche uber die Acute Toxische Wirkung Neuzeitlicher Kontaktinsektizide auf Susswassertiere). *Z.Angew.Zool.* 48: 87-96 (GER) (ENG ABS).

EcoReference No.: 10346  
Chemical of Concern: DZ,HCCH,MLN,DLD,CHD; Habitat: A; Effect Codes: ACC,MOR; Rejection Code: NO FOREIGN.

Ludemann, D. and Neumann, H. (1960). Acute Toxicity of Modern Contact Insecticides to Carp. *Z.Angew.Zool.47:11-33 (GER)*.

EcoReference No.: 10347  
Chemical of Concern: DZ,HCCH,MLN,EN,HPT,DDT,CHD,DLD,TXP,AND; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Ludemann, D. and Neumann, H. (1960). Studies on the Acute Toxicity of Modern Contact Insecticides in Fresh Water. II. *Z.Angew.Zool.* 47: 303-321 (GER) (ENG ABS).

EcoReference No.: 17488  
Chemical of Concern: DZ,HCCH,MLN,TXP; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Ludemann, D. and Neumann, H. (1960). Studies on the Acute Toxicity of Modern Contact Insecticides in Fresh Water. III. Chironomid Larvae. *Z.Angew.Zool.* 47: 493-505 (GER).

EcoReference No.: 17489  
Chemical of Concern: HPT,EN,HCCH,PRN,DDT,ES,TXP,CHD,AND,DZ,MLN; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Ludemann, D. and Neumann, H. (1962). Uber die Wirkung der Neuzeitlichen Kontaktinsektizide auf die Tiere des Subwassers. *Anz.Schaedlingskd.Pflanzenschutz* 35: 5-9 (GER).

EcoReference No.: 14258  
Chemical of Concern: DZ,HCCH,MLN; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

M. Afonso, Carlos, Teresa Barros, M., S. Godinho, Licio, and D. Maycock, Christopher (1994). The mechanism of the Mitsunobu azide modification and the effect of additives on the rate of hydroxyl group activation. *Tetrahedron* 50: 9671-9678.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The Mitsunobu azide modification has been studied by NMR using a hindered alcohol and the principle intermediates involved have been tentatively identi

Maas, J. L. (1982). Toxicity of Pesticides. *Rep.No.82, Lab.for Ecotoxicol., Inst.for Inland Water Manag.and Waste Water Treatment* 15: 4 p.(DUT).

EcoReference No.: 5370  
Chemical of Concern: CBL,DMT,DZ,MLN; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Mac-Rae, I. C. and Celo, Jovenia S. (1974). The effects of organo-phosphorus pesticides on the respiration of Azotobacter vinelandii. *Soil Biology and Biochemistry* 6: 109-111.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
The effects often organo-phosphorus pesticides at 2 and 100 parts/106 upon O2-uptake of Azotobacter vinelandii with glucose as substrate was studied by means of polarography. When washed suspensions of the bacterium were exposed to the pesticides for 2 h before measurement of oxygen uptake. respiration rate was greatly reduced in the case of Naled, Terracur-P, Coumaphos. DDVP, Malathion. Nemacur-P, Chlorpyrifos, DOWCO 217 and DOWCO 214 at 100 parts/106 concn. At 2 parts/106, respiration was inhibited with Naled, Coumaphos, DDVP, Chlorpyrifos and to a lesser extent with DOWCO 217 and Nemacur-P. No inhibition was found with Terracur-P, or DOWCO 214 at 2 parts/106 concn. Malathion stimulated respiration at 2 parts/106 concn whereas Diazinon stimulated respiration at both concentrations. Endogenous respiration was stimulated by Naled at 2 parts/106 and by Nemacur-P and DDVP at both the concentrations. The effect on respiration was less when the bacterium was grown in the presence of 100 parts/106 DDVP or Naled, but in the case of Terracur-P there was still a marked inhibition.

MACALADY DL and WOLFE NL ( 1985). EFFECTS OF SEDIMENT SORPTION AND ABIOTIC HYDROLYSES 1. ORGANOPHOSPHOROTHIOATE ESTERS. *J AGRIC FOOD CHEM; 33* 167-173.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RONNEL DIAZINON CHLORPYRIFOS INSECTICIDE MH - ECOLOGY Oceanography/ Fresh Water/ Biochemistry/ Poisoning/ Animals, Laboratory/ Soil/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

MacCuaig, R. D. (1963). The Toxicity of Some Insecticidal Sprays to Adult Locusts. *Bull.Entomol.Res.* 53: 597-608.

EcoReference No.: 71175  
Chemical of Concern: DZ,DLD; Habitat: T; Rejection Code: TARGET(DZ).

MacCuaig, R. D. (1960). The Toxicity of Some Insecticides to Fifth-Instar Nymphs of the Desert Locust. *Ann.Appl.Biol.* 48: 323-335.

EcoReference No.: 72004  
Chemical of Concern: DZ,DLD,PRN,HPT,HCCH; Habitat: T; Effect Codes: MOR,GRO; Rejection Code: TARGET(DZ).

Macek, K. J. (1975). Acute Toxicity of Pesticide Mixtures to Bluegills. *Bull.Environ.Contam.Toxicol.* 14: 648-651.  
Chem Codes: EcoReference No.: 14625  
Chemical of Concern: DZ Rejection Code: MIXTURE.

Machin, A. F., Quick, M. P., Rogers, H., and Anderson, P. H. (1971). The Conversion of Diazinon to Hydroxydiazinon in the Guinea-Pig and Sheep. *Bull.Environ.Contam.Toxicol.* 6: 26-27.

EcoReference No.: 37787  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(DZ).

MacIntosh, D. L., Spengler, J. D., Oezkaynak, H. , Tsai Ling-hui, and Ryan, P. B. (1996). Dietary exposures to selected metals and pesticides. *Environmental Health Perspectives [ENVIRON. HEALTH PERSPECT.]. Vol. 104, no. 2, pp. 202-209. 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0091-6765  
Descriptors: diets  
Descriptors: metals  
Descriptors: pesticides  
Descriptors: food contamination  
Descriptors: heavy metals  
Descriptors: USA  
Abstract: Average daily dietary exposures to 11 contaminants were estimated for approximately 120,000 U.S. adults by combining data on annual diet, as measured by a food frequency questionnaire, with contaminant residue data for table-ready foods that were collected as part of the annual U.S. Food and Drug Administration Total Diet Study. The contaminants included in the analysis were four heavy metals (arsenic, cadmium, lead, mercury), three organophosphate pesticides (chlorpyrifos, diazinon, malathion), and four organochlorine pesticides (dieldrin, p,p'-DDE, lindane, heptachlor epoxide). Dietary exposures to these contaminants were highly variable among individuals, spanning two to three orders of magnitude. Intraindividual exposures to the metals, organophosphates, and organochlorines were estimated to be strongly correlated; Pearson's correlation coefficients ranged from 0.28 for lindane:dieldrin to 0.84 for lead:mercury. For some of the compounds (e.g., arsenic and dieldrin), a substantial fraction of the population was estimated to have dietary intakes in excess of health-based standards established by the EPA. Before use for risk assessment or epidemiologic purposes, however, the validity of the exposure estimates must be evaluated by comparison with biological indicators of chronic exposure. Because of their low detection rate in table-ready foods, the estimated distributions of exposures for dieldrin, p,p'-DDE, heptachlor epoxide, lindane, diazinon, and chlorpyrifos were found to be sensitive to assumed values for nondetect samples. Reliable estimates of the population distribution of dietary exposures to most other contaminants cannot be made currently, due to their low rate of detection in table-ready foods. Monitoring programs that use more sensitive study designs and population-based assessments for other subpopulations should be a priority for future research.  
Other numbers: NIH 96-218  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24120 Food, additives & contaminants  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H SE4.24 FOOD CONTAMINATION  
Classification: R2 23060 Medical and environmental health  
Classification: X 24166 Environmental impact  
Classification: X 24136 Environmental impact  
Subfile: Risk Abstracts; Health & Safety Science Abstracts; Pollution Abstracts; Toxicology Abstracts

MACIVER DR, KEANE PA, JONES DG, and JONES AG (1997). Pyrethrins and piperonyl butoxide as public health insecticides. *PYRETHRUM POST; 20* 3-46.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW MOSQUITO HOUSEFLY FLEA COCKROACH TICK LOUSE MITE INSECT PEST VECTOR VECTOR CONTROL PIPERONYL BUTOXIDE APPLICATION FIELD USE ENVIRONMENTAL EFFECTS EFFICACY FORMULATION COMPARISON INSECTICIDE TOXICITY TESTING SAFETY PUBLIC HEALTH PEST MANAGEMENT VECTOR BIOLOGY WORLD HEALTH CARE VECTOR-BORNE DISEASE DISEASE-MISCELLANEOUS CONTROL Poisoning/ Animals, Laboratory/ Disease Vectors/ Disinfection/ Pest Control/ Pesticides/ Disease Vectors/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Insects/ Diptera/ Orthoptera/ Fleas/ Arthropods

MacKenzie, K. E. and Winston, M. L. (1989). The Effects of Sublethal Exposure to Diazinon, Carbaryl and Resmethrin on Longevity and Foraging in Apis mellifera L. *Apidologie* 20: 29-40.

EcoReference No.: 70542  
Chemical of Concern: RSM,DZ,CBL; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: LITE EVAL CODED(RSM),OK(ALL CHEMS),OK TARGET(DZ).

Mackness, B., Durrington, P. N., and Mackness, M. I. (2000). Low Paraoxonase in Persian Gulf War Veterans Self-Reporting Gulf War Syndrome. *Biochemical and Biophysical Research Communications [Biochem. Biophys. Res. Commun.]. Vol. 276, no. 2, pp. 729-733. 24 Sep 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0006-291X  
Descriptors: Paraoxon  
Descriptors: Chemical warfare agents  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Military personnel  
Abstract: Exposure to organophosphate (OP's) insecticides and nerve gases during the Persian Gulf War has been implicated in the development of Gulf War Syndrome. Paraoxonase (PON1) present in human serum detoxifies OP's. We determined the levels of PON1 in the serum of Gulf War Veterans and compared these to those found in a control population. One hundred fifty-two Gulf War Veterans from the UK who self-reported the presence of Gulf War Syndrome via a questionnaire and 152 age and gender matched controls were studied. PON1 activity, concentration, and genotype were determined. In the Gulf War Veterans, paraoxon hydrolysis was less than 50% of that found in the controls (100.3 (14.8-233.8) vs 214.6 (50.3-516.2) nmol/min /ml, P < 0.001). This low activity was independent of the effect of PON1 genotype. The serum PON1 concentration was also lower in the Gulf War Veterans (75.7 (18.1-351.3) vs 88.2 (34.5-527.4) mu g /ml, P < 0.00025), which was again independent of PON1 genotype. There was no difference in the rate of diazoxon hydrolysis between the groups (10.2 plus or minus 4.1 mu mol/min/ml vs 9.86 plus or minus 4.4, P = NS). A decreased capacity to detoxify OP insecticides resulting from low serum PON1 activity may have contributed to the development of Gulf War Syndrome.  
Publisher: Academic Press  
DOI: 10.1006/bbrc.2000.3526  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

MacPhee, C. and Ruelle, R. (1969). Lethal Effects of 1888 Chemicals upon Four Species of Fish From Western North America. *Bull.No.3, Forest, Wildl.and Range Exp.Stn., Univ.of Idaho, Moscow, ID* 112 p.

EcoReference No.: 15148  
Chemical of Concern: PNB,24DXY,Captan,CBL,DOD,HCCH,MLN,NYP,CST,WFN,FUR,Cu,CuS,NaN3,CuCl,PCP,ACL,ATM,Se,DBAC,Zn,DZ,Pb,DCB; Habitat: A; Effect Codes: MOR,BEH; Rejection Code: NO CONTROL(ALL CHEMS).

Madhukar, B. V. and Matsumura, F. (1979). Comparison of Induction Patterns of Rat Hepatic Microsomal Mixed-Function Oxidases by Pesticides and Related Chemicals. *Pestic.Biochem.Physiol.* 11: 301-308.

EcoReference No.: 37794  
Chemical of Concern: PCB,DDT,HCCH,DLD,CBL,DZ,CHD,MRX,TCDD,DXN; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(ALL CHEMS) .

Maezawa, Shigenori and Yoshimura, Tetsuro (1991). Sequence of critical events involved in fusion of phospholipid vesicles induced by clathrin. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1070: 429-436.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Membrane fusion induced by clathrin is accompanied by several events such as conformational change, membrane binding and association of clathrin, and membrane aggregation (Maezawa et al. (1989) Biochemistry 28, 1422-1428; Maezawa and Yoshimura (1990) Biochem. Biophys. Res. Commun. 173, 134-140). To clarify the sequence of these events, we examined their time-courses by reducing the pH of the medium from 7.4 to a given pH in the range of 3.5-5.0 at 25[deg]C or 10[deg]C. Large unilamellar vesicles composed of phospatidylserine and phosphatidylcholine were used in most experiments. The half-time for conformational change of clathrin was less than those for membrane binding and association of clathrin. The half-times and the initial rates of membrane binding and association of clathrin were similar order of magnitude, although the pH-profiles of the initial rates of the two events were somewhat different. Membrane aggregation started after membrane binding of clathrin. A lag phase was observed in the time-course of membrane fusion, whereas there was no lag phase in membrane binding and association of clathrin and membrane aggregation. Moreover, the lag time before fusion was independent of the clathrin concentration, although the initial rates of these three events were dependent on it, suggesting that the three reactions are not responsible for the lag phase before fusion, and that there is some other event(s) in the lag time. On the other hand, there was a threshould-pH in the pH profile of the lag-time and the threshold-pH coincided with the critical pH at which the final associated state of clathrin was apparently reversed in the presence and absence of liposomes, suggesting that the event(s) in the lag phase may be related to this final associated state of clathrin molecules on the liposome membranes. These results indicate that clathrin-induced fusion of liposomes is initiated through the following sequential events: conformational change of clathrin, membrane binding and association of clathrin, which occur simultaneously but independently, membrane aggregation, an event(s) in the lag phase, and actual fusion. Membrane fusion/ Fusion process/ Fusion lag/ Liposome/ Clathrin

MAGARA, Y., AIZAWA, T., KUNIKANE, S., ITOH, M., KOHKI, M., KAWASAKI, M., and TAKEUTI, H. (1996). The behavior of inorganic constituents and disinfection by products in reverse osmosis water desalination process. *WATER SCIENCE AND TECHNOLOGY; 34* 141-148.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. The countries and regions which suffer from the shortage of fresh water resources have developed sea and brackish water desalination plants to supply drinking water. The desalination process has usually been designed from the rejection ratio of salt to meet the level of soluble residue, chloride concentration for drinking purposes. The Japanese government revised the drinking water quality standards to enhance an appropriate drinking water quality management for many hazardous micro-pollutants in drinking water. Since there has not been sufficient studies on the performance of R.O. desalination processes on micro hazardous constituents, the authors carried out a pilot plant study and field study of several desalination plants for the public water supply. Most of the constituents of R.O. filtrate meets the drinking water quality standard under the design and operational condition that to attain 99% of the salt rejection. However, Langlier's index, boron and bromoform pro Minerals/Analysis/ Minerals/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution

Maggio, Bruno and Yu, Robert K. (1992). Modulation by glycosphingolipids of membrane-membrane interactions induced by myelin basic protein and melittin. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1112: 105-114.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effect of glycosphingolipids (GSLs) with oligosaccharide chains of different length and charge on membrane-membrane interactions induced by myelin basic protein (MBP) or melittin (Mel) was comparatively investigated with small unilamellar vesicles. MBP induces a fast vesicle aggregation and close membrane apposition. Merging of lipid bilayers and vesicle fusion induced by MBP are slower and less extensive processes compared to membrane apposition. The changes of membrane permeability concomitant to these phenomena are small. The Trp region of MBP remains in a rather polar environment when interacting with vesicles; its accessibility to NO3 or acrylamide quenching depends on the type of GSLs in the membrane. The Trp region of Mel is inserted more deeply into the lipid bilayer and its accessibility to the aqueous quenchers is less dependent on variations of the oligosaccharide chain of the GSLs. Mel induces a faster and more extensive membrane apposition and bilayer merging than does MBP. Extensive vesicle disruption occurs in the presence of Mel. Negatively charged GSLs facilitate membrane proximity and vesicle aggregation but an increase of the oligosaccharide chain length of either neutral or acidic GSLs decreases the interaction among vesicles that are induced by either protein. This effect is independent of the different mode of insertion of MBP and Mel into the membrane. Our results suggest that the modulation by the oligosaccharide chain on the protein-induced interactions between bilayers containing GSLs is probably exerted beyond the level of local molecular interactions between the basic proteins and the lipids. Ganglioside/ Sulfatide/ Glycosphingolipid/ Membrane fusion/ Myelin basic protein/ Melittin

Maher, I. L., Foster, G. D., and Lippa, K. A. (1995). TRANSPORT FLUXES OF ORGANONITROGEN AND ORGANOPHOSPHORUS PESTICIDES IN THE POTOMAC RIVER. *210th American Chemical Society National Meeting, Chicago, Illinois, Usa, August 20-24, 1995. Abstracts of Papers American Chemical Society* 210 : Envr 81.  
Chem Codes: SZ,MTL Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT ATRAZINE SIMAZINE ALACHLOR METOLACHLOR MALATHION DIAZINON HEXAZINONE DISSOLVED PHASE CONSTITUENT STORM EVENT SEASONALITY  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-Molecular Properties and Macromolecules  
KEYWORDS: Movement (1971- )  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

MAHER IL, FOSTER GD, and LIPPA KA (1995). TRANSPORT FLUXES OF ORGANONITROGEN AND ORGANOPHOSPHORUS PESTICIDES IN THE POTOMAC RIVER. *210TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, CHICAGO, ILLINOIS, USA, AUGUST 20-24, 1995. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 210* ENVR 81.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT ATRAZINE SIMAZINE ALACHLOR METOLACHLOR MALATHION DIAZINON HEXAZINONE DISSOLVED PHASE CONSTITUENT STORM EVENT SEASONALITY Congresses/ Biology/ Climate/ Ecology/ Meteorological Factors/ Ecology/ Fresh Water/ Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Movement/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Maier, Olaf, Oberle, Volker, and Hoekstra, Dick (2002). Fluorescent lipid probes: some properties and applications (a review). *Chemistry and Physics of Lipids* 116: 3-18.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Odd as it may seem, experimental challenges in lipid research are often hampered by the simplicity of the lipid structure. Since, as in protein research, mutants or overexpression of lipids are not realistic, a considerable amount of lipid research relies on the use of tagged lipid analogues. However, given the size of an average lipid molecule, special care is needed for the selection of probes, since if the size and intramolecular localization of the probe is not specifically taken into account, it may dramatically affect the properties of the lipids. The latter is particularly important in cell biological studies of lipid trafficking and sorting, where the probed lipid should resemble its natural counterpart as closely as possible. On the other hand, for biophysical applications, these considerations may be less critical. Here we provide a brief overview of the application of several lipid probes in cell biological and biophysical research, and critically analyze their validity in the various fields. Fluorescent lipid analogue/ Membrane fusion/ Lipid traffic/ Lipid sorting/ Transcytosis/ (Glyco)sphingolipids

Majewski, M. S., Foreman, W. T., Goolsby, D. A., and Nakagaki, N. (1998). Airborne Pesticide Residues along the Mississippi River. *Environmental Science & Technology [Environ. Sci. Technol.]. Vol. 32, no. 23, pp. 3689-3698. 1 Dec 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0013-936X  
Descriptors: Freshwater pollution  
Descriptors: Pesticides  
Descriptors: Rivers  
Descriptors: Air pollution  
Descriptors: Pollution surveys  
Descriptors: Air sampling  
Descriptors: Agrochemicals  
Descriptors: Herbicides  
Descriptors: Insecticides  
Abstract: The occurrence, concentration, and geographical distribution of agricultural pesticides were determined in air over the Mississippi River from New Orleans, LA, to St. Paul, MN, during the first 10 days of June 1994. Air samples were collected from a research vessel by pulling air through polyurethane foam plugs at about 100 L/min for up to 24 h. Each sample was analyzed for 42 pesticides and 3 pesticide transformation products. Twenty-five compounds-15 herbicides, 7 insecticides, and 3 pesticide transformation products-were detected in one or more samples with concentrations ranging from 0.05 to 80 ng/m super(3). Alachlor, chlorpyrifos, diazinon, fonofos, malathion, methyl parathion, metolachlor, metribuzin, pendimethalin, and trifluralin were detected in 80% or more of the samples. The highest concentrations for chlorpyrifos (1.6 ng/m super(3)), diazinon (0.36 ng/m super(3)), and malathion (4.6 ng/m super(3)) all occurred near major metropolitan areas. These samples represent a "snapshot in time", a spatial and temporal integration of which pesticides were present in the air during each sampling period. The occurrence and atmospheric concentrations of the observed pesticides were most closely related to their use on cropland within 40 km of the river.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 0000 AIR POLLUTION  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Majewski, M. S., Foreman, W. T., Goolsby, D. A., and Nakagaki, N. (1998). Airborne Pesticide Residues Along the Mississippi River. *Environ.Sci.Technol.* 32: 3689-3698.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.

Malone, C. R. (1969). Effects of Diazinon Contamination on an Old-Field Ecosystem. *Am.Midl.Nat.* 82: 1-27.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Malone, C. R. and Blaylock, B. G. (1970). Toxicity of Insecticide Formulations to Carp Embryos Reared In Vitro. *J.Wildl.Manag.* 34: 460-463.

EcoReference No.: 9629  
Chemical of Concern: AZ,DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(DZ).

Mandieau, V., Martin, I., and Ruysschaert, J. M. (1995). Interaction between cardiolipin and the mitochondrial presequence of cytochrome c oxidase subunit IV favours lipid mixing without destabilizing the bilayer structure. *FEBS Letters* 368: 15-18.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We demonstrate the ability of a peptide corresponding to the presequence of the cytochrome c oxidase subunit IV to induce lipid mixing between large unilamellar liposomes. This lipid mixing requires the presence of CL or PE, lipids able to form non-bilayer structures, and is not observed with other negatively charged lipids. However, the fact that this mixing occurs without mixing of the liposome aqueous phases and without destabilizing the lipid organisation is unusual and has not been observed for other amphiphilic peptides. This observation supports the idea that the presequence could play a role in the formation of translocation contact sites between the two mitochondrial membranes and facilitate the structural rearrangements of the outer and inner membrane proteins involved in the two import machineries in a way to permit the formation of a continuous import channel through the two mitochondrial membranes without mixing the cytoplasmic and mitochondrial aqueous contents. Mitochondrial presequence/ Contact site/ Lipid mixing/ Cardiolipin

Mani, M. and Thontadarya, T. S. (1988). Studies on the Safety of Different Pesticides to the Grape Mealybug Natural Enemies, Anagyrus dactylopii (How.) and Scymnus coccivora Ayyar. *Indian J.Plant Prot.* 16: 205-210.

EcoReference No.: 68988  
Chemical of Concern: CPY,Cu,DZ; Habitat: T; Rejection Code: TARGET(DZ).

Mankame, T., Hokanson, R., Fudge, R., Chowdhary, R., and Busbee, D. (2006). Altered gene expression in human cells treated with the insecticide diazinon: Correlation with decreased DNA excision repair capacity. *Human and Experimental Toxicology, 25 (2) pp. 57-65, 2006*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0960-3271  
Descriptors: DNA microarray analysis  
Descriptors: Gene expression  
Descriptors: Agricultural chemicals  
Descriptors: Organophosphate insecticides  
Descriptors: Real time PCR  
Abstract: Many industrial and agricultural chemicals have steroid hormone agonist or antagonist activities and disrupt hormone-regulated gene expression. The widely-used agricultural insecticide, diazinon, was evaluated using MCF-7 cells - a breast cancer-derived, estrogen-dependent, human cell line - to examine the capacity of this chemical to alter steroid hormone-regulated gene expression. MCF-7 cells were treated with 30, 50, or 67 ppm of diazinon, and gene expression in treated cells was measured as mRNA levels in the cells compared to mRNA levels in untreated or estrogen-treated cells. DNA microarray analysis showed significant up- or down-regulation of a number of genes in treated cells compared to untreated cells. Of the 600 human genes on the chip utilized, specific genes with related functions were selected for additional consideration. Real time quantitative PCR (qrtPCR) completed to corroborate mRNA levels as a measure of specific gene expression, confirmed results obtained from analysis of the microarray data. The data show that ERCC5, encoding Xeroderma pigmentosum protein G (XPG), essential for DNA excision repair, and ribonucleotide reductase subunit M1 (RNRM1), encoding a gene necessary for providing the nucleotides needed for DNA repair, were down-regulated in cells treated with diazinon. These studies were designed to provide base-line data on the gene expression-altering capacity of a specific agricultural chemical, diazinon, and allow assessment of some of the potentially deleterious effects associated with exposure of human cells to diazinon. (copyright) 2006 Edward Arnold (Publishers) Ltd.  
39 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: United Kingdom  
Classification: 92.9.1 BIOTECHNOLOGY: Biotechnology and Bioengineering  
Subfile: Plant Science

Manna, B. (1991). Influence of Diazinon and Fenitrothion on Acetylcholinesterase Activity in Digestive Gland and Central Nervous System of Achatina fulica. *Environ.Ecol.* 9: 594-599.

EcoReference No.: 85029  
Chemical of Concern: DZ,FNT; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(DZ).

Mansingh, A., Robinson, D. E., Henry, C., and Lawrence, V. (2000). Pesticide contamination of Jamaican environment. II. Insecticide residues in the rivers and shrimps of Rio Cobre Basin, 1982-1996. *Environmental Monitoring and Assessment [Environ. Monit. Assess.]. Vol. 63, no. 3, pp. 459-480. Aug 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0167-6369  
Descriptors: Freshwater crustaceans  
Descriptors: Pollution monitoring  
Descriptors: Water pollution  
Descriptors: Sediment pollution  
Descriptors: Bioaccumulation  
Descriptors: Insecticides  
Descriptors: Rivers  
Descriptors: Pesticide residues  
Descriptors: Pollution effects  
Descriptors: Organochlorine compounds  
Descriptors: Pesticides (organophosphorus)  
Descriptors: DDE  
Descriptors: Dieldrin  
Descriptors: Chlorpyrifos  
Descriptors: Shrimp  
Descriptors: Pesticides  
Descriptors: Monitoring  
Descriptors: Water Analysis  
Descriptors: Sediment Contamination  
Descriptors: Crustaceans (see also Subdivisions)  
Descriptors: Streams (in natural channels)  
Descriptors: Contamination (see also Pollution)  
Descriptors: Pollution (Water)  
Descriptors: Endosulphan  
Descriptors: Sediment  
Descriptors: Decapoda  
Descriptors: Greater Antilles, Jamaica, Cobre R.  
Descriptors: Jamaica  
Abstract: Only organochlorine (OC) residues were monitored by gas chromatography in water, sediment and shrimp samples collected every month between July 1982 and August 1983 from the rivers of Rio Cobre basin. In samples collected every four months during 1989-1990, and seven times during July 1995-March 1996, OC and OP (organophosphates) residues were monitored. Carbamate and pyrethroid residues were not monitored. The detection of residues in 1982-1983 was 54 to 100% in water and sediment, and 83 to 100% in shrimp samples from various sampling stations in the four rivers. In other years, it ranged from about 40 to 100% in the three types of samples. In 1982 -1983, DDE and dieldrin residues were found to be much higher than those of lindane and alpha - and beta -endosulfan in Black River, Rio Pedro, Thomas River and Rio Cobre in the watershed. The ranges of means of each residue in water ( mu g L super(-1)), sediment (ng g super(-1)) and shrimp (ng g super(-1)) samples, respectively, were: DDE, 0.059-102.0, 3.44-13.97, 0.344-14.57; dieldrin, 0.026-173.6, 1.21-2.75, 0.427-5.59; alpha -endosulfan, bdl, 1.75-4.00, bdl; beta -endosulfan, bdl (below detectable limits), 2.51-9.48, bdl; and lindane, (bdl), 0.110-0.319, 2.90. In 1989-1990 and 1995-1996, residues of six OCs and two OPs were detected quite regularly. DDE, dieldrin and Chlorpyrifos residues were much higher than those of the other insecticides. The range of their means in water ( mu g L super(-1)), sediment and shrimp (ng g super(-1)), respectively, were: DDE, 1.66-19.76, 0.941-5.84, 1.11-8.32; dieldrin, 0.077-7.22, 0.425-3.31, 0.385-1.59; alpha -endosulfan, 0.034-1.25, 0.021-1.22, 0.032-3.62; beta -endosulfan, 0.665-1.23, 0.008-3.60, 0.005-3.97; endosulfan sulphate, 0.959-1.34, 0.035-3.08, 0.012-1.80; lindane, bdl, 0.005-0.82, 1.19-1.56; chlorpyrifos, 0.702-4.06, 0.005-1.51, 0.156-7.04; and diazinon, bdl, 0-0.150, 0.001-0.006. At the mouth of the river, where it discharges into the sea, the levels of almost all the residues were higher than upstream.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Q5 01505 Prevention and control  
Classification: X 24136 Environmental impact  
Classification: SW 3020 Sources and fate of pollution  
Classification: AQ 00002 Water Quality  
Classification: X 24133 Metabolism  
Subfile: Aqualine Abstracts; Toxicology Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Mansingh, A. and Wilson, A. (1995). Insecticide contamination of Jamaican environment 3. Baseline studies on the status of insecticidal pollution of Kingston Harbour. *Marine Pollution Bulletin [MAR. POLLUT. BULL.]. Vol. 30, no. 10, pp. 640-645. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0025-326X  
Descriptors: insecticides  
Descriptors: pollution surveys  
Descriptors: baseline studies  
Descriptors: bioaccumulation  
Descriptors: fish  
Descriptors: seafood  
Descriptors: water pollution  
Descriptors: Pisces  
Descriptors: Mollusca  
Descriptors: water pollution effects  
Descriptors: Pisces  
Descriptors: Isognomon alatus  
Descriptors: Mollusca  
Abstract: Kingston Harbour, a 50 km super(2) bay connected to the Caribbean sea only through a 3.5 km channel, is contaminated with residues of at least seven insecticides, which are introduced by the Rio Cobre. Weekly sampling of the Harbour for a month in July 1992 revealed the following maximum and mean residue levels in water ( mu g/l) and sediments (ng/g; data in parentheses), respectively; alpha -endosulphan, 8.56 and 2.18 (1 and 0.52); beta -endosulphan, 15.7 and 7.86 (0.76 and 0.4); endosulphan sulphate, 0.0003 and 0.0003 (0); p,p'-DDT, 7 and 7 (0.04 and 0.35); dieldrin, 3.75 and 1.88 (0.001 and 0.001); aldrin, 0 (36.7 and 9.2); endrin, 0.93 and 0.26 (0.006 and 0.006); lindane, 0 (0.8 and 0.5); and diazinon, 0.1 and 0.05 (0.007 and 0.045). Oysters and fish were also contaminated with alpha -endosulphan, diazinon and aldrin.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Marine  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: O 4060 Pollution - Environment  
Classification: P 1000 MARINE POLLUTION  
Classification: SW 3030 Effects of pollution  
Classification: X 24136 Environmental impact  
Classification: Q5 01504 Effects on organisms  
Classification: O 4020 Pollution - Organisms/Ecology/Toxicology  
Classification: X 24120 Food, additives & contaminants  
Subfile: Toxicology Abstracts; Water Resources Abstracts; Pollution Abstracts; Oceanic Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Mansingh, Ajai and Wilson, Arlene (1995). Insecticide contamination of Jamaican environment III. Baseline studies on the status of insecticidal pollution of Kingston Harbour. *Marine Pollution Bulletin* 30: 640-645.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Kingston Harbour, a 50 km2 bay connected to the Caribbean sea only through a 3.5 km channel, is contaminated with residues of at least seven insecticides, which are introduced by the Rio Cobre. Weekly sampling of the Harbour for a month in July 1992 revealed the following maximum and mean residue levels in water ([mu]g l-1) and sediments (ng g-1; data in parentheses), respectively: [alpha]-endosulphan, 8.56 and 2.18 (1 and 0.52); [beta]-endosulphan, 15.7 and 7.86 (0.76 and 0.4); endosulphan sulphate, 0.0003 and 0.0003 (0); p,p&prime;-DDT, 7 and 7 (0.04 and 0.35); dieldrin, 3.75 and 1.88 (0.001 and 0.001); aldrin, 0 (36.7 and 9.2); endrin, 0.93 and 0.26 (0.006 and 0.006); lindane, 0 (0.8 and 0.5); and diazinon, 0.1 and 0.05 (0.007 and 0.045). Oysters and fish were also contaminated with [alpha]-endosulphan, diazinon and aldrin.

Mansour, M. (1992). ABIOTIC DEGRADATION OF PESTICIDES IN WATER AND SOILS. *203rd Acs (American Chemical Society) National Meeting, San Francisco, California, Usa, April 5-10, 1992. Abstr Pap Am Chem Soc* 203 : Envr180.  
Chem Codes: CBF Rejection Code: ABSTRACT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT ENVIRONMENTAL POLLUTANT FRESHWATER PHOTOCHEMISTRY HUMIC ACID SILICON OXIDE GARDONA ATRAZINE DIAZINON CARBETAMIDE ISOXABEN CARBOFURAN HYDROXYL RADICAL  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Soil Science-Physics and Chemistry (1970- )  
KEYWORDS: Pest Control

Mansour, M., Feicht, E. A., Behechti, A., and Scheunert, I. (1997). Experimental approaches to studying the photostability of selected pesticides in water and soil.  *Chemosphere [CHEMOSPHERE]. Vol. 35, no. 1/2, pp. 39-50. Jul 1997.*  
Chem Codes: CBF Rejection Code: FATE.  
  
The pesticides carbofuran, diazinon, isoproturon, metamitron, terbuthylazine and pendimethalin were irradiated with UV light of different wavelengths in water or water/soil suspensions under various conditions. As compared to pure distilled water, photodegradation was increased in the presence of titanium dioxide, hydrogen peroxide or ozone, or by using natural river or lake water. In a water/soil suspension, diazinon was converted, besides to other products, to the isomeric isodiazinon. When subjected to various direct or indirect photolysis conditions, pendimethalin was transformed to various products resulting from dealkylation and reduction. Pesticides. Photodegradation. Ultraviolet radiation. Irradiation. carbofuran. Diazinon. isoproturon. metamitron. terbuthylazine. pendimethalin. Soil contamination. Water pollution. Photochemistry. Degradation ISSN: 0045-6535  
Language: English  
Identifiers: carbofuran  
Subfile: Pollution Abstracts; Water Resources Abstracts

Mansour, M., Feicht, E. A., Behechti, A., and Scheunert, I. (1997). Experimental approaches to studying the photostability of selected pesticides in water and soil: Experimental and Theoretical Approaches in Environmental Chemistry. *Chemosphere* 35: 39-50.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The pesticides carbofuran, diazinon, isoproturon, metamitron, terbuthylazine and pendimethalin were irradiated with UV light of different wavelengths in water or water/soil suspensions under various conditions. As compared to pure distilled water, photodegradation was increased in the presence of titanium dioxide, hydrogen peroxide or ozone, or by using natural river or lake water. In a water/soil suspension, diazinon was converted, besides to other products, to the isomeric isodiazinon. When subjected to various direct or indirect photolysis conditions, pendimethalin was transformed to various products resulting from dealkylation and reduction. carbofuran/ diazinon/ isoproturon/ metamitron/ terbuthylazine/ pendimethalin/ photolysis

Mansour, M., Feicht, E. A., Behechti, A., Schramm, K. W., and Kettrup, A. (1999). Determination Photostability of Selected Agrochemicals in Water and Soil. *Chemosphere* 39: 575-585.

EcoReference No.: 85031  
Chemical of Concern: DZ,HCCH,DDT,CPY,PRN,IZP,24DXY,K2Cr207; Habitat: A; Effect Codes: PHY; Rejection Code: NO CONTROL(K2Cr207),NO SPECIES(DZ,DDT,CPY,PRN,IZP,24DXY,HCCH).

MANSOUR, M., FEICHT EA, BEHECHTI, A., and SCHEUNERT, I. (1997). Experimental approaches to studying the photostability of selected pesticides in water and soil. *CHEMOSPHERE; 35* 39-50.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The pesticides carbofuran, diazinon, isoproturon, metamitron, terbuthylazine and pendimethalin were irradiated with UV light of different wavelengths in water or water/soil suspensions under various conditions. As compared to pure distilled water, photodegradation was increased in the presence of titanium dioxide, hydrogen peroxide or ozone, or by using natural river or lake water. In a water/soil suspension, diazinon was converted, besides to other products, to the isomeric isodiazinon. When subjected to various direct or indirect photolysis conditions, pendimethalin was transformed to various products resulting from dealkylation and reduction. Radiation/ Darkness/ Light/ Lighting/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Mansour, M. and Meallier, P. (1989). ABIOTIC DEGRADATION OF PESTICIDES IN WATER AND SOILS. *197th American Chemical Society National Meeting, Dallas, Texas, Usa, April 9-14, 1989. Abstr Pap Am Chem Soc* 197 : Agro 69.  
Chem Codes: CBF Rejection Code: ABSTRACT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT GARDONA ATRAZINE DIAZINON PARATHION PHENMEDIPHAM CARBOFURAN PHOTOREACTIVITY  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: External Effects-Light and Darkness  
KEYWORDS: Soil Science-Physics and Chemistry (1970- )  
KEYWORDS: Pest Control

MANSOUR, M. and MEALLIER, P. (1989). ABIOTIC DEGRADATION OF PESTICIDES IN WATER AND SOILS. *197TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, DALLAS, TEXAS, USA, APRIL 9-14, 1989. ABSTR PAP AM CHEM SOC; 197* AGRO 69.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT GARDONA ATRAZINE DIAZINON PARATHION PHENMEDIPHAM CARBOFURAN PHOTOREACTIVITY Congresses/ Biology/ Ecology/ Fresh Water/ Biochemistry/ Darkness/ Light/ Lighting/ Soil/ Herbicides/ Pest Control/ Pesticides

Mansour, S. A. (1987). Is it Possible to Use the Honey Bee Adult as a Bioindicator for the Detection of Pesticide Residues in Plants? *Acta Biol.Hung.* 38: 69-76.

EcoReference No.: 67982  
Chemical of Concern: MOM,CBL,PIRM,FNT,CPY,DCF,FNV,PPX,DZ; Habitat: T; Effect Codes: MOR,ACC; Rejection Code: NO DURATION,ENDPOINT(DZ),NO ENDPOINT(MOM).

Mansour, S. A., Ali, A. D., and Al-Jalili, M. K. (1984). The Residual Toxicity to Honeybees of Some Insecticides on Clover Flowers: Laboratory Studies. *J.Apic.Res.* 23: 213-216.

EcoReference No.: 35334  
Chemical of Concern: CBL,FNV,PIRM,PPX,FNT,CPY,MOM,DCF,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(DZ,PIRM,DCF,MOM,FNV),OK(PPX,CBL,FNT,CPY).

Marganian, V. M. Jr. (1972). Dursban and Diazinon Residues in Biota Following Treatment of Intertidal Plots on Cape Cod - 1967-69. *Pestic.Monit.J.* 6: 160-165.

EcoReference No.: 4503  
Chemical of Concern: DZ,CPY; Habitat: A; Effect Codes: ACC,MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Margot, A. and Gysin, H. ( 1957). Diazinon, seine Zersetzungsprodukte und ihre Eigenschaften. *Helv.Chim.Acta* 40: 1562-1573 (GER).  
Chem Codes: EcoReference No.: 66243  
Chemical of Concern: DZ Rejection Code: NON-ENGLISH.

Marinovich, M., Ghilardi, F., and Galli, C. L. ( 1996). Effect of pesticide mixtures on in vitro nervous cells: Comparison with single pesticides. *Toxicology* 108: 201-206.  
Chem Codes: Chemical of Concern: DMT Rejection Code: IN VITRO, HUMAN HEALTH.  
  
The toxicity of dimethoate, azinphos-methyl, diazinon, pirimiphos methyl, organophosphorus insecticides, and benomyl (a benzimidazole fungicide) singly and in mixture was studied in a human neuroblastoma cell line, SH-SY5Y. The cells were incubated for 30 min and 4 h with pesticides at concentrations ranging from 0.4 to 100 mu g/ml, or with the same compounds mixed as follows: (a) dimethoate-diazinon-azinphos; (b) benomyl-pirimiphos; (c) all together. Pesticides in the mixtures were at the same concentration used when tested singly. Diazinon, azinphos-methyl and pirimiphos, but not dimethoate and benomyl, inhibited acetylcholine esterase (AchE) activity, whereas all the compounds inhibited protein synthesis in the following order: benomyl > azinphos > diazinon >> pirimiphos = dimethoate. The mixtures showed a toxicity on AchE activity at a maximum equal to that of the most active compound in the mixture. On the contrary, the mixtures were more toxic than the single compounds on protein synthesis, and in certain cases potentiation occurred. Therefore, we can conclude that it is not feasible to predict the toxicity of pesticide mixtures on the basis of the results of the toxicity of single components. Classification: X 24131 Acute exposure; N3 11104 Mammals (except primates) pesticides/ nerves/ dimethoate/ azinphos-methyl/ diazinon/ pirimiphos-methyl/ benomyl/ pesticides (organophosphorus)/ insecticides/ fungicides/ acetylcholinesterase/ neuroblastoma cells/ neurotoxicity/ man

Marinovich, M., Ghilardi, F., and Galli, C. L. ( 1996). Effect of pesticide mixtures on in vitro nervous cells: Comparison with single pesticides. *Toxicology. Vol. 108, no. 3, pp. 201-206. Apr 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0300-483X  
Descriptors: pesticides  
Descriptors: nerves  
Descriptors: insecticides  
Descriptors: fungicides  
Descriptors: neuroblastoma cells  
Descriptors: neurotoxicity  
Abstract: The toxicity of dimethoate, azinphos-methyl, diazinon, pirimiphos methyl, organophosphorus insecticides, and benomyl (a benzimidazole fungicide) singly and in mixture was studied in a human neuroblastoma cell line, SH-SY5Y. The cells were incubated for 30 min and 4 h with pesticides at concentrations ranging from 0.4 to 100 mu g/ml, or with the same compounds mixed as follows: (a) dimethoate-diazinon-azinphos; (b) benomyl-pirimiphos; (c) all together. Pesticides in the mixtures were at the same concentration used when tested singly. Diazinon, azinphos-methyl and pirimiphos, but not dimethoate and benomyl, inhibited acetylcholine esterase (AchE) activity, whereas all the compounds inhibited protein synthesis in the following order: benomyl > azinphos > diazinon >> pirimiphos = dimethoate. The mixtures showed a toxicity on AchE activity at a maximum equal to that of the most active compound in the mixture. On the contrary, the mixtures were more toxic than the single compounds on protein synthesis, and in certain cases potentiation occurred. Therefore, we can conclude that it is not feasible to predict the toxicity of pesticide mixtures on the basis of the results of the toxicity of single components.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24131 Acute exposure  
Classification: N3 11104 Mammals (except primates)  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Marinovich, M., Guizzetti, M., and Galli, C. L. (1994). Mixtures of benomyl, pirimiphos-methyl, dimethoate, diazinon and azinphos-methyl affect protein synthesis in HL-60 cells differently. *Toxicology* 94: 173-185.  
Chem Codes: Chemical of Concern: DMT Rejection Code: HUMAN HEALTH, IN VITRO.  
  
Dimethoate, azinphos-methyl, diazinon and pirimiphos-methyl, widely used organophosphorous insecticides, and benomyl, a benzimidazole fungicide, induce different cytotoxic effects on the human leukemia cell line HL-60. Among the insecticides tested, only azinphos and diazinon induced a dose-related inhibition of protein synthesis in HL-60 cells at 24 h, at 60 and 40 mu g/ml medium, respectively. Dimethoate and pirimiphos were not active up to 100 mu g/ml. Benomyl strongly inhibited protein synthesis at 50 mu g/ml and the polymerisation of actin to give cytoskeletal microfilaments (F-actin) at 30 mu g/ml. Mixtures of benomyl-pirimiphos and dimethoate azinphos-diazinon were also investigated. Pirimiphos, when present in equal concentration, antagonized the inhibitory effect of benomyl on protein synthesis at 4 h, but not at 24 h. The effect of the other insecticide mixture on the same parameter was greater than that of the two active components, diazinon and azinphos given singly. Classification: X 24135 Biochemistry benomyl/ pirimiphos-methyl/ dimethoate/ diazinon/ azinphos-methyl/ protein biosynthesis/ HL-60 cells/ pesticides (organophosphorus)/ insecticides/ fungicides/ benzimidazole

Marinovich, M., Guizzetti, M., and Galli, C. L. (1994). Mixtures of benomyl, pirimiphos-methyl, dimethoate, diazinon and azinphos-methyl affect protein synthesis in HL-60 cells differently. *Toxicology. Vol. 94, no. 1-3, pp. 173-185. 1994.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0300-483X  
Descriptors: protein biosynthesis  
Descriptors: insecticides  
Descriptors: fungicides  
Abstract: Dimethoate, azinphos-methyl, diazinon and pirimiphos-methyl, widely used organophosphorous insecticides, and benomyl, a benzimidazole fungicide, induce different cytotoxic effects on the human leukemia cell line HL-60. Among the insecticides tested, only azinphos and diazinon induced a dose-related inhibition of protein synthesis in HL-60 cells at 24 h, at 60 and 40 mu g/ml medium, respectively. Dimethoate and pirimiphos were not active up to 100 mu g/ml. Benomyl strongly inhibited protein synthesis at 50 mu g/ml and the polymerisation of actin to give cytoskeletal microfilaments (F-actin) at 30 mu g/ml. Mixtures of benomyl-pirimiphos and dimethoate azinphos-diazinon were also investigated. Pirimiphos, when present in equal concentration, antagonized the inhibitory effect of benomyl on protein synthesis at 4 h, but not at 24 h. The effect of the other insecticide mixture on the same parameter was greater than that of the two active components, diazinon and azinphos given singly.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

Marshall, M. R., Moye, H. A., and Lore, E. L. (1997). AQUEOUS BASED SOLVENT SYSTEMS WITH SOLID PHASE EXTRACTION DISKS FOR THE EXTRACTION OF MODERATELY SOLUBLE PESTICIDES FROM MARINE TISSUES. *214th American Chemical Society National Meeting, Las Vegas, Nevada, Usa, September 7-11, 1997. Abstracts of Papers American Chemical Society* 214 : Agro 119.  
Chem Codes: Chemical of Concern: SZ Rejection Code: SURVEY.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT SOLID PHASE EXTRACTION ALACHLOR TISSUE CONCENTRATION PESTICIDE SOLUBLE ATRAZINE BROMACIL CHLOROTHALONIL CHLORPYRIFOS DIAZINON ENDOSULFAN SIMAZINE TRIFLURALIN METHODOLOGY BIOCHEMISTRY AND BIOPHYSICS PESTICIDES FINFISH SHELLFISH FOODS EXTRACTION METHOD AQUEOUS BASED SOLVENT SYSTEMS DISKS SEAFOOD SHELLFISH  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-General Biophysical Studies  
KEYWORDS: Food Technology-General  
KEYWORDS: Pest Control

MARSHALL MR, MOYE HA, and LORE EL (1997). AQUEOUS BASED SOLVENT SYSTEMS WITH SOLID PHASE EXTRACTION DISKS FOR THE EXTRACTION OF MODERATELY SOLUBLE PESTICIDES FROM MARINE TISSUES. *214TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, LAS VEGAS, NEVADA, USA, SEPTEMBER 7-11, 1997. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 214* AGRO 119.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT SOLID PHASE EXTRACTION ALACHLOR TISSUE CONCENTRATION PESTICIDE SOLUBLE ATRAZINE BROMACIL CHLOROTHALONIL CHLORPYRIFOS DIAZINON ENDOSULFAN SIMAZINE TRIFLURALIN METHODOLOGY BIOCHEMISTRY AND BIOPHYSICS PESTICIDES FINFISH SHELLFISH FOODS EXTRACTION METHOD AQUEOUS BASED SOLVENT SYSTEMS DISKS SEAFOOD SHELLFISH Congresses/ Biology/ Biochemistry/ Biophysics/ Food Technology/ Herbicides/ Pest Control/ Pesticides

Martin, N. A. (1986). Toxicity of Pesticides to Allolobophora caliginosa (Oligochaeta: Lumbricidae). *N.Z.J.Agric.Res.* 29: 699-706.

EcoReference No.: 44566  
Chemical of Concern: CuS,DZ,MOM,CBF,ADC,FMP,IZF,OML,PRT; Habitat: T; Effect Codes: GRO,MOR,REP; Rejection Code: LITE EVAL CODED(CBF,CuS,PRT),NO CONTROL,ENDPOINT(DZ,ADC,MOM).

Martin, N. A., Workman, P. J., and Butler, R. C. (2003). Insecticide Resistance in Onion Thrips (Thrips tabaci) (Thysanoptera: Thripidae). *N.Z.J.Crop Hortic.Sci.* 31: 99-106.

EcoReference No.: 81786  
Chemical of Concern: ES,DM,DZ,DDVP; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Martinez-Bazenet, Chantal, Audigier-Petit, Colette, Frot-Coutaz, Jacques, Got, Rene, Nicolau, Claude, and Letoublon, Robert (1988). Protein-mediated fusion of liposomes with microsomal membranes of Aspergillus niger: evidence for a complex mechanism dealing with membranous and cytosolic fusogenic proteins. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 943: 35-42.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Membrane fusion is a fundamental and wide-spread phenomenon in the functioning of cells. Many studies were carried out concerning fusion of plasma membranes as for example cell-cell fusions or uptake by cells of lipid-enveloped viruses. The present study deals with the interaction of intracellular membranes of Aspergillus niger with artificial membranes (liposomes). Association is monitored by the uptake of radioactive liposomes by fungal microsomal membranes. The discrimination between aggregation and pure fusion is done by layering the liposomes-microsomes mixture on a continuous sucrose gradient. The accurate quantitation of the fusion phenomenon is monitored with a fluorescent assay based on resonance energy transfer (Struck, D.K. et al. (1981) Biochemistry 20, 4093-4099). Both methods show that, at physiological pH, there is a spontaneous fusion of microsomes with cholesterol-free liposomes. This phenomenon is protein dependent as trypsinized microsomal membranes are no longer able to fuse with liposomes. Biological significance of the fusion process has been demonstrated using microsomal intrinsic protein mannosylation assay; the enhancement of the lipid to protein ratio due to the fusion of liposomes with microsomes of A. niger results in an increase in the rate of endogenous roteins mannosylation. Moreover, cytosolic proteins of A. niger promote the fusion of any kind of liposomes with microsomes. Membrane fusion/ Liposome/ Fusogenic protein/ Microsomal membrane/ Resonance energy transfer/ (A. niger)

MARUYA KA, LOGANATHAN BG, KANNAN, K., MCCUMBER-KAHN, S., and LEE RF (1997). Organic and organometallic compounds in estuarine sediments from the Gulf of Mexico (1993-1994). *ESTUARIES; 20* 700-709.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Sediment samples from 281 estuarine sites in the Gulf of Mexico were collected in 1993-1994 and analyzed for several classes of organic and organometallic compounds as part of the Environmental Monitoring and Assessment Program of the United States Environmental Protection Agency. Polynuclear aromatic hydrocarbons (PAHs) were the contaminant class found most frequently and in the highest concentrations; the sum of 24 congeners (SIGMAPAHs) ranged from < 5 ng g-1 to 15,500 ng g-1 (dry wt basis). A low percentage of samples (3.9%) exceeded 2000 ng g-1 SIGMAPAHs, and only six samples (2.1%) exceeded 4000 ng g-1, a level above which adverse biological effects may be expected to occur. Less than 4% of sediments exceeded 20 ng g-1 for the sum of 20 polychlorinated biphenyls (SIGMAPCBs) and only four samples (1.4%) exceeded 20 ng g-1 for the sum of several organochlorine pesticides (SIGMAOCPs). A sample from Freeport Harbor, Texas, contained 4230 ng g-1 SIGMAPAHs 322 ng g-1 Ecology/ Air Pollution/ Soil Pollutants/ Water Pollution

Massari, Stefano and Colonna, Raffaele (1986). Lipid miscibility and size increase of vesicles composed of two phosphatidylcholines. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 863: 264-276.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The size increase of small unilamellar vesicles composed of binary mixtures either of saturated fatty acid phosphatidylcholines with different chain lengths or of saturated and unsaturated phosphatidylcholines was found to depend on the miscibility properties of the lipid components. No size increase was detected in vesicles formed by two miscible phosphatidylcholines. In vesicles composed of two lipids which are partially immiscible in the gel state, a size increase was observed at temperatures which mainly overlapped the range of temperatures of the lipid phase transition. The rate of size increase of vesicles composed of two lipids which are immiscible in the gel state was faster than that of vesicles composed of two partially immiscible phosphatidylcholines, and the process occurred not only at the temperature ranges of the lipid phase transition, but also when both lipids were in the gel state. The vesicle size increase process occurred without the mixing of the internal content of the vesicles. A model is proposed in which the presence of &lsquo;fractures&rsquo; between membrane regions of different fluidity and/or lipid composition controls the rate of this process. Membrane fusion/ Phosphatidylcholine/ Lipid miscibility

Matin, M. A., Agarwal, R., and Mirza, M. A. (1988). Distribution of pp'DDT in certain brain regions of rats treated with diazinon. *Arhiv za Higijenu Rada I Toksikologiju/Archives of Industrial Hygiene and. Vol. 39, no. 4, pp. 365-369. 1988.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0004-1254  
Descriptors: brain  
Descriptors: pesticides  
Abstract: The effect of diazinon, given intraperitoneally, on the distribution of pp'DDT was determined in certain brain regions of rats. pp'DDT concentration expressed per gram of wet weight was highest in the corpus striatum (2575 ng/g) followed by those in the cerebellum (1850 ng/g) and in the cortex (990 ng/g). Pretreatment with diazinon increased pp'DDT accumulation in various brain regions by about 20 per cent (corpus striatum 2995 ng/g; cerebellum 2240 ng/g and cortex 1245 ng/g) and reduced cholinesterase activity by 50-70 per cent.  
Language: English  
English; Serbo-Croatian  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Classification: N3 11104 Mammals (except primates)  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

MATIN MA and HUSAIN, K. (1987). NEUROCHEMICAL CHANGES AND BEHAVIORAL EFFECTS INDUCED BY DIAZINON IN ANIMALS. *ELEVENTH MEETING OF THE INTERNATIONAL SOCIETY FOR NEUROCHEMISTRY AND THE EIGHTEENTH MEETING OF THE AMERICAN SOCIETY FOR NEUROCHEMISTRY, LA GUAIRA, VENEZUELA, MAY 31-JUNE 5, 1987. J NEUROCHEM; 48* S94.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT RAT CONVULSIONS BLOOD GLUCOSE ACETYLCHOLINESTERASE GLYCOGEN PHOSPHORYLASE PHOSPHOGLUCOMUTASE HEXOKINASE LACTATE DEHYDROGENASE Congresses/ Biology/ Behavior, Animal/ Biochemistry/ Amino Acids/ Peptides/ Proteins/ Carbohydrates/ Enzymes/Physiology/ Blood Chemical Analysis/ Body Fluids/Chemistry/ Lymph/Chemistry/ Nervous System Diseases/Pathology/ Poisoning/ Animals, Laboratory/ Muridae

Matsuo, K. and Tamura, T. (1970). Laboratory Experiments on the Effect of Insecticides Against Blackfly Larvae (Diptera: Simuliidae) and Fishes. *Sci.Pest Control/Botyu-Kagaku* 35: 125-130.

EcoReference No.: 9634  
Chemical of Concern: DZ,HCCH,MLN,DDT,HPT,DDVP,DLD; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Matsuoka, A, Hayashi, M, and Ishidate, M Jr (1979). Chromosomal aberration tests on 29 chemicals combined with S9 mix in vitro. *Mutation Research* 66: 277-290.  
Chem Codes: Chemical of Concern: ATN Rejection Code: IN VITRO.  
  
A metabolic activation system with rat-liver microsome fraction plus cofactors (S9 mix) was applied to chromosomal aberration tests in vitro for the screening of chemical mutagens or carcinogens in the environment. Dialkylnitrosamines only induced chromosomal aberrations in Chinese hamster cells (CHL) when treated with S9 mix. The incidence of chromosomal aberrations in CHL varied with experimental conditions, e.g. incubation time, recovery time, components of S9 mic and inducers used for preparation of S9. For dimethylnitrosamine (DMN), the maximal incidence was obtained when the cells were incubated with S9 mix for 3 h and harvested 24 h after treatment. Therefore, this system (3 h incubation and 24 h recovery) was routinely applied to further screening of other chemicals with S9 prepared from PCB-pretreated rats. 10 carcinogens (e.g. 7,12-dimethylbenz[a]anthracene, benzo[a]pyrene, quinoline, etc.) out of 16 induced aberrations when they were treated with S9 mix, whereas the remaining 6 carcinogens (e.g., 3-methyl-cholanthrene, 4-o-tolylazo-o-toluidine, etc.) induced few or no aberrations even after activation. Two insecticides, allethrin and diazinon, were strongly positive at relatively low doses only when they were activated with the S9 mix. Medical drugs, such as ethenzamide, methyl p-hydroxybenzoate and nitrofurazone, and a food additive, sodium hypochlorite, were positive on activation. Chemicals used for industry, such as styrene monomer and tris-dichloropropylphosphate, were also positive in our activation system. [Journal Article; In English; Netherlands]

Matsuoka, A., Hayashi, M., and Ishidates, Jr. M. (1979). Chromosomal aberration tests on 29 chemicals combined with S9 mix in vitro. *Mutation Research/Genetic Toxicology* 66: 277-290.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
A metabolic activation system with rat-liver microsome fraction plus cofactors (S9 mix) was applied to chromosomal aberration tests in vitro for the screening of chemical mutagens or carcinogens in the environment.Dialkylnitrosamines only induced chromosomal aberrations in Chinese hamsters cells (CHL) when treated with S9 mix. The incidence of chromosomal aberrations in CHL varied with experimental conditions, e.g. incubation time, recovery time, components of S9 mix and inducers used for preparation of S9, For dimethylnitrosamine (DMN), the maximal incidence was obtained when the cells were incubated with S9 mix for 3 h and harvested 24 h after treatment. Therefore, this system (3 h incubation and 24 h recovery) was routinely applied to further screening of other chemicals with S9 prepared from PCB-pretreated rats. 10 carcinogens (e.g. 7, 12-dimethylbenz [a] anthracene, benzo-[a] pyrene, quinoline, etc.) out of 16 induced aberrations when they were treated with S9 mix, whereas the remaining 6 carcinogens (e.g., 3-methylcholanthrene, 4-o-tolylazo-o-toluidine, etc.) induced few or no aberrations even after activation. Two insecticides, allethrin and diazinon, were strongly positive at relatively low doses only when they were activated with the S9 mix. Medical drugs, such as ethenzamide, methyl p-hydroxybenzoate and nitrofurazone, and a food additive, sodium hypchlorite, were positive on activation. Chemicals used for industry, such as styrene monomer and tris-dichloropropylphosphate, were also positive in our activation system.

Matsuzaki, K., Yoneyama, S., Murase, O., and Miyajima, K. (1996). Transbilayer transport of ions and lipids coupled with mastoparan X translocation. *Biochemistry (Washington) [BIOCHEMISTRY (WASH.)]. Vol. 35, no. 25, pp. 8450-8456. 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0006-2960  
Descriptors: ion exchange  
Descriptors: lipids  
Descriptors: toxins  
Descriptors: Hymenoptera  
Descriptors: Vespidae  
Abstract: The transbilayer movement of ions and lipids induced by mastoparan X, a peptidic toxin from Vespa xanthoptera, was investigated by use of lipid vesicles as a model membrane system. Negatively charged phosphatidylglycerol remarkably enhanced the peptide-lipid interactions. Mastoparan X induced the ion flow by forming a short-lived, multimeric pore in the lipid bilayer, as determined from the leakage of an anionic dye, calcein, from the liposomes. The pore formation was coupled with the translocation of the peptide into the inner leaflet. The latter was detected by three experiments using fluorescence techniques. The lipid flip flop was monitored on the basis of the chemical quenching of 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD)-labeled lipids by sodium dithionite. Mastoparan X triggered the rapid flip-flop of both negatively charged and zwitterionic lipids in coupling with the pore formation and the peptide translocation. A novel model of the mastoparan-lipid interactions was proposed to explain these observations.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Z 05177 Water, temperature & ionic regulation  
Classification: X 24173 Animals  
Subfile: Toxicology Abstracts; Entomology Abstracts

Matsuzaki, Katsumi (1998). Magainins as paradigm for the mode of action of pore forming polypeptides. *Biochimica et Biophysica Acta (BBA) - Reviews on Biomembranes* 1376: 391-400.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Magainins are a class of antimicrobial peptides discovered in the skin of Xenopus laevis. The peptides kill bacteria by permeabilizing the cell membranes without exhibiting significant toxicity against mammalian cells, and are a promising candidate for a new antibiotic of therapeutic value. The main target of the peptides are considered to be the lipid matrix of the membranes. This review summarizes studies on magainin-lipid interactions in comparison with other pore forming peptides. The selective toxicity can be at least partly explained by preferential interactions of magainins with anionic phospholipids abundant in bacterial membranes. A novel mode of action is discussed in detail, i.e., the formation of a dynamic peptide-lipid supramolecular pore, which allows the mutually coupled transbilayer transport of ions, lipids, and peptides per se. Magainins/ Antimicrobial peptides/ Selective toxicity/ Membrane permeabilization/ Translocation/ Flip-flop

Matsuzaki, Katsumi, Murase, Osamu, Sugishita, Ken&rsquo, ichi, Yoneyama, Shuji, Akada, Ken&rsquo, ya, Ueha, Mayu, Nakamura, Akemi, and Kobayashi, Satoe (2000). Optical characterization of liposomes by right angle light scattering and turbidity measurement. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1467: 219-226.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Liposomes have frequently been used as models of biomembranes or vehicles for drug delivery. However, the systematic characterization of lipid vesicles by right angle light scattering and turbidity has not been carried out despite the usefulness of such studies for size estimation. In this study, liposomes of various sizes were prepared by sonication and extrusion. The mean cumulant radii of the vesicles were determined by dynamic light scattering. The lamellarities were estimated based on fluorescence quenching of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)dipalmitoyl--[alpha]-phosphatidylethanolamine by sodium dithionite. Right angle light scattering intensity and optical density at 436 nm per unit lipid concentration were measured as a function of vesicle radius. With a vesicle radius <=100 nm, the optical parameters could be well explained by the Rayleigh-Gans-Debye theory in which the liposomes were modeled as homogenous spheres with mean refractive indices determined by the volume fractions of lipids in vesicles. Rayleigh-Gans-Debye equation/ Lamellarity/ Refractive index

Mattern, G. C., Louis, J. B., and Rosen, J. D. (1991). Multipesticide Determination In Surface Water By Gas Chromatography/Chemical Ionization/Mass Spectrometry/Ion Trap Detection. 74: 982-986.  
Chem Codes: CHLOR Rejection Code: CHEM METHODS.  
  
biosis copyright: biol abs. an improved method for the determination of trace levels of pesticides in surface water has been developed and was used to analyze 20 target pesticides in new jersey. pesticides were extracted from 2 l water samples, using a mixture of xad-2 and xad-7 resins, and were determined by gas chromatography/chemical ionization mass spectrometry with ion trap detction. average recoveries (performed in triplicate at the ppb level, except for captan and chlorothalonil at 5 ppb) were between 75 and 113%, with an average coefficient of variation of 9%. most of the pesticides (alachlor, atrazine, butylate, carbofuran, chlorpyrifos, diazinon, fonofos, isofenphos, metolachlor, metribuzin, parathion, and simazine) had limits of detection (lods) of 0.005 ppb or lower, while some (carbaryl, cyanazine, fenamiphos, linuron, pendimethalin, and terbufos) had lods between 0.005 and 0.05 ppb. captan and chlorothalonil had lods of 1 ppb. of 31 samples analyzed, 29 contained one or more of the following pesticides: alachlor, atrazine, carbaryl, chlorpyrifos, cyanazine, diazinon, isofenphos, linuron, metochlor, and simazine in concentrations between trace (< 0.025 ppb) and 5.48 ppb. methods, materials and apparatus, general-laboratory methods/ radiation-radiation and isotope techniques/ ecology/ environmental biology-oceanography and limnology/ comparative biochemistry, general/ biochemical studies-general/ toxicology-environmental and industrial toxicology/ public health-public health laboratory methods/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides

Matthysse, J. G. and Lisk, D. (1968). Residues of Diazinon, Coumaphos, Ciodrin, Methoxychlor, and Rotenone in Cow's Milk from Treatments Similar to Those Used for Ectoparasite and Fly Control on Dairy Cattle, with Notes on Safety of Diazinon and Ciodrin to Calves. *J.Econ.Entomol.* 61: 1394-1398.

EcoReference No.: 37852  
Chemical of Concern: CMPH,DZ,RTN; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

Mattjus, Peter, Bittman, Robert, Vilcheze, Catherine, and Peter Slotte, J. (1995). Lateral domain formation in cholesterol/phospholipid monolayers as affected by the sterol side chain conformation. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1240: 237-247.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interaction of side-chain variable cholesterol analogues with dipalmitoylphosphatidylcholine (DPPC) or N-palmitoylsphingomyelin(N-PSPM) has been examined in monolayer membranes at the air/water interface. The sterols had either unbranched (n-series) or single methyl-branched (iso-series) side chains, with the length varying between 3 and 10 carbons (C3-C10). The efficacy of interaction between the sterols and the phospholipids was evaluated based on the ability of the sterols to form condensed sterol /phospholipid domains in the phospholipid monolayers. Domain formation was detected with monolayer fluorescence microscopy using NBD-cholesterol as the fluorescent probe. In general, a side chain length of at least 5 carbons was necessary for the unbranched sterols to form visible sterol /phospholipid domains in DPPC or N-PSPM mixed monolayers. With the iso-analogues, a side chain of at least 6 carbons was needed for sterol /phospholipid domains to forth. The macroscopic domains were stable up to a certain surface pressure (ranging from l to 12 mN/m). At this onset phase transformation pressure, the domain line boundary dissipated, and the monolayer entered into an apparent one phase state (no clearly visible lateral domains). However, with some DPPC monolayers containing short chain sterols (n-C3, n-C4,n-C5, and i-C5), a new condensed phase appeared to form (at 20 mol%) when the monolayer was compressed beyond the phase transformation pressure. These precipitates formed at surface pressures between 6-8.3 mN/m, were clearly observable up to at least 30 mN/m. When the monolayers containing these four sterols were allowed to expand, the condensed precipitates dissolved at the same pressure at which they were formed during monolayer compression. No condensed precipitates were observed with these sterols in corresponding N-PSPM monolayers. Taken together, the results of this study emphasize the importance of the length and conformation of the cholesterol side chain in determining the efficacy of sterol /phospholipid interaction in model membranes. The major difference between DPPC and N-PSPM monolayers at different sterol compositions was mainly the lateral distribution and the size of the domains as well as the onset phase transformation pressure intervals. Sterol side chain/ Cholesterol/ Phosphatidylcholine/ Sphingomyelin/ Monolayer membrane/ Sterol -phospholipid interaction/ Lipid domain

Mattjus, Peter, Hedstrom, Gun, and Slotte, J. Peter (1994). Monolayer interaction of cholesterol with phosphatidylcholines: effects of phospholipid acyl chain length. *Chemistry and Physics of Lipids* 74: 195-203.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The degree of association of cholesterol with phosphatidylcholines having symmetric acyl chains from 10 to 20 carbons in length have been examined in monolayers at the air/water interface using cholesterol oxidase as a probe. Mixed monolayers having three different cholesterol/phospholipid (C/PL) molar ratios (0.9:1.0, 1.0:1.0, and 1.5:1.0 C/PL) were prepared. In these monolayers (at a lateral surface pressure of 20 mN/m), cholesterol was most readily available for oxidation in monolayers having phosphatidylcholines with short (di-10-PC and di-12-PC) or long (di-18-PC and di-20-PC) acyl chains, whereas the oxidation susceptibility was lower in monolayers having phosphatidylcholines with intermediate length acyl chains (di-14-PC, di-15-PC, di-16-PC and di-17-PC). Mixed monolayers having a C/PL of 0.9:1.0 were prepared to include 0.5 mol% NBD-cholesterol, and the monolayer surface texture at 20 mN/m was examined using epifluorescence microscopy. It was clearly revealed that monolayers containing di-10-PC and di-12-PC were laterally heterogeneous (containing both liquid-expanded and liquid-condensed lateral domains). With intermediate chain phosphatidylcholines (14-17 carbons), there was no surface texture (dominantly dark monolayer areas), whereas occasional bright NBD-cholesterol-rich inclusions again began to appear in di-18-PC and di-20-PC monolayers. The increased oxidation susceptibility of cholesterol in di-18-PC and di-20-PC could possibly result from a partial lateral phase separation of cholesterol-rich phases in these monolayers, since cholesterol can be expected to be less readily soluble in a long chain than in intermediate chain phosphatidylcholine matrix, and since cholesterol-rich phases are expected to be oxidized more readily than cholesterol-poor phases. We conclude that the susceptibility of cholesterol to oxidation by cholesterol oxidase was most pronounced in monolayers containing phosphatidylcholines with acyl chain lengths that did not match the length of the sterol molecule. Monolayer membranes/ Cholesterol oxidase/ Cholesterol/ Phosphatidylcholine/ Acyl chain length/ Lipid interaction/ Phase separation/ Fluorescence microscopy

MAU, R. FL, GUSKUKUMA-MINUTO LR, and SHIMABUKU RS (1998). ONION THRIPS MANAGEMENT ON DRY ONION 1996. *SAXENA, K. N. (ED.). ARTHROPOD MANAGEMENT TESTS, VOL. 23. IV+418P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA. ISBN 0-938522-77-9.; 23 (0). 1998. 112-113.*  
Chem Codes: Chemical of Concern: FPN Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER ALLIUM-CEPA BEAUVERIA-BASSIANA THRIPS-TABACI ONION ONION THRIPS HOST CULTIVAR-GRANEX 33 CROP PATHOGEN BIOLOGICAL CONTROL AGENT PEST PEST MANAGEMENT PESTICIDES WARRIOR II 1 E INSECTICIDE APPLICATION RATE BIOLOGICAL CONTROL ALERT 2 SC DIAZINON AG500 FIPRONIL 80 WDG LANNATE LV MALATHION 5 EC INTEGRATED RESISTANCE MANAGEMENT PEST CONTROL METHOD COLORADO USA Biochemistry/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Mitosporic Fungi/ Plants/ Insects

MAYER AS, IMHOFF PT, MITCHELL RJ, RABIDEAU AJ, MCBRIDE JF, and MILLER CT (1994). FATE AND EFFECTS OF POLLUTANTS GROUNDWATER QUALITY. *WATER ENVIRONMENT RESEARCH; 66* 532-585.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW WATER QUALITY BIOLOGICAL PROCESSES HYDRODYNAMICS SORPTION SOIL POLLUTION WASTEWATER TREATMENT Ecology/ Fresh Water/ Biochemistry/ Movement/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

MAYER AS, MITCHELL RJ, CARRIERE, P. PE, HEIN GL, RABIDEAU AJ, and WOJICK CL (1995). GROUNDWATER QUALITY. *WATER ENVIRONMENT RESEARCH; 67* 629-685.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW GROUNDWATER ENVIRONMENTAL QUALITY NONAQUEOUS PHASE LIQUIDS VADOSE ZONE SYSTEMS POLLUTANT FATE POLLUTANT TRANSPORT POLLUTION WATER CONTAMINATION Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

Mayer, F. L. Jr. (1987). Acute Toxicity Handbook of Chemicals to Estuarine Organisms. *EPA 600/8-87-017, U.S.EPA, Gulf Breeze, FL* 274p.  
Chem Codes: EcoReference No.: 3947  
Chemical of Concern: ATZ,Ag,DZ Rejection Code: REFS CHECKED/REVIEW.

Mayer, F. L. Jr. (1974). Pesticides as Pollutants. *In: B.G.Liptak (Ed.), Environmental Engineer's Handbook, Chilton Book Co., Radnor, PA* 405-418 (Publ in Part As 6797).

EcoReference No.: 70421  
Chemical of Concern: AND,CHD,DDT,DLD,ES,EN,HPT,TXP,DZ,CPY,PRN,CBL,ACL,ATZ,Cu,EDT,SZ,As; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Mazidji, C. N., Koopman, B., Bitton, G., Voiland, G., and Logue, C. (1990). Use of Microtox and Ceriodaphnia Bioassays in Wastewater Fractionation. *Toxicity Assessment: An International Joint J.* 5: 265-277.  
Chem Codes: EcoReference No.: 45850  
Chemical of Concern: DZ Rejection Code: EFFLUENT.

McCann, J. A., Mertz, J. A., Czworkowski, J., and Picking, W. D. \*. (1997). Conformational changes in cholera toxin B subunit--ganglioside GM1 complexes are elicited by environmental pH and evoke changes in membrane structure. *Biochemistry (Washington) [BIOCHEMISTRY (WASH.)]. Vol. 36, no. 30, pp. 9169-9178. Jul 1997.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0006-2960  
Descriptors: pH  
Descriptors: conformational analysis  
Descriptors: gangliosides  
Descriptors: membrane structure  
Abstract: Fluorescence resonance energy transfer (FRET) was used to monitor pH-dependent structural changes in the cholera toxin B subunit (CTB) and the membranes with which CTB associates. The distance separating the single tryptophan (Trp88) of each CTB monomer and a pyrene probe linked to the membrane-imbedded tail of ganglioside GM1 is not influenced by pH in a range from 3.5 to 7.5, consistent with the position of Trp88 in the GM1 binding site of CTB. In contrast, the distance between the pyrene probe on GM1 and coumarin, stilbene, or fluorescein probes covalently linked to specific sites on CTB appears to increase significantly as the pH is lowered to 5.0 or less. This conformational change is not accompanied by detectable change in the distance between Trp88 and these extrinsic probe positions in the presence of nonfluorescent GM1. However, when the distance from Trp88 to the extrinsic probes is monitored as a function of pH in the absence of GM1, a conformational change is seen which indicates that receptor binding influences the character of pH-dependent conformational changes that occur within CTB. Interestingly, the observed change in CTB conformation is accompanied by a change in the relative position of GM1 within the membrane as judged by FRET from the pyrene probe on GM1 to a 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD) probe linked to the polar head group of phosphatidylethanolamine and positioned at the membrane surface. Taken together, the data imply that low endosomal pH is capable of inducing structural changes in CTB, which, in turn, exert effects on the structure of the membrane to which CTB is bound. These phenomena may have a role in (1) processing of cholera toxin within the endosomal compartments of some target cell types, (2) determining the lag time between cholera toxin binding and the target cell response to cholera intoxication, or (3) the efficiency of CTB and cholera toxin as mucosal adjuvants.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24171 Microbial  
Subfile: Toxicology Abstracts

McConnell, L. L., LeNoir, J. S., Datta, S., and Seiber, J. N. (1998). Wet Deposition of Current-Use Pesticides in the Sierra Nevada Mountain Range, California. *Environ.Toxicol.Chem.* 17: 1908-1916.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.

MCCONNELL LL, LENOIR JS, DATTA, S., and SEIBER JN (1998). Wet deposition of current-use pesticides in the Sierra Nevada mountain range, California, USA. *ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY; 17* 1908-1916.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Atmospheric inputs of pesticides transported from California's Central Valley to the Sierra Nevada mountains (California, USA) were investigated by collecting winter-spring precipitation (rain and snow) from Sequoia National Park and from the Lake Tahoe basin. Pesticides currently used in California's Central Valley were detected in snow and rain samples from two elevations in Sequoia National Park (SNP) in the southern Sierras. At the lower elevation site (533 m), chlorothalonil was present at the highest levels ( < 0.4-85 ng), followed by malathion ( < 0.046-24 ng/L), diazinon ( < 0.21-19 ng/L), and chlorpyrifos (1.3-4.4 ng/L). At 1,920 m elevation, chlorothalonil was also present at the highest levels ( < 0.57-13 ng/L) followed by diazinon ( < 0.057-14 ng/L), chlorpyrifos (1.1-13 ng/L), and malathion ( < 0.045-6 ng/L). Trifluralin, alpha- and gamma-hexachlorocyclohexane (HCH), and alpha- and beta-endosulfan were also detected at both locations and at lower conc Ecology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

McGregor, D B, Brown, A, Cattanach, P, Edwards, I, McBride, D, Riach, C, and Caspary, W J (1988). Responses of the L5178Y tk+/tk- mouse lymphoma cell forward mutation assay: III. 72 coded chemicals. *Environmental And Molecular Mutagenesis* 12: 85-154.  
Chem Codes: Chemical of Concern: ASCN Rejection Code: IN VITRO.  
  
Seventy-two chemicals were tested for their mutagenic potential in the L5178Y tk+/- mouse lymphoma cell forward mutation assay, using procedures based upon those described by Clive and Spector (Mutat Res 44:269-278, 1975) and Clive et al. (Mutat Res 59:61-108, 1979). Cultures were exposed to the chemicals for 4 hr, then cultured for 2 days before plating in soft agar with or without trifluorothymidine (TFT), 3 micrograms/ml. The chemicals were tested at least twice. Significant responses were obtained with allyl isothiocyanate, p-benzoquinone dioxime, benzyl acetate, 2-biphenylamine HCl, bis(2-chloro-1-methylethyl)ether, cadmium chloride, chlordane, chlorobenzene, chlorobenzilate, 2-chloroethanol, chlorothalonil, cytarabine.HCl, p,p'-DDE, diazinon, 2,6-dichloro-p-phenylenediamine, N,N-diethylthiourea, diglycidylresorcinol ether, 2,4-dimethoxy aniline.HCl, disperse yellow 3, endosulfan, 1,2-epoxyhexadecane, ethyl acrylate, ethyl benzene, ethylene thiourea, F D and C yellow Number 6, furan, heptachlor, isophorone, mercuric chloride, 4,4'-methylenedianiline.2 HCl, methyl viologen, nickel sulfate.6H2O, 4,4'-oxydianiline, pentachloroethane, piperonyl butoxide, propyl gallate, quinoline, rotenone, 2,4,5,6-tetrachloro-4-nitro-anisole, 1,1,1,2-tetrachloroethane, trichlorfon, 2,4,6-trichlorophenol, 2,4,5-trimethoxybenzaldehyde, 1,1,3-trimethyl-2-thiourea, 1-vinyl-3-cyclopetene dioxide, vinyl toluene, and ziram. Apart from 2-biphenylamine.HCl, 2-chloroethanol, disperse yellow 3, ethylene thiourea, FD and C yellow number 6, phenol, and 1,1,2-tetrachloroethane, rat liver S9 mix was not a requirement for these compounds. Chemicals not identified as mutagens were acid red, 11-aminoudecanoic acid, boric acid, 5-chloro-o-toluidine, coumaphos, cyclohexanone, decabromodiphenyl oxide, di(2-ethylhexyl)adipate, ferric chloride, fluometuron, melamine, monuron, phenesterin, phthalimide, reserpine, sodium dodecyl sulfate, 4,4-sulfonyldianiline, tetrachloroethylene, and zearalenone. The assay was incapable of providing a clear indication of whether some chemicals were mutagens; these were benzyl alcohol, 1,4-dichlorobenzene, phenol, succinic acid-2,2-dimethyl hydrazide, and toluene. [Journal Article; In English; United States]

MCGREGOR DB, BROWN, A., CATTANACH, P., EDWARDS, I., MCBRIDE, D., RIACH, C., and CASPARY WJ (1988). RESPONSES OF THE L5178Y TK-POSITIVE-TK-NEGATIVE MOUSE LYMPHOMA CELL FORWARD MUTATION ASSAY III. 72 CODED CHEMICALS. *ENVIRON MOL MUTAGEN; 12* 85-154.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM DATA EVALUATION Animals/Genetics/ Mathematics/ Statistics/ Biology/ Hematopoietic System/Physiology/ Lymph/Chemistry/ Lymph/Physiology/ Lymphatic System/Physiology/ Reticuloendothelial System/Physiology/ Poisoning/ Animals, Laboratory/ Cell Line/ Neoplasms/Pathology/ Culture Media/ Tissue Culture

McKee, P. W. and McWreath, H. C. (2002). Computed and Estimated Pollutant Loads, West Fork Trinity River, Fort Worth, Texas, 1997.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
Descriptors: Water pollution  
Descriptors: Runoff  
Descriptors: Heavy metals  
Descriptors: Organic nitrogen  
Descriptors: Chemical oxygen demand  
Descriptors: Suspended particulate matter  
Descriptors: Watersheds  
Descriptors: River basin management  
Descriptors: Biochemical oxygen demand  
Descriptors: Pollution Load  
Descriptors: Water Pollution Sources  
Descriptors: Rivers  
Descriptors: Storm Runoff  
Descriptors: Phosphorus  
Descriptors: Land Use  
Descriptors: Nitrogen  
Descriptors: Urban Runoff  
Descriptors: Dissolved Solids  
Descriptors: Diazinon  
Descriptors: Organic Loading  
Descriptors: Urban Areas  
Descriptors: USA, Texas, Fort Worth, West Fork Trinity R.  
Abstract: Two models (described later in this report) have been developed to estimate the pollutant loads in storm runoff from urban basins in the Dallas-Fort Worth (DFW) metropolitan area, Texas. A deterministic model, the Watershed Management Model (WMM), estimates a total basin pollutant load by multiplying an event-mean concentration (EMC) by estimated runoff for each type of land use and then summing the loads for each land use (Rough River National Wet Weather Demonstration Project, 1998). A statistical model, developed by the U.S. Geological Survey (USGS), uses multi-variable regression equations to estimate pollutant loads in storm runoff. This report documents the derivation of estimated storm-runoff pollutant loads from the two models and compares the estimated loads with loads computed from measured data at USGS streamflow-gaging station 08048543 West Fork Trinity River at Beach Street, Forth Worth. The properties and constituents for which loads were computed are biochemical oxygen demand, chemical oxygen demand, suspended solids, dissolved solids, total nitrogen, total ammonia plus organic nitrogen (also known as total Kjeldahl nitrogen), total phosphorus, dissolved phosphorus, total recoverable copper, total recoverable lead, total recoverable zinc, and total diazinon.  
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Publisher: United States Geological Survey  
Other numbers: USGS-WRI-01-4253  
Language: English  
Publication Type: Report  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: SW 3020 Sources and fate of pollution  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Mckenzie, C. L., Rowland, S., and Cartwright, B. (1994). COMPARISON OF FOLIAR SEED AND SOIL TREATMENTS FOR REDUCING TOBACCO THRIPS INJURY ON WATERMELON 1993. *Burditt, A. K. Jr. (Ed.). Arthropod Management Tests, Vol. 19. Iii+403p. Entomological Society of America: Lanham, Maryland, Usa.* 0 : 162-163.  
Chem Codes: CBF Rejection Code: BOOK ORDERED - BURDITT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER CITRULLUS-LANATUS FRANKLINIELLA-FUSCA CGA-215944 ADMIRE FURADAN GOUCHO DIAZINON BRIGADE METASYSTOX INSECTICIDE  
KEYWORDS: Toxicology-General  
KEYWORDS: Horticulture-Vegetables  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Invertebrata  
KEYWORDS: Cucurbitaceae  
KEYWORDS: Thysanoptera

McLeay, M. J. and Hall, K. J. (1999). Monitoring Agricultural Drainage Ditches and the Receiving Water (Nicomekl River, Surrey, B.C.) for Toxicity to Ceriodaphnia dubia and Probable Cause Due to Organophosphate Contamination. *Water Quality Research Journal of Canada [Water Qual.Res.J.Can.]* 34: 423-453.  
Chem Codes: Chemical of Concern: PPB Rejection Code: MIXTURE.  
  
1201-3080. The use of organophosphate insecticides on commercial vegetable and blueberry farmlands bordering the Nicomekl River, Surrey, B.C., creates the potential for toxic effects on the biota within the drainage ditches and the river itself. To investigate the frequency and magnitude of the toxicity of drainage ditch water and the river water in the vicinity of ditch discharge points, together with the probable cause, water samples were collected from six drainage ditches, and four river locations, at 3-week intervals between June and November 1997. For each of the water samples collected, chronic (7 plus or minus 1 day) survival and reproduction of the cladoceran test organism Ceriodaphnia dubia were compared to that of Nicomekl River headland waters beyond the influence of commercial growing operations. Portions of samples proving to be lethally toxic to the toxicity-test organism were analyzed for organophosphate insecticides (OPs) and subjected to treatment with piperonyl butoxide to ascertain if OPs were the likely contributing cause of the toxicity. Throughout the 6-month monitoring period, a total of 50 ditch water samples and 35 Nicomekl river water samples were collected. None of the river water samples tested produced statistically significant mortality. Two (4%) of the ditch water samples were lethally toxic, with 6- and 7-day median lethal concentrations (LC50s) of 39.9 and 36.5%, respectively. Seven (14%) of the ditch water samples and three (9%) of the river water samples inhibited C. dubia reproduction. A biological toxicity identification evaluation using piperonyl butoxide determined that the toxicant(s) in each of the two ditch water samples which proved lethal to C. dubia were likely metabolically active OP insecticide(s). Later chemical analyses on stored portions of the samples revealed trace quantities of chlorpyrifos and/or diazinon. These and other non-measured OPs are believed to have been responsible for the observed lethality. The cause of the inhibited reproduction is for the most part unknown. Providing the 1997 growing season is a typical growing season in terms of OP insecticide use and rainfall, the C. dubia toxicity test results suggest that during the growing season the Nicomekl River and its drainage ditches may periodically be contaminated with OP insecticides at concentrations high enough to sublethally or lethally impact sensitive ditch and river invertebrate fish-food organisms

McLeay, M. J. and Hall, K. J. (1999). Monitoring Agricultural Drainage Ditches and the Receiving Water (Nicomekl River, Surrey, B.C.) for Toxicity to Ceriodaphnia dubia and Probable Cause due to Organophosphate Contamination. *Water Qual.Res.J.Can.* 34: 423-453.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Medina, D., Prieto, A., Ettiene, G., Buscema, I., and Abreu de V, A. (1999). Persistence of Organophosphorus Pesticide Residues in Limon River Waters. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 63, no. 1, pp. 0039-0044. Jul 1999.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0007-4861  
Descriptors: Pesticide Residues  
Descriptors: Water Pollution  
Descriptors: Path of Pollutants  
Descriptors: Aquatic Environment  
Descriptors: Organophosphorus Pesticides  
Descriptors: Degradation  
Descriptors: Metabolites  
Descriptors: Pesticides  
Descriptors: Pollutant persistence  
Descriptors: Transport processes  
Descriptors: Pollution dispersion  
Descriptors: Agricultural pollution  
Descriptors: Organophosphorus compounds  
Descriptors: Rivers  
Descriptors: Freshwater pollution  
Descriptors: Solar radiation  
Descriptors: Adsorption  
Descriptors: Venezuela, Limon R.  
Abstract: The most important factors involved in the transportation of pesticide residues towards natural bodies of water are aerial dispersion by wind, volatilization, and conveyance by rain and irrigation waters (Ferrando et al. 1992). The toxic action of pesticides residues in water systems depends on the concentration of these and the length of persistence prior to degradation by the environment. It is important to know the persistence of these substances in aquatic environments. In Venezuela, organophosphorus pesticides are widely used in agriculture for crop production because of their high levels of efficiency in the control of pests, and also because of their economic convenience (Chirinos and Geraud-Pouey 1996, Geraud-Pouey et al. 1997). Persistence pesticides studies have been conducted in other countries (Ferrando et al. 1992, Frank et al. 1994, Castillo et al. 1997) however research of this type has not been carried out in our country. The purpose of this study was evaluate the persistence of the following organophosphorus pesticides in water samples from the Limon River: mevinphos, diazinon, parathion, malathion, azinphos, coumaphos, phorate, disulfoton, fenitrothion, chlorfenvinphos, methidathion, and tetrachlorvinphos. The effects of solar light, adsorption on particulates, and volatilization are also studied.  
Publisher: Springer-Verlag  
DOI: 10.1007/s001289900945  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 2000 FRESHWATER POLLUTION  
Subfile: Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts

Medina, D., Prieto, A., Ettiene, G., Buscerna, I., and Abreu, A. (1999). Persistence of Organophosphorus Pesticide Residues in Limon River Waters. *Bull.Environ.Contam.Toxicol.* 63: 39-44.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.

MEGHARAJ, M., BOUL HL, and THIELE JH (1999). Effects of DDT and its metabolites on soil algae and enzymatic activity. *BIOLOGY AND FERTILITY OF SOILS; 29* 130-134.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
BIOSIS COPYRIGHT: BIOL ABS. The persistence of DDT (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane) and its metabolites in soil, their toxicity to soil algae, and effects on microbial activities were studied in laboratory microcosms for 45 days. In non-sterile soils, removal of DDD (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane) and DDE (1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene) was less than 3%, while 4-8% of applied DDMU (1-chloro-2,2-bis(p-chlorophenyl)ethylene), DDA (2,2-bis(p-chlorophenyl)acetic acid) and DDT were los mg kg-1), but all compounds inhibited dehydrogenase activity at concentrations of 50 mg kg-1 soil. The toxic effects of DDT and its metabolites were dose-related. Soil Microbiology/ Biophysics/ Plants/Enzymology/ Herbicides/ Pest Control/ Pesticides/ Algae

Meier, E. P., Dennis, W. H., Rosencrance, A. B., Randall, W. F., Cooper, W. J., and Warner, M. C. (1979). Sulfotepp, a Toxic Impurity in Formulations of Diazinon. *Bull.Environ.Contam.Toxicol.* 23: 158-164.

EcoReference No.: 551  
Chemical of Concern: DZ,SFT; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(DZ,SFT).

Meijers, R. T., Oderwald-Muller, E. J., Nuhn, P. A Nm, and Kruithof, J. C. (1995). DEGRADATION OF PESTICIDES BY OZONATION AND ADVANCED OXIDATION. *Ozone Science & Engineering* 17 : 673-686.  
Chem Codes: Chemical of Concern: DMB, SZ,DMT Rejection Code : FATE.  
  
In the Netherlands many water supply companies are upgrading their surface water treatment plants in order to guarantee the water supply and water quality in the coming years. The Water Supply Company North West Brabant (WNWB) has plans to upgrade their treatment plant at Zevenbergen. In the retrofit plant chlorination will be abandoned and probably ozonation will be the major barrier against microorganisms. Pesticide concentrations will be decreased by three barriers: storage, ozonation and activated carbon filtration. If the ozone is restricted just to reach the required disinfection level at pH 7.2, ozonation is a poor barrier against pesticides. Out of 23 selected pesticides, only 6 were effectively degraded: dimethoate, chlortoluron, diuron, isoproturon, metoxuron and vinclozolin (O sub(3)/DOC = 0.55 g/g). Application of an (O sub(3)/DOC ratio of 1.0 g/g results in an effective barrier for roughly 50% of the tested pesticides (also for diazinon, parathion-methyl, linuron, methabenzthiazuron, metobromuron, MCPA and MCPP). Pesticides were degraded more effectively at high pH and high temperatures. For additional degradation of high concentrations of persistent pesticides, advanced oxidation may be applied. Atrazine, propazine, simazine, chlorfenvinphos, tetrachlorvinphos, 2,4-D, 2,4-DP and 2,4,5-T were degraded by O sub(3)/DOC = 1.4 g/g and H sub(2)O sub(2)/O sub(3) = 0.5 g/g. Dicamba and dikegulac were most persistent. pH has a minor effect on the degradation of pesticides by advanced oxidation. Higher hydrogen peroxide dosages showed no improvement in degradation. After ozonation and advanced oxidation, about 50% of totally reacted atrazine and propazine was converted into desethyl-atrazine. No desisopropylatrazine formation was observed. (DBO)ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE TOXICOLOGY OZONATION PESTICIDES OZONE DIMETHOATE PESTICIDE CHLORTOLURON DIURON ISOPROTURON METOXURON VINCLOZOLIN ATRAZINE PROPAZINE SIMAZINE CHLORFENVINPHOS TETRACHLORVINPHOS 2 4-D 2 4 5-T 2 4-DP DICAMBA DIKEGULAC WASTE MANAGEMENT OXIDATION WATER TREATMENT METHOD  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-Molecular Properties and Macromolecules  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures  
KEYWORDS: Public Health: Environmental Health-Air

Melancon, S. M., Pollard, J. E., and Hern, S. C. ( Evaluation Of Sesoil (Seasonal Soil Compartment Model), Przm (Pesticide Root Zone Model), And Pestan (Pesticide Analytical Model) In A Laboratory Column Leaching Experiment.  
Chem Codes: Chemical of Concern: DMB,24DXY Rejection Code: NO SPECIES/CHEMICAL FATE.  
  
Leaching-. Pesticides-. td3: four 2-m columns filled with sandy soil were loaded with six organic chemicals (dicamba, 2,4-dichlorophenoxyacetic acid, atrazine, diazinon, pentachlorophenol, and lindane) and watered for 30 days in a controlled laboratory experiment. chemical migration was monitored by analyses of daily effluent samples and soil sample cores, the latter collected on day 30 from 5-cm compartments throughout each column. observed chemical migration patterns were compared with the predictions of three vadose zone fate-and-transport models: sesoil, przm and pestan. evaluations of model performance revealed substantial variability depending on the chemical type and model tested. przm and pestan showed greater improvement in prediction of observed chemical migration patterns with the use of measured input data than did sesoil. the limitations of these models, if used for screening purposes without a priori measurement of chemical- and site-specific model input data or post hoc calibration with existing field data, should be recognized. (copyright (c) setac 1986.) journal article, pub. in environ. toxicol. and chemistry, v5 p865-878, 1986. prepared in cooperation with nevada univ., las vegas. ai: yes db: tox sf: ntis

MELANCON SM, POLLARD JE, and HERN SC (1986). EVALUATION OF SEASON SOIL COMPARTMENT MODEL PESTICIDE ROOT ZONE MODEL AND PESTICIDE ANALYTICAL MODEL IN A LABORATORY COLUMN LEACHING EXPERIMENT. *ENVIRON TOXICOL CHEM; 5* 865-878.  
Chem Codes: Chemical of Concern: DMB Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM 2 4-D DICAMBA ATRAZINE DIAZINON PENTACHLOROPHENOL LINDANE INSECTICIDE Mathematics/ Statistics/ Biology/ Ecology/ Fresh Water/ Biochemistry/ Biophysics/ Cybernetics/ Movement/ Environmental Pollutants/Poisoning/ Occupational Diseases/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Meng, Jun-cai, Fokin, Valery V., and Finn, M. G. (2005). Kinetic resolution by copper-catalyzed azide-alkyne cycloaddition. *Tetrahedron Letters* 46: 4543-4546.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The use of chiral pybox ligands imparts enantioselectivity to the CuI-catalyzed azide-alkyne cycloaddition reaction, in the form of kinetic resolution of [alpha]-chiral azides and desymmetrization of gem-diazides. While levels of selectivity are modest, the results show unequivocally that the process benefits from ligand-accelerated catalysis.

Menzie, C. (1983). Acute Toxicity of Some Organophosphorus Pesticides Against Fish and Aquatics: Sumithion. *U.S.EPA-OPP Registration Standard*.

EcoReference No.: 13003  
Chemical of Concern: AZ,DMT,DZ,MLN,MP,FNTH,EPRN,DDVP,FNT; Habitat: A; Effect Codes: MOR; Rejection Code: NO DURATION(ALL CHEMS).

Mercier, D., Leboul, J., Cleophax, Jeanine, and Gero, S. D. (1971). Some ring-opening reactions of a diepoxide derived from (-)-quinic acid. *Carbohydrate Research* 20: 299-304.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A useful preparative route to nitrogen-containing, carbocyclic derivatives is described from (-)-quinic acid. (-)-Quinic acid was converted via the 3,4-O-cyclohexylidene-lactone into 1--3-O-tosyl-5-C-tosyloxymethylcyclohexane-1,2,5/3-tetrol (5) by sequential reduction with sodium borohydride, toluene-p-sulphonylation, and acid hydrolysis. Reaction of the disulphonate 5 with methanolic sodium methoxide afforded 1--1,2:5,7-dianhydro-5-C-hydroxymethylcyclohexane-1,2,3,5/0-tetrol (6). The ring-opening reactions of the diepoxide 6 with azide ion furnished a mixture of two diazides 9 and 13 in the ratio 4 to 1. The structure and conformation of the derived dibenzoates 10 and 14 have been determined by n.m.r. spectroscopy.

Merino, G., Vazquez, V., and Soria, S. (1968). Efficacy of 9 Insecticides in the Fight Against Epitrix sp. in Potato Plantations in Ecuador. *Turrialba* 18: 68-70.

EcoReference No.: 52174  
Chemical of Concern: CBL,DZ,MLN; Habitat: T; Rejection Code: TARGET(MLN,DZ).

Metso, Antti J., Zhao, Hongxia, Tuunainen, Ilkka, and Kinnunen, Paavo K. J. (2005). Observation of the main phase transition of dinervonoylphosphocholine giant liposomes by fluorescence microscopy. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1713: 83-91.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The phase heterogeneity of giant unilamellar dinervonoylphosphocholine (DNPC) vesicles in the course of the main phase transition was investigated by confocal fluorescence microscopy observing the fluorescence from the membrane incorporated lipid analog, 1-palmitoyl-2-(N-4-nitrobenz-2-oxa-1,3-diazol)aminocaproyl-sn-glycero-3-phosphocholine (NBDPC). These data were supplemented by differential scanning calorimetry (DSC) of DNPC large unilamellar vesicles (LUV, diameter ~0.1 and 0.2 [mu]m) and multilamellar vesicles (MLV). The present data collected upon cooling reveal a lack of micron-scale gel and fluid phase coexistence in DNPC GUVs above the temperature of 20.5 [deg]C, this temperature corresponding closely to the heat capacity maxima (Tem) of DNPC MLVs and LUVs (Tem [approximate]21 [deg]C), measured upon DSC cooling scans. This is in keeping with the model for phospholipid main transition inferred from our previous fluorescence spectroscopy data for DMPC, DPPC, and DNPC LUVs. More specifically, the current experiments provide further support for the phospholipid main transition involving a first-order process, with the characteristic two-phase coexistence converting into an intermediate phase in the proximity of Tem. This at least macroscopically homogenous intermediate phase would then transform into the liquid crystalline state by a second-order process, with further increase in acyl chain trans-->gauche isomerization. Giant liposome/ Phase transition

METZGER ME, RUST MK, and REIERSON DA (96). **<04 Article Title>.**  *JOURNAL OF ECONOMIC ENTOMOLOGY; 89* <25 Page(s)>.

Chemical of Concern: FVL; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

MICHEL, F. C. JR, REDDY CA, and FORNEY LJ (1997). Fate of carbon-14 diazinon during the composting of yard trimmings. *JOURNAL OF ENVIRONMENTAL QUALITY; 26* 200-205.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The fate of lawn care pesticides during the composting of yard trimmings is largely unknown. In this study we investigated the fate of diazinon (O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl)phosphorothioate), the most widely used lawn care pesticide, during the composting of a mixture of leaves and grass (2:1 w/w). The yard trimmings were amended with (DELTAA-2-14C) labeled diazinon (10 mg kg-1 wet wt.) and composted in a laboratory scale compost system for 54 d. During composting, 48% of the initial total organic matter (OM) was lost as CO2, the pH increased from 6.2 to 8.2, the oxygen uptake rate declined from 3.5 to 0.09 (mg O2 g OM-1 h-1), the humification index dropped from 1.0 to 0.37, and 11% of the 14C-diazinon was mineralized to 14CO2. Initially most of the added 14C-diazinon was ether extractable (83%) but < 1% was ether extractable after composting. A water extract of the finished compost contained 36% of the added 14C. Thin layer chromatography and m Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Mikulski, C. M., Pytlewski, L. L., and Karayannis, N. M. (1975). Metal dialkoxythiophosphates. *Journal of Inorganic and Nuclear Chemistry* 37: 2411-2416.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Reactions of triethyl or tri-n-butyl thiophosphates with Fe(II), VO2+, M(III)(M = Ti, V, Cr, Fe) or M(IV)(M=Th, U) chlorides at elevated temperatures lead to the formation of dialkoxythiophosphato metal complexes. These compounds were characterized by means of spectral and magnetic studies. The evidence favors polynuclear structures, involving in most cases exclusively bridging, bidentate -S-P(OR)2-O- ligands. The new complexes are of the following types (DETP and DBTP are, respectively, the diethoxy- and di-n-butoxy-thiophosphato ligands): Pentacoordinated: VOL2(L=DETP, DBTP): Fe(DBTP)2; Fe(DETP)2(OH2)2; the latter complex involves both bridging, bidentate, and monodentate, O-bonded, DETP ligands. Hexacoordinated: ML3(M=Ti, V, Cr, Fe; L=DETP, DBTP). Octacoordinated: ML4(M=Th, U; L=DETP, DBTP). Approximate Dq value calculations suggest that the (RO)2POS- ligands are stronger than their (RO)2POO- or (RO)2PSS- analogs.

Mikulski, Chester M., Moore, Terrance, Smith, Yale, and Karayannis, Nicholas M. (1986). Addition and reaction products of triethyl thiophosphate and metal perchlorates at just over ambient and elevated temperatures. *Inorganica Chimica Acta* 115: 179-186.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Triethyl thiophosphate (tetp) invariably forms adducts with various metal perchlorates (M=Mg2+, Al3+, Cr3+, Mn2+, Fe2+, Fe3+, Co2+, Ni2+, Cu2+, Zn2+, Cd2+) at 35-40[deg]C in ethanol-triethyl orthoformate (teof). Only certain of these adducts, which involve S-bonded tetp in the thione form for soft or borderline metal ions and O-bonded tetp in the thiol tautomeric form for hard metal ions, could be isolated in solid form, owing to their tendency to decompose yielding diethylthiophosphato (detp) metal complexes and ethyl perchlorate, at temperatures ranging between ambient and 80-90[deg]C, depending on the metal ion. Several well-defined detp and detpperchlorato metal complexes were obtained by heating solutions of mixtures of tetp and metal perchlorates in ethanol-teof at 80-90[deg]C, and characterized. In most cases, linear polymeric or dimeric complexes involving double or triple bridges of O,S-bonded bidentate detp between adjacent metal ions were isolated. However, in a number of occasions, heavily hydrated monomeric species, containing terminal S-bonded detp were obtained.

Miles, J. R. W. (1976). Insecticide residues on stream sediments in Ontario, Canada. *Pestic. Monit. J. Vol. 10, no. 3, pp. 87-91. 1976.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Descriptors: Insecticides  
Descriptors: Sediment pollution  
Descriptors: Sediment analysis  
Descriptors: DDT  
Descriptors: Water analysis  
Descriptors: Canada, Ontario  
Abstract: Insecticide residues on suspended and bottom sediments of streams of Ontario, Canada, have been studied in a tobacco-growing and a vegetable muck area. The proportion of TDE to DDT was<1 in water and>1 in bottom sediments. The ratio of TDE to DDT in bottom material increased linearly from the contamination point at stream source to the mouth of Big Creek in Norfolk County, Ontario. Bed load samples contained 3 to 6 times greater concns of insecticides than bottom material. Adsorption of insecticides on suspended sediment decreased in order DDT>TDE>dieldrin>diazinon, which is consistent with the water solubility of these compounds.  
Records keyed from 1977 ASFA printed journals.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01505 Prevention and control  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Milhaud, J., Ponsinet, V., Takashi, M., and Michels, B. (2002). Interactions of the drug amphotericin B with phospholipid membranes containing or not ergosterol: new insight into the role of ergosterol. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1558: 95-108.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Amphotericin B (AmB) is an amphipathic polyene antibiotic which permeabilizes ergosterol-containing membranes, supposedly by formation of pores. In water, AmB forms chiral aggregates, modelled as stacks of planar dimers in which the joined polyene chains in each dimer turn round, from one dimer to the following in these stacks, by forming a helical array. Studies of the binding of AmB with -dipalmitoylphosphatidylcholine (-DPPC) and -dilauroylphosphatidylcholine (-DLPC) bilayers disclose the main following results. (1) An inversion of the helicity of the -DPPC-bound AmB aggregates, when the -DPPC bilayers are in the gel phase, is inferred from the evolution of the circular dichroism spectra of AmB+-DPPC mixtures. (2) An AmB-induced gel-to-subgel transformation of -DPPC bilayers, in the previous mixtures, is revealed by a differential scanning calorimetry study. (3) The role played by ergosterol in the location of phospholipid-bound AmB aggregates with respect to a phospholipid bilayer is directly demonstrated from atomic force microscopy observations of mica-supported AmB+-DLPC mixtures, in the presence or absence of ergosterol. While in the absence of ergosterol AmB aggregates remained at the surface of the bilayer, in the presence of ergosterol they appeared embedded within this bilayer and became hollow-centered. As such an embedding in the hydrophobic core of a bilayer requires a rearrangement of the aggregates with respect to their architecture in water, this rearrangement is held responsible for the hollowing of aggregates. The hollow-centered sublayer-embedded AmB aggregates are thought to be the precursors of the formation of AmB pores. Helical amphotericin B aggregate/ Amphotericin B pore/ Ergosterol-containing bilayer/ Chirality/ Differential scanning calorimetry/ Atomic force microscopy

Miller, B. E., Forcum, D. L., Weeks, K. W., Wheeler, J. R., and Rail, C. D. (1970). An Evaluation of Insecticides for Flea Control on Wild Mammals. *J.Med.Entomol.* 7: 697-702.

EcoReference No.: 69363  
Chemical of Concern: DZ,CBL,CPY,MLN; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(DZ),OK(ALL CHEMS).

Miller, C. W., Zuckerman, B. M., and Charig, A. J. (1966). Water Translocation of Diazinon-C14 and Parathion-S35 Off a Model Cranberry Bog and Subsequent Occurrence in Fish and Mussels. *Trans.Am.Fish.Soc.* 95: 345-349.

EcoReference No.: 2095  
Chemical of Concern: DZ,PRN; Habitat: A; Effect Codes: ACC,MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Mineau, P., Collins, B. T., and Baril, A. (1996). On the Use of Scaling Factors to Improve Interspecies Extrapolation of Acute Toxicity in Birds. *Regul.Toxicol.Pharmacol.* 24: 24-29.  
Chem Codes: Chemical of Concern: STCH,4AP,STAR,DLD,MOM,ADC,CBF,MCB,PIM,PPX,CPY,CMPH,DEM,DZ,DCTP,FNT,MVP,PRN,PPHD,PPX,TMP,TCF,BDF Rejection Code: MODELING.

MINELLI EV, ANGIONI, A., CABRAS, P., GARAU VL, MELIS, M., PIRISI FM, CABITZA, F., and CUBEDDU, M. (1996). Persistence of some pesticides in peach fruit. *ITALIAN JOURNAL OF FOOD SCIENCE;* 8 : 57-62.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The persistence of five pesticides (acephate, azinphos methyl, carbendazim, diazinon and dimethoate) in peach fruit was studied in real operating conditions. Pesticides showed different degradation rates. Diazinon was degraded with a half-life (t1/2) of 5.2 days, acephate, azinphos methyl and dimethoate with t1/2 of ca 12 days and carbendazim with t1/2 of 15.5 days. After the pre-harvest interval (PHI) all pesticide residues were within the limits established by Italian law. Legislation/ Organization and Administration/ Biology/ Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Climate/ Fruit/ Nuts/ Herbicides/ Pest Control/ Pesticides/ Plants, Medicinal

MINELLI EV, ANGIONI, A., CABRAS, P., GARAU VL, MELIS, M., PIRISI FM, CABITZA, F., and CUBEDDU, M. (1996). Persistence of some pesticides in peach fruit. *ITALIAN JOURNAL OF FOOD SCIENCE; 8* 57-62.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The persistence of five pesticides (acephate, azinphos methyl, carbendazim, diazinon and dimethoate) in peach fruit was studied in real operating conditions. Pesticides showed different degradation rates. Diazinon was degraded with a half-life (t1/2) of 5.2 days, acephate, azinphos methyl and dimethoate with t1/2 of ca 12 days and carbendazim with t1/2 of 15.5 days. After the pre-harvest interval (PHI) all pesticide residues were within the limits established by Italian law. Legislation/ Organization and Administration/ Biology/ Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Climate/ Fruit/ Nuts/ Herbicides/ Pest Control/ Pesticides/ Plants, Medicinal

MINIST AGRIC FISH FOOD HEALTH SAF EXECUTIVE UK (1990). REPORT OF THE WORKING PARTY ON PESTICIDE RESIDUES 1988-89. *MINISTRY OF AGRICULTURE FISHERIES AND FOOD HEALTH AND SAFETY EXECUTIVE. REPORT OF THE WORKING PARTY ON PESTICIDE RESIDUES: 1988-89. V+86P. HER MAJESTY'S STATIONERY OFFICE: LONDON, ENGLAND, UK. PAPER. ISBN 0-11-242902-5.; 0* V+86P.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK BREAD MILK FRUITS VEGETABLES CEREALS MEAT FISH EGGS Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Cookery/ Food Technology/ Food Technology/ Meat/ Meat Products/ Dairy Products/ Food Technology/ Eggs/ Food Technology/ Poultry/ Fish Products/ Fishes/ Food Technology/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides

Misra, Debjani, Bhuyan, Sasmita, Adhya, T. K., and Sethunathan, N. (1992). Accelerated degradation of methyl parathion, parathion and fenitrothion by suspensions from methyl parathion-and p-nitrophenol-treated soils. *Soil Biology and Biochemistry* 24: 1035-1042.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Soils (an alluvial and a laterite) contained in pots were treated with methyl parathion, fenitrothion or p-nitrophenol at 15 day intervals under flooded or non-flooded (60% WHC) conditions. Suspensions (non-sterile and sterile) of these treated and untreated soils were tested for their ability to degrade methyl parathion, parathion, fenitrothion and diazinon in a mineral salts medium. Only non-sterile suspensions of methyl parathion- and p-nitrophenol-enriched soils (flooded or non-flooded) distinctly effected accelerated hydrolysis of methyl parathion, parathion and fenitrothion; in contrast, diazinon was not hydrolysed by the suspension of methyl parathion-enriched soils. p-Nitrophenol, formed from methyl parathion or parathion, was eventually metabolized to nitrite by the enrichment cultures while 3-methyl-4-nitrophenol, formed from fenitrothion, resisted further degradation. As in soil enrichment cultures, two bacterial isolates, one each from methyl parathion-enriched alluvial and laterite soils (flooded), effected rapid hydrolysis of methyl parathion, parathion and fenitrothion and then metabolized p-nitrophenol and not 3-methyl-4-nitrophenol, to nitrite. Fenitrothion-retreated soils (flooded or non-flooded) were not conditioned for accelerated hydrolysis of fenitrothion and related phosphorothioate insecticides.

Mitchell, D. (1985). Bioassay Testing of Herbicide H2 and Insecticidal Soap/Diazinon with Rainbow Trout and Daphnia. *U.S.EPA-OPP Registration Standard*.

EcoReference No.: 13004  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(DZ).

Mitsue Yasoshima and Yasusuke Masuda (1986). Effect of carbon disulfide on the anticholinesterase action of several organophosphorus insecticides in mice. *Toxicology Letters* 32: 179-184.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Effect of carbon disulfide (CS2) on toxic action of 11 organophosphorus (OP) insecticides were examined by determining the plasma cholinesterase activity in mice. CS2 pretreatment potentiated the anticholinesterase action of parathion and EPN, but suppressed that of dimethoate and diazinon. CS2 had no significant effect or a slightly suppressive effect on the other compounds. Some of these effects were contrasted with the reported alteration of the toxicity following phenobarbital pretreatment. CS2 administration suppressed both detoxification and activation of parathion and EPN by liver microsomes in vitro, as measured by p-nitrophenol production and cholinesterase inhibition, respectively. Causal relationship between the in vitro and in vivo observations, however, remains to be clarified.

Mitsuhashi, J., Grace, T. D. C., and Waterhouse, D. F. (1970). Effects of Insecticides on Cultures of Insect Cells. *Entomol.Exp.Appl.* 13: 327-341.

EcoReference No.: 2797  
Chemical of Concern: CBL,DZ,HCCH,MLN,PPB,PYN,RTN,ATN,As; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Mitsuru Uchiyama, Takemi Yoshida, Keiko Homma, and Tsutomu Hongo (1975 ). Inhibition of hepatic drug-metabolizing enzymes by thiophosphate insecticides and its drug toxicological implications. *Biochemical Pharmacology* 24: 1221-1225.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Thiophosphate insecticides--fenitrothion, diazinon and methylparathion--inhibit hepatic drug-metabolizing enzyme activity, which was assayed using aminopyrine and aniline as substrates. About 50 per cent inhibition was noted 4 hr after the injection of 25 mg/kg of fenitrothion into mice. The addition of thiophosphates to a microsomal drug-metabolizing enzyme system in vitro also produced an effective inhibition: 50 was ca 10-5 M for fenitrothion. DDVP and an oxygenated metabolite of fenitrothion did not show any inhibiting effect either in vitro or in vivo. The inhibition in vitro was competitive, while the kinetics of inhibition in vivo appeared to be noncompetitive. Drug metabolism by a rat liver preparation was also inhibited by thiophosphate in vitro, but treatment of male rats in vivo resulted in little inhibition. The responses of female rats were similar to those of mice. The administration of fenitrothion to mice prolonged the hexobarbital sleeping time and suppressed the oxidative metabolism of parathion in liver preparations.

Miyagi, I., Toma, T., ZAYASU, N., and TAKASHITA, Y. (1994). Insecticide Susceptibility of Culex quinquefasciatus Larvae (Diptera: Culicidae) in Okinawa Prefecture, Japan in 1989. *Jpn.J.Sanit.Zool.* 45: 7-11.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO DURATION.

MIYAJIMA, A., SUNOUCHI, M., GUO X-B, OHNO, Y., and TAKANAKA, A. (1993). EFFECT OF ORGANOPHOSPHORUS COMPOUNDS AND THEIR METABOLITES ON RAT FRESHLY ISOLATED HEPATOCYTES. *20TH ANNUAL MEETING OF THE JAPANESE SOCIETY OF TOXICOLOGICAL SCIENCES, CHIBA, JAPAN, JULY 29-30, 1993. JOURNAL OF TOXICOLOGICAL SCIENCES; 18* 417.  
 Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING PAPER ETHYL P-NITROPHENYL PHENYLPHOSPHONATE O O-BIS1-METHYLETHYL-S-PHENYLMETHYLPHOSPHOROTHIOATE DIFENPHOS ERUSAN DIAZINON FENTHION TRICHLOROFON DISULFOTON METHYL ACID PHOSPHATE ETHYL ACID PHOSPHATE ISOPROPYL ACID PHOSPHATE BENZYLMERCAPTAN Congresses/ Biology/ Animals/ Cytology/ Histocytochemistry/ Biochemistry/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Muridae

MIYAMOTO, T. and YAMAMOTO, I. (1995). Inhibition of housefly glutathione S-transferase by chalcone and comparison of its isozymes with rat. *JOURNAL OF PESTICIDE SCIENCE; 20* 75-82.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. 2-, 3- and 4-Chloro-4'-phenylchalcones were weakly inhibitory against glutathione S-transferases (GST) from resistant (R) and susceptible (S) housefly abdomens. However, each of glutathione (GSH) conjugates of the above chalcones inhibited strongly both GSTs in an incompetitive fashion with respect to CDNB or DCNB. The inhibitory activity was in the order of 2-, 4- and 3-chloro-compounds which was similar to the case of mouse liver GST. These facts indicated that the rate of GSH conjugation was slow in vitro insect system. On the other hand, the above chalcones increased the insecticidal activity of diazinon to R-fly in the order of 2-, 4- and 3-chloro-compounds. Diazinon is known to be more detoxified in R-fly than in S-fly by GST. Therefore, it is conceivable that such synergism is due to the conversion of the chalcones to the GSH conjugates by GST and the inhibition of GST by the conjugates, which decrease the detoxication of diazinon. There were differences between Biochemistry/ Enzymes/Physiology/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Diptera/ Muridae

MMOCHI AJ and MBEREK RS (1998). Trends in the types, amounts, and toxicity of pesticides used in Tanzania: Efforts to control pesticide pollution in Zanzibar, Tanzania. *AMBIO; 27* 669-676.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The amount of pesticides used in Tanzania increased from 330 g capita-1 in 1977 to 500 g capita-1 in 1988. With population growth at 2.7%, this implies a significant increase (140%) in pesticide use. The control of importation, formulation, and use of pesticides is inefficient. Imported amounts can exceed the authorized amounts, because of donations and the specific projects that import pesticides without official authority from the licensing agent (Tropical Pesticides Research Institute). The types of pesticides used in Zanzibar have changed significantly over the last 10 years. The more toxic pesticides have been phased out and replaced by less toxic ones. The pesticides used decreased from 13 tons in 1990 to about 2 tons in 1995. Among the reasons for the decreases are the efforts by the Plant Protection Department and the Ministry of Agriculture to support a more organic form of agriculture, and the removal of government subsidies on agrochemicals. The pesticides di Conservation of Natural Resources/ Ecology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides

Mohamed, A. K. A., Pratt, J. P., and Nelson, F. R. S. (1987). Compatibility of Metarhizium anisopliae var. anisopliae with Chemical Pesticides. *Mycopathologia* 99: 99-105.

EcoReference No.: 70030  
Chemical of Concern: MTPN,CPY,Zineb,Maneb,BMY,CHD,TXP,MOM,CBF,CBL,DZ,TMP,FNTH,RSM; Habitat: T; Effect Codes: POP,REP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Mohn, Georges (1973). 5-Methyltryptophan resistance mutations in Escherichia coli K-12 mutagenic activity of monofunctional alkylating agents including organophosphorus insecticides. *Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis* 20: 7-15.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
The induction of 5-methyltryptophan (5-MT) resistance mutations was assayed as a test system for mutagenic chemicals in Escherichia coli. It is assumed that different premutational alterations in several genes of the Escherichia coli chromosome will lead to 5-MT-resistant mutants. The chemicals used were three monofunctional alkylating agents as reference compounds, namely [beta]-propiolactone ([beta]-PL), N-methyl-N&prime;-nitro-N-nitrosoguanidine (MNNG), and methyl methanesulfonate (MMS), which are all mutagenic in the 5-MT system; of the eight organophosphorus insecticides tested, four have definite mutagenic activity (Dichlorvos, Oxydemetonmethyl, Dimethoate, and Bidrin), one is probably mutagenic (Methylparathion) and the remaining three (Parathion, Malathion and Diazinon) do not induce 5-MT resistance mutations in the conditions used here ( MMS > Dichlorvos > Oxydemetonmethyl, Dimethoate and Bidrin. The concentration-dependent mutagenic activity of all mutagenic compounds is nearly linear when plotted on a log-log scale (with slopes varying from 1.0 to 1.5) and could be taken as an indication that one premutational reaction will be sufficient for the induction of one 5-MT-resistant mutant.

Molina, Pedro, Arques, Antonio, and Alias, Asuncion (1991). Preparation of fused [1,3,5] benzotriazepines by a tandem aza wittig/carbodiimide-mediated annelation reaction. *Tetrahedron Letters* 32: 2979-2982.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
AzaWittig type reaction of bis(iminophosphorane) 2, available from the diazide 1 and triphenylphosphine, with one mole of isothiocyanate leads to the iminophosphoranes 3 derived from the [1,2 ,4 ]triazolo[2,3-b] indazole ring, which by treatment with a second mol of isothiocyanate afforded pentacyclic [1,3,5]benzotriazepines 4. Direct conversion of 2 to 4 was achieved using two moles of isothiocyanate.

Molotkovsky, Julian G., Manevich, Yefim M., Babak, Vyacheslav I., and Bergelson, Lev D. (1984). Perylenoyl- and anthrylvinyl-labeled lipids as membrane probes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 778: 281-288.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The properties of a new family of lipid-specific fluorescent probes, a fatty acid, a phosphatidylcholine and a sphingomyelin, bearing a 3-perylenoyl-labeled hydrophobic chain, are described. Perylenoyl-labeled lipids readily enter the lipid bilayer, the fluorophore being localized in the apolar region of the membrane. The perylenoyl fluorophore is characterized by a high quantum yield, its fluorescence parameters ([lambda]ex 446 nm, [lambda]em 479-545 nm) permit to apply it as an acceptor of excitation energy from the 9-anthrylvinyl fluorophore used earlier for phospholipid labeling (Molotkovsky, Jul. G.; Manevich, Y.M., Gerasimova, E.N., Molotkovskaya, I.M., Polessky, V.A. and Bergelson, L.D. (1982) Eur. J. Biochem. 122, 573-579). The anthrylvinyl-labeled lipids were shown to be capable to report phase segregation between the corresponding prototype lipids in model systems. The combined use of anthrylvinyl- and perylenoyl-labeled lipids opens additional possibilities for investigation of lipid-lipid and lipid-protein interactions in artificial and biological membranes. Perylenoyl-labeled lipids appeared also to be useful as fluorescent dyes in cytological studies. Perylenoyl-labeled lipid/ Anthrylvinyl-labeled lipid/ Fluorescent lipid/ Model membrane/ Fluorescence/ NMR

Moody, R. P., Parenteau, N. L., Ponec, M., Rovee, D. T., and Maibach, H. I. (1993). In vitro dermal absorption of pesticides: A cross-species comparison including testskin.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0731-3829  
Descriptors: skin  
Descriptors: absorption  
Descriptors: in vitro  
Descriptors: pesticides  
Descriptors: species  
Descriptors: comparison  
Abstract: Dermal absorption studies with living animals have several disadvantages. The present study reports the use of our automated in vitro dermal absorption (AIDA) procedure developed inhouse as a potential alternative to in vivo testing. Finite-dose AIDA studies were conducted with the pesticides DEET, 2,4-D, Diazinon, and DDT, these compounds being chosen for their wide range of lipophilicities. Absorption (percentage recovery in receiver solution) in the human-derived tissue-cultured skin, Testskin, was similar to that in pig skin for three of the four test compounds. Testskin was 2.5 times more permeable than pig skin to 2,4-D. Continuous-dose AIDA studies conducted with the swimming pool stabilizer, cyanuric acid (CYA), demonstrated minimal CYA absorption through rat, hairless guinea pig, human, and Testskin. Total cumulative absorption of CYA by 24 hr in Testskin and human skin was 0.02 mu g CYA/cm super(2) in both cases.  
Conference: Symposium on Methodologies and in vitro Applications for Skin Culture Models, New York, NY (USA), 12 Jun 1992  
Language: English  
English  
Publication Type: Book Monograph  
Publication Type: Conference  
Classification: X 24221 Toxicity testing  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Moore, A. and Lower, N. (2001). The Impact of Two Pesticides on Olfactory-Mediated Endocrine Function in Mature Male Atlantic Salmon (Salmo salar L.) Parr. *Comp.Biochem.Physiol.B* 129: 269-276.

EcoReference No.: 67727  
Chemical of Concern: ATZ,SZ,DZ; Habitat: A; Effect Codes: BCM,REP; Rejection Code: LITE EVAL CODED(ATZ,SZ),NO COC(DZ).

Moore, A. and Waring, C. P. (1998). Mechanistic Effects of a Triazine Pesticide on Reproductive Endocrine Function in Mature Male Atlantic Salmon (Salmo salar L.) Parr. *Pestic.Biochem.Physiol.* 62: 41-50.

EcoReference No.: 70210  
Chemical of Concern: ATZ,DZ; Habitat: A; Effect Codes: BCM,PHY,REP; Rejection Code: LITE EVAL CODED(ATZ),NO COC(DZ).

Moorhouse, E. R., Gillespie, A. T., Sellers, E. K., and Charnley, A. K. (1989). The Compatibility of the Entomogenous Fungus, Metarhizium anisopliae with Horticultural Pesticides. *In: N.R.McFarlane, Br.Crop Prot.Counc., Monogr.No.43, Progress and Prospects in Insect Control, Int.Conf., Sept.18-20, 1989, Reading, England, U.K.* 251-252.  
Chem Codes: Chemical of Concern: CYP,DDVP,TFR,DZ,BMY,CBD,Zineb Rejection Code: ABSTRACT.

MOORHOUSE ER, GILLESPIE AT, SELLERS EK, and CHARNLEY AK (1989). THE COMPATIBILITY OF THE ENTOMOGENOUS FUNGUS METARHIZIUM-ANISOPLIAE WITH HORTICULTURAL PESTICIDES. *MCFARLANE, N. R. (ED.). BRITISH CROP PROTECTION COUNCIL MONOGRAPH, NO. 43. PROGRESS AND PROSPECTS IN INSECT CONTROL; INTERNATIONAL CONFERENCE, READING, ENGLAND, UK, SEPTEMBER 18-20, 1989. XI+273P. BRITISH CROP PROTECTION COUNCIL: SURREY, ENGLAND, UK. ILLUS. PAPER. ISBN 0-948404-32-9.; 0 (0). 1989. 251-252.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT OTIORHYNCHUS-SULCATUS IMPATIENS ORNAMENTAL FRUIT FUNGICIDE CARBENDAZIM CHLORTHALONIL ETRIDIAZOLE ZINEB BENOMYL TRIFORINE PYRAZAPHOS INSECTICIDE ETRIDIAZOLE CYPERMETHRIN TRIFORINE DIAZINON DICHLORVOS HOSTATHION PROPAMOCARB PESTICIDE Congresses/ Biology/ Biochemistry/ Plants/Growth & Development/ Plants/Growth & Development/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Fruit/ Nuts/ Arachnida/ Entomology/Economics/ Trees/ Wood/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Fungi/ Mitosporic Fungi/ Plants/ Coleoptera

MOORMAN TB (1989). A REVIEW OF PESTICIDE EFFECTS ON MICROORGANISMS AND MICROBIAL PROCESSES RELATED TO SOIL FERTILITY. *J PROD AGRIC; 2* 14-23.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW BACTERIA FUNGI ALGAE CROP RESIDUE DECOMPOSITION NUTRIENT CYCLING AGRICULTURE CROP INDUSTRY Biochemistry/ Nutrition/ Nutritional Status/ Soil Microbiology/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Bacteria/ Algae/ Fungi

Morales, Rogelio and Fernandez, Marta S. (2002). Interfacial Activation of Porcine Pancreatic Phospholipase A2 Studied with 7-Nitrobenz-2-oxa-1,3-diazol-4-yl-Labeled Lipids. *Archives of Biochemistry and Biophysics* 398: 221-228.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interfacial activation of porcine pancreatic phospholipase A2 (PLA2) during the hydrolysis of 1,2-dipalmitoyl-sn-glycero-3-phosphocholine liposomes at different temperatures has been monitored by fluorescence changes of the 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD) lipid derivatives 1-palmitoyl-2-[6-[(7-nitro-2-1,3-benzoxadiazol-4-yl)amino]dodecanoyl]-sn-glycero-3-phosphocholine (C12-NBD-PC) and 12-[(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)]dodecanoic acid (C12-NBD-FA) inserted in the substrate vesicles. These long-chain monitors, in contrast to the previously used C6-NBD-PC, detect latency times of PLA2 action, similar to those measured by the classic titrimetric, pH-stat method. Interestingly, hydrolysis of the host vesicles results in a decrease in fluorescence not only of C12-NBD-PC, a substrate analog, but also of product derivative C12-NBD-FA. Ultrafiltration experiments show that C12-NBD-FA does not migrate to the aqueous phase upon hydrolysis of the host liposomes. Besides, in a simulated hydrolysis experiment in which increasing proportions of palmitic acid and 1-palmitoyl-sn-glycero-3-phosphocholine were cosonicated with 1,2-dipalmitoyl-sn-glycero-3-phosphocholine, C12-NBD-PC fluorescence was insensitive to products, whereas C12-NBD-FA did show a decreased emission intensity as in the actual hydrolysis experiments. The phenomenon is triggered above a critical concentration of products (10 mol%) suggesting that cosegregation of NBD-FA (either added as such or generated by hydrolysis of C12-NBD-PC) and products may be related to the decrease in fluorescence. Phase separation should create microdomains of increased C12-NBD-FA surface density and cause concentration quenching. In addition, and taking into account that the NBD group may be located near the interfacial region, it is possible that in segregating with products, the fluorescent moiety of C12-NBD-FA becomes exposed to microenvironments of higher surface polarity, which further decreases its quantum yield. phospholipase A2/ interfacial activation/ NBD

Moreland D. E., Corbin F. T., Fleischmann T. J., and Mcfarland J. E. (1995). Partial Characterization of Microsomes Isolated from Mung Bean Cotyledons. *Pesticide Biochemistry and Physiology* 52: 98-108.  
Chem Codes: Chemical of Concern: MTL,PPB Rejection Code: IN VITRO.  
  
 Microsomes isolated from excised cotyledons of 3-day-old, dark-grown, mung bean (Vigna radiata, L., cv Berken) seedlings metabolized two endogenous substrates (cinnamic acid and lauric acid), three organophosphate insecticides (diazinon, isazofos, and methidathion), three acetamide herbicides (metolachlor, CGA-24704, and alachlor), and bentazon. Cinnamic acid was aryl hydroxylated forming p-coumaric acid. Lauric acid was primarily hydroxylated at the terminal carbon ([omega]-hydroxylation). The three [alpha]-chloroacetamides were O-demethylated. With all three organophosphate insecticides, the phosphorothionate sulfur was oxidized to the corresponding oxon and the phosphoroester oxygen was cleaved in both diazinon and isazofos. Bentazon was aryl hydroxylated forming the 6-hydroxy derivative. The concentration of cytochrome P450 in the microsomal preparations was marginally enhanced by pretreatment of the seed with naphthalic anhydride (NA), but was markedly increased by subirrigation of NA-treated seed with ethanol and was additionally increased with the combination of NA, clofibrate, and ethanol. The extent of metabolism of only lauric acid paralleled the increases in cytochrome P450 content. The various seed/seedling treatments, however, did approximately double the rate of metabolism of the three organophosphates, the three chloroacetamides, and bentazon. Metabolism required a reduced pyridine nucleotide and was affected by several cytochrome P450 monooxygenase inhibitors (carbon monoxide, tetcyclacis, piperonyl butoxide, 1-aminobenzotriazole, and SKF-525A). The inhibitors differentially affected metabolism of the substrates. Microsomal oxidations from both untreated and inducer-treated tissue responded similarly to the inhibitors. The differential inhibitory responses suggest that metabolism may involve several monooxygenase isoforms.

Moreland D. E., Corbin F. T., Fleischmann T. J., and Mcfarland J. E. (1995). Partial Characterization of Microsomes Isolated from Mung Bean Cotyledons. *Pesticide Biochemistry and Physiology* 52: 98-108.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Microsomes isolated from excised cotyledons of 3-day-old, dark-grown, mung bean (Vigna radiata, L., cv Berken) seedlings metabolized two endogenous substrates (cinnamic acid and lauric acid), three organophosphate insecticides (diazinon, isazofos, and methidathion), three acetamide herbicides (metolachlor, CGA-24704, and alachlor), and bentazon. Cinnamic acid was aryl hydroxylated forming p-coumaric acid. Lauric acid was primarily hydroxylated at the terminal carbon ([omega]-hydroxylation). The three [alpha]-chloroacetamides were O-demethylated. With all three organophosphate insecticides, the phosphorothionate sulfur was oxidized to the corresponding oxon and the phosphoroester oxygen was cleaved in both diazinon and isazofos. Bentazon was aryl hydroxylated forming the 6-hydroxy derivative. The concentration of cytochrome P450 in the microsomal preparations was marginally enhanced by pretreatment of the seed with naphthalic anhydride (NA), but was markedly increased by subirrigation of NA-treated seed with ethanol and was additionally increased with the combination of NA, clofibrate, and ethanol. The extent of metabolism of only lauric acid paralleled the increases in cytochrome P450 content. The various seed/seedling treatments, however, did approximately double the rate of metabolism of the three organophosphates, the three chloroacetamides, and bentazon. Metabolism required a reduced pyridine nucleotide and was affected by several cytochrome P450 monooxygenase inhibitors (carbon monoxide, tetcyclacis, piperonyl butoxide, 1-aminobenzotriazole, and SKF-525A). The inhibitors differentially affected metabolism of the substrates. Microsomal oxidations from both untreated and inducer-treated tissue responded similarly to the inhibitors. The differential inhibitory responses suggest that metabolism may involve several monooxygenase isoforms.

Moreland, D. E., Corbin, F. T., and Mcfarland, J. E. (1993). Effects of safeners on the oxidation of multiple substrates by grain sorghum microsomes. *Pestic Biochem Physiol* 45 : 43-53.  
Chem Codes: Chemical of Concern: MTL,PPB Rejection Code: IN VITRO.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Microsomes isolated from excised shoots of 3-day-old, dark-grown, grain sorghum (Sorghum bicolor (L.) Moench, Funk G522DR, and DK 41Y) seedlings metabolized cinnamic acid, lauric acid, metolachlor, bentazon, and diazinon, but did not metabolize triasulfuron or primisulfuron. Pretreatment of G522DR seed with safeners (naphthalic anhydride, dichlormid, flurazole, BAS 145138, oxabetrinil, fluxofenim, and benoxacor) resulted in enhanced metabolism of lauric acid, bentazon, and diazinon. However, metabolism of cinnamic acid was not affected and that of metolachlor was depressed by safener treatments. Microsomes isolated from DK 41Y seedlings had higher endogenous levels of oxidative activity for lauric acid and bentazon than microsomes isolated from G522DR seedlings. Metabolism required NADPH and was affected by CO and other cytochrome P450 monooxygenase inhibitors (tetcyclacis, piperonyl butoxide, 1-aminobenzotriazole, SKF-525A, and tridiphane). The inhibitors differentiall  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biochemical Studies-Proteins  
KEYWORDS: Enzymes-Physiological Studies  
KEYWORDS: Metabolism-Energy and Respiratory Metabolism  
KEYWORDS: Toxicology-General  
KEYWORDS: Plant Physiology  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Agronomy-Weed Control  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Gramineae

Moreland D. E., Corbin F. T., and Mcfarland J. E. (1993). Effects of Safeners on the Oxidation of Multiple Substrates by Grain Sorghum Microsomes. *Pesticide Biochemistry and Physiology* 45: 43-53.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Microsomes isolated from excised shoots of 3-day-old, dark-grown, grain sorghum [Sorghum bicolor (L.) Moench. Funk G522DR, and DK 41Y] seedlings metabolized cinnamic acid, lauric acid, metolachlor, bentazon, and diazinon. but did not metabolize triasulfuron or primisulfuron. Pretreatment of G522DR seed with safeners (naphthalic anhydride, dichlormid, flurazole, BAS 145138, oxabetrinil, fluxofenim, and benoxacor) resulted in enhanced metabolism of lauric acid, bentazon, and diazinon. However, metabolism of cinnamic acid was not affected and that of metolachlor was depressed by safener treatments. Microsomes isolated from DK 41Y seedlings had higher endogenous levels of oxidative activity for lauric acid and bentazon than microsomes isolated from G522DR seedlings. Metabolism required NADPH and was affected by CO and other cytochrome P450 monooxygenase inhibitors (tetcyclacis, piperonyl butoxide, 1-aminobenzotriazole, SKF-525A, and tridiphane). The inhibitors differentially affected metabolism of the substrates. Only tetcyclacis strongly inhibited the metabolism of all substrates except cinnamic acid. Microsomal oxidations from both unsafened and safener-treated tissue responded similarly to the inhibitors. The differential inhibitory responses suggest that each substrate was probably metabolized by a different monooxygenase isoform.

Moreland, D. E., Corbin, F. T., and Mcfarland, J. E. (1993). Oxidation of multiple substrates by corn shoot microsomes. *Pesticide Biochemistry and Physiology* 47 : 206-214.  
Chem Codes: Chemical of Concern: MTL,PPB Rejection Code: IN VITRO.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Microsomes isolated from excised shoots of 3-day-old, dark-grown, corn (Zea mays L., Pioneer Hybrid 3245) seedlings metabolized two endogenous substrates (cinnamic acid and lauric acid), one insecticide (diazinon), and six herbicides (metolachlor, bentazon, CGA-152005, triasulfuron, primisulfuron, and nicosulfuron). Pretreatment of the seed with the safener naphthalic anhydride resulted in enhanced metabolism of all substrates except cinnamic acid. Metabolism required NADPH and was affected by several cytochrome P450 monooxygenase inhibitors (tetcyclacis, piperonyl butoxide, 1-aminobenzotriazole, SKF-525A, and tridiphane). The inhibitors differentially affected metabolism of the substrates. Tetcyclacis and piperonyl butoxide strongly inhibited the metabolism of all substrates except cinnamic acid. Microsomal oxidations from both unsafened and safener-treated tissue responded similarly to the inhibitors. The differential inhibitory responses suggest that metabolism may i  
KEYWORDS: Cytology and Cytochemistry-Plant  
KEYWORDS: Comparative Biochemistry  
KEYWORDS: Biochemical Studies-Proteins  
KEYWORDS: Enzymes-General and Comparative Studies  
KEYWORDS: Metabolism-General Metabolism  
KEYWORDS: Metabolism-Energy and Respiratory Metabolism  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Plant Physiology  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Gramineae

Moreland D. E., Corbin F. T., and Mcfarland J. E. (1993). Oxidation of Multiple Substrates by Corn Shoot Microsomes. *Pesticide Biochemistry and Physiology* 47: 206-214.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Microsomes isolated from excised shoots of 3-day-old, dark-grown, corn (Zea mays L., Pioneer Hybrid 3245) seedlings metabolized two endogenous substrates (cinnamic acid and lauric acid), one insecticide (diazinon), and six herbicides (metolachlor, bentazon, CGA-152005, triasulfuron, primisulfuron, and nicosulfuron). Pretreatment of the seed with the safener naphthalic anhydride resulted in enhanced metabolism of all substrates except cinnamic acid. Metabolism required NADPH and was affected by several cytochrome P450 monooxygenase inhibitors (tetcyclacis, piperonyl butoxide, 1-aminobenzolriazole, SKF-525A, and tridiphane). The inhibitors differentially affected metabolism of the substrates. Tetcyclacis and piperonyl butoxide strongly inhibited the metabolism of all substrates except cinnamic acid. Microsomal oxidations from both unsafened and safener-treated tissue responded similarly to the inhibitors. The differential inhibitory responses suggest that metabolism may involve several monooxygenase isoforms.

Morgan, M. K., Stout, D. M. II, and Wilson, N. K. (2001). Feasibility Study of the Potential for Human Exposure to Pet-Borne Diazinon Residues Following Lawn Applications. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 66, no. 3, pp. 295-300. Mar 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0007-4861  
Descriptors: Pets  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Insecticides  
Descriptors: Indoor environments  
Descriptors: Pesticide residues  
Abstract: The objectives of this study were 1) to investigate the potential for an indoor/outdoor pet dog to transport and translocate diazinon residues into a residence following a lawn application, 2) to determine if intimate contacts between a pet dog and occupants resulted in measurable exposures, and 3) to determine if a pet dog could be a good indicator of exposure following a lawn application of diazinon.  
Language: English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Classification: H 5000 Pesticides  
Classification: R2 23060 Medical and environmental health  
Subfile: Risk Abstracts; Health & Safety Science Abstracts; Toxicology Abstracts

Moriarty, Robert M. and Khosrowshahi, Jaffar S. (1986). A versatile synthesis of vicinal diazides using hypervalent iodine. *Tetrahedron Letters* 27: 2809-2812.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A convenient synthesis of vicinal diazides from olefins using C6H5IO/HOAc/NaN3 is described. A mechanism is proposed which accounts for the stereochemical outcome.

Morishita, M. (2001). Toxicity of Some Insecticides to Larvae of Flankliniella occidentalis (Pergande) (Thysanoptera: Thripidae) Evaluated by the Petri Dish-Spraying Tower Method. *Appl.Entomol.Zool.* 36: 137-141.

EcoReference No.: 82021  
Chemical of Concern: PRB,EMMB,THO,ACT,EFX,TDL,PIM,PHSL,PIRM,DMT,FNTH,MLN,DDVP,ACT,LUF,TCF,CYP,ES,SS,IMC,FVL,PMR,CBL,MOM,ALP,FNT,MDT,CPY,FF,DZ,BFT; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

MORITA, M., YOSHINAGA, J., MUKAI, H., AMBE, Y., TANAKA, A., and SHIBATA, Y. (1997). Specimen banking at National Institute for Environmental Studies, Japan. *CHEMOSPHERE; 34* 1907-1919.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The National Institute for Environmental Studies (NIES) in Japan has had more than fifteen years practical experience in specimen banking. Stored specimens are used for the assessment of long-term trends of pollutants. The use of new analytical techniques facilitates the finding of the pollutants of the past. Conservation of Natural Resources/ Ecology/ Air Pollution/ Soil Pollutants/ Water Pollution

Morita, Tomotsu and Lemone Yielding, K. (1977). Induction of respiratory deficient mutants in Saccharomyces cerevisiae by mono- and diazido analogs of ethidium.  *Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis* 56: 21-30.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
Mono- and diazido analogs of ethidium when photolyzed with yeast cells were highly effective in inducing respiratory deficient (RD) mutants. The monoazide was more mutagenic, though slightly less photosensitive, and under the concentrations and conditions used, both required photolysis to be significantly mutagenic.Ethidium bromide (EB) competed with either its mono- or diazide analog for RD induction when applied before, but not after, the photolysis step. This suggested that the initial mutagenic binding sites for the azides were identical with those of EB.There was no self-rescue or recovery in azide mutagenesis in contrast to EB. Furthermore, recovery from azide mutagenesis could not be provoked by EB. This confirmed a simple competition between binding of EB and its azide analogs to account for the prevention by EB of the azide induced mutations.

Moritoki, H., Shinohara, Y., Yamauchi, M., and Ishida, Y. (1978). Effects of Cholinesterase Inhibitors on the Spasmogenic Action of Acetate Esters on Rat Uterus. *Eur.J.Pharmacol.* 47: 95-102.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.

Morris, Stephen J., Bradley, Diane, and Blumenthal, Robert (1985). The use of cobalt ions as a collisional quencher to probe surface charge and stability of fluorescently labeled bilayer vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 818: 365-372.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Co2+ quenched the fluorescence of the lipid probes NBD-phosphatidylethanolamine (NBD-PE) and lissamine-rhodamine phosphatidylethanolamine (N-Rh-PE) incorporated into lipid vesicles, according to a collisional quenching mechanism in agreement with the Stern-Vollmer law. The quenching coefficient (Q) for NBD-PE, incorporated into uncharged phosphatidylcholine (PC) vesicles was 13.8 M-1. This value was equal to the quenching coefficient of water-soluble NBD-taurine in aqueous solution, indicating that Co2+ was readily accessible to the outer surface of PC vesicles. In phosphatidylserine-phosphatidylethanolamine (PS-PE) (1:1) vesicles, quenching was also proportional to Co2+ concentration but Q was 114 mM-1, some 8000-fold smaller. Using the Gony-Chapman-Stern model we demonstrated that the surface density of Co2+ bound to lipid was linear with Co2+ concentration in the medium up to 7%. Co2+-associated phospholipid would in turn quench NBD-PE or N-Rh-PE by collisional quenching with lateral diffusion. We investigated the ability of Co2+ to permeate PS-PE (1:1) vesicles. Co2+ quenched fluorophores on the outer surface of large unilamellar vesicles, formed by reverse-phase evaporation. In small unilamellar vesicles Co2+ quenched probes on both outer and inner surfaces, indicating rapid permeation of the ions into the vesicles. Using stopped-flow rapid mixing, we measured the rate of influx of Co2+, and correcting for surface potential using the Gouy-Chapman-Stern model, we calculated a permeability coefficient of 10-12 cm/s for Co2+ concentrations below 300 [mu]M. Above this concentration, there was a very steep rise in the permeability coefficient, indicating that binding of Co2+ induces defects in the bilayer of these vesicles. This may be related to the ability of the vesicles to undergo membrane fusion. A method for calculating the membrane surface potential from Co2+ quenching data is presented. Unilamellar vesicle/ Co2+/ Fluorescence labeling/ Membrane surface potential/ Fluorescence quenching/ Bilayer defect

Morrissey, B. F., Harter, L. C., Cropley, J. M., and Burgess, J. L. (2004). Residential Phaseout of Chlorpyrifos and Diazinon: Reductions in Reported Human Exposure Cases in Washington State. *Journal of Toxicology: Clinical Toxicology [J. Toxicol.: Clin. Toxicol.]. Vol. 42, no. 5, p. 806. Aug 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0731-3810  
Descriptors: Diazinon  
Descriptors: Chlorpyrifos  
Descriptors: Insecticides  
Descriptors: Consumers  
Descriptors: organophosphates  
Descriptors: USA, Washington  
Abstract: A phase-out of most residential uses of two organophosphate (OP) insecticides, chlorpyrifos and diazinon, was initiated in June and December 2000. Retail sale to consumers was permitted until December 2001 for chlorpyrifos and December 2004 for diazinon.  
Conference: 2004 North American Congress of Clinical Toxicology Annual Meeting, Seattle, Washington (USA), 9-14 Sep 2004  
Publisher: Marcel Dekker Journals, 270 Madison Ave. New York NY 10016-0602 USA  
Language: English  
Publication Type: Journal Article  
Publication Type: Conference  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

MORTIMER RD and DAWSON BA (1991). A study to determine the feasibility of using phosphorus-31 NMR for the analysis of organophosphorus insecticide residues in cole crops. *J AGRIC FOOD CHEM;* 39: 911-916.  
Chem Codes: Chemical of Concern: DMT Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. It is not generally recognized that 31P NMR spectroscopy is now sensitive enough to be used for the analysis of organophosphorus insecticide residues without resorting to the extraction of large samples or the use of prolonged NMR acquistion times. The analysis of pesticides, such as disulfoton, diazinon, dimethoate, parathion, and azinphos-methyl, has been demonstrated to be feasible at 0.5 ppm on broccoli and cabbage. Isotopes/ Radiation/ Biochemistry/Methods/ Biochemistry/ Biophysics/Methods/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Biophysics/ Plants/Chemistry/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Herbicides/ Pest Control/ Pesticides

Moscioni, A. David, Engel, Judith L., and Casida, John E. (1977). Kynurenine formamidase inhibition as a possible mechanism for certain teratogenic effects of organophosphorus and methylcarbamate insecticides in chicken embryos. *Biochemical Pharmacology* 26: 2251-2258.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
At least two types of developmental anomalies are induced in chicken embryos by certain organophosphorus (OP) and methylcarbamate (MC) insecticides. One of them (Type I) leads to micromelia and abnormal feathering and another (Type II) involves arthrogryposis, wry neck and rumplessness. Type I but not type II teratogenesis is associated with a lowered embryo NAD level and is alleviated on restoring the NAD level by administration of intermediates in the tryptophan to NAD biosynthetic pathway. These and other observations with chicken embryos suggest but do not in themselves establish that impairment in the conversion of tryptophan to NAD, possibly by inhibition of kynurenine formamidase, leads to type I teratogenesis. This hypothesis is supported by finding that mouse liver kynurenine formamidase is extremely sensitive to in vivo inhibition by those OP and MC compounds which are the most potent NAD lowering agents and teratogens in the chicken embryo, i.e. crotonamide phosphates and pyrimidyl phosphorothionates such as dicrotophos and diazinon and MC compounds such as carbaryl. Teratological or other toxicological manifestations of kynurenine formamidase inhibition are probably restricted to species and developmental stages where reduced enzyme activity significantly impairs maintenance of normal levels of NAD or other essential biochemicals derived from kynurenine.

Moser, V. C. (1995). Comparisons of the Acute Effects of Cholinesterase Inhibitors Using a Neurobehavioral Screening Battery in Rats. *Neurotoxicol.Teratol.* 17: 617-625 .

EcoReference No.: 83781  
Chemical of Concern: ADC,DZ,CBL,PRN,CPY,FNTH; Habitat: T; Effect Codes: BEH,PHY; Rejection Code: NO ENDPOINT(ALL CHEMS).

Moser, V. C., Casey, M., Hamm, A., Carter WHJr, Simmons, J. E., and Gennings, C. (2005). Neurotoxicological and Statistical Analyses of a Mixture of Five Organophosphorus Pesticides Using a Ray Design. *Toxicological Sciences [Toxicol. Sci.]. Vol. 86, no. 1, pp. 101-115. Jul 2005.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
ISSN: 1096-6080  
Descriptors: Malathion  
Descriptors: Motor activity  
Descriptors: Brain  
Descriptors: Statistical analysis  
Descriptors: Cholinesterase  
Descriptors: Blood  
Descriptors: gait  
Descriptors: Chlorpyrifos  
Descriptors: Dimethoate  
Descriptors: Mathematical models  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Pesticides  
Descriptors: Organophosphorus compounds  
Descriptors: Neurotoxicity  
Abstract: Environmental exposures generally involve chemical mixtures instead of single chemicals. Statistical models such as the fixed-ratio ray design, wherein the mixing ratio (proportions) of the chemicals is fixed across increasing mixture doses, allows for the detection and characterization of interactions among the chemicals. In this study, we tested for interaction(s) in a mixture of five organophosphorus (OP) pesticides (chlorpyrifos, diazinon, dimethoate, acephate, and malathion). The ratio of the five pesticides (full ray) reflected the relative dietary exposure estimates of the general population as projected by the US EPA Dietary Exposure Evaluation Model (DEEM). A second mixture was tested using the same dose levels of all pesticides, but excluding malathion (reduced ray). The experimental approach first required characterization of dose-response curves for the individual OPs to build a dose-additivity model. A series of behavioral measures were evaluated in adult male Long-Evans rats at the time of peak effect following a single oral dose, and then tissues were collected for measurement of cholinesterase (ChE) activity. Neurochemical (blood and brain cholinesterase [ChE] activity) and behavioral (motor activity, gait score, tail-pinch response score) endpoints were evaluated statistically for evidence of additivity. The additivity model constructed from the single chemical data was used to predict the effects of the pesticide mixture along the full ray (10-450 mg/kg) and the reduced ray (1.75-78.8 mg/kg). The experimental mixture data were also modeled and statistically compared to the additivity models. Analysis of the 5-OP mixture (the full ray) revealed significant deviation from additivity for all endpoints except tail-pinch response. Greater-than-additive responses (synergism) were observed at the lower doses of the 5-OP mixture, which contained non-effective dose levels of each of the components. The predicted effective doses (ED20, ED50) were about half that predicted by additivity, and for brain ChE and motor activity, there was a threshold shift in the dose-response curves. For the brain ChE and motor activity, there was no difference between the full (5-OP mixture) and reduced (4-OP mixture) rays, indicating that malathion did not influence the non-additivity. While the reduced ray for blood ChE showed greater deviation from additivity without malathion in the mixture, the non-additivity observed for the gait score was reversed when malathion was removed. Thus, greater-than-additive interactions were detected for both the full and reduced ray mixtures, and the role of malathion in the interactions varied depending on the endpoint. In all cases, the deviations from additivity occurred at the lower end of the dose-response curves.  
Publisher: Oxford University Press, Oxford Journals, Great Clarendon Street Oxford OX2 6DP UK, [mailto:jnl.samples@oup.co.uk], [URL:http://www3.oup.co.uk/jnls/]  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H 14000 Toxicology  
Classification: N3 11105 Primates  
Subfile: Health & Safety Science Abstracts; Environmental Engineering Abstracts; CSA Neurosciences Abstracts; Pollution Abstracts; Toxicology Abstracts

MOSS MO (1991). INFLUENCE OF AGRICULTURAL BIOCIDES ON MYCOTOXIN FORMATION IN CEREALS. *CHELKOWSKI, J. (ED.). DEVELOPMENTS IN FOOD SCIENCE, VOL. 26. CEREAL GRAIN: MYCOTOXINS, FUNGI AND QUALITY IN DRYING AND STORAGE. XXII+607P. ELSEVIER SCIENCE PUBLISHERS B.V.: AMSTERDAM, NETHERLANDS; (DIST. IN THE USA AND CANADA BY ELSEVIER SCIENCE PUBLISHING CO., INC.: NEW YORK, NEW YORK, USA). ILLUS. MAPS. ISBN 0-444-88554-4.; 0 (0). 1991. 281-295.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ASPERGILLUS-PARASITICUS FUSARIUM-SPOROTRICHIOIDES PENICILLIUM-CITRINUM PENICILLIUM-URTICAE WHEAT MAIZE BARLEY INSECTICIDES FUNGICIDES HERBICIDES Biochemistry/ Metabolism/ Poisoning/ Animals, Laboratory/ Biophysics/ Nutrition/ Plants/Physiology/ Plants/Metabolism/ Biophysics/ Plants/Metabolism/ Grasses/Growth & Development/ Soil/ Fungi/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Mitosporic Fungi/ Grasses

MOUSTACCHI, E., CARERE, A., MORPURGO, G., RAMEL, C., and WURGLER FE (1986). ASSAYS FOR GENETIC CHANGES IN FUNGI. *MONTESANO, R., ET AL. (ED.). IARC (INTERNATIONAL AGENCY FOR RESEARCH ON CANCER) SCIENTIFIC PUBLICATIONS, NO. 83. LONG-TERM AND SHORT-TERM ASSAYS FOR CARCINOGENS: A CRITICAL APPRAISAL. III+564P. OXFORD UNIVERSITY PRESS: NEW YORK, NEW YORK, USA; IARC: LYON, FRANCE. ILLUS. PAPER. ISBN 92-832-1183-9.; 0 (0). 1986 (1987). 303-350.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM SACCHAROMYCES-CEREVISIAE SCHIZOSACCHAROMYCES-POMBE NEUROSPORA-CRASSA ASPERGILLUS-NIDULANS CHEMICAL CARCINOGENS Plants/Cytology/ Plants/Genetics/ Biochemistry/ Poisoning/ Animals, Laboratory/ Carcinogens/ Mycoses/ Ascomycota/ Mitosporic Fungi

Moye, H. A., Marshall, M. R., and Merlino, W. (1997). Extraction Of Moderately Water Soluble Pesticides From Marine Waters Using Membrane And Bed Type Solid Phase Extraction Disks. 214: Agro 99.  
Chem Codes: Chemical of Concern: SZ, CHLOR Rejection Code: CHEM METHOD.  
  
biosis copyright: biol abs. rrm meeting abstract methodology pesticides solid-phase extraction alachlor pesticide residue determination marine water concentration atrazine bromacil chlorothalonil chlorpyrifos diazinon endosulfan simazine trifluralin pollution biochemistry and biophysics bed type disk membrane type disk extraction method general biology-symposia, transactions and proceedings of conferences, congresses, revie/ ecology/ environmental biology-general/ methods/ biochemical studies-general/ biophysics-general biophysical studies/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides

Moyer, L. and Cross, J. ( Pesticide Monitoring: Illinois Epa's Summary Of Results, 1985-1989.  
Chem Codes: CHLOR Rejection Code: SURVEY/NO SPECIES.  
  
td3: in october 1985, the illinois environmental protection agency (iepa) expanded pesticide monitoring in surface waters to include herbicides and organophosphate insecticides commonly used in agricultural practices. pesticides selected include seven herbicides (alachlor, atrazine, butylate, cyanazine, metolachlor, metribuzin, trifluralin), seven organophosphate insecticides (chloropyrifos, diazinon, fonofos, malathion, methyl parathion, phorate, terbufos) and one fungicide (captan). monitoring efforts included the establishment of the pesticide monitoring subnetwork within iepa's existing ambient water quality monitoring network (awqmn) as well as intensive monitoring related to storm event runoff. the pesticide subnetwork consists of 30 stations within the 208 station awqmn, and are located in predominately agricultural watersheds in illinois. intensive monitoring related to storm event runoff was conducted at two stations; macoupin creek in macoupin county and spring creek in sangamon county. the report summarizes surface water results from both monitoring efforts and provides future considerations regarding iepa's pesticide monitoring programs. pesticides/ environmental monitoring/ water pollution sampling, agricultural chemicals, herbicides, insecticides, storm water runoff, us epa, forecasting, fungicides, agricultural runoff, watersheds, illinois, surface waters, organic phosphates

Moyer, L. and Cross, J. (1990). Pesticide monitoring: Illinois EPA's summary of results, 1985-1989.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: pollution monitoring  
Descriptors: pesticides  
Descriptors: water quality  
Descriptors: agricultural runoff  
Descriptors: water pollution  
Descriptors: stormwater runoff  
Descriptors: USA, Illinois  
Abstract: In October 1985, the Illinois Environmental Protection Agency (IEPA) expanded pesticide monitoring in surface waters to include herbicides and organophosphate insecticides commonly used in agricultural practices. Pesticides selected include seven herbicides (alachlor, atrazine, butylate, cyanazine, metolachlor, metribuzin, trifluralin), seven organophosphate insecticides (chloropyrifos, diazinon, fonofos, malathion, methyl parathion, phorate, terbufos) and one fungicide (captan). Monitoring efforts included the establishment of the Pesticide Monitoring Subnetwork within IEPA's existing Ambient Water Quality Monitoring Network (AWQMN) as well as intensive monitoring related to storm event runoff. The pesticide subnetwork consists of 30 stations within the 208 station AWQMN, and are located in predominately agricultural watersheds in Illinois. Intensive monitoring related to storm event runoff was conducted at two stations; Macoupin Creek in Macoupin County and Spring Creek in Sangamon County. The report summarizes surface water results from both monitoring efforts and provides future considerations regarding IEPA's pesticide monitoring programs.  
NTIS Order No.: PB91-201459/GAR.  
Other numbers: IEPA/WPC/90-297  
Language: English  
English  
Publication Type: Report  
Environmental Regime: Freshwater  
Classification: Q5 01505 Prevention and control  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Mui, B., Ahkong, Q. F., Chow, L., and Hope, M. J. (2000). Membrane perturbation and the mechanism of lipid-mediated transfer of DNA into cells. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1467: 281-292.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Mixtures of cationic lipids and unsaturated phosphatidylethanolamine are used extensively for the intracellular delivery of plasmids and antisense oligodeoxynucleotides (ODN) in vitro. However, the mechanism by which cytoplasmic delivery of these large molecules is achieved remains unclear. The common hypothesis is that phosphatidylethanolamine promotes fusion of lipid/DNA particles with endosomal membranes, but this is inconsistent with several reports that have failed to correlate the fusogenic activity of a wide variety of lipid/DNA particles, measured by lipid mixing techniques, with their transfection activity. To address this issue further we have conducted a detailed analysis of the lipid mixing and DNA transfer activity of two, physically similar but functionally different, lipid/DNA particles composed of equimolar dioleyldimethylammonium chloride (DODAC) and dioleoylphosphatidylethanolamine (DOPE) or dioleoylphosphatidylcholine (DOPC). In combination with DODAC both phospholipids form almost identical lipid/DNA particles, they are endocytosed by cells to the same extent and each undergoes equivalent lipid mixing with cell membranes after uptake. Despite this, DNA transfer is 10- to 100-fold more extensive for lipid/DNA particles containing DOPE. We conclude that lipid mixing between lipid-based delivery systems and endosomal membranes must occur for DNA transfer to occur. However, the potency of different lipid/DNA particles correlates better with the ability of the exogenous lipid to disrupt membrane integrity. Fusion/ Cationic lipid/ Transfection/ Phosphatidylethanolamine/ Drug delivery/ Antisense

Muir, D. C. G., Teixeira, C., and Wania, F. (2004). Empirical and modeling evidence of regional atmospheric transport of current-use pesticides. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 23, no. 10, pp. 2421-2432. Oct 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0730-7268  
Descriptors: Pesticides  
Descriptors: Pollution dispersion  
Descriptors: Water sampling  
Descriptors: Atrazine  
Descriptors: Endosulfan  
Descriptors: Lakes  
Descriptors: Fungicides  
Abstract: Water samples from 30 lakes in Canada and the northeastern United States were analyzed for the occurrence of 27 current-use pesticides (CUPs). Eleven CUPs were frequently detected in lakes receiving agricultural inputs as well as in remote lakes hundreds of kilometers from known application areas. These included the triazine herbicide atrazine and its desethylated degradation product; the herbicides alachlor, metolachlor, and dacthal; the organophosphate insecticides chlorpyrifos, diazinon, and disulfoton; the organochlorine insecticides alpha -endosulfan and lindane; and the fungicides chlorothalonil and flutriafol. For six of the pesticides, empirical half-distances on the order of 560 to 1,820 km were estimated from the water-concentration gradient with latitude. For most of the pesticides, a suite of assessment models failed to predict such atmospheric long-range transport behavior, unless the effect of periods of lower hydroxyl radical concentrations and dry weather were taken into account. Observations and model results suggest that under the conditions prevailing in south-central Canada (relatively high latitude, low precipitation rates), many CUPs will be able to undergo regional-scale atmospheric transport and reach lakes outside areas of agricultural application. When assessing the potential of fairly reactive and water-soluble substances to undergo long-range transport, it is imperative to account for periods of no precipitation, to assure that degradation rate constants are correct, and to apply oxidant concentrations that are valid for the region and time period of interest.  
Special Issue Honoring Don Mackay.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Pollution Abstracts

Muirhead-Thomson, R. C. and Merryweather, J. (1970). Ovicides in Simulium Control. *Nature 221:858 (ABS) (1969) /Bull.W.H.O.* 42: 174-177.

EcoReference No.: 4567  
Chemical of Concern: DDVP,ABT,PYN,HCCH,DZ,MXC,DDT,FNTH,CPY,MOM; Habitat: T; Effect Codes: GRO; Rejection Code: NO ENDPOINT(ALL CHEMS) .

MUKERJEE, S., ELLENSON WD, LEWIS RG, STEVENS RK, SOMERVILLE MC, SHADWICK DS, and WILLIS RD (1997). An environmental scoping study in the Lower Rio Grande Valley of Texas: III. Residential microenvironmental monitoring for air, house dust, and soil. *ENVIRONMENT INTERNATIONAL; 23* 657-673.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A principal aspect of the 1993 Lower Rio Grande Valley Environmental Scoping Study was the analysis and interpretation of residential air, household dust, and soil pollutant concentration data for exposure assessments. Measurements included respirable particulate matter (PM2.5), volatile organic compounds (VOCs), pesticides, and polycyclic aromatic hydrocarbons (PAHs) in indoor and outdoor air. Household dust, road dust, and yard soil were analyzed for elements, pesticides, and PAHs. Nine residences were monitored for three weeks in the spring of 1993. Additional monitoring was conducted at six of the nine residences for ten days the following summer. Generally good agreement was found between outdoor residential air and same-species measurements collected concurrently at a non-residential central site in Brownsville, TX (Ellenson et al. 1997) for fine particulate matter, elements, and VOCs indicating the dominance of regional influences. PM2.5 mass and element concentr Climate/ Ecology/ Meteorological Factors/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Mukherjee, Soumi and Chattopadhyay, Amitabha (2005). Monitoring cholesterol organization in membranes at low concentrations utilizing the wavelength-selective fluorescence approach. *Chemistry and Physics of Lipids* 134: 79-84.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
We previously showed using a fluorescent analogue of cholesterol (NBD-cholesterol, or 25-[N-[(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-methyl]amino]-27-norcholesterol), that cholesterol may exhibit local organization at low concentrations in membranes by the formation of transbilayer tail-to-tail dimers of cholesterol (Rukmini, R., Rawat, S.S., Biswas, S.C., Chattopadhyay, A., 2001. Biophys. J. 81, 2122-2134). In this report, we have monitored the microenvironmental features of cholesterol monomers and dimers utilizing wavelength-selective fluorescence spectroscopy. Our results utilizing red edge excitation shift (REES) and wavelength-dependent change in fluorescence anisotropy show that the microenvironment around the NBD moieties in the dimer form is more rigid possibly due to steric constraints imposed by the dimer conformation. These results provide new information and are relevant in understanding the organization of cholesterol in membranes at low concentrations. Cholesterol organization/ Cholesterol dimers/ NBD-cholesterol/ REES/ Fluorescence anisotropy

Mukherjee, Soumi, Raghuraman, H., Dasgupta, Sudeshna, and Chattopadhyay, Amitabha (2004). Organization and dynamics of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-labeled lipids: a fluorescence approach. *Chemistry and Physics of Lipids* 127: 91-101.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lipids that are labeled with the NBD (7-nitrobenz-2-oxa-1,3-diazol-4-yl) group are widely used as fluorescent analogues of native lipids in biological and model membranes to monitor a variety of processes. NBD-labeled lipids have previously been used to monitor the organization and dynamics of molecular assemblies such as membranes, micelles and reverse micelles utilizing the wavelength-selective fluorescence approach. In this paper, we have characterized the organization and dynamics of various NBD-labeled lipids using red edge excitation shift (REES) and other fluorescence approaches which include analysis of membrane penetration depths of the NBD group using the parallax method. We show here that the environment and location experienced by the NBD group of the NBD-labeled lipids could depend on the ionization state of the lipid. This could have potentially important implications in future studies involving NBD-labeled lipids as tracers in a cellular context. NBD-labeled lipids/ REES/ Membrane penetration depth/ Fluorescence polarization/ Ionization state/ Fluorescence lifetime

MULCHANDANI, A., KANEVA, I., and CHEN, W. (1999). Detoxification of organophosphate nerve agents by immobilized Escherichia coli with surface-expressed organophosphorus hydrolase. *BIOTECHNOLOGY AND BIOENGINEERING; 63* 216-223.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
BIOSIS COPYRIGHT: BIOL ABS. An improved whole-cell technology for detoxifying organophosphate nerve agents was recently developed based on genetically engineered Escherichia coli with organophosphorus hydrolase anchored on the surface. This article reports the immobilization of these novel biocatalysts on nonwoven polypropylene fabric and their applications in detoxifying contaminated wastewaters. The best cell loading (256 mg cell dry weight/g of support or 50 mg cell dry weight/cm2 of support) and subsequent hydrolysis of organophosphate nerve agents were achieved by immobilizing nongrowing cells in a pH 8, 150 mM citrate-phosphate buffer supplemented with 1 mM Co2+ for 48 h via simple adsorption, followed by organophosphate hydrolysis in a pH 8, 50 mM citrate-phosphate buffer supplemented with 0.05 mM Co2+ and 20% methanol at 37ęC. In batch operations, the immobilized cells degraded 100% of 0.8 mM paraoxon, a model organophosphate nerve agent, in approximately 100 min, at a specific rate of 0, Biochemistry/ Biomedical Engineering/ Biophysics/ Engineering/ Metabolism/ Poisoning/ Animals, Laboratory/ Bacteria/Physiology/ Bacteria/Metabolism/ Microbiological Techniques/ Sanitation/ Sewage/ Biodegradation/ Industrial Microbiology/ Enterobacteriaceae

Mulchandani, Priti, Mulchandani, Ashok, Kaneva, Irina, and Chen, Wilfred (1999). Biosensor for direct determination of organophosphate nerve agents. 1. Potentiometric enzyme electrode. *Biosensors and Bioelectronics* 14: 77-85.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A potentiometric enzyme electrode for the direct measurement of organophosphate (OP) nerve agents was developed. The basic element of this enzyme electrode was a pH electrode modified with an immobilized organophosphorus hydrolase (OPH) layer formed by cross-linking OPH with bovine serum albumin (BSA) and glutaraldehyde. OPH catalyses the hydrolysis of organophosphorus pesticides to release protons, the concentration of which is proportional to the amount of hydrolysed substrate. The sensor signal and response time was optimized with respect to the buffer pH, ionic concentration of buffer, temperature, and units of OPH immobilized using paraoxon as substrate. The best sensitivity and response time were obtained using a sensor constructed with 500 IU of OPH and operating in pH 8.5, 1 mM HEPES buffer. Using these conditions, the biosensor was used to measure as low as 2 [mu]M of paraoxon, ethyl parathion, methyl parathion and diazinon. The biosensor was completely stable for at least one month when stored in pH 8.5, 1 mM HEPES +100 mM NaCl buffer at 4[deg]C. Enzyme electrode/ Potentiometric/ Organophosphates/ Nerve agents/ Organophosphorus hydrolase

Mulla, M. S. (1963). Persistence of Mosquito Larvicides in Water. *Mosq.News* 23: 234-237 .

EcoReference No.: 2677  
Chemical of Concern: MLN,MP,DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO COC(DZ).

Mulla, M. S., Isaak, L. W., and Axelrod, H. (1963). Field Studies on the Effects of Insecticides on Some Aquatic Wildlife Species. *J.Econ.Entomol.* 56: 184-188.

EcoReference No.: 2090  
Chemical of Concern: AZ,DZ,MP,Naled; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Mulla, M. S., Metcalf, R. L., and Isaak, L. W. (1962). Some New and Highly Effective Mosquito Larvicides. *Mosq.News* 22: 231-238.

EcoReference No.: 14106  
Chemical of Concern: DMT,AZ,DZ,MLN,MP,PSM; Habitat: A; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Munn, M. D. and Gilliom, R. J. (2001). Pesticide Toxicity Index for Freshwater Aquatic Organisms. *Water-Resour.Investig.Rep.No.01-4077, U.S.Geol.Surv., Sacramento, CA* 1-55.  
Chem Codes: Chemical of Concern: MCPB,CBL,CPY,DZ,MLN,ACR,ATZ,BFL,BTY,CZE,LNR,MTL,MBZ,PDM,PRO,SZ,TET,TFN Rejection Code: REFS CHECKED/REVIEW.

Murray, A., Rathbone, A. J., and Ray, D. E. (2005). Novel protein targets for organophosphorus pesticides in rat brain. *Environmental Toxicology and Pharmacology [Environ. Toxicol. Pharmacol.]. Vol. 19, no. 3, pp. 451-454. May 2005.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 1382-6689  
Descriptors: Brain  
Descriptors: Acetylcholinesterase  
Descriptors: Chlorpyrifos  
Descriptors: Malathion  
Descriptors: organophosphates  
Descriptors: Chlorfenvinphos  
Descriptors: proteomics  
Descriptors: pirimiphos-methyl  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Abstract: We report preliminary results from a proteomic search for rat brain protein targets adducted by organophosphorous pesticides. Azamethaphos, chlorfenvinphos, diazinon, malathion and chlorpyrifos oxons (in rat brain homogenates) or pirimiphos-methyl (after systemic treatment) were tested at levels producing no more than 30% inhibition of brain acetylcholinesterase. Loss of reactivity with tritiated diisopropylflurophosphate was taken as proof of adduction by the test organophosphate. In addition to acetylcholinesterase other, previously unrecognised, adducted proteins were detected in total brain protein extracts at 30, 32, 41, 71 and 83 kDa. Azamethiphos adducted all but the 30 and 32 kDa bands, but chlorpyrifos only acetylcholinesterase.  
The Ninth Meeting of the International Neurotoxicology Association (INA)  
Publisher: Elsevier Science Ltd., The Boulevard Langford Lane Kidlington Oxford OX5 1GB UK, [mailto:nlinfo-f@elsevier.nl], [URL:http://www.elsevier.nl]  
DOI: 10.1016/j.etap.2004.12.006  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24134 Pathology  
Classification: N3 11104 Mammals (except primates)  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Murray, H. E. and Guthrie, R. K. (1980). Effects of Carbaryl, Diazinon and Malathion on Native Aquatic Populations of Microorganisms. *Bull.Environ.Contam.Toxicol.* 24: 535-542.

EcoReference No.: 6587  
Chemical of Concern: CBL,DZ,MLN; Habitat: A; Effect Codes: PHY,POP; Rejection Code: OK(CBL,MLN),NO ENDPOINT(DZ).

MURRAY, V. SG, WISEMAN HM, DAWLING, S., MORGAN, I., and HOUSE IM (1992). HEALTH EFFECTS OF ORGANOPHOSPHATE SHEEP DIPS. *BR MED J; 305* 1090.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LETTER DIAZINON PROPETAMPHOS CHLORFENVINPHOS DIAGNOSIS Biochemistry/ Diagnosis/ Pathology/ Animal/ Toxicology/ Veterinary Medicine/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology/ Artiodactyla

Mustapha, J. and Hill, S. B. (1974). Short-Term Effects of Diazinon on Soil Arthropods. *Rev.Ecol.Biol.Sol* 11: 197-200.

EcoReference No.: 58114  
Chemical of Concern: DZ; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(DZ).

Mutch, Elaine and Williams, Faith M. (2003). 565 Do multiple P450 isoforms contribute to diazinon metabolism in man? *Toxicology Letters* 144: s151.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.

Muzart, Jacques (2003). Palladium-catalysed oxidation of primary and secondary alcohols. *Tetrahedron* 59: 5789-5816.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
oxidation/ dehydrogenation/ alcohol/ palladium/ catalysis

Nakagawa, Y., Nakajima, K., Tayama, S., and Moldeus, P. (1995). Metabolism and cytotoxicity of propyl gallate in isolated rat hepatocytes: Effects of a thiol reductant and an esterase inhibitor. *Molecular Pharmacology. Vol. 47, no. 5, pp. 1021-1027. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0026-395X  
Descriptors: hepatocytes  
Descriptors: antioxidants  
Abstract: The relationship between the metabolism and the cytotoxic effects of propyl gallate (PG) has been studied in freshly isolated rat hepatocytes. Addition of PG (0.5-2.0 mM) to the hepatocytes elicited concentration-dependent cell death, accompanied by decreases in intracellular ATP, adenine nucleotide pools, glutathione, and protein thiols. The rapid loss of ATP preceded the onset of cell death. PG in the hepatocyte suspensions was converted to gallic acid, 4-O-methyl-gallic acid, and other minor products over time. In addition, PG was converted to a dimer [dipropyl-4,4',5,5',6,6'-hexahydroxydiphenate (PG-dimer)] and ellagic acid via autooxidation. In comparisons of the toxic effects of PG and its metabolites at concentrations of 2 mM, the parent compound PG was the most toxic. Pretreatment of hepatocytes with diazinon (100 mu M), an esterase inhibitor, enhanced PG-induced cytotoxicity. This was accompanied by delay of PG loss and inhibition of gallic acid formation. The cytotoxicity of PG was also enhanced by addition of the thiol reductant dithiothreitol (4 mM), although intracellular levels of glutathione and protein thiols were maintained during the incubation period. Dithiothreitol did not affect the hydrolysis of PG to gallic acid by esterases but did delay the conversion of PG and prevented the formation of PG-dimer. In isolated hepatic mitochondria, PG elicited a concentration-dependent increase in the rate of state 4 oxygen consumption, indicating an uncoupling effect. In contrast, PG-dimer inhibited the rate of state 3 oxygen consumption. Based on the respiratory control index, the order of potency for impairment of mitochondria was PG > PG-dimer > gallic acid = 4-O-methyl-gallic acid = ellagic acid = propyl alcohol. These results indicate (a) that PG-induced hepatotoxicity is mediated by the parent compound and not its metabolites, (b) that toxicity is associated with ATP depletion apparently independently of cellular thiol depletion, and (c) that mitochondria may represent critical targets of PG-induced cytotoxicity.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24153 Metabolism  
Subfile: Toxicology Abstracts

Nakagawa, Yoshio and Moldeus, Peter (1998). Mechanism of p-Hydroxybenzoate Ester-induced Mitochondrial Dysfunction and Cytotoxicity in Isolated Rat Hepatocytes.  *Biochemical Pharmacology* 55: 1907-1914.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The relationship between the metabolism and the cytotoxic effects of the alkyl esters of p-hydroxybenzoic acid (parabens) has been studied in freshly isolated rat hepatocytes. Incubation of hepatocytes with propyl-paraben (0.5 to 2.0 mM) elicited a concentration- and time-dependent cell death that was enhanced when enzymatic hydrolysis of propyl-paraben to p-hydroxybenzoic acid was inhibited by a carboxylesterase inhibitor, diazinon. The cytotoxicity was accompanied by losses of cellular ATP, total adenine nucleotide pools, and reduced glutathione, independently of lipid peroxidation and protein thiol oxidation. In the comparative toxic effects based on cell viability, ATP level, and rhodamine 123 retention, butyl- and isobutyl-parabens were more toxic than propyl- and isopropyl-parabens, and ethyl- and methyl-parabens and p-hydroxybenzoic acid were less toxic than propyl-paraben. The addition of propyl-paraben to isolated hepatic mitochondria reduced state 3 respiration with NAD+-linked substrates (pyruvate plus malate) and/or with an FAD-linked substrate (succinate plus rotenone), whereas state 3 respiration with ascorbate plus tetramethyl-p-phenylenediamine (cytochrome oxidase-linked respiration) was not affected significantly by propyl-paraben. Further, the addition of these parabens caused a concentration-dependent increase in the rate of state 4 oxygen consumption, indicating an uncoupling effect. The rate of state 3 oxygen consumption was inhibited by propyl-paraben, butyl-paraben, and their chain isomers. These results indicate that a) propyl-paraben-induced cytotoxicity is mediated by the parent compound rather than by its metabolite p-hydroxybenzoic acid; b) the toxicity is associated with ATP depletion via impairment of mitochondrial function related to membrane potential and/or oxidative phosphorylation; and c) the toxic potency of parabens to hepatocytes or mitochondria depends on the relative elongation of alkyl side-chains esterified to the carboxyl group of p-hydroxybenzoic acid. p-hydroxybenzoate esters/ parabens/ mitochondrial dysfunction/ cytotoxicity/ rat hepatocytes/ antimicrobial preservative

Nakagawa, Yoshio and Moore, Gregory (1999). Role of mitochondrial membrane permeability transition in p-hydroxybenzoate ester-induced cytotoxicity in rat hepatocytes. *Biochemical Pharmacology* 58: 811-816.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The relationship between mitochondrial membrane permeability transition (MPT) and the toxic effects of the alkyl esters of p-hydroxybenzoic acid (parabens) has been studied in mitochondria and hepatocytes isolated from rat liver. MPT has been proposed as a common final pathway in acute cell death through mitochondrial dysfunction. In isolated mitochondria, propyl-paraben (0.1 to 0.5 mM) in the presence of Ca2+ (50 [mu]M) elicited a concentration-dependent induction of mitochondrial swelling dependent on MPT. This was prevented by pretreatment with a specific inhibitor of MPT, cyclosporin A (0.2 [mu]M). For the other parabens tested, the induction of MPT depended on the relative elongation of alkyl side-chains in their molecular structure and was associated with the partition coefficients. In contrast, the induction caused by p-hydroxybenzoic acid was more potent than that of methyl- or ethyl-paraben. The pretreatment of freshly isolated hepatocytes with cyclosporin A (5 [mu]M) and trifluoperazine (10 [mu]M), which inhibit MPT in a synergistic manner, partially but not completely prevented propyl-paraben (1 mM; plus diazinon, 100 [mu]M)-induced cell death, ATP loss, and decreased mitochondrial membrane potential. These results suggest that the onset of paraben-induced cytotoxicity is linked to mitochondrial failure dependent upon induction of MPT accompanied by the mitochondrial depolarization and depletion of cellular ATP through uncoupling of oxidative phosphorylation. p-hydroxybenzoate esters/ parabens/ mitochondrial permeability transition/ mitochondrial dysfunction/ cytotoxicity/ antimicrobial preservative

Nakamura, Mitsunobu, Ouchi, Akihiko, Miki, Masamichi, and Majima, Tetsuro (2001). Photochemical P---O bond fission of aryl diethyl phosphates by a resonant two-photon reaction. *Tetrahedron Letters* 42: 7447-7449.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
resonant two-photon reaction/ aryl diethyl phosphate/ P---O bond fission/ KrF excimer laser Photochemical P---OAr bond fission of aryl diethyl phosphates was achieved via a resonant two-photon reaction using a KrF excimer laser, which gave 1,4-dihydroquinone and phenol derivatives.

Nakatsugawa, T., Tolman, N. M., and Dahm, P. A. (1969). Oxidative degradation of diazinon by rat liver microsomes. *Biochemical Pharmacology* 18: 685-688.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.

NANDAN, R. and RAISUDDIN, S. (1992). FUNGAL DEGRADATION OF INDUSTRIAL WASTES AND WASTEWATER. *ARORA, D. K., R. P. ELANDER AND K. G. MUKERJI (ED.). HANDBOOK OF APPLIED MYCOLOGY, VOL. 4. FUNGAL BIOTECHNOLOGY. XVII+1114P. MARCEL DEKKER, INC.: NEW YORK, NEW YORK, USA; BASEL, SWITZERLAND. ILLUS. ISBN 0-8247-8501-0.; 0 (0). 1992. 931-961.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM POLLUTANTS PESTICIDES TANNERY EFFLUENT PAPER PULP WASTE HEAVY METALS Biochemistry/ Minerals/ Metabolism/ Minerals/Metabolism/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biodegradation/ Industrial Microbiology/ Biophysics/ Plants/Metabolism/ Herbicides/ Pest Control/ Pesticides/ Fungi

Natarajan, Arvind and Srienc, Friedrich (1999). Dynamics of Glucose Uptake by Single Escherichia coli Cells. *Metabolic Engineering* 1: 320-333.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
The fluorescent glucose analog, 2-(N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)-2-deoxyglucose (2-NBDG), was used to measure rates of glucose uptake by single Escherichia coli cells. When cell populations were exposed to the glucose analog, 2-NBDG was actively transported and accumulated in single cells to a steady-state level that depended upon its extracellular concentration, the glucose transport capacity of the cells, and the intracellular degradation rate. The dependence upon substrate concentration could be described according to Michaelis-Menten kinetics with apparent saturation constant KM=1.75 [mu]M, and maximum 2-NBDG uptake RATE=197 molecules/cell-second. Specificity of glucose transporters to the analog was confirmed by inhibition of uptake of 2-NBDG by -glucose, 3-o-methyl glucose, and -glucosamine, and lack of inhibition by -glucose. Inhibition of 2-NBDG uptake by -glucose was competitive in nature. The assay for 2-NBDG uptake is extremely sensitive such that the presence of even trace amounts of -glucose in the culture medium (~0.2 [mu]M) is detectable. The rates of single-cell analog uptake were found to increase proportionally with cell size as measured by microscopy or single-cell light scattering intensity. The assay was used to identify and isolate mutant cells with altered glucose uptake characteristics. A mathematical model was developed to provide a theoretical basis for estimating single-cell glucose uptake rates from single-cell 2-NBDG uptake rates. The assay provides a novel means of estimating the instantaneous rates of nutrient depletion in the growth environment during a batch cultivation Escherichia coli/ glucose uptake/ single-cell analysis/ 2-NBDG

NAVARRO GARCIA S, CAMARA MA, BARBA, A., TOLEDANO, R., and LUNA, A. (1992). Incidence of residual levels of organophosphorus insecticides in farm produce in the region of Murcia, Spain: Comparison of intake in the 1985-86 and 1989 campaigns. *J APPL TOXICOL; 12* 251-254.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. We calculated the effective dietary exposure to 20 organophosphorus insecticides in a sample of residents of the Region of Murcia (Spain). Calculations were based on the contamination of 2310 specimens of citrus fruits, pitted and seedy fruits and vegetables collected in the 1985-86 and 1989 campaigns. A comparison of the results from the two campaigns showed that the mean annual insecticide ingestion determined from the mean consumption of each type of farm produce fell from 7.82 mg to 5.55 mg over the 4-year period studied. The total annual ingestion of insecticides during the 1985-86 and 1989 campaigns was ca. 0.133 and 0.1 mg kg-1 body weight; these values are well below the admissible annual ingestion of insecticides during the 1985-86 and 1989 campaigns was ca. 0.133 and 0.1 mg kg-1 body weight; these values are well below the admissible annual ingestion of 29.565 mg kg-1 body weight. Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides

Nayak, D. N. and Rao, V. R. (1982). Pesticides and Nitrogen Fixation in a Paddy Soil. *Soil Biol.Biochem.* 14: 207-210.  
Chem Codes: Chemical of Concern: BMY,CBF,PRN,DZ,HCCH Rejection Code: BACTERIA.

Nayak, D. N. and Rao, V. Rajaramamohan (1982). Pesticides and nitrogen fixation in a paddy soil. *Soil Biology and Biochemistry* 14: 207-210.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
The influence of six pesticides, applied singly or in combination, on 15N2 incorporation and C2H2 reduction in a submerged paddy soil was studied under laboratory conditions. While the application of diazinon had no marked effect, benomyl, carbofuran, parathion, nitrofen and [gamma]-HCH, at concentrations close to recommended field application rates (5[mu]g -1) significantly stimulated N2 fixation. Synergistic stimulatory effects of the pesticides on N2 fixation were evident particularly in combinations of carbofuran with benomyl, nitrofen and [gamma]-HCH. On the contrary, diazinon slightly retarded the stimulatory effect of benomyl and carbofuran. Results indicated that the differential effects of pesticides on N2 fixation could be attributed partly to fluctuations in the population of certain groups of N2 fixers in submerged soil.

Nayar, Rajiv, Tilcock, Colin P. S., Hope, Michael J., Cullis, Pieter R., and Schroit, Alan J. (1988). N-Succinyldioleoylphosphatidylethanolamine: structural preferences in pure and mixed model membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 937: 31-41.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The structural preferences of the pH-sensitive phospholipid, N-succinyldioleoylphosphatidylethanolamine (N-succinyl-DOPE), have been examined alone and in mixtures with DOPE by 31P-NMR, fluorescence energy transfer, and freeze-fracture techniques. The basic polymorphic behavior of pure N-succinyl-DOPE and DOPE/N-succinyl-DOPE lipid systems and the influence of calcium and pH were investigated. It is shown that, similar to other negatively charged acidic phospholipids, N-succinyl-DOPE adopts the bilayer organization upon hydration. This structure is maintained at both pH 7.4 and 4.0 in the presence or absence of calcium. In the mixed lipid system, N-succinyl-DOPE can stabilize the non-bilayer lipid, DOPE, into a bilayer structure at both pH 7.4 and 4.0 at more than 10 mol% N-succinyl-DOPE, although a narrow 31P-NMR lineshape is observed at acidic pH values. This corresponds to the presence of smaller vesicles as shown by quasi-elastic light scattering measurements. Addition of equimolar calcium (with respect to N-succinyl-DOPE) to the DOPE/N-succinyl-DOPE systems induces the hexagonal HII phase at both pH values. In unilamellar systems with similar lipid composition the addition of Ca2+ results in membrane fusion as indicated by fluorescence energy-transfer experiments. These findings are discussed with regard to the molecular mechanism of the bilayer to hexagonal HII phase transition and membrane fusion and the utility of N-succinyl-DOPE containing pH-sensitive vesicles as drug-delivery vehicles. Phosphatidylethanolamine/ Hexagonal HII phase/ Liposome/ Freeze-fracture/ Resonance energy transfer/ Model membrane

NCTCOG (1993). Storm Water Discharge Characterization Final Summary Report - Task 2.0. *N.Central Texas Counc.of Gov., Dresser and McKee Inc.and Alan Plummer and Assoc.Inc.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Ndikum-Moffor, F. M., Schoeb, T. R., and Roberts, S. M. \*. (1998). Liver toxicity from norcocaine nitroxide, an N-oxidative metabolite of cocaine. *Journal of Pharmacology and Experimental Therapeutics [J. PHARMACOL. EXP. THER.]. Vol. 284, no. 1, pp. 413-419. Jan 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
ISSN: 0022-3565  
Descriptors: Indexing in process  
Abstract: The oxidative metabolism of cocaine to norcocaine nitroxide has been postulated to be essential for cocaine hepatotoxicity. The hepatic effects of norcocaine nitroxide have never been evaluated in vivo, however. In this study mice were administered norcocaine nitroxide i.p., and hepatotoxicity was assessed using serum alanine aminotransferase activities and microscopic examination of liver tissue. Hepatotoxicity of norcocaine nitroxide was dose-related; significant injury was detectable at doses of 20 to 30 mg/kg i.p., and severe hepatocellular necrosis was observed at doses of 40 and 50 mg/kg. Elevated serum alanine aminotransferase activities peaked between 12 and 18 hr after norcocaine nitroxide treatment. Electron microscopy revealed the presence of pronounced changes in cell morphology as early as 30 min after the norcocaine nitroxide dose. Pretreatment of mice with phenobarbital had no effect on the magnitude of hepatic injury but shifted the intralobular site of necrosis from the midzonal to the periportal region. Pretreatment with diazinon, an esterase inhibitor, increased norcocaine nitroxide-induced liver damage, whereas each of the P450 inhibitors SKF 525A, cimetidine, troleandomycin, ketaconazole and chloramphenicol significantly diminished norcocaine nitroxide hepatotoxicity. The results indicate that norcocaine nitroxide is hepatotoxic and suggest the involvement of P450 enzymes.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24180 Social poisons & drug abuse  
Subfile: Toxicology Abstracts

Neicheva, A., Kovacheva, E., and Marudov, G. ( Determination of organophosphorus pesticides in apples and water by gas-liquid chromatography with electron-capture detection. 437: 249-53 CODEN: JOCRAM; ISSN: 0021-9673.  
Chem Codes: Chemical of Concern: CHLOR ,DMT Rejection Code: CHEM METHOD.  
  
Seven organophosphorus and 1 Cl-contg. pesticides were detd. in plant products (apples) and water by gas chromatog. The 3% OV-17 column was most suitable (at 220.degree.). An isothermal anal. at 200.degree. was suitable for diazinon, dimethoate, pyrimiphos Me, chloropyriphos, tetrachlorvinphos and at 220.degree. for fenarimol, phosalone, and pyrazophos. MeCN extn. of plant products in combination with salting out with 10% NaCl and subsequent reextn. with CHCl3 had higher accuracy than the extn. with CHCl3 only. The water samples were analyzed by CHCl3 extn. and subsequent gas chromatog.

NEIDERT, E. and SASCHENBRECKER PW (1996). Occurrence of pesticide residues in selected agricultural food commodities available in Canada. *JOURNAL OF AOAC INTERNATIONAL; 79* 549-566.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. During the 27-month period between January 1, 1992, and March 31, 1994, Agriculture and AgriFood Canada analyzed 21 982 samples of fruit and vegetable commodities for pesticide residues. A multiresidue method capable of detecting over 200 analytes was used. In 5784 domestic samples a total of 676 residue findings were made. Of these, 32 (0.55%) were in violation of Canadian maximum residue limits (MRLs). In 16 198 imported products, 464 of 3193 residue findings exceeded MRLs, corresponding to a violation rate of 2.86%. One-half of domestic violations resulted from commodity-pesticide combinations for which there are no Canadian approvals. Biochemistry/ Food Technology/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Nemeth-Konda, L., Fuleky, Gy., Morovjan, Gy., and Csokan, P. (2002). Sorption behaviour of acetochlor, atrazine, carbendazim, diazinon, imidacloprid and isoproturon on Hungarian agricultural soil. *Chemosphere* 48: 545-552.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Pesticide/ Soil/ Adsorption/ Desorption/ Partition coefficient/ Freundlich

Nichol, Alan W. and Angel, Lyndall A. (1984). A comparative study of porphyrin accumulation in tissue cultures of chicken embryo hepatocytes treated with organophosphorous pesticides. *Biochemical Pharmacology* 33: 2511-2515.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Thirty-two organophosphorous pesticides have been examined for their ability to cause porphyrin accumulation in cultures of chicken embryo hepatocytes. Greatest porphyrin accumulation is associated with compounds which have an aromatic leaving group and are phosphate or thionophosphate ethyl esters. Compounds of this type cause accumulation of uroporphyrin in the medium. Paroxon and diazoxon cause inhibition of uroporphyrinogen decarboxylase in the cells. The ability to cause accumulation of uroporphyrin in the medium does not correlate with the alkylating properties of the compound as measured by its rate of alkylation of 4-(p-nitrobenzyl)-pyridine.

NIEMCZYK HD and KRAUSE, A. (1989). DEGRADATION AND MOBILITY OF PESTICIDES APPLIED TO TURFGRASSES INSECTICIDES AND PREEMERGENT HERBICIDES. *198TH ACS (AMERICAN CHEMICAL SOCIETY) NATIONAL MEETING, MIAMI BEACH, FLORIDA, USA, SEPTEMBER 10-15, 1989. ABSTR PAP AM CHEM SOC; 198 (0). 1989. AGRO 130.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT ISOFENPHOS DIAZINON TRICHLORFON ETHOPROP CHLORPYRIFOS ISAZOFOS FONOFOS CARBARYL BENDIOCARB Congresses/ Biology/ Biochemistry/ Metabolism/ Soil Microbiology/ Grasses/Growth & Development/ Soil/ Plants/Growth & Development/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Microbiology/ Grasses

Nishihara, Tsutomu, Nishikawa, Junichi, Kanayama, Tomohiko, Dakeyama, Fumi, Saito, Koichi, Imagawa, Masayoshi, Takatori, Satoshi, Kitagawa, Yoko, Hori, Shinjiro, and Utsumi, Hideo (2000). Estrogenic activities of 517 chemicals by yeast two-hybrid assay. *Journal of Health Science* 46: 282-298.  
Chem Codes: Chemical of Concern: DDAC Rejection Code: NO SPECIES.  
  
One of the urgent tasks in understanding endocrine disruptors (EDs) is to compile a list of suspected substances among the huge no. of chems. by using the screening test method. We developed a simple and rapid screening method using the yeast two-hybrid system based on the ligand-dependent interaction of nuclear hormone receptors with coactivators. To date, we have tested the estrogenic activity of more than 500 chems. including natural substances, medicines, pesticides, and industrial chems. Sixty-four compds. were evaluated as pos., and most of these demonstrated a common structure; phenol with a hydrophobic moiety at the para-position without bulky groups at the ortho-position. These results are expected to facilitate further risk assessment of chems. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
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Section Code: 4-3  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Quaternary ammonium compounds Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (alkylbenzyldimethyl, chlorides; estrogenic activity of 517 chems. by yeast 2-hybrid assay); Endocrine system (disruptors; estrogenic activity of 517 chems. by yeast 2-hybrid assay); Drugs; Food additives; Pesticides; Risk assessment (estrogenic activity of 517 chems. by yeast 2-hybrid assay); Heterocyclic compounds; Inorganic compounds; Natural products; Phenols Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (estrogenic activity of 517 chems. by yeast 2-hybrid assay); Estrogens Role: BSU (Biological study, unclassified), BIOL (Biological study) (estrogenic activity of 517 chems. by yeast 2-hybrid assay); Structure-activity relationship (estrogenic; estrogenic activity of 517 chems. by yeast 2-hybrid assay); Chemicals (industrial; estrogenic activity of 517 chems. by yeast 2-hybrid assay)  
CAS Registry Numbers: 50-00-0 (Formaldehyde); 50-02-2 (Dexamethasone); 50-27-1 (Estriol); 50-28-2 (17b-Estradiol); 50-29-3; 50-32-8 (Benzo[a]pyrene); 51-67-2 (Tyramine); 51-79-6 (Ethylcarbamate); 53-16-7 (Estrone); 53-19-0; 53-70-3 (Dibenz[a,h]anthracene); 55-18-5 (N-Nitrosodiethylamine); 55-38-9 (Fenthion); 56-38-2 (Ethyl parathion); 56-40-6D (Glycine); 56-49-5 (3-Methylcholanthrene); 56-53-1; 56-55-3 (Benz[a]anthracene); 56-57-5 (4-Nitroquinoline-N-oxide); 57-63-6 (17a-Ethynylestradiol); 57-91-0 (17a-Estradiol); 58-22-0 (Testosterone); 58-27-5 (Menadione); 58-89-9 (g-Hexachlorocyclohexane); 59-50-7 (4-Chloro-3-methylphenol); 60-00-4 (EDTA); 60-18-4 (Tyrosine); 60-35-5 (Acetamide); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 60-82-2 (Phloretin); 61-82-5 (Amitrole); 62-53-3 (Aniline); 62-56-6 (Thiourea); 62-73-7 (Dichlorvos); 62-75-9 (N-Nitrosodimethylamine); 63-25-2 (Carbaryl); 64-67-5 (Diethyl sulfate); 65-85-0 (Benzoic acid); 68-12-2 (N,N-Dimethylformamide); 70-30-4 (Hexachlorophene); 70-55-3 (4-Toluenesulfonamide); 71-36-3 (1-Butanol); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 75-07-0 (Acetaldehyde); 75-25-2 (Bromoform); 75-27-4 (Bromodichloromethane); 76-44-8 (Heptachlor); 77-40-7 (2,2-Bis(4-hydroxy-phenyl)butane); 77-73-6 (Dicyclopentadiene); 78-51-3; 78-59-1 (Isophorone); 78-83-1 (2-Methyl-1-propanol); 79-06-1 (Acrylamide); 79-11-8 (Monochloroacetic acid); 79-94-7 (2,2-Bis(3,5-dibromo-4-hydroxyphenyl)propane); 79-95-8 (Tetrachlorobisphenol A); 79-97-0 (2,2-Bis(4-hydroxy-3-methylphenyl)propane); 80-05-7 (Bisphenol A); 80-09-1 (Bis(4-hydroxyphenyl)sulfone); 80-46-6 (4-tert-Pentylphenol); 80-62-6 (Methyl methacrylate); 82-68-8 (PCNB); 83-46-5 (b-Sitosterol); 84-61-7 (Dicyclohexyl phthalate); 84-66-2 (Diethyl phthalate); 84-69-5 (Di-iso-butyl phthalate); 84-74-2 (Dibutyl phthalate); 84-75-3 (Di-n-hexyl phthalate); 85-68-7 (Benzylbutyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 86-77-1 (2-Hydroxydibenzofuran); 87-61-6 (1,2,3-Trichlorobenzene); 87-68-3 (Hexachloro-1,3-butadiene); 87-86-5 (Pentachlorophenol); 88-04-0 (4-Chloro-3,5-xylenol); 88-18-6 (2-tert-Butylphenol); 88-73-3 (1-Chloro-2-nitrobenzene); 88-75-5 (2-Nitrophenol); 89-72-5 (2-sec-Butylphenol); 89-83-8 (Thymol); 90-12-0 (1-Methylnaphthalene); 90-30-2 (N-Phenyl-1-naphthylamine); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 92-52-4 (Biphenyl); 92-69-3 (4-Hydroxybiphenyl); 92-88-6 (4,4'-Dihydroxybiphenyl); 93-28-7 (Acetyleugenol); 93-72-1 (Fenoprop); 93-76-5 (2,4,5-Trichlorophenoxyacetic acid); 94-13-3 (n-Propyl 4-hydroxybenzoate); 94-26-8 (n-Butyl 4-hydroxybenzoate); 94-75-7 (2,4-D); 95-48-7 (2-Methylphenol); 95-50-1 (1,2-Dichlorobenzene); 95-53-4 (2-Aminotoluene); 95-63-6 (1,2,4-Trimethylbenzene); 95-77-2 (3,4-Dichlorophenol); 95-80-7 (2,4-Diaminotoluene); 95-82-9; 95-93-2 (1,2,4,5-Tetramethylbenzene); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (1,2-Epoxyethylbenzene); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-18-4 (1,2,3-Trichloropropane); 96-23-1 (1,3-Dichloro-2-propanol); 96-45-7 (2-Mercaptoimidazoline); 97-00-7 (1-Chloro-2,4-dinitrobenzene); 97-02-9 (2,4-Dinitroaniline); 97-53-0 (Eugenol); 97-54-1 (Isoeugenol); 97-90-5 (Ethyleneglycol dimethacrylate); 98-54-4 (4-tert-Butylphenol); 98-73-7 (4-tert-Butylbenzoic acid); 98-82-8 (Cumene); 98-83-9 (a-Methylstyrene); 98-95-3 (Nitrobenzene); 99-30-9 (Dicloran); 99-71-8 (4-sec-Butylphenol); 99-76-3 (Methyl 4-hydroxybenzoate); 99-93-4 (4-Hydroxyacetophenone); 99-96-7 (4-Hydroxybenzoic acid); 99-99-0 (4-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-21-0 (Terephthalic acid); 100-41-4 (Ethyl benzene); 100-42-5 (Styrene); 100-51-6 (Benzylalcohol); 100-52-7 (Benzaldehyde); 100-61-8 (N-Methylaniline); 100-63-0 (Phenylhydrazine); 101-21-3 (Chloropropham); 101-81-5 (Diphenylmethane); 101-83-7 (Dicyclohexylamine); 102-09-0 (Diphenyl carbonate); 102-71-6 (2,2',2''-Nitrilotriethanol); 103-17-3 (Chlorbenside); 103-23-1 (Di-2-ethylhexyl adipate); 103-30-0 (trans-Stilbene); 103-50-4 (Dibenzyl ether); 103-69-5 (N-Ethylaniline); 104-40-5 (4-n-Nonylphenol); 104-40-5D (4-Nonylphenol); 104-51-8 (n-Butylbenzene); 105-05-5 (1,4-Diethylbenzene); 105-99-7 (Dibutyl adipate); 106-41-2 (4-Bromophenol); 106-43-4 (4-Chlorotoluene); 106-44-5 (4-Methylphenol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (4-Chlorophenol); 106-89-8 (Epichlorohydrin); 106-93-4 (1,2-Dibromoethane); 107-21-1 (Ethylene glycol); 107-22-2 (Glyoxal); 108-46-3 (Resorcinol); 108-67-8 (1,3,5-Trimethylbenzene); 108-78-1 (Melamine); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexylamine); 108-93-0 (Cyclohexanol); 108-94-1 (Cyclohexanone); 108-95-2 (Phenol); 109-06-8 (2-Methylpyridine); 109-16-0 (Triethyleneglycol dimethacrylate); 110-80-5 (2-Ethoxyethanol); 110-91-8 (Morpholine); 111-30-8 (Glutaraldehyde); 111-44-4 (Bis(2-chloroethyl)ether); 111-46-6 (Diethylene glycol); 112-24-3 (Triethylenetetramine); 112-30-1 (n-Decyl alcohol); 112-57-2 (Tetraethylenepentamine); 112-70-9 (1-Tridecanol); 114-26-1 (Propoxur); 115-09-3 (Methylmercury chloride); 115-29-7 (Benzoepin); 115-32-2 (Kelthane); 115-90-2 (Fensulfothion); 115-96-8 (Tris(2-chloroethyl) phosphate); 116-06-3 (Aldicarb); 117-39-5 (Quercetin); 117-79-3 (2-Aminoanthraquinone); 117-81-7 (Di-2-ethylhexyl phthalate); 119-61-9 (Benzophenone); 119-93-7 (o-Tolidine); 120-12-7 (Anthracene); 120-47-8 (Ethyl 4-hydroxybenzoate); 120-80-9 (Catechol); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-44-8 (Triethylamine); 121-69-7 (N,N-Dimethylaniline); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 123-07-9 (4-Ethylphenol); 123-08-0 (4-Hydroxybenzaldehyde); 123-31-9 (Hydroquinone); 123-91-1 (1,4-Dioxane); 124-04-9 (Adipic acid); 124-48-1 (Chlorodibromomethane); 126-73-8 (Tributyl phosphate); 127-18-4 (Tetrachloroethylene); 128-37-0 (Butylated hydroxytoluene); 129-00-0 (Pyrene); 131-11-3 (Dimethyl phthalate); 131-16-8 (Di-n-propyl phthalate); 131-18-0 (Di-n-pentyl phthalate); 133-06-2 (Captan); 135-01-3 (1,2-Diethylbenzene); 135-88-6 (N-Phenyl-2-naphthylamine); 137-26-8 (Thiram); 137-30-4 (Ziram); 139-13-9 (Nitrilotriacetic acid); 139-40-2 (Propazin); 140-66-9 (4-tert-Octylphenol); 141-04-8 (Di-iso-butyl adipate); 141-28-6 (Diethyl adipate); 141-32-2; 141-43-5 (2-Aminoethanol); 143-08-8 (1-Nonanol); 148-79-8 (Thiabendazole); 149-30-4 (2-Mercaptobenzothiazole); 150-13-0 (4-Aminobenzoic acid); 150-13-0D (4-Aminobenzoic acid); 151-21-3 (Sodium lauryl sulfate); 151-50-8 (Potassium cyanide); 191-24-2 (Benzo[ghi]perylene); 192-97-2 (Benzo[e]pyrene); 205-99-2 (Benzo[b]fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 309-00-2 (Aldrin); 319-84-6 (a-Hexachlorocyclohexane); 319-85-7 (b-Hexachlorocyclohexane); 330-55-2 (Linuron); 333-41-5 (Diazinon); 446-72-0 (Genistein); 479-13-0 (Coumestrol); 480-41-1 (Naringenin); 486-66-8 (Daidzein); 491-80-5 (Biochanin A); 499-44-5 (Hinokitiol); 499-44-5D (Hinokitiol); 499-75-2 (Carvacrol); 501-30-4 (Kojic acid); 510-15-6 (Chlorobenzilate); 520-18-3 (Kaempferol); 520-36-5 (Apigenin); 521-18-6 (Dihydrotestosterone); 525-82-6 (Flavone); 526-73-8 (1,2,3-Trimethylbenzene); 528-29-0 (1,2-Dinitrobenzene); 529-59-9 (Genistin); 531-95-3 (Equol); 532-94-5 (Hippuric acid, sodium salt); 552-66-9 (Daidzin); 554-00-7 (2,4-Dichloroaniline); 554-84-7 (3-Nitrophenol); 555-37-3 (Neburon); 569-41-5 (1,8-Dimethylnaphthalene); 573-98-8 (1,2-Dimethylnaphthalene); 581-42-0 (2,6-Dimethylnaphthalene); 585-34-2 (3-tert-Butylphenol); 591-27-5 (3-Aminophenol); 605-45-8 (Di-iso-propyl phthalate); 607-57-8 (2-Nitrofluorene); 611-14-3 (2-Ethyltoluene); 611-99-4 (4,4'-Dihydroxybenzophenone); 613-13-8 (2-Aminoanthracene); 620-14-4 (3-Ethyltoluene); 620-92-8 (Bis(4-hydroxyphenyl)methane); 625-38-7 (Vinylacetic acid); 627-93-0 (Dimethyl adipate); 630-20-6 (1,1,1,2-Tetrachloroethane); 639-58-7 (Triphenyltin chloride); 645-49-8 (cis-Stilbene); 645-56-7 (4-n-Propylphenol); 709-98-8 (Propanil); 789-02-6; 868-77-9 (2-Hydroxyethyl methacrylate); 892-21-7 (3-Nitrofluoranthene); 901-44-0; 911-45-5 (Clomiphene); 950-37-8 (Methidathion); 959-98-8 (a-Benzoepin); 1014-70-6 (Simetryne); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Benzoepin sulfate); 1081-75-0 (1,3-Diphenylpropane); 1135-24-6 (Ferulic acid); 1162-65-8 (Aflatoxin B1); 1461-22-9 (Tributyltin chloride); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1638-22-8 (4-n-Butylphenol); 1675-54-3 (Bisphenol-A-diglycidyl ether); 1689-64-1 (9-Hydroxyfluorene); 1743-60-8 (b-Estradiol-17-acetate); 1806-26-4 (4-n-Octylphenol); 1806-29-7 (2,2'-Dihydroxybiphenyl); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1985-51-9 (Neopentylglycol dimethacrylate); 1987-50-4 (4-n-Heptylphenol); 2024-88-6 (Bisphenol-A-bischloroformate); 2104-64-5 (EPN); 2212-67-1 (Molinate); 2306-33-4; 2310-17-0 (Phosalone); 2315-61-9; 2315-64-2; 2358-84-1 (Diethyleneglycol dimethacrylate); 2425-10-7 (Xylylcarb); 2439-01-2 (Chinomethionat); 2443-58-5 (2-Hydroxy fluorene); 2446-69-7 (4-n-Hexylphenol); 2597-03-7 (Phenthoate); 3055-94-5; 3055-95-6 (3,6,9,12,15-Pentaoxaheptacosan-1-ol); 3055-99-0; 3228-02-2 (4-Iso-propyl-3-methylphenol); 3253-39-2 (Bisphenol-A-dimethacrylate); 3290-92-4 (Trimethylolpropane trimethacrylate); 3424-82-6; 3648-21-3 (Diheptyl phthalate); 3766-81-2 (BPMC); 4685-14-7 (Paraquat); 5315-79-7 (1-Hydroxy pyrene); 5522-43-0 (1-Nitropyrene); 5598-13-0 (Chlorpyrifos-methyl); 6938-94-9 (Di-iso-propyl adipate); 6954-27-4 ([1,1'-Biphenyl]-4,4'-dithiol); 7173-51-5 (Didecyldimethylammonium chloride); 7487-94-7 (Mercury(II) chloride); 7631-95-0 (Sodium molybdate); 7694-30-6 (cis-1,2-Diphenylcyclobutane); 7718-54-9 (Nickel(II) chloride); 7758-98-7 (Copper(II) sulfate); 7778-50-9 (Potassium dichromate); 7791-12-0 (Thallium(I) chloride); 8001-35-2 (Toxaphene); 8018-01-7 (Manzeb); 9002-92-0; 9002-93-1; 10025-91-9 (Antimony(III)chloride); 10039-54-0 (Hydroxylamine sulfate); 10043-35-3 (Boric acid); 10099-74-8 (Lead nitrate); 10108-64-2 (Cadmium chloride); 10373-78-1 (Camphorquinone); 10540-29-1 (Tamoxifen); 10605-21-7 (Carbendazim); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 13345-21-6 (3-Hydroxy benzo[a]pyrene); 13345-26-1 (8-Hydroxy benzo[a]pyrene); 13356-08-6 (Fenbutatin oxide); 13410-01-0 (Sodium selenate); 13464-37-4 (Sodium arsenite); 14938-35-3 (4-n-Pentylphenol); 14962-28-8 (4-Hydroxy-2',4',6'-trichlorobiphenyl); 15625-89-5 (Trimethylolpropane triacrylate); 15972-60-8 (Alachlor); 16358-57-9; 16606-47-6 (2,4-Diphenyl-1-butene); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17342-60-8 (1,3,5-Triphenylcyclohexane); 17573-21-6 (9-Hydroxybenzo[a]pyrene); 18472-51-0 (Chlorhexidine gluconate); 18854-01-8 (Isoxathion); 18964-53-9 (2,4,6-Triphenyl-1-hexene); 20071-09-4 (trans-1,2-Diphenylcyclobutane); 20427-84-3; 20464-36-2; 20636-48-0; 21087-64-9 (Metribuzin); 21554-71-2 (Dihydrogenistein); 21725-46-2 (Cyanazin); 22248-79-9; 23564-05-8 (Thiophanate-methyl); 23950-58-5 (Propyzamide); 24027-84-7 (5-Hydroxy benzo[a]pyrene); 24447-78-7; 25013-16-5 (Butylated hydroxyanisole); 25429-38-3 (Coumaric acid); 26027-38-3; 26087-47-8 (IBP); 26644-46-2 (Triforine); 26761-40-0 (Di-iso-decyl phthalate); 27355-22-2 (Tetrachlorophthalide); 27554-26-3 (Diisooctyl phthalate); 28034-99-3; 28249-77-6 (Thiobencarb); 28553-12-0 (Di-iso-nonyl-phthalate); 29232-93-7 (Pyrimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Benzoepin); 33953-73-0 (6-Hydroxy benzo[a]pyrene); 35367-38-5 (Diflubenzuron); 35860-86-7; 36734-19-7 (Iprodione); 37574-48-4 (4-Hydroxy benzo[a]pyrene); 37994-82-4 (7-Hydroxy benzo[a]pyrene); 40246-10-4 (Glycitin); 40487-42-1 (Pendimethalin); 40957-83-3 (Glycitein); 41394-05-2 (Metamitron); 42397-64-8 (1,6-Dinitropyrene); 42397-65-9 (1,8-Dinitropyrene); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 50883-25-5; 51218-49-6 (Pretilachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52806-53-8 (Hydroxy-flutamide); 55219-65-3 (Triadimenol); 56892-30-9 (2-Hydroxy benzo[a]pyrene); 56892-31-0 (10-Hydroxy benzo[a]pyrene); 56892-32-1 (11-Hydroxybenzo[a]pyrene); 56892-33-2 (12-Hydroxy benzo[a]pyrene); 57465-28-8 (PCB 126); 59865-13-3 (Cyclosporin A); 60827-30-7; 61432-55-1 (Dimepiperate); 62450-07-1 (Trp-P-2); 67098-25-3 (4-Amino butylbenzoate); 68047-06-3 (4-Hydroxy-tamoxifen); 68085-85-8 (Cyhalothrin); 68183-31-3 (4-MET); 68359-37-5 (Cyfluthrin); 68797-35-3 (Glycyrrhizic acid, dipotassium salt); 69409-94-5 (Fluvalinate); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 70293-55-9 (4-META); 72869-86-4 (Urethane dimethacrylate); 73250-68-7 (Mefenacet); 73518-07-7; 74423-73-7; 74712-19-9 (Bromobutide); 77500-04-0 (MeIQx); 79538-32-2 (Tefluthrin); 85785-20-2 (Esprocarb); 88066-32-4 (4-AETA); 88066-33-5 (4-AET); 89383-05-1 (Marthasteroside A1); 92631-72-6 (Coumestrin); 94105-88-1; 103124-63-6 (8-Hydroxy-2,3,4-trichlorodibenzofuran); 105650-23-5 (PhIP); 111755-37-4 (Microcystin RR); 112699-81-7; 112699-85-1; 112699-86-2; 112699-87-3; 112699-88-4; 119945-08-3 (Aplysiaterpenoid A); 125640-33-7 (Cucumechinoside D); 162281-37-0; 166892-31-5; 245084-57-5; 328896-40-8; 328896-41-9; 328896-42-0; 328896-43-1; 328896-44-2; 328896-45-3 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (estrogenic activity of 517 chems. by yeast 2-hybrid assay); 542-75-6 (1,3-Dichloropropene); 25340-17-4 (Diethylbenzene) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (mixt.; estrogenic activity of 517 chems. by yeast 2-hybrid assay) estrogenic/ activity/ chem/ substance/ risk/ assessment;/ endocrine/ disruptor/ risk/ assessment/ yeast/ assay

Nishiuchi, Y. (1977). Toxicity of Formulated Pesticides to Some Fresh Water Organisms. XXXXI. *The Aquiculture (Suisan Zoshoku)* 24: 146-150 (JPN).

EcoReference No.: 7591  
Chemical of Concern: Captan,DZ,TBC,NaPCP; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Nishiuchi, Y. (1985). Toxicity of Pesticides to Some Aquatic Animals. VII. Acute Toxicity to Daphnia magna. *Aquat.Ecol.Chem.(Seitai Kagaku)/ C.A.Sel.-Environ.Pollut.10:104-163325Q (1986)* 8: 15-20 (JPN).  
Chem Codes: EcoReference No.: 9966  
Chemical of Concern: CPY,SPS,DZ,PYN,FNV,PMR,DPDP,OTQ,Captan,THM,TPM,FTL,Maneb,CuOX,AMTR,SXD,PMT,PDM,SZ,WFN,NaFA,ZnP,ACM,EPH,DKGNa,NAD,PPB,CTK,MH,MFD,CPA,24DXY,BNOA,APB,MCRE,MAL,MEG,TTDA Rejection Code: NON-ENGLISH.

Nishiuchi, Y. (1985). Toxicity of Pesticides to Some Aquatic Animals. VII. Acute Toxicity to Daphnia magna. *Aquat.Ecol.Chem.(Seitai Kagaku)/ C.A.Sel.-Environ.Pollut.10:104-163325Q (1986)* 8: 15-20 (JPN).  
Chem Codes: Chemical of Concern: CPY,SPS,DZ,PYN,FNV,PMR,DPDP,OTQ,Captan,THM,TPM,FTL,Maneb,CuOX,AMTR,SXD,PMT,PDM,SZ,WFN,NaFA,ZnP,ACM,EPH,DKGNa,NAD,PPB,CTK,MH,MFD,CPA,24DXY,BNOA,APB,MCRE,MAL,MEG,TTDA Rejection Code: NON-ENGLISH.

Nishiuchi, Y. (1985). Toxicity of Pesticides to Some Aquatic Animals. VII. Acute Toxicity to Daphnia magna. *Aquat.Ecol.Chem.(Seitai Kagaku)/ C.A.Sel.-Environ.Pollut.10:104-163325Q (1986)* 8: 15-20 (JPN) (ENG ABS).  
Chem Codes: EcoReference No.: 83844  
Chemical of Concern: CPY,SPS,DZ,PYN,FNV,PMR,DPDP,OTQ,Captan,THM,TPM,FTL,Maneb,CuOX,AMTR,SXD,PMT,PDM,SZ,WFN,NaFA,ZnP,ACM,EPH,DKGNa,NAD,PPB,CTK,MH,MFD,CPA,24DXY,BNOA,APB,MCRE,MAL,MEG,TTDA Rejection Code: NON-ENGLISH.

Nishiuchi, Y. (1972). Toxicity of Pesticides to Some Water Organisms. *Bull.Agric.Chem.Insp.Stn.(Noyaku Kensasho Hokoku)* 12: 122-128 (JPN) (ENG TRANSL).

EcoReference No.: 10258  
Chemical of Concern: 3CE,AC,AMTL,AMTR,AND,As,ATZ,BMC,BS,Captan,CBL,CPA,CPY,CTN,Cu,DBN,DCPA,DDT,DDVP,DLD,DMB,DMT,DPA,DSMA,DU,DZ,EDB,EDC,EN,EPTC,ES,ETN,Fe,FLAC,FML,FNT,FNTH,HCCH,Hg,HPT,LNR,MCAP,MCPB,MCPP1,MDT,MLN,MOM,MP,MTAS,NALED,Ni,NTCN,OPHP,Pb,PCB,PCP,PCZ,PEB,PHMD,PHSL,PHTH,PMT,PNB,PPX,PPZ,PRN,PSM,PYN,SFL,SID,STREP,SZ,TBC,TFN,THM,TPE,TPH,TPM,TRN,Zn; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Nishiuchi, Y. and Asano, K. (1981). Comparison of Pesticide Susceptibility of Colored Carp with Japanese Common Carp. *Bull.Agric.Chem.Insp.Stn.(Noyaku Kensasho Hokoku)* 21: 61-63 (JPN) (ENG ABS).

EcoReference No.: 15570  
Chemical of Concern: CBL,DZ,MLN,PSM,NaPCP,ETN,FNT; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Nishiuchi, Y. and Asano, K. (1979). Toxicity of Agricultural Chemicals to Some Freshwater Organisms - 59. *The Aquiculture (Suisan Zoshoku)* 27: 48-55 (JPN) (ENG TRANSL).

EcoReference No.: 6954  
Chemical of Concern: ACP,ACR,ATZ,BMC,BT,Captan,CPY,CTN,Cu,CuOH,CuS,DMT,DU,DZ,Folpet,HCCH,LNR,MAL,MDT,MLN,MOM,PCP,PEB,PHMD,PMT,PNB,PPG,PQT,PSM,TBC,TFN,RTN,CuCl,PPZ,Zn,Ni,As,DCB; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Nishiuchi, Y. and Asano, K. (1978). Toxicity of Formulated Agrochemicals to Fresh Water Organisms. LII. *The Aquiculture /Suisan Zoshoku 26(1):26-30 (JPN)*.

EcoReference No.: 7119  
Chemical of Concern: CBL,DZ,MLN; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Nishiuchi, Y. and Hashimoto, Y. (1967). Toxicity of Pesticide Ingredients to Some Fresh Water Organisms. *Sci.Pest Control (Botyu-Kagaku)* 32: 5-11 (JPN) (ENG ABS) (Author Communication Used).

EcoReference No.: 15192  
Chemical of Concern: ATZ,Captan,CBL,CTN,DBN,DMB,DMT,DU,DZ,HCCH,LNR,MLN,MP,PMT,PSM,SZ,24DXY,MCPB,NaPCP,PPZ,ZIRAM,PRN,MP,MLN,ETN,DDT,DLD,MCPA,Zn; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Nishiuchi, Y. and Yoshida, K. (1972). Toxicities of Pesticides to Some Fresh Water Snails. *Bull.Agric.Chem.Insp.Stn.* 12: 86-92 (JPN) (ENG ABS) (ENG TRANSL) (Author Communication Used).

EcoReference No.: 9158  
Chemical of Concern: AMTR,AND,CBL,CTN,CuOH,CuS,CZE,DCF,DDT,DDVP,DEM,DINO,DMT,DOD,DZ,EN,ES,ETN,FNT,Folpet,HCCH,MDT,MOM,MP,NPH,PAQT,PCP,PEB,PHMD,PHSL,PPN,PRN,PYN,RTN,TBC,TCF,TDE,TFN,Zineb,Ziram,Zn; Habitat: A; Effect Codes: PHY,GRO; Rejection Code: NO FOREIGN,CONTROL(ALL CHEMS).

Nishiyama, Kozaburo, Oba, Makoto, and Watanabe, Akio (1987). Reactions of trimethylsilyl azide with aldehydes: facile and convenient syntheses of diazides, tetrazoles, and nitriles. *Tetrahedron* 43: 693-700.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The reactions of trimethylsilyl azide (TMSA) with various aldehydes were found to be versatile procedures for the synthesis of gem- and 1,3-diazides, tetrazoles, and nitriles, whose formation was varied by controlling the quantities of TMSA, catalyst, and the reaction conditions.

Nishizawa, T. (1999). Major Plant-Parasitic Nematodes and Their Control in Japany. *Agrochem.Jpn.* 74: 2-9.  
Chem Codes: EcoReference No.: 77649  
Chemical of Concern: CLP,CBF,DZ Rejection Code: REVIEW.

Noblet, J. A., Smith, L. A., and Suffet, I. H. (1994). Site-Specific Abiotic Hydrolysis And Sediment-Water Partitioning Of Pesticides In Agricultural Drainage Water Vs. Laboratory Water. 207: Envr 215.  
Chem Codes: Chemical of Concern: SZ, CHLOR Rejection Code: CHEM METHOD.  
  
biosis copyright: biol abs. rrm meeting abstract meeting poster diazinon methyl parathion chlorpyrifos atrazine simazine pollution analytical method general biology-symposia, transactions and proceedings of conferences, congresses, revie/ methods, materials and apparatus, general-laboratory methods/ ecology/ environmental biology-general/ methods/ ecology/ environmental biology-limnology/ biochemistry-physiological water studies (1970- )/ biochemical methods-general/ biochemical studies-general/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides

Noblet, J. A., Smith, L. A., and Suffet, I. M. (1996). Influence of natural dissolved organic matter, temperature, and mixing on the abiotic hydrolysis of triazine and organophosphate pesticides. *Journal of Agricultural and Food Chemistry* 44 : 3685-3693.  
Chem Codes: Chemical of Concern: SZ Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Abiotic hydrolysis of simazine, atrazine, diazinon, methylparathion, and chlorpyrifos was studied in three different natural waters and buffered Milli-Q water. The triazines showed no detectable decrease in concentration in any of the waters over 43 days at pH 8.0 and 40ê C. The rates of hydrolysis for diazinon and methylparathion were statistically similar in all waters tested. Chlorpyrifos exhibited a 32% decrease in hydrolysis rate in the presence of a high concentration of dissolved organic matter (DOM) (34.5 mg dissolved organic carbon). The activation energies are larger, and thus the predicted hydrolysis rates are significantly slower than those previously reported. The effect of continuous vigorous mixing on hydrolysis rates was investigated and found to have only a minor effect. The results suggest that uncatalyzed abiotic hydrolysis is very slow for these compounds at the temperatures and pH's typical of most natural waters and affirm the need for a greater  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: External Effects-Temperature as a Primary Variable (1971- )  
KEYWORDS: Pest Control

NOBLET JA, SMITH LA, and SUFFET IM (1996). Influence of natural dissolved organic matter, temperature, and mixing on the abiotic hydrolysis of triazine and organophosphate pesticides. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY; 44* 3685-3693.  
Chem Codes : Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Abiotic hydrolysis of simazine, atrazine, diazinon, methylparathion, and chlorpyrifos was studied in three different natural waters and buffered Milli-Q water. The triazines showed no detectable decrease in concentration in any of the waters over 43 days at pH 8.0 and 40ę C. The rates of hydrolysis for diazinon and methylparathion were statistically similar in all waters tested. Chlorpyrifos exhibited a 32% decrease in hydrolysis rate in the presence of a high concentration of dissolved organic matter (DOM) (34.5 mg dissolved organic carbon). The activation energies are larger, and thus the predicted hydrolysis rates are significantly slower than those previously reported. The effect of continuous vigorous mixing on hydrolysis rates was investigated and found to have only a minor effect. The results suggest that uncatalyzed abiotic hydrolysis is very slow for these compounds at the temperatures and pH's typical of most natural waters and affirm the need for a greater Biochemistry/ Temperature/ Herbicides/ Pest Control/ Pesticides

Noguchi, Ari, Furuno, Tadahide, Kawaura, Chiyo, and Nakanishi, Mamoru (1998). Membrane fusion plays an important role in gene transfection mediated by cationic liposomes. *FEBS Letters* 433: 169-173.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
By confocal laser scanning microscopy (CLSM) we have studied the membrane fusion between cationic liposomes and the endosome membranes involved in gene transfection mediated by cationic liposomes. Antisense oligonucleotides were transferred by cationic liposomes with a cationic cholesterol derivative, cholesteryl-3[beta]-carboxyamidoethylenedimethylamine (I). Cationic liposomes were made by a mixture of the derivative I and DOPE. The intracellular distribution of fluorescein-conjugated antisense oligonucleotides (phosphorothioate) was studied by CLSM. The images showed that the antisense oligonucleotides were preferentially transferred into the nucleus of target cells (NIH3T3, COS-7 and HeLa cells) by the liposomes with derivative I. However, their transfection was completely blocked by nigericin which was able to dissipate the pH gradient across the endosome membranes, although the liposome/DNA complex was found in the cytoplasm of the target cells. This was quite in contrast with the fluorescence images of the target cells treated with wortmannin, an inhibitor of endocytosis. The results suggest that at least two steps are effective for gene transfection mediated by the cationic liposomes with cationic cholesterol derivatives. One is the endocytosis of the liposome/DNA complex into the target cells and the other is the removal of antisense oligonucleotides (plasmid DNAs) from the complex in the endosomes. The latter step was preferentially preceded by the membrane fusion between the cationic liposomes and the endosome membranes at around pH 5.0. Gene transfection/ Cationic liposome/ Membrane fusion/ Antisense oligonucleotide/ Confocal laser scanning microscopy/ Fluorescence resonance energy transfer/ Nigericin

Nohara, S., Hanazato, T., and Iwakuma, T. (1997). Pesticide residue flux from rainwater into Lake Nakanuma in the rainy season. *Japanese Journal of Limnology* 58 : 385-393.  
Chem Codes: MLT Rejection Code: NO TOX DATA.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Pesticide residues in rainwater were investigated for the estimation of pesticide flux into a lake in Ibaraki Prefecture during the 1990 rainy season. The maximum concentration of oxiadiazon in the rainwater was 4.2mug l-1. The maximum concentrations of fenobucarb, fenitrothion and edifenphos in the rainwater were 0.58, 0.53 and 0.36mug l-1, respectively. The annual ratio of fenitrothion redeposition by rainfall was estimated at 1.5% of the total shipping amount in Ibaraki Prefecture. There was no significant difference between redepositions of pesticides by rainfall and shipping amounts in the prefecture (a = 0.05). Pesticide residues in lake water were investigated in Lake Nakanuma, Ibaraki Prefecture, from March to December 1990. The concentrations of molinate, simetryn, iprobenfos, and thiobencarb in irrigation canal water were in the high range ( > 1.2mug l-1). The concentrations of diazinon, malathion, and fenthion in the water were at a lower level ( < 0.2mug  
KEYWORDS: Ecology  
KEYWORDS: Public Health: Environmental Health-Air

NOHARA, S., HANAZATO, T., and IWAKUMA, T. (1997). Pesticide residue flux from rainwater into Lake Nakanuma in the rainy season. *JAPANESE JOURNAL OF LIMNOLOGY; 58* 385-393.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Pesticide residues in rainwater were investigated for the estimation of pesticide flux into a lake in Ibaraki Prefecture during the 1990 rainy season. The maximum concentration of oxiadiazon in the rainwater was 4.2mug l-1. The maximum concentrations of fenobucarb, fenitrothion and edifenphos in the rainwater were 0.58, 0.53 and 0.36mug l-1, respectively. The annual ratio of fenitrothion redeposition by rainfall was estimated at 1.5% of the total shipping amount in Ibaraki Prefecture. There was no significant difference between redepositions of pesticides by rainfall and shipping amounts in the prefecture (a = 0.05). Pesticide residues in lake water were investigated in Lake Nakanuma, Ibaraki Prefecture, from March to December 1990. The concentrations of molinate, simetryn, iprobenfos, and thiobencarb in irrigation canal water were in the high range ( > 1.2mug l-1). The concentrations of diazinon, malathion, and fenthion in the water were at a lower level ( < 0.2mug Ecology/ Air Pollution/ Soil Pollutants/ Water Pollution

Nohara, Seiichi and Iwakuma, Toshio (1996). Pesticide residues in water and an aquatic plant, Nelumbo nucifera, in a river mouth at Lake Kasumigaura, Japan. *Chemosphere* 33: 1409-1416.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY, MIXTURE.  
  
Pesticide residues in water and an aquatic plant, Nelumbo nucifera, were investigated near a river mouth in Edosakiiri Bay, Lake Kasumigaura, from April to December, 1986. The maximum concentrations of fenobucarb, diazinon, iprobenfos and simetryn in the water were 1.6, 1.1, 24, and 2.4 [mu]g 1-1, respectively. We detected simetryn with peak width at half height for one month, and diazinon with that for two months. The seasonal changes in simetryn concentration in N. nucifera were similar to those in the water. The simetryn residue concentration was highest in the lamina (300 [mu]g kg-1) among the various plant organs. The residue and bioconcentration factor 6.0 in June for simetryn were lower than the reported values for aquatic plants.

Nohara, Seiichi and Iwakuma, Toshio (1996). Residual pesticides and their toxicity to freshwater shrimp in the littoral and pelagic zones of Lake Kasumigaura, Japan. *Chemosphere* 33: 1417-1424.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Pesticide residues in water and their toxicity to the freshwater shrimp (Paratya compressa improvisa) were studied in a river mouth in Takahamairi Bay, Lake Kasumigaura, from April to July in 1987. Concentrations of fenthion, diazinon and fenobucarb in water of the littoral zone were lower than that in the pelagic zone. The maximum concentrations of fenthion, diazinon, iprobenfos and simetryn in water were 1.9, 0.8, 6.5, and 1.1 [mu]g 1-1, respectively. The 4-day mortality of the freshwater shrimp increased in lake water at Takahamairi Bay, reaching 50% at maximum in May. The mortality was probably due to residual insectside fenthion.

Nomeir, Amin A., Hajjar, Nicolas P., Hodgson, Ernest, and Dauterman, Walter C. (1980). In vitro metabolism of EPN and EPNO in susceptible and resistant strains of house flies. *Pesticide Biochemistry and Physiology* 13: 112-120.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
EPN is twice as toxic as EPNO to house flies from both the Diazinon-resistant strain and the susceptible strain. EPN and EPNO are also eight times more toxic to the susceptible than the resistant strain. This is due to the ability of the resistant strain to metabolize these compounds to a greater extent. Metabolism by the glutathione S-transferases present in the 100,000g supernatant is more extensive than that by the NADPH-dependent microsomal mixed-function oxidases. The glutathione S-transferases are the major route of metabolism for EPN and appear to be the principal mechanism conferring resistance. EPN was metabolized by the microsomal fraction via oxidative desulfuration to the oxygen analog, EPNO, and by oxidative dearylation to p-nitrophenol. EPNO was metabolized by the same system to p-nitrophenol and desethyl EPNO as well as to an unknown metabolite. The soluble fraction metabolized EPN to p-nitrophenol, S-(p-nitrophenyl)glutathione, O-ethyl phenylphosphonothioic acid, and S-(O-ethyl phenylphosphonothionyl)glutathione. The identification of the latter conjugate demonstrates a new type of metabolite of organophosphorus compounds. EPNO was metabolized by the soluble fraction to p-nitrophenol and S-(p-nitrophenyl)glutathione.

Norberg-King, T., Lukasewcyz, M., and Jenson, J. (1989). Results of Diazinon Levels in POTW Effluents in the United States. *Tech.Rep.14-89, National Effluent Toxicity Assessment Center, Sept.1989, U.S.EPA, Duluth, MN* 19 p.  
Chem Codes: EcoReference No.: 45851  
Chemical of Concern: DZ Rejection Code: EFFLUENT.

Norgaard, Marida J. and Montgomery, M. W. (1968). Some esterases of the PEA (Pisum sativum L.). *Biochimica et Biophysica Acta (BBA) - Enzymology* 151: 587-596.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
1. 1.Water-extractable estarases of the pea (Pisum sativum L.) have a pH optimum of 7. Acetyl, propionyl and n-butyryl esters of phenol, sodium 2-naphthol-6- sulfonate and glycerol were hydrolyzed by an aqueous extract of the pea. Hexyl, octyl, decyl and hexadecyl esters of sodium 2-naphthol-6-sulfonate, triolein, and acetyl- propionyl- and n-butyrylcholine were not hydrolyzed or hydrolyzed slowly, which suggests the absence of lipases and cholinesterases.2. 2.Pea esterases showed the greatest activity toward the phenyl and propionyl esters.3. 3.Selective inhibition of the pea esterases by diethyl p-nitrophenyl thiophosphate (parathion), tetraethyl pyrophosphate and DFP, at concentrations ranging from 10-1 M, revealed the presence of at least 6 esterases in an aqueous extract of peas. 5 of these esterases were classified as carboxylesterases (carboxylicester hyrolase, EC 3.1.1.1).

Norland, R. L., Mulla, M. S., Pelsue, F. W., and Ikeshoji, T. (1974). Conventional and New Insecticides for the Control of Chironomid Midges. *Proc.Ann.Conf.Calif.Mosq.Control Assoc.* 42: 181-183.

EcoReference No.: 5817  
Chemical of Concern: AZM,HCCH,DZ,MLN,EIN,AZ,MOM,BRSM,RSM; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(MOM),NO CONTROL(DZ,BRSM,RSM).

Norman, Brenda J., Vaughn, William K., and Neal, Robert A. (1973). Studies of the mechanisms of metabolism of diethyl p-nitrophenyl phosphorothionate (parathion) by rabbit liver microsomes. *Biochemical Pharmacology* 22: 1091-1101.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Based on the protein content of microsomes, the administration of 3-methylcholanthrene (3-MC) and phenobarbital (PB) to adult rabbits leads to an increased rate of metabolism of parathion (diethyl 4-nitrophenyl phosphorothionate) by rough-surfaced and whole microsomes but not by smooth-surfaced microsomes. Although prior administration of both PB and 3-MC increased the cytochrome P-450 content of the microsomes, when the rate of metabolism of parathion was calculated on the basis of the concentration of cytochrome P-450 in these microsomes, there is no difference in the rate of metabolism of parathion by rough-surfaced and smooth-surfaced microsomes from the untreated, 3-MC-treated and PB-treated animals. However, based on the cytochrome P-450 concentration, the rate of metabolism of parathion by whole microsomes from 3-MC and PB-treated animals is less than the rate with whole microsomes from untreated animals. Further studies have shown there is no correlation between the concentration of high spin or low spin cytochrome P-450 in any of the microsomal fractions or subfractions and the rate of metabolism of parathion to paraoxon or diethyl phosphorothionate.

O'Brien, R. D. (1963). Organophosphates and Carbamates. *In: R.M.Hochster and J.H.Quastel (Eds.), Metabolic Inhibitors: A Comprehensive Treatise, Volume II, Acad.Press Inc., New York, NY* 205-241.  
Chem Codes: EcoReference No.: 73081  
Chemical of Concern: DZ,PRN,DMT,MLN Rejection Code: REVIEW.

O'Brien, R. D., Hetnarski, B., Tripathi, R. K., and Hart, G. J. (1974). Recent Studies on Acetylcholinesterase Inhibition. *In: G.K.Kohn (Ed.), ACS Symp.Ser.No.2, Mechanism of Pesticide Action, Am.Chem.Soc., Washington, D.C.* 1-13.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.

O'Kelley, J. C. and Deason, T. R. (1976). Degradation of Pesticides by Algae. *EPA-600/3-76-022, U.S.EPA, Athens, GA* 41 p.(U.S.NTIS PB-251933) (Publ As 7429 and 7442).  
Chem Codes: EcoReference No.: 7876  
Chemical of Concern: ATZ,DZ Rejection Code: FATE.

O'Neill, D. K. and Hebden, S. P (1966). Sheep dips. I. Mixtures of lime S and organic phosphorus compounds. *Australian Vet. J. 42* 207-13.  
Chem Codes: Chemical of Concern: CaPS Rejection Code: FATE.  
  
Stability and effectiveness over 11 days of dipping fluids contg. lime S and an org. P compd. were studied in use and in vitro. Lime S (initial concn. 1% polysulfide S) remained virtually unchanged. Coumaphos (0.024%), diazinon (I) (0.011%), and fenchlorphos (0.022%) were largely hydrolyzed by the alk. soln. (pH 10.4-11.4), but carbophenothion (\"trithion,\" 0.024%) was relatively stable. I was lethal to lice, Damalinia ovis, at 5 ppm., the others at between 5 and 50 ppm., and the residual solns. after 11 days still contained lethal concns. of all compds. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 1966:468576  
Chemical Abstracts Number: CAN 65:68576  
Section Code: 72  
Section Title: Pesticides  
Document Type: Journal  
Language: written in English.

Oehlke, Johannes, Beyermann, Michael, Wiesner, Burkhard, Melzig, Mathias, Berger, Hartmut, Krause, Eberhard, and Bienert, Michael (1997). Evidence for extensive and non-specific translocation of oligopeptides across plasma membranes of mammalian cells. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1330: 50-60.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
After exposure of bovine aortic endothelial cells to various small peptides (tetra- to undeca-mer), extensive transport of the peptides across the plasma membrane was observed in the concentration range 10-7 to 10-2 M. The observed transport events, which contradict the generally anticipated poor permeability of peptides across plasma membranes, exhibited high complexity and showed no saturability up to a concentration of 10-2 M. Evidence was found for the involvement of mdrp-like transporters as well as of energy-independent facilitated diffusion events. The peptide levels within the cells approximated those of the incubation solution within 30 min, indicating high capacity and velocity for the involved transport processes. Correspondingly, preloaded cells exported about 80% of the internalized peptide within 5 min at 37[deg]C. Analogous results were found after peptide exposure to several other mammalian cell types, indicating a more general importance of the transport phenomena described here. Our findings contradict the prevailing opinion that the often observed lack of activity of externally administered peptides against their targets within intact cells is accounted for primarily by poor cellular uptake and point to export processes counteracting the uptake to be more important in this context. Peptide transport/ Cellular uptake/ Mammalian cell

Ogutcu, Ayse, Uzunhisarcikli, Meltem, Kalender, Suna, Durak, Dilek, Bayrakdar, Fatma, and Kalender, Yusuf ( The effects of organophosphate insecticide diazinon on malondialdehyde levels and myocardial cells in rat heart tissue and protective role of vitamin E. *Pesticide Biochemistry and Physiology* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SOURCE.  
  
Diazinon is an organophosphate insecticide has been used in agriculture and domestic for several years. Vitamin E (200 mg/kg, twice a week), diazinon (10 mg/kg, per day), and vitamin E (200 mg/kg, twice a week)+diazinon (10 mg/kg, per day) combination was given to rats orally via gavage for 7 weeks. Body and heart weights, malondialdehyde (MDA) level in heart tissue and ultrastructural changes in myocardial cells were investigated at the end of the 1st, 4th, and 7th weeks comparatively with control group. When diazinon-treated group was compared to control group body and heart weights were decreased significantly at the end of the 4th and 7th weeks. It was observed that, at the end of 1st, 4th, and 7th weeks there was a statistically significant increase in MDA levels when diazinon- and vitamin E +diazinon-treated groups were compared to control group. While at the end of the 1st week statistically significant changes were not being observed, at the end of 4th and 7th weeks statistically significant decrease was detected in MDA levels when vitamin E+diazinon-treated group was compared to diazinon-treated group. In our electron microscopic investigations, while vacuolization and swelling of mitochondria myocardial cells of diazinon-treated rats were being observed, swelling of several mitochondria were observed in vitamin E+diazinon-treated rats. We conclude that vitamin E reduces diazinon cardiotoxicity, but vitamin E does not protect completely. Organophosphate insecticides/ Diazinon/ Vitamin E/ Cardiotoxicity/ Malondialdehyde/ Electron microscopy

Oh, Ki-Bong and Matsuoka, Hideaki (2002). Rapid viability assessment of yeast cells using vital staining with 2-NBDG, a fluorescent derivative of glucose. *International Journal of Food Microbiology* 76: 47-53.  
Chem Codes: Chemical of Concern: DZ Rejection Code: YEAST.  
  
A fluorescent glucose analogue, 2-[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) amino]-2-deoxy--glucose (2-NBDG), which had been developed previously for the analysis of glucose uptake activity by living cells, was investigated to evaluate its applicability for assaying the viability of yeasts. Fluorescence intensities of the yeast population were measured by fluorescence spectrophotometry upon exposure to antifungal agents after staining with 2-NBDG and were compared to the number of colony forming units (CFU). A good correlation was obtained between the yeast viability, determined by the CFU, and the accumulation of 2-NBDG by yeast cells (correlation constant: r=0.98). Susceptibility testing of amphotericin B and miconazole against yeast strains by plate count and 2-NBDG fluorescence method yielded corresponding results. In conclusion, we found that staining with 2-NBDG is a rapid and sensitive method for the assessment of yeast cell viability. Glucose fluorescent derivative/ Yeast/ Viability/ Rapid methods

Ohashi, N., Tsuchiya, Y., Sasano, H., and Hamada, A. (1994). Ozonation products of organophosphorous pesticides in water. *Japanese Journal of Toxicology and Environmental Health [JAP. J. TOXICOL. ENVIRON. HEALTH]. Vol. 40, no. 2, pp. 185-192. 1994.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0013-273X  
Descriptors: degradation  
Descriptors: water  
Descriptors: ozonation  
Descriptors: products  
Descriptors: drinking water  
Descriptors: pesticides  
Descriptors: byproducts  
Descriptors: biodegradation  
Descriptors: water analysis  
Descriptors: organophosphorus compounds  
Abstract: Primary degradation products of organophosphorous pesticides by ozonation in water and oxidation pathways of diazinon, fenthion (MPP) and edifenphos (EDDP) were studied by gas chromatography-mass spectrometry. Mass-spectra of ozonation products of the 17 organophosphorous pesticides evaluated suggested that they were oxons. Organophosphorous pesticides were converted to oxons in accordance with production of sulfate ion as their thiophosphorile bonds were oxidized by ozone into phosphorile bonds. Although oxons were stable against ozonation, they were further hydrolyzed into trialkyl phosphate and other hydrolysis products. However, in MPP, thiomethyl radicals were oxidized prior the thiophosphorile bonds and MPP-sulfoxide was produced. MPP-sulfone, MPP-sulfoxide-oxon and MPP-sulfone-oxon were also generated from MPP.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3010 Identification of pollutants  
Classification: X 24120 Food, additives & contaminants  
Subfile: Water Resources Abstracts; Pollution Abstracts; Toxicology Abstracts

Ohayo-Mitoko, G. J. A. and Deneer, J. W. (1993). Lethal Body Burdens of Four Organophorus Pesticides in the Guppy (Poecilia reticulata). *Sci.Total Environ.(Suppl.)* 559-565.

EcoReference No.: 4349  
Chemical of Concern: CPY,DZ,AZ,PRN; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(ALL CHEMS).

Okpodu, Camellia Moses (1999). Characterization of a nuclear phosphatidylinositol 4-kinase in carrot suspension culture cells. *Plant Physiology and Biochemistry* 37: 473-480.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
CDTA, trans-1,2-diaminocyclohexane-N,N,N&prime/ ,N&prime/ -tetraacetic acid hydrate/ LPI, lysophosphatidylinositol/ LPIP, lysophosphatidylinositol monophosphate/ NBD-PA, (1-acyl-2-N-4-nitrobenzo-2-oxa-1,3-diazol)-aminocaproyl phosphatidic acid/ NBD-PC, (1-acyl-2-N-4-nitrobenzo-2-oxa-1,3-diazol)-aminocaproyl phosphatidylcholine/ PA, phosphatidic acid/ PI, phosphatidylinositol/ PIP, phosphatidylinositol 4-monophosphate/ PIP2, phosphatidylinositol 4,5-bisphosphate/ PLA2, phospholipase A2/ PolyPI, polyphosphoinositides/ PS, phosphatidylserine

OKUMURA, D., MELNICOE, R., JACKSON, T., DREFS, C., MADDY, K., and WELLS, J. (1991). PESTICIDE RESIDUES IN FOOD CROPS ANALYZED BY THE CALIFORNIA USA DEPARTMENT OF FOOD AND AGRICULTURE IN 1989. *WARE, G. W. (ED.). REVIEWS OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY, VOL. 118. IX+158P. SPRINGER-VERLAG NEW YORK INC.: NEW YORK, NEW YORK, USA; BERLIN, GERMANY. ILLUS. ISBN 0-387-97447-4; ISBN 3-540-97447-4.; 0 (0). 1991. 87-152.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW ENVIRONMENTAL CONTAMINATION TOXICOLOGY Legislation/ Organization and Administration/ Biology/ Biochemistry/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants

Olson, D. L. and Christensen, G. M. (1980). Effects of Water Pollutants on Other Chemicals on Fish Acetylcholinesterase (in vitro). *Environ.Res.* 21: 327-335.  
Chem Codes: EcoReference No.: 52835  
Chemical of Concern: As,Se,DZ Rejection Code: IN VITRO.

Omann G. M., Harter J. M., Burger J. M., and Hinshaw D. B. (1994). H2O2-Induced Increases in Cellular F-Actin Occur without Increases in Actin Nucleation Activity. *Archives of Biochemistry and Biophysics* 308: 407-412.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Previous work has shown that H2O2 causes an increase in polymerized actin (F-actin) inside cells. To test the hypothesis that increased polymerization resulted from a mechanism involving increased actin nucleation activity, we employed methods utilizing pyrene-labeled actin to quantify the actin nucleation activity of cell lysates and N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) (NBD)-phallacidin binding assays to quantify the amount of F-actin in P388D1 cells. H2O2 increased polymerized actin (NBD-phallacidin assay) in a dose-dependent manner with an effective dose giving 50% response (ED50) [asymp] 1 mM. Five millimolar H2O2 caused a 1.6-fold increase in NBD-phallacidin staining. In contrast, actin nucleation activity decreased in a dose-dependent manner with a similar ED50. Five millimolar H2O2 caused a 30-40% decrease in actin nucleation activity. The effect was rapid, occurring within 5 min of H2O2 addition. The results indicate that H2O2 causes cytoskeletal changes that enhance NBD-phallacidin binding without increasing actin nucleation activity. Fractionation studies showed that the nucleation activity in H2O2-treated cells and controls sedimented with the Triton X-100-insoluble cytoskeleton, and the cytosolic fraction appeared to contain an inhibitor of actin polymerization.

Oomen, P. A., Jobsen, J. A., Romeijn, G., and Wiegers, G. L. (1994). Side-Effects of 107 Pesticides on the Whitefly Parasitoid Encarsia formosa, Studies and Evaluated According to EPPO Guideline No. 142. *Bull.OEPP* 24: 89-107.  
Chem Codes : User Define 2: REPS,WASHT,CALFT,CORE,SENT,NA  
Chemical of Concern: SZ,CBL,DZ,ES,HCCH,PRN Rejection Code: NO DURATION.

Oomen, P. A., Jobsen, J. A., Romeijn, G., and Wiegers, G. L. (1994). Side-Effects of 107 Pesticides on the Whitefly Parasitoid Encarsia formosa, Studies and Evaluated According to EPPO Guideline No. 142. *Bull.OEPP* 24: 89-107.  
Chem Codes : Chemical of Concern: SZ,CBL,DZ,ES,HCCH,PRN,CQTC Rejection Code: NO DURATION.

Orisakwe, O. E. and Obi, N. (1993). In vitro and in vivo adsorption studies of diazinon. *Human & Experimental Toxicology [HUM. EXP. TOXICOL.]. Vol. 12, no. 4, pp. 301-303. 1993.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0144-5952  
Descriptors: absorption  
Descriptors: in vitro  
Descriptors: in vivo  
Descriptors: insecticides  
Abstract: The in vitro and in vivo adsorption of diazinon to two brands of activated charcoal and locally produced carbon black (N220) has been studied. Solutions of diazinon 10, 20 and 40 mu g/ml were prepared in distilled water and different quantities of adsorbent added. Diazinon-adsorbent slurries were vortex mixed, centrifuged and analysed for free diazinon spectrophotometrically at 241 nm. Small quantities of activated charcoal (AC) and carbon black (CB) showed little or no adsorption of diazinon, while 1000 mg of either AC or CB was able to take up more than 70% at all concentrations of diazinon tested. In acute toxicity tests in mice the optimal adsorbent: diazinon ratio was 8:1 when the animals were treated with 45 mg kg super(-1) diazinon after immediate, 1, and 3 h post administration of the adsorbent.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

OSBORNE BG, BARRETT GM, LAAL-KHOSHAB, A., and WILLIS KH (1989). THE OCCURRENCE OF PESTICIDE RESIDUES IN UK HOME-GROWN AND IMPORTED WHEAT. *PESTIC SCI; 27* 103-109.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM CARBAMATES ORGANOCHLORINES ORGANOPHOSPHORUS INSECTICIDES UREA HERBICIDE ANILIDES CARBENDAZIM AGRICULTURE CROP INDUSTRY FUMIGANTS BROMIDE GAMMA HEXACHLOROCYCLOHEXANE FOOD TOXICOLOGY 1 2 DIBROMOETHANE CARBON TETRACHLORIDE UK Biochemistry/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Cereals/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Grasses

Ostlie, K. R. (1992). Insecticide Performance Against First-Generation European Corn Borer-Liquids vs Granules, 1991. *In: A.K.Burditt,Jr.(Ed.), Insecticide and Acaricide Tests, Volume 17, Entomol.Soc.of Am., Lanham, MD* 215-216.

EcoReference No.: 79800  
Chemical of Concern: BFT,MP,CBF,CYF,FNF,CPY,EFV,DZ,CBL,PMR,LCYT; Habitat: T; Effect Codes: POP; Rejection Code: LITE EVAL CODED(BFT,CYF,EFV),OK(ALL CHEMS),OK TARGET(DZ).

Osuna, I., Lopez, D., Galindo, J. G., and Riva, M. C. (1997). Toxicological Evaluation of Methyl Parathion, Methyl Azinfos, Chlorpyrifos, Diazinon, and Methamidophos to the Shrimps from Genus Penaeus Sp (Evaluacion Toxicologica de Metil Paration, Metil Azinfos, Clorpirifos, Diazinon, y Metamidofos, en Camarones del Genero Penaeus Sp). *Bol.INTEXTER Inst.Invest.Text.Coop.Ind.* 111: 65-71.  
Chem Codes: EcoReference No.: 73450  
Chemical of Concern: DZ,CPY,AZ,MP,MTM Rejection Code: NON-ENGLISH.

OTT WR and ROBERTS JW (1998). EVERYDAY EXPOSURE TO TOXIC POLLUTANTS. *SCIENTIFIC AMERICAN; 278* 86-91.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE TOXIC POLLUTANTS PUBLIC HEALTH POLLUTION ENVIRONMENTAL REGULATIONS INDOOR AIR QUALITY EXPOSURE REDUCTION USA NORTH AMERICA Climate/ Ecology/ Meteorological Factors/ Biochemistry/ Poisoning/ Animals, Laboratory/ Public Health Administration/ Statistics/ Air Pollution/ Soil Pollutants/ Water Pollution

Ozawa, Shuji, Itoh, Akira, Oshima, Koichiro, and Nozaki, Hitosi (1979). Stereochemical studies on the nucleophilic substitution in the reaction of allyl phosphates with organoaluminium reagents. *Tetrahedron Letters* 20: 2909-2912.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The reaction of cis- or trans-5-isopropenyl-2-methyl-2-cyclohexenyl diethyl phosphate (I) with Me2AlX (X = OPh, SPh, NHPh) in hexane results in substitution of the -O-PO(OEt)2 group with X under predominant inversion. The solvent effects on the stereochemistry in these reactions have been disclosed.

Padilla, S., Sung, H. J., and Moser, V. C. (2004). Further assessment of an in vitro screen that may help identify organophosphorus pesticides that are more acutely toxic to the young. *Journal of Toxicology and Environmental Health, Part A: Current Issues [J. Toxicol. Environ. Health, A: Curr. Iss.]. Vol. 67, no. 18, pp. 1477-1489. 24 Sep 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 1528-7394  
Descriptors: Diazinon  
Descriptors: Detoxification  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Pesticides  
Descriptors: Liver  
Descriptors: Metabolites  
Descriptors: Carboxylesterase  
Descriptors: Malathion  
Descriptors: Chlorpyrifos  
Descriptors: Parathion  
Descriptors: Paraoxon  
Descriptors: methamidophos  
Descriptors: Cholinesterase  
Abstract: Some, but not all, organophosphorus pesticides are more acutely toxic to the young as compared to adults. We have developed an in vitro assay that measures the detoxification potential (via carboxylesterase and A-esterases) of tissues. Previous results using this in vitro screen correlated with the marked in vivo sensitivity of the young to chlorpyrifos and also correlated with the equal sensitivity of the young and adult to methamidophos. We have now extended these observations to two other pesticides that have already been shown in the literature to be more toxic to the young: parathion (paraoxon) and malathion (malaoxon). In our in vitro assay, liver or plasma from 7-d-old rats were much less efficacious than adult tissues at detoxification of the active metabolites of these two pesticides. Using our in vitro assay we also tested the active metabolite of diazinon, diazoxon, and again found that young liver or plasma possessed much less detoxification capability than adult tissues. From these results, we predicted that young animals would be more sensitive to diazinon, which, in fact, was the case: When postnatal day (PND) 17 or adult rats were given a dosage of 75 mg/kg diazinon, adult brain cholinesterase (ChE) was only inhibited 38%, while the brain ChE in the PND 17 animals showed much more inhibition (75%). We conclude that our in vitro screen may prove to be a useful, quick, convenient test for identifying which organophosphorus pesticides may be more acutely toxic to the young as compared to adults.  
DOI: 10.1080/15287390490483836  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24221 Toxicity testing  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Palmer, J. S. (1978). Toxicologic Evaluation of Microencapsulated Formulation of Dizinon Applied Dermally to Cattle. *Am.J.Vet.Res.* 39: 1231-1232.

EcoReference No.: 38238  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,MOR; Rejection Code: NO ENDPOINT CONTROL(DZ),NO COC(NCTN).

Palmer-Jones, T. (1958). Laboratory Methods for Measuring the Toxicity of Pesticides to Honey Bees. *N.Z.J.Agric.Res.* 1: 290-300.

EcoReference No.: 71070  
Chemical of Concern: TXP,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Palmgren, M. S. and Lee, T. C. (1984). Malathion and diazinon levels in grain dust from New Orleans area grain elevators. *American Industrial Hygiene Association Journal [AM. IND. HYG. ASSOC. J.]. Vol. 45, no. 3, pp. 168-171. 1984.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0002-8894  
Descriptors: grain  
Descriptors: dust  
Descriptors: insecticides  
Descriptors: malathion  
Descriptors: diazinon  
Descriptors: organophosphorus compounds  
Abstract: Insecticides applied to grain may be present in dust generated during grain handling and could expose workers to high insecticide concentrations, or be fed to animals in the form of pelleted grain dust. Residual levels of two organophosphate insecticides, malathion and diazinon, were measured in 31 samples of grain dust collected from six terminal grain elevators along the Mississippi River in the New Orleans area. Mean recoveries of both malathion and diazinon from spiked samples ranged from 83 to 92% at levels of 1 to 50 mu g/g of dust. Samples of grain dust from the elevators contained 0.17 to 32 mu g of malathion/g of dust, but diazinon was not detectable at the 0.01 mu g/g limit of detection.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24132 Chronic exposure  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H SE5.20 INSECTICIDES  
Classification: P 0000 AIR POLLUTION  
Classification: H SE3.20 AIR POLLUTION/AIR QUALITY  
Classification: H SE4.20 POISONS AND POISONING  
Classification: H SE2.20 CROP CONTAMINATION  
Subfile: Health & Safety Science Abstracts; Pollution Abstracts; Toxicology Abstracts

Pan, D. Y. and Liang, X. M. (1993). Safety Study of Pesticides on Bog Frog, a Predatory Natural Enemy of Pest in Paddy Field. *J.Hunan Agricult.Coll.* 19: 47-54 (CHI) (ENG ABS).

EcoReference No.: 16056  
Chemical of Concern: 24DXY,CaPS,CBF,CPY,CTN,DMT,DZ,HCCH,MLN,MLT,MP,MTM,PMT,TBC,DM,EFV,BPZ,FPP,OMT,NaPCP,Zn; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Pan, G. and Dutta, H. (2000). Diazinon Induced Changes in the Serum Proteins of Large Mouth Bass, Micropterus salmoides. *Bull.Environ.Contam.Toxicol.* 64: 287-293.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO DURATION.

PAPADOPOULOU-MOURKIDOU, E. and PATSIAS, J. (1996). Development of a semi-automated high-performance liquid chromatographic-diode array detection system for screening pesticides at trace levels in aquatic systems of the Axios River basin. *JOURNAL OF CHROMATOGRAPHY A; 726* 99-113.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. A semi-automated HPLC-diode array detection (HPLC-DAD) system associated with an on-line sample enrichment device was developed for the analysis of a wide range of pesticides in water samples of the Axios River basin. The system was optimized with respect to the analytical column, the on-line trace enrichment device, the mobile-phase composition and gradient duration, the sample volume and pH, and the chromatographic profile of the background dissolved organic material. The system developed was applied for the tentative identification and quantitation of 46 target analytes including parent pesticides and major conversion products in field water samples. The limit of detection (LOD) for the majority of the compounds was in the range 0.10-0.02 mug/l level; the LOD for three target analytes, the aliphatic carbamate esters aldicarb sulfone, oxamyl and methomyl, was in the range of 1.0-0.5 mug/l. In addition, stability studies of all analytes in field water samples stored ei Ecology/ Fresh Water/ Minerals/Analysis/ Minerals/ Biophysics/Methods

Paraoanu, L. E., Mocko, J. B., Becker-Roeck, M., Smidek-Huhn, J., and Layer, P. G. (2006). Exposure to Diazinon Alters In Vitro Retinogenesis: Retinospheroid Morphology, Development of Chicken Retinal Cell Types, and Gene Expression. *Toxicological Sciences [Toxicol. Sci.]. Vol. 89, no. 1, pp. 314-324. Jan 2006.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 1096-6080  
Descriptors: Diazinon  
Descriptors: Acetylcholinesterase  
Descriptors: Nervous system  
Descriptors: Embryos  
Descriptors: Photoreceptors  
Descriptors: Acetylcholine receptors (muscarinic)  
Descriptors: Apoptosis  
Descriptors: radial glial cells  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Cholinesterase  
Descriptors: Retinogenesis  
Descriptors: Retina  
Abstract: Developing embryos are more vulnerable than adults to acute cholinergic intoxication by anticholinesterases, including organophosphorus pesticides. These agents affect the process of neural development itself, leading to permanent deficits in the architecture of the nervous system. Recent evidence on direct roles of acetylcholinesterase (AChE) on neuronal differentiation provides additional grounds for investigating the developmental toxicity of anticholinesterases. Therefore, the effect of the organophosphate diazinon on the development of chick retinal differentiation was studied by an in vitro reaggregate approach. Reaggregated spheres from dissociated retinal cells of the E6 chick embryo were produced in rotation culture. During the whole culture period of 10 days, experimental cultures were supplemented with different concentrations of the pesticide, from 20 to 120 mu M diazinon. The pesticide-treated spheres were reduced in size, and their outer surface was irregular. More importantly, inner structural distortions could be easily traced because the structure of control spheroids can be well characterized by a histotypical arrangement of laminar parts homologous to the normal retina. Acetylcholinesterase activity in diazinon-treated spheres was reduced when compared with controls. As a dramatic effect of exposure to the pesticide, inner plexiform layer (IPL)-like areas in spheroids were not distinguishable anymore. Similarly, photoreceptor rosettes and Mueller radial glia were strongly decreased, whereas apoptosis was stimulated. The expression of transcripts for choline-acetyltransferase and muscarinic receptors was affected, revealing an effect of diazinon on the cholinergic system. This further proves the significance of cholinesterases and the cholinergic system for proper nervous system development and shows that further studies of debilitating diazinon actions on development are necessary.  
Publisher: Oxford University Press, Oxford Journals, Great Clarendon Street Oxford OX2 6DP UK, [mailto:jnl.samples@oup.co.uk], [URL:http://www3.oup.co.uk/jnls/]  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Paris, D. F., Lewis, D. L., Barnett, J. T. Jr., and Baughman, G. L. (1975). Microbial Degradation and Accumulation of Pesticides in Aquatic Systems. *EPA-660/3-75-007, U.S.EPA, Corvallis, OR* 46 p.

EcoReference No.: 78294  
Chemical of Concern: ATZ,PRN,DZ,Captan,CBL,MLN,24DXY,TXP,MXC; Habitat: A; Effect Codes: GRO; Rejection Code: NO ENDPOINT(ALL CHEMS) .

Paris, D. F., Lewis, D. L., Barnett, J. T. Jr, and Baughman, G. L. (1975). Microbial degradation and accumulation of pesticides in aquatic systems.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Descriptors: Pesticides  
Descriptors: Chemical pollutants  
Descriptors: Microorganisms  
Descriptors: Biodegradation  
Descriptors: Bioaccumulation  
Descriptors: Schizomycetes  
Descriptors: Fungi  
Descriptors: Algae  
Abstract: The microbial degradation and sorption of carbamyl, malathion, butoxyethy1 ester of 2,4-dichlorophenoxyacetic acid (2,4-DBE), methoxychlor, atrazine, diazinon, captan, parathion, and toxaphene were investigated. Malathion and 2,4-DBE underwent transformation readily in both bacterial and fungal cultures. Degradation of malathion and 2,4-DBE at low concs in batch cultures of bacteria followed 2nd-order kinetics as predicted by the Michaelis-Menten theory. A single isomer, {beta}-monoacid of malathion, was the primary metabolite in transformation of malathion by both bacterial and fungal populations. The major metabolite found in 2,4-DBE studies was 2,4-D. Carbaryl underwent chemical hydrolysis to {alpha}-naphthol in both heterogeneous bacterial cultures and uninoculated controls. Rapid and extensive sorption of pesticides to fungi, bacteria, and algae was observed with methoxychlor and toxaphene, but not with any of the other pesticides investigated. Captan underwent neither microbial degradation nor sorption because of its rapid hydrolysis in water.  
Enquiries to NO. Records keyed from 1976 ASFA printed journals.  
Other numbers: EPA--660/3-75-007  
Language: English  
English  
Publication Type: Report  
Environmental Regime: Marine; Freshwater  
Classification: Q5 01504 Effects on organisms  
Classification: Q5 01505 Prevention and control  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Park, Hee-Sae, Kim, In Soo, and Park, Jeen-Woo ( 1999). Phosphorylation Induces Conformational Changes in the Leukocyte NADPH Oxidase Subunit p47phox. *Biochemical and Biophysical Research Communications* 259: 38-42.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The leukocyte NADPH oxidase of neutrophils is a membrane-bound enzyme that catalyzes the reduction of oxygen to [figure] at the expense of NADPH. The enzyme is dormant in resting neutrophils but becomes active when the cells are exposed to appropriate stimuli. During oxidase activation, the highly basic cytosolic oxidase component p47phoxbecomes phosphorylated on several serines and migrates to the plasma membrane. We report here that phosphorylation of p47phoxwith protein kinase C induces conformational changes, as reflected by a fluorescence change of N,N&prime;-di-methyl-N(iodoacetyl)-N&prime;-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) ethyleneamine (IANBD)-labeled p47phox. We propose that this alteration in conformation results in the appearance of a binding site through which p47phoxinteracts with cytochrome b558during the activation process. In addition, the present study indicates that other oxidase components, such as p67phoxand p22phox, influence the conformation of p47phox.

Park, Hee-Sae and Park, Jeen-Woo (1998). Fluorescent Labeling of the Leukocyte NADPH Oxidase Subunit p47phox: Evidence for Amphiphile-Induced Conformational Changes. *Archives of Biochemistry and Biophysics* 360: 165-172.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The leukocyte NADPH oxidase of neutrophils is a membrane-bound enzyme that catalyzes the production of O-2from oxygen using NADPH as the electron donor. Dormant in resting neutrophils, the enzyme acquires catalytic activity when the cells are exposed to appropriate stimuli. During activation, the cytosolic oxidase components p47phoxand p67phoxmigrate to the plasma membrane, where they associate with cytochrome b558, a membrane-integrated flavohemoprotein, to assemble the active oxidase. Oxidase activation can be mimicked in a cell-free system using an anionic amphiphile, such as sodium dodecyl sulfate (SDS) or arachidonic acid, as an activating agent. It has been proposed that conformational changes in the protein structure of cytosolic factor p47phoxmay be an important part of the activation mechanism. The purpose of the present study was to develop an approach to directly monitor conformational changes in p47phoxwhen treated with amphiphiles. Cysteines in recombinant p47phoxwere covalently labeled with a sulfhydryl-reactive, environmentally sensitive, fluorescent probeN,N&prime;-dimethyl-N(iodoacetyl)-N&prime;-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)ethyleneamine (IANBD). A series of mutant p47phoxproteins in which the individual cysteine (C98, C111, C196, and C378) was replaced with alanine revealed that all four cysteines of p47phoxare reactive to IANBD. We found that anionic amphiphiles elicited a dose-dependent increase in fluorescence at an emission maximum of 537 nm from IANBD-labeled p47phox. Furthermore, a blue shift of emission maximum and a decrease in quenching by the ionic quencher, potassium iodide, were observed in the presence of amphiphiles. These results indicate that the amphiphile-mediated increase in fluorescence from IANBD-labeled p47phoxis due to the conformational change as seen in the leukocyte NADPH oxidase activation. We propose that this alteration in conformation results in the appearance of a binding site through which p47phoxinteracts with cytochrome b558during the activation process. In addition, recombinant p67phoxor a peptide containing proline-rich sequence of p22phox(residues 149-162) induces the attenuation of the amphiphile-mediated enhancement of fluorescence from IANBD-labeled p47phox. This supports the notion that both p67phoxand p22phoxinfluence the conformation of p47phox. NADPH oxidase/ fluorescence/ conformational change/ amphiphiles

PARVEEN, Z., AFRIDI, I. AK, MASUD SZ, and BAIG, M. MH (1996). Monitoring of multiple pesticide residues in cotton seeds during three crop seasons. *PAKISTAN JOURNAL OF SCIENTIFIC AND INDUSTRIAL RESEARCH; 39* 146-149.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. After having established proper analytical methodology for multiple pesticide residues, major cotton growing areas of Pakistan were surveyed extensively and 250 samples of cotton seeds were drawn from progressive farmers' fields and different ginning factories during three crop seasons (June, 1986-January, 1989). Laboratory investigation of these samples showed contamination in 73.6 % samples with 24 different pesticides/metabolites. The results indicated that out of 24 pesticides, 9 were organochlorine, 8 organophosphorus and 7 synthetic pyrethroid compounds. MRLs exceeded in 40.6% samples. The most frequently occuring pesticides were cyhalothrin, dimethoate, DDT and its metabolites, endosulfan and monocrotophos. Poisoning/ Animals, Laboratory/ Plants/Growth & Development/ Soil/ Textiles/ Oils/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Plants

Patterson, B. M., Franzmann, P. D., Rayner, J. L., and Davis, G. B. (2000). Combining coring and suction cup data to improve the monitoring of pesticides in sandy vadose zones: a field-release experiment. *Journal of Contaminant Hydrology [J. Contam. Hydrol.]. Vol. 46, no. 1-2, pp. 187-204. Nov 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS/SURVEY.  
  
ISSN: 0169-7722  
Descriptors: Monitoring  
Descriptors: Data Collections  
Descriptors: Soil Contamination  
Descriptors: Urban Areas  
Descriptors: Pesticides  
Descriptors: Vadose Water  
Descriptors: Herbicides  
Descriptors: Migration  
Descriptors: Path of Pollutants  
Descriptors: Measuring Instruments  
Descriptors: Pollution (Soil)  
Descriptors: Pesticides (see also Bactericides, Weedkillers)  
Descriptors: Migrations  
Descriptors: Instrumentation  
Descriptors: Pollution monitoring  
Descriptors: Sand  
Descriptors: Groundwater pollution  
Descriptors: Hydrology  
Descriptors: Diazinon  
Descriptors: Atrazine  
Descriptors: Research programs  
Descriptors: Australia, Western Australia  
Descriptors: Australia, Western Australia, Swan Coastal Plain  
Abstract: Soil coring and vertically and horizontally installed suction cup monitoring techniques were compared during a field release experiment conducted in an urban area of the Swan Coastal Plain of Western Australia. Sodium bromide and low concentrations of diazinon, chlorpyrifos, atrazine and fenamiphos were released into the vadose zone and rates of migration and mass loss with respect to a bromide tracer investigated. Only bromide and atrazine showed significant migration through the vadose zone. The relative half-life mass losses from the vadose zone of the pesticides ranged from 3 to > 40 days. The use of soil coring complemented the use of vertically and horizontally installed suction cups for investigating relatively mobile non-volatile compounds, such as atrazine. Data from horizontally installed suction cups accounted for mass losses due to dilution and transport that could not be accounted for by coring, and enabled a better estimate of degradation and migration rates through the vadose zone. From core data alone, atrazine migration rates for the first 0.25 m were underestimated by more than 50% (0.0039 m day super(-1) compared to 0.013 m day super(-1)), and removal rates (and inferred degradation rates) were overestimated by more than 100% (half-life of 14 days compared to a half-life of 40 days), compared with rates determined by using core data and horizontal suction cup data in combination. Migration rates may have been even further underestimated at greater depths.  
Language: English  
English  
Publication Type: Journal Article  
Classification: SW 5010 Network design  
Classification: AQ 00003 Monitoring and Analysis of Water and Wastes  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 5000 LAND POLLUTION  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Aqualine Abstracts

PEARSE, B. HG and PEUCKER, S. KJ (1991). Comparison of a liquid and a powder insecticidal dressing to aid healing and prevent flystrike of mulesing wounds in lambs. *AUST VET J; 68* 163-164.  
Chem Codes: Chemical of Concern: NAPH Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. A proprietary insecticidal mulesing powder containing diazinon and an experimental liquid dressing based on eucalyptus oil, naphthalene, cresylic acid and chlorfenvinphos in a carrier of liquid hydrocarbons and petroleum oil were compared for their ability to promote would healing and reduce the incidence of fly strike in freshly mulesed lambs. Throughout the trial period of 4 weeks, fly trapping confirmed the presence of Lucilia cuprina in the paddock where the ewes and lambs were grazing. At inspection one month after mulesing, no deaths had occurred since mulesing and no lambs showed evidence of cutaneous myiasis, although a number of their dams (with 8 months wool) were duck. At 4 weeks after mulesing, the wounds of the lambs treated with the experimental liquid dressing showed better healing than those treated with the powder dressing. It was concluded that both mulesing preparations were effective in inhibiting flystrike, but the liquid dressing promoted faster wou Biochemistry/ Anatomy, Comparative/ Histology, Comparative/ Regeneration/ Transplantation/ Therapeutics/ Diagnosis/ Skin/ Skin Diseases/Pathology/ Dermatologic Agents/Pharmacology/ Skin/ Drug Administration Routes/ Poisoning/ Animals, Laboratory/ Animal Husbandry/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Diptera/ Artiodactyla

PEDERSEN-BJERGAARD, S. and GREIBROKK, T. (1996). Environmental applications of capillary gas chromatography coupled with atomic emission detection: A review. *HRC JOURNAL OF HIGH RESOLUTION CHROMATOGRAPHY; 19* 597-607.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS, REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. Environmental applications of capillary gas chromatography coupled with atomic emission detection (GC-AED) have been reviewed with emphasis on both the commercial and laboratory-built systems. Attention was focused on 1) element-selective detection of non-metallic as well as metallic pollutants, 2) identification of contaminants, and 3) sample preparation considerations. Biophysics/Methods/ Air Pollution/ Soil Pollutants/ Water Pollution

PEHKONEN SO and DANNENBERG, A. (1995). IRON OXIDE CATALYZED PHOTODEGRADATION OF SELECTED ORGANOPHOSPHORUS PESTICIDES IMPLICATIONS FOR AQUATIC FATE. *210TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, CHICAGO, ILLINOIS, USA, AUGUST 20-24, 1995. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 210* ENVR 212.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT DIAZINON DISULFOTON DEMETON S Congresses/ Biology/ Radiation/ Ecology/ Oceanography/ Fresh Water/ Biochemistry/ Minerals/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

PENNSYLVANIA ACADEMY OF SCIENCE USA (1999). 75th Annual Meeting of the Pennsylvania Academy of Science (Pocono Manor, Pennsylvania, USA; April 9-11, 1999). *JOURNAL OF THE PENNSYLVANIA ACADEMY OF SCIENCE; 72* 148-188.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. This meeting contains abstracts of 173 papers, including 66 posters, written in English, in the sessions on environmental science, microbiology, toxicology, cellular biology, molecular biology, ecology, medicine, parasitology, aquatic biology, wildlife biology, botany, behavior, zoology, and biochemistry. Cytology/ Histocytochemistry/ Behavior, Animal/ Ecology/ Biochemistry/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary

Perahia, David, Pullman, Bernard, and Saran, Anil (1974). Molecular orbital calculations on the conformation of nucleic acids and their constituents : IX. The geometry of the phosphate group: Key to the conformation of polynucleotides? *Biochimica et Biophysica Acta (BBA) - Nucleic Acids and Protein Synthesis* 340: 299-313.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
The PCILO ([omega]&prime;--[omega]) conformational energy maps of dimethyl phosphate constructed with different geometries of the phosphate group corresponding to the known crystal structures of U3&prime;p5&prime;A and A2&prime;p5&prime;U show that the global minimum of each map corresponds to the observed crystallographic conformation of the dinucleoside monophosphate having the same phosphate geometry. This result indicates that the conformational preferences of these relatively large molecules are determined essentially by the geometrical properties of the phosphate group. In particular it is shown in this study that the right-handed helical conformation of the dinucleoside monophosphates is favoured when the O5&prime;PO(I) and O3&prime;PO(II) valence angles have values greater than their symmetrical value (i.e. the value in the corresponding symmetrical dimethylphosphate) and that the left-handed helical conformation is favoured when these same valence angles have values smaller than their symmetrical value. A further confirmation of this rule is accomplished by analysing the phosphate group geometry in the crystal structures of diethyl phosphates. Such an analysis shows that the agreement between the observed conformations and those predicted by the rule is excellent.Ab initio calculations performed on a few selected geometries of dimethyl phosphate confirm the PCILO results. They also demonstrate that the conformation of the methyl groups has an influence on the overall stability.

Pereira, W. E., Domagalski, J. L., Hostettler, F. D., Brown, L. R., and Rapp, J. B. (1996). Occurrence and Accumulation of Pesticides and Organic Contaminants in River Sediment, Water and Clam Tissues from the San Joaquin River and Tributaries, California. *Environ.Toxicol.Chem.* 15: 172-180.  
Chem Codes: EcoReference No.: 83827  
Chemical of Concern: ATZ,DMT,DZ,CPY,DLD,CHD,DCF,NAPH,PAH,DDT Rejection Code: NO DURATION/SURVEY.

Periera, W. E. and Hostettler, F. D. (1993). Nonpoint Source Contamination of the Mississippi River and its Tributaries by Herbicides. *Environ.Sci.Technol.* 27: 1542-1552.  
Chem Codes: EcoReference No.: 83826  
Chemical of Concern: ATZ,SZ,TBC,PMT,PPN,AMTR,ACR,CZE,CBF,DZ,DU,HXZ,MLT,MBZ,MTL,MP,NFZ,PRO Rejection Code: SURVEY.

Perry, N. S. L., Houghton, P. J., Jenner, P., Keith, A., and Perry, E. K. (2002). Salvia lavandulaefolia essential oil inhibits cholinesterase in vivo. *Phytomedicine, 9 (1) pp. 48-51, 2002*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE, BIOLOGICAL TOXICANT.  
  
ISSN: 0944-7113  
Abstract: The essential oil of Salvia lavandulaefolia at two dosage levels was administered orally to rats for five days. Choline esterase activity was measured post mortem in three areas of the brain, both in the absence and presence of TEPP, a specific butylcholine esterase inhibitor, and was found to be significantly reduced in the striatum with both doses and also in the hippocampus at the higher dose. The activity of the enzyme in the cortex was not significantly reduced even at the higher dose. Thus it appears that S. lavandulaefolia oil, shown to inhibit choline esterase in vitro, also has an in vivo effect and this may help explain its traditional use for ailing memory.  
5 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: Germany  
Classification: 92.1.6.2 BIOCHEMISTRY: Secondary Products: Terpenoids  
Subfile: Plant Science

Perry, W. (2004). Elements of South Florida's Comprehensive Everglades Restoration Plan. *Ecotoxicology [Ecotoxicology]. Vol. 13, no. 3, pp. 185-193. Apr 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
ISSN: 0963-9292  
Descriptors: Wetlands  
Descriptors: Environmental restoration  
Descriptors: Planning  
Descriptors: Water management  
Descriptors: Hydrology  
Descriptors: Water quality control  
Descriptors: Economics  
Descriptors: Environmental planning  
Descriptors: Water quality  
Descriptors: Water flow  
Descriptors: Ecosystem analysis  
Descriptors: Contaminants  
Descriptors: Dry season  
Descriptors: Phosphorus removal  
Descriptors: Dissolved oxygen  
Descriptors: Water availability  
Descriptors: Atrazine  
Descriptors: Flooding  
Descriptors: Flow Discharge  
Descriptors: Ecological Effects  
Descriptors: Water Pollution Control  
Descriptors: Water Storage  
Descriptors: Water Distribution  
Descriptors: Aquifers  
Descriptors: Pollutants  
Descriptors: Herbicides  
Descriptors: Aquatic Habitats  
Descriptors: Nutrients  
Descriptors: Habitat improvement  
Descriptors: Stream flow  
Descriptors: Phosphorus  
Descriptors: Environmental impact  
Descriptors: Stormwater runoff  
Descriptors: Regional planning  
Descriptors: USA, Florida  
Descriptors: USA, Florida, Everglades  
Abstract: Approximately 70% less water flows through the Everglades ecosystem today compared with the historic Everglades, and the quality of the remaining water is often degraded. The regionally managed hydropattern does not follow the pre-drainage distribution, timing, and duration of the natural Everglades, nor can water move freely though the remaining Everglades. As a result, there have been significant reductions in wildlife and fish populations, their habitat, and the environmental services wetlands provide society. Both the problems of declining ecosystem health and the solutions to Everglades restoration center on restoring the quantity, quality, timing, and distribution of water. The Comprehensive Everglades Restoration Plan consists of over 60 civil works projects that will be designed and implemented over a 30 year period. At an estimated cost of $7.8 billion, it seeks to correct an earlier attempt at water management in South Florida and improve water availability during the dry season and reduce flooding of urban and agricultural areas during the wet season. The plan calls for storage and controlled release from more than 217,000 acres of new reservoirs and wetland-based treatment areas and from over 300 underground aquifer storage and recovery wells. The plans assumes that during retention in stormwater treatment areas, the excess phosphorus, nitrogen, agrichemicals such as atrazine, diazinon, endosulfan, and other contaminants will be reduced before release into the natural areas. It also assumes that little or no change in water quality will occur during underground storage. To improve the hydraulic connectivity of natural areas, some of the extensive system of levees and canals within the Everglades will be removed in an effort to improve overland water flow. Most of the current planning has focused on water storage and restoring basic hydrology in the remnant natural areas and on phosphorus removal as a benchmark of water quality. The restoration plan, as approved by Congress, is conceptual and most of the details, including potential impacts of the plan on the natural system and the role of contaminants remain to be evaluated.  
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DOI: 10.1023/B:ECTX.0000023564.10311.4a  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: D 04715 Reclamation  
Classification: P 9000 ENVIRONMENTAL ACTION  
Classification: M3 1120 Land  
Classification: SW 3070 Water quality control  
Classification: AQ 00002 Water Quality  
Classification: Q5 01522 Protective measures and control  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Water Resources Abstracts; ASFA 1: Biological Sciences & Living Resources; Sustainability Science Abstracts; Aqualine Abstracts; Environmental Engineering Abstracts; Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Ecology Abstracts

Pery, A. R. R., Bedaux, J. J. M., Zonneveld, C., and Kooijman, S. A. L. M. (2001). Analysis of Bioassays with Time-Varying Concentrations. *Water Res.* 35: 3825-3832.  
Chem Codes: Chemical of Concern: DZ,PAH Rejection Code: MODELING.

Peskin, Alexander V. and Winterbourn, Christine C. (2006). Taurine chloramine is more selective than hypochlorous acid at targeting critical cysteines and inactivating creatine kinase and glyceraldehyde-3-phosphate dehydrogenase. *Free Radical Biology and Medicine* 40: 45-53.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Hypochlorous acid (HOCl) and chloramines are produced by the neutrophil enzyme, myeloperoxidase. Both react readily with thiols, although chloramines differ from HOCl in discriminating between low molecular weight thiols on the basis of their pKa. Here, we have compared the reactivity of HOCl and taurine chloramine with thiol proteins by examining inactivation of creatine kinase (CK) and glyceraldehyde-3-phosphate dehydrogenase (GAPDH). With both enzymes, loss of activity paralleled thiol loss. For CK both were complete at a 1:1 taurine chloramine:thiol mole ratio. For GAPDH each chloramine oxidized two thiols. Three times more HOCl than taurine chloramine was required for inactivation, indicating that HOCl is less thiol specific. Competition studies showed that thiols of CK were 4 times more reactive with taurine chloramine than thiols of GAPDH (rate constants of 1200 and 300 M-1s-1 respectively). These compare with 205 M-1s-1 for cysteine and are consistent with their lower pKa's. Both enzymes were equally susceptible to HOCl. GSH competed directly with the enzyme thiols for taurine chloramine and protected against oxidative inactivation. At lower GSH concentrations, mixed disulfides were formed. We propose that chloramines should preferentially attack proteins with low pKa thiols and this could be important in regulatory processes. Oxidative stress/ Thiol/ Chloramines/ Hypochlorous acid/ Glutathione/ Glyceraldehyde-3-phosphate dehydrogenase/ Creatine kinase/ Free radical

Peter Slotte, J. (1995). Lateral domain heterogeneity in cholesterol/phosphatidylcholine monolayers as a function of cholesterol concentration and phosphatidylcholine acyl chain length. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1238: 118-126.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Mixed monolayers of cholesterol and phosphatidylcholines having symmetric, different length acyl chains (10 to 16 carbons each) were prepared at the air/water interface. The partitioning of a fluorescent probe, NBD-cholesterol at 0.5 mol%, among lateral domains was determined by epifluorescence microscopy. The mixed monolayers had cholesterol concentrations of 20, 25, or 33 mol%, and in all these monolayers, lateral domain heterogeneity was observed within a defined surface pressure interval. This surface pressure interval was highly influenced by the phosphatidylcholine acyl chain length, but not by the cholesterol content of the mixed monolayer. The characteristic surface pressure, at which the line boundary between expanded and condensed phases dissolved (phase transformation pressure), and the monolayer entered an apparent phase-miscible state, was about 20 mN/m for di10PC and decreased as a linear function of the phosphatidylcholine acyl chain length to be about 2.5 mN/m for di16PC. During initial compression of the monolayers, the sizes of the condensed phases were generally larger, and to some extent heterogeneous with respect to the size distribution, as compared to the situation in monolayers which had experienced a compression/expansion cycle, which took them above the phase transformation pressure. This suggest that the domains observed during initial compression were not equilibrium structures. This study has demonstrated that both the cholesterol content and the phosphatidylcholine acyl chain length markedly influenced the properties of laterally condensed domains in these mixed monolayers. Since the possibility for the formation of attractive van der Waals forces between cholesterol and acyl chains increase with increasing acyl chain length, and since the phosphocholine head group is similar in all systems examined, the observed differences in domain shapes, properties, and stability most likely resulted from differences in van der Waals forces. Cholesterol/ Phosphatidylcholine/ Lateral domain heterogeneity/ Monolayer/ Epifluorescence microscopy/ Lipid interaction

Petruska, J. A., Mullins, D. E., Young, R. W., and Collins, Jr. E. R. (1985). A benchtop system for evaluation of pesticide disposal by composting. *Nuclear and Chemical Waste Management* 5: 177-182.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A procedure for examining the feasibility of composting certain pesticides as a means for their disposal has been developed using a benchtop model compost system. This system is designed such that samples as small as 10 g can be studied, and, by using radiolabelled materials, compound transformation in compost media can be determined. Transformation of radiolabelled diazinon and chlordane has been examined using this procedure. After 3 weeks incubation under aerobic composting conditions (maximum temperature 65 [deg]C), 21.6% of the diazinon radiolabel was recovered from the volatile organics trap. Of this, 15.1% was solvent extractable and was identified by TLC as diazinon and the hydrolysis product 2-isopropyl-7-methyl-6-hydroxypyrimidine (IMHP). This hydrolysis product was the only radiolabelled form present in solvent extracts of the compost media. Radiolabelled chlordane was recovered as the unconverted alpha and gamma forms with 49.6% volatilized and 47.8% remaining in the compost media.

Pewnim, Thanit and Seifert, Josef (1993). Structural requirements for altering the L-tryptophan metabolism in mice by organophosphorous and methylcarbamate insecticides. *European Journal of Pharmacology: Environmental Toxicology and Pharmacology* 248: 237-241.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
This study defined structural requirements for organophosphorous and methylcarbamate insecticides for altering the L-kynurenine pathway of L-tryptophan metabolism in mice. Kynurenine formamidase inhibition by organophosphorous acid triesters and methylcarbamates is the proposed primary event resulting in increase in xanthurenic acid urinary excretion and plasma L-kynurenine. Alteration of the L-kynurenine pathway occurred with compounds that inhibited liver kynurenine formamidase by more than 80%. Pyrimidinyl phosphorothioates followed by crotonamide phosphates were the most potent compounds that changed L-tryptophan metabolism, i.e., pirimiphos-ethyl (20 mg/kg) inhibited liver kynurenine formamidase by 99%, and increased xanthurenic acid urinary excretion and plasma L-kynurenine by 576 +/- 195 and 330 +/- 44%, respectively. Replacement of sulphur by oxygen in the phosphorothioate diazinon reduced in vivo liver kynurenine formamidase inhibition. Consequently, xanthurenic acid urinary excretion and plasma L-kynurenine were not elevated. Atropine, cycloheximide, 2-PAM and phenylmethylsulfonyl fluoride did not alleviate diazinon-altered L-tryptophan metabolism. Because of the potential of the majority of organophosphorous acid triesters and methylcarbamates to inhibit kynurenine formamidase, this novel noncholinergic mechanism warrants consideration in assessment of organophosphorous and methylcarbamate toxicity in occupational and accidental exposures. Noncholinergic actions/ Organophosphorous insecticides/ Methylcarbamate insecticides/ Kynurenine formamidase inhibition/ Xanthurenic acid (urinary excretion)/ Plasma L-kynurenine/ (Structural requirements)

Phillips, B. M., Anderson, B. S., Hunt, J. W., Nicely, P. A., Kosaka, R. A., Tjeerdema, R. S., De Vlaming, V., and Richard, N. (2004). In Situ Water and Sediment Toxicity in an Agricultural Watershed. *Environ.Toxicol.Chem.* 23: 435-442.  
Chem Codes: Chemical of Concern: DZ,DPY Rejection Code: MIXTURE.

Phillips, P. J., Eckhardt, D. A., Freehafer, D. A., Wall, G. R., and Ingleston, H. H. (2002). Regional patterns of pesticide concentrations in surface waters of New York in 1997. *Journal of the American Water Resources Association [J.Am.Water Resour.Assoc.].vol.38* of the American Water Resources Association [J. Am. Water Resour. Assoc.]. vol. 38888, no. 3, pp. 731-746. Jun 2002.: 731-746.  
Chem Codes: SZ Rejection Code: NO SPECIES.  
  
U.S. Geological Survey, 425 Jordan Road, Troy, New York 12180, USA, [mailto:pjphilli@usgs.gov]  
The predominant mixtures of pesticides found in New York surface waters consist of five principal components. First, herbicides commonly used on corn (atrazine, metolachlor, alachlor, cyanazine) and a herbicide degradate (deethylatrazine) were positively correlated to a corn-herbicide component, and watersheds with the highest corn-herbicide component scores were those in which large amounts of row crops are grown. Second, two insecticides (diazinon and carbaryl) and one herbicide (prometon) widely used in urban and residential settings were positively correlated to an urban/residential component. Watersheds with the highest urban/residential component scores were those with large amounts of urban and residential land use. A third component was related to two herbicides (EPTC and cyanazine) used on dry beans and corn, the fourth to an herbicide (simazine) and an insecticide (carbaryl) commonly used in orchards and vineyards, and the fifth to an herbicide (DCPA). Results of this study indicate that this approach can be used to: (1) identify common mixtures of pesticides in surface waters, (2) relate these mixtures to land use and pesticide applications, and (3) indicate regions where these mixtures of pesticides are commonly found  
English

Phillips, P. J., Eckhardt, D. A., Freehafer, D. A., Wall, G. R., and Ingleston, H. H. (2002). Regional patterns of pesticide concentrations in surface waters of New York in 1997. *Journal of the American Water Resources Association [J.Am.Water Resour.Assoc.].vol.38* of the American Water Resources Association [J. Am. Water Resour. Assoc.]. vol. 38888, no. 3, pp. 731-746. Jun 2002.: 731-746.  
Chem Codes: Chemical of Concern: DEATZ Rejection Code: NO SPECIES.  
  
U.S. Geological Survey, 425 Jordan Road, Troy, New York 12180, USA, [mailto:pjphilli@usgs.gov]  
The predominant mixtures of pesticides found in New York surface waters consist of five principal components. First, herbicides commonly used on corn (atrazine, metolachlor, alachlor, cyanazine) and a herbicide degradate (deethylatrazine) were positively correlated to a corn-herbicide component, and watersheds with the highest corn-herbicide component scores were those in which large amounts of row crops are grown. Second, two insecticides (diazinon and carbaryl) and one herbicide (prometon) widely used in urban and residential settings were positively correlated to an urban/residential component. Watersheds with the highest urban/residential component scores were those with large amounts of urban and residential land use. A third component was related to two herbicides (EPTC and cyanazine) used on dry beans and corn, the fourth to an herbicide (simazine) and an insecticide (carbaryl) commonly used in orchards and vineyards, and the fifth to an herbicide (DCPA). Results of this study indicate that this approach can be used to: (1) identify common mixtures of pesticides in surface waters, (2) relate these mixtures to land use and pesticide applications, and (3) indicate regions where these mixtures of pesticides are commonly found  
English

Phipps, G. L. (1988). Diazinon Acute Tests for Criteria Development. *April 29th Memo to R.Spehar, U.S.EPA, Duluth, MN* 2 p.

EcoReference No.: 69471  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO ABSTRACT.

Phipps, G. L., Harden, M. J., Leonard, E. N., Roush, T. H., Spehar, D. L., Stephan, C. E., Pickering, Q. H., and Buikema, A. L. J. (1984). Effects of Pollution on Freshwater Organisms. *J.Water Pollut.Control Fed.* 56: 725-758.  
Chem Codes: EcoReference No.: 53156  
Chemical of Concern: EDT,AND,Al,NH,PAH,Sb,As,ATZ,Ba,BNZ,BZD,Be,Cd,CBL,CTC,CHD,Cl,Cl2,CPY,Cr,Co,Cu,CN,DDT,DZ,CBZ,CPH,DLD,ES,EN,FA,HPT,HCCH,HCCP,Fe,ISO,Pb,Mn,Hg,Mo,NAPH,Ni,NBZ,NP,PCB,PRN,PNB,PCP,PL,Se,Ag,SZ,TCDD,TOL,TXP,V,Zn Rejection Code: REFS CHECKED/REVIEW.

Pickering, Q. H., Henderson, C., and Lemke, A. E. (1962). The Toxicity of Organic Phosphorus Insecticides to Different Species of Warmwater Fishes. *Trans.Am.Fish.Soc.* 91: 175-184.

EcoReference No.: 2893  
Chemical of Concern: MP,MLN,AZ,PRN,DZ,DEM; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Pierdet, Andre, Nedelec, Lucien, Delaroff, Vladimir, and Allais, Andre (1980). Synthese totale de la (+/-) negamycine. *Tetrahedron* 36: 1763-1772.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ResumeUne synthese totale de la (+/-) negamycine 1 a ete realise en 14 stades a partir du dimere de l'acroleine qui possede le squelette carbone necessaire a l'edification de la lactone intermediaire 4. Le traitement de l'acetoxy-methyl-2 dihydro-3,4[2H]pyranne 8, provenant de 6, par le tetracetate de plomb conduit a l'hemiacetal allylique 15, qui est transforme en ethers methyliques anomeres correspondants 23. L'hydroxylation de la double liaison de 23 par l'acetate mercurique s'effectue selectivement en position [gamma] pour donner les alcools isomeres 24 qui sont isols sous forme des dimesylates 25a et 25b. La condensation de l'azoture de sodium sur le derive trans 25a fournit le diazide cis 26a par inversion de la configuration en C3. L'hydrogenation de 26a suivie de l'acetylation de la diamine intermediaire non isolee conduit alors au diamide 28 ayant la stereochimie attendue. Par oxydation de l'hemicetal correspondant 29 avec le silicate d'argent, on obtient la diacetamido lactone 4, qui est ensuite hydrolysee en (+/-) [delta]-hydroxy [beta]-lysine 2 par reflux dans HCl dilue. La protection des fonctions aminees de 2 sous forme de benzylcarbamates est accompagnee de cyclisation en lactone 30. Cependant, celle-ci, traitee par l'ester benzylique de l'acide N-methylhydrazinoacetique en presence de silice conduit directement a l'hydrazine 36, puis a la (+/-) negamycine apres hydrogenolyse des groupements protecteurs. Les activits antibacteriennes de l'antibiotique racemique ont ete comparees in vitro et in vivo a celles du produit natural et de la gentamicine C.

Pisani-Borg, E., Cuany, A., Brun, A., Amichot, M., Fournier, D., and Berge, J. B. (1996). Oxidative Degradation of Diazinon byDrosophila:Metabolic Changes Associated with Insecticide Resistance and Induction. *Pesticide Biochemistry and Physiology* 54: 56-64.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Using [14C]diazinon, it was found that four molecules accounted for most of the metabolites afterin vitroorin vivoincubation withDrosophila melanogaster.RalDDTR, an insecticide-resistant strain ofDrosophila,produced higher amounts of each metabolite than CantonS, a susceptible strain. However, the degradative metabolic pathway giving hydroxydiazinon and pyrimidine was twofold faster than the activating metabolic pathway giving hydroxydiazoxon and diazoxon. Clofibrate and phenobarbital increased the metabolism of diazinon in induced, susceptible flies. Phenobarbital was more potent than clofibrate in stimulating the hydroxylation of diazinon. Kinetic analysis ofin vivoinhibition of brain acetylcholinesterase by diazinon or hydroxydiazinon demonstrated that degradation of diazinon, especially in RalDDTR, was delayed compared to the degradation of hydroxydiazinon. Varying levels of diazinon tolerance amongDrosophilastrains may be explained by differential metabolic pathways. The most conclusive result was a strong interaction between tolerance and the rate of formation of hydroxylated derivatives.

PLANAS, C., CAIXACH, J., SANTOS FJ, and RIVERA, J. (1997). Occurrence of pesticides in Spanish surface waters. Analysis by high resolution gas chromatography coupled to mass spectrometry. *CHEMOSPHERE; 34* 2393-2406.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A general study of the presence of pesticides in Spanish surface waters was carried out. A total of 97 samples were analysed by liquid-liquid extraction followed by HRGC in full scan mode. This procedure allows the detection and identification of several commonly used pesticides at levels of 5-50ng/L. The results obtained are studied with regard to know the most common pesticides found in Spanish surface waters, the percentage of them proposed to be included in the Directive 76/464/EEC and their variability depending on the area (agricultural or industrial) and the period of sampling./GROWTH & DEVELOPMENT Ecology/ Oceanography/ Fresh Water/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides

PLANT JW, HORTON BJ, ARMSTRONG, R. TF, and CAMPBELL NJ (1999). Modelling pesticide residues on greasy wool: Using organophosphate and synthetic pyrethroid survey data. *AUSTRALIAN JOURNAL OF EXPERIMENTAL AGRICULTURE; 39* 9-19.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Several surveys have examined the relationship between organophosphate and synthetic pyrethroid residues in wool and associated treatments. These have been combined and summarised using a model of on-farm survey data. The model estimated the amount of chemical taken up by the wool at application. This was based on experimental breakdown rates of these pesticides on wool determined in controlled trials. For about 10% of survey results the chemical measured on the wool did not match the chemical t The wide variation in results suggests that some producers may apply excessive amounts of pesticides while others use too little to have a useful effect. The model estimated the amount of pesticide taken up by the fleece using the residue left at shearing and the known breakdown rate for a given method and chemical group. When organophosphates were applied by dipping, the amount of chemical taken up by the fleece appeared to increase as the length of the wool increased. This was Poisoning/ Animals, Laboratory/ Animal Husbandry/ Herbicides/ Pest Control/ Pesticides/ Artiodactyla

Poet, T. S., Kousba, A. A., Dennison, S. L., and Timchalk, C. (2004). Physiologically Based Pharmacokinetic/Pharmacodynamic Model for the Organophosphorus Pesticide Diazinon. *NeuroToxicology* 25: 1013-1030.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
Diazinon (DZN) is an organophosphorus pesticide with the possibility for widespread exposures. The toxicological effects of DZN are primarily mediated through the effects of its toxic metabolite, DZN-oxon on acetylcholinesterases, which results in accumulation of acetylcholine at neuronal junctions. A physiologically based pharmacokinetic/pharmacodynamic (PBPK/PD) model was developed to quantitatively assess the kinetics of DZN and its metabolites in blood and the inhibition of cholinesterases in plasma, RBC, brain, and diaphragm. Focused in vivo pharmacokinetic studies were conducted in male Sprague-Dawley rats and the data were used to refine the model. No overt toxicity was noted following doses up to 100 mg/kg. However, cholinesterases in plasma, RBC, brain and diaphragm were substantially inhibited at doses of 50 mg/kg. In plasma, total cholinesterase was inhibited to less than 20% of control by 6 h post dosing with 100 mg/kg. Inhibition of brain acetylcholinesterase (AChE) following 100 mg/kg exposures was approximately 30% of control by 6 h. Diaphragm butyrylcholinesterase (BuChE) inhibition following 100 mg/kg dosing was to less than 20% of control by 6 h. The PBPK/PD model was used to describe the concentrations of DZN and its major, inactive metabolite, 2-isopropyl-4-methyl-6-hydroxypyrimidine (IMHP) in plasma and urinary elimination of IMHP. The fit of the model to plasma, RBC, brain, and diaphragm total cholinesterase and BuChE activity was also assessed and the model was further validated by fitting data from the open literature for intraperitoneal, intravenous, and oral exposures to DZN. The model was shown to quantitatively estimate target tissue dosimetry and cholinesterase inhibition following several routes of exposures. This model further confirms the usefulness of the model structure previously validated for chlorpyrifos and shows the potential utility of the model framework for other related organophosphate pesticides. Organophosphate pesticide/ PBPK/PD/ Cholinesterase inhibition

Poet, T. S., Wu, H., Kousba, A. A., and Timchalk, C. (2003). In Vitro Rat Hepatic and Intestinal Metabolism of the Organophosphate Pesticides Chlorpyrifos and Diazinon. *Toxicological Sciences [Toxicol. Sci.]. Vol. 72, no. 2, pp. 193-200. 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 1096-6080  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Diazinon  
Descriptors: Liver  
Descriptors: Intestine  
Abstract: Chlorpyrifos (CPF) and diazinon (DZN) are thionophosphorus organophosphate (OP) insecticides; their toxicity is mediated through CYP metabolism to CPF-oxon and DZN-oxon, respectively. Conversely, CYPs also detoxify these OPs to trichloropyridinol (TCP) and 2-isopropyl-4-methyl-6-hydroxypyrimidine (IMHP), respectively. In addition, A-esterase (PON1) metabolism of CPF- and DZN-oxon also forms TCP and IMHP. This study evaluated the role intestinal and hepatic metabolism may play in both the activation and detoxification of CPF and DZN in Sprague-Dawley rats. Similar CYP- and PON1-mediated metabolic profiles were demonstrated in microsomes from liver or isolated intestinal enterocytes. The metabolic efficiency was estimated by calculating the psuedo-1st order rate constant from the metabolic constants by dividing V sub(max)/K sub(m). In enterocyte microsomes, the CYP metabolic efficiency for metabolism to the oxon metabolites was ~28-fold greater for CPF than DZN. Compared on a per nmol P450 basis, the V sub(max) for CPF in enterocytes was ~2-3 times higher than in liver microsomes for the production of CPF-oxon and TCP. The Michaelis-Menten rate constant (K sub(m)) for the metabolism of CPF to CPF-oxon was comparable in liver and enterocyte microsomes; however, the enterocyte K sub(m) for TCP production was higher (indicating a lower affinity). The smaller volume of intestine, lower amount of CYP, and higher K sub(m) for TCP in the enterocyte microsomes, resulted in a lower catalytic efficiency (2 and 62 times) than in liver for oxon and TCP. PON1-mediated metabolism of CPF- and DZN-oxon was also demonstrated in liver and enterocyte microsomes. Although PON1 affinity for the substrates was comparable in hepatic and enterocytic microsomes, the V sub(max) were 48- to 275-fold higher, in the liver. These results suggest that intestinal metabolism may impact the metabolism of CPF and DZN, especially following low-dose oral exposures.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Pogacnik, L. and Franko, M. (1999). Determination of organophosphate and carbamate pesticides in spiked samples of tap water and fruit juices by a biosensor with photothermal detection. *Biosensors & Bioelectronics* 14 : 569-578.  
Chem Codes: CBF Rejection Code: METHODS/NO TOX DATA/FOOD.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The determination of organophosphate (paraoxon, chlorpyrifos, diazinon) and carbamate (carbaryl, carbofuran) pesticides in spiked drinking water and fruit juices was carried out using a photothermal biosensor. The biosensor consists of a cartridge containing immobilised enzyme acetylcholinesterase (AChE) placed in a flow-injection analysis (FIA) manifold and a photothermal detector based on thermal lens spectrometry. With this approach, 0.2 ng/ml of paraoxon can be detected in less than 15 min. raoxon in tap water, orange juice and apple juice were obtained, respectively.  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-Bioengineering  
KEYWORDS: Enzymes-Methods  
KEYWORDS: Food Technology-General  
KEYWORDS: Toxicology-General  
KEYWORDS: Toxicology-Foods  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Pest Control

POLETIKA NN, HAVENS PL, ROBB CK, and SMITH RD (1998). ORGANOPHOSPHOROUS INSECTICIDE CONCENTRATION PATTERNS IN AN AGRICULTURALLY DOMINATED TRIBUTARY OF THE SAN JOAQUIN RIVER. *215TH AMERICAN CHEMICAL SOCIETY NATIONAL MEETING, DALLAS, TEXAS, USA, MARCH 29-APRIL 2, 1998. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 215* AGRO 41.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT ORGANOPHOSPHOROUS CONCENTRATION PATTERN INSECTICIDE PESTICIDES FRESHWATER ECOLOGY TRIBUTARY SAN JOAQUIN RIVER CALIFORNIA USA Congresses/ Biology/ Ecology/ Biochemistry/ Herbicides/ Pest Control/ Pesticides

Pope, L. M. and Putnam, J. E. ( Effects of urbanization on water quality in the Kansas River, Shunganunga Creek basin and Soldier Creek, Topeka, Kansas, October 1993 through September 1995.  
Chem Codes: SZ Rejection Code: HUMAN HEALTH.  
  
A study of urban-related water-quality effects in the Kansas River, Shunganunga Creek Basin and Soldier Creek in Topeka, Kansas, was conducted from October 1993 through September 1995. The purpose of this report is to assess the effects of urbanization on instream concentrations of selected physical and chemical constituents within the city of Topeka. A network of seven sampling sites was established in the study area. Samples principally were collected at monthly intervals from the Kansas River and from the Shunganunga Creek Basin and at quarterly intervals from Soldier Creek. The effects of urbanization were statistically evaluated from differences in constituent concentrations between sites on the same stream. No significant differences in median concentrations of dissolved solids, nutrients, or metals and trace elements, or median densities of fecal bacteria were documented between sampling sites upstream and downstream from the major urbanized length of the Kansas River in Topeka. Discharge from the city's primary wastewater-treatment plant is the largest potential source of contamination to the Kansas River This discharge increased concentrations of dissolved ammonia, total phosphorus and densities of fecal bacteria. Calculated dissolved ammonia as nitrogen concentrations in water from the Kansas River ranged from 0.03 to 1.1 milligrams per liter after receiving treatment-plant discharge. However, most of the calculated concentrations were considerably less than 50 percent of Kansas Department of Health and Environment water-quality criteria, with a median value of 20 percent. Generally, treatment-plant discharge increased calculated total phosphorus concentrations in water from the Kansas River by 0.01 to 0.04 milligrams per liter, with a median percentage increase of 7.6 percent. The calculated median densities of fecal coliform and fecal Streptococci bacteria in water from the Kansas River increased from 120 and 150 colonies per 100 milliliters of water, respectively, before treatment-plant discharge to a calculated 4,900 and 4,700 colonies per 100 milliliters of water, respectively, after discharge. Median concentrations of dissolved solids were not significantly different between three sampling sites in the Shunganunga Creek Basin. Median concentrations of dissolved nitrate as nitrogen, total phosphorus and dissolved orthophosphate were significantly larger in water from the upstream-most Shunganunga Creek sampling site than in water from either of the other sampling sites in the Shunganunga Creek Basin probably because of the site's proximity to a wastewater-treatment plant. Median concentrations of dissolved nitrate as nitrogen and total phosphorus during 1993-95 at upstream sampling sites were either significantly larger than during 1979-81 in response to increase of wastewater-treatment plant discharge or smaller because of the elimination of wastewater-treatment plant discharge. Median concentrations of dissolved ammonia as nitrogen were significantly less during 1993-95 than during 1979-81. Median concentrations of total aluminum, iron, maganese and molybdenum were significantly larger in water from the downstream-most Shunganunga Creek sampling site than in water from the upstream-most sampling site. This probably reflects their widespread use in the urban environment between the upstream and downstream Shunganunga Creek sampling sites. Little water-quality effect from the urbanization was indicated by results from the Soldier Creek sampling site. Median concentrations of most water-quality constituents in water from this sampling site were the smallest in water from any sampling site in the study area. Herbicides were detected in water from all sampling sites. Some of the more frequently detected herbicides included acetochlor, alachlor, atrazine, cyanazine, EPTC, metolachlor, prometon, simazine and tebuthiuron. Detected insecticides including chlordane, chlorpyrifos, Diazinon, lindane and malathion. However, no concentrations exceeded Kansas Department of Health and Environment ambient water-quality criteria USGS Water-Resources Investigations Report. 84 pp  
97-4045  
English  
English  
Report  
SW 3020 Sources and fate of pollution; SW 2060 Effects on water of human nonwater activities  
Water Resources Abstracts  
4241305 A1: Alert Info 20030131

Posokhov, Yevgen O. and Ladokhin, Alexey S. (2006). Lifetime fluorescence method for determining membrane topology of proteins. *Analytical Biochemistry* 348: 87-93.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Recently, we introduced a sensitive method for determining the bilayer topology (cis- or trans-leaflet location) of single-site cysteine-linked 7-nitrobenz-2-oxa-1,3-diazol-4-yl (NBD) fluorescent labels on membrane proteins [A.S. Ladokhin, J.M. Isas, H.T. Haigler, S.H. White, Determining the membrane topology of proteins: Insertion pathway of a transmembrane helix of annexin 12, Biochemistry 41 (2002) 13617-13626]. It uses a novel quencher, LysoUB, composed of a single acyl chain attached to a UniBlue chromophore. In its original version, the method relied on the comparison of steady-state fluorescence measurements of membrane-inserted proteins in samples with different distributions of the LysoUB in cis- and trans-leaflets of the lipid bilayer. Here we modify the method to take advantage of the fluorescence lifetime methodology, which allows us to simplify sample manipulation and, as a result, increase the reliability of topology determination. We tested the method using three model systems with artificially created all-cis, all-trans, and isotropic distribution of NBD. Because the quenching efficiency is higher when LysoUB and NBD are in the same leaflet, introduction of the quencher into the cis-leaflet results in a predictably different amount of quenching for these three model systems. Indeed, the addition of 2% LysoUB into the all-cis NBD model system causes strong reduction of the longest lifetime (from 8.1 to 4.9 ns), whereas the same addition of LysoUB results in marginal quenching (from 8.7 to 8.5 ns) in the case of all-trans NBD. This difference provides a good basis for topology determination using time-resolved fluorescence quenching. NBD fluorescence/ FRET/ Membrane proteins/ Site-selective labeling/ Folding/insertion pathway

Posos-Ponce, P., Corrales-Reynaga, J., and Guerrero-Rodriguez, E. (1995). RESPONSE OF WHITE GRUB POPULATIONS TO INSECTICIDES 1991. *Burditt, A. K. Jr. (Ed.). Arthropod Management Tests, Vol. 20. Iii+399p. Entomological Society of America: Lanham, Maryland, Usa. Isbn 0-938522-53-1.* 0 : 329-330.  
Chem Codes: CBF Rejection Code: BOOK ORDERED - BURDITT VOL 2O.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER ZEA-MAYS CYCLOCEPHALA-COMATA CHLORPYRIFOS DIAZINON FONOFOS ISAZOFOS PROTHIOFOS TERBUFOS CARBOFURAN LINDANE TEFLUTHRIN INSECTICIDE PESTICIDE EVALUATION ARTHROPOD MANAGEMENT TEST LABORATORY BIOASSAY  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Agronomy-Forage Crops and Fodder  
KEYWORDS: Agronomy-Oil Crops  
KEYWORDS: Horticulture-Vegetables  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Field  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Gramineae  
KEYWORDS: Coleoptera

Posse, E., De Arcuri, B. F., and Morero, R. D. (1994). Lysozyme interactions with phospholipid vesicles: relationships with fusion and release of aqueous content. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1193: 101-106.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have previously demonstrated that lysozyme induced fusion of negatively charged phospholipid vesicles and have stressed the importance of electrostatic interactions (Posse, E. et al. (1990) Biochim. Biophys. Acta 1024, 390-394). Using centrifugation and fluorescence polarization techniques, we show, in the present paper that lysozyme interacts with negatively charged liposomes (PC/PA, 9:1), but also with neutral liposomes (pure PC). Moreover, the ionic strength and pH of the media did not modify the protein-liposomes interactions. Such interactions induce the spontaneous release of encapsulated Tb-DPA complex in liposomes. Release and fusion of PC/PA liposomes were observed. As indicated by kinetic studies and substrate curves, fusion and release are two uncoupled processes. Taking these and previous results into account we suggest a hypothetical mechanism where a relationship between aggregation, leakage and fusion of liposomes induced by lysozyme interaction is established. Lysozyme/ Liposome/ Protein-liposome interaction/ Fusion/ Tb-DPA release

Posse, Elena, Lopez Vinals, Alberto, de Arcuri, Beatriz F., Farias, Ricardo N., and Morero, Roberto D. (1990). Lysozyme induced fusion of negatively charged phospholipid vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1024: 390-394.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Lysozyme promotes fusion of negatively charged phospholipid vesicles prepared by ethanolic injection. Vesicle fusion was a leaky process as revealed by the release of encapsulated carboxyfluorescein or Tb-DPA complex. Extensive proteolysis of lysozyme inhibited the fusion process. The fusion process was critically dependent on the medium ionic strength; 100 mM of any salt was sufficient to inhibit totally the fusion activity of the protein. The high efficiency of lysozyme (80% RET) was almost constant in the pH range from 4.0 to 9.0, but it was sharply diminished when the pH of the medium was at the isoelectric point of the protein (pI 11.0). Fusion induced by chemically modified lysozyme, showed that the pH profile changed according to the isoelectric point of the protein derivative. These observations stress the importance of electrostatic interactions in the process of fusion induced by lysozyme. Lysozyme/ Vesicle fusion/ Phospholipid

Potter, D. A. (1993). Pesticide and Fertilizer Effects on Beneficial Invertebrates and Consequences for Thatch Degradation and Pest Outbreaks in Turfgrass. *In: K.D.Racke and A.R.Leslie (Eds.), ACS Symp.Ser.No.522, Pesticides in Urban Environments: Fate and Significance, 203rd Natl.Meet.of the Am.Chem.Soc., Apr.5-10, 1992, San Francisco, CA* 331-343.  
Chem Codes: EcoReference No.: 77472  
Chemical of Concern: DMB,24DXY,PCZ,DZ,FRM,TDF,CPY,PDM,CTN,BMY,CBL,BDC,EP Rejection Code: FATE/REVIEW.

Prabakaran, S., Tepp, W., and DasGupta, B. R. \*. (2001). Botulinum neurotoxin types B and E: purification, limited proteolysis by endoproteinase Glu-C and pepsin, and comparison of their identified cleaved sites relative to the three-dimensional structure of type A neurotoxin. *Toxicon [Toxicon]. Vol. 39, no. 10, pp. 1515-1531. Oct 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0041-0101  
Descriptors: Botulism  
Descriptors: Neurotoxins  
Descriptors: Botulinum toxin  
Descriptors: Proteolysis  
Descriptors: Pepsin A  
Descriptors: Crystal structure  
Descriptors: Glutamyl endopeptidase  
Descriptors: Protein folding  
Descriptors: Structure-activity relationships  
Descriptors: Crystallization  
Descriptors: Clostridium botulinum  
Abstract: Botulinum neurotoxin (NT) serotypes B and E are approximately 150 kDa proteins. Isolated from the liquid culture of Clostridium botulinum the NT type E is a single chain protein while the NT type B, from the proteolytic strain of the bacteria, is a mixture of dichain (nicked within a disulflde loop located about one-third the way from the N-terminus to the C-terminus) protein and its precursor single-chain protein. Endoproteinase Glu-C (EC 3.4.21.19) and pepsin (EC 3.4.23.1) were used for controlled digestion of NT types B and E; the amino acid residues flanking many of the cleavable peptide bonds were identified and the corresponding proteolytic fragments partially characterized. Chemical identification of 82 and 108 residues of types B and E NT, respectively, revealed that the residue 738 and 1098 in type E NT, identified as Leu and Asn, respectively, differ from those deduced from nucleotide sequences. Several fragments overlapped spanning various segments of the NT's functional domains; they appear to have potential for structure-function studies of the NT. The cleavage sites were compared with the previously determined proteolyzed sites on NT types A and E. The cleavage sites of the NT types A, B and E, all exposed on the protein surface, were scrutinized in the context of the three-dimensional structure of crystallized NT type A (Lacy, D.B., Stevens, R.C., 1999. J. Mol. Biol. 291, 1091-1104]. Detailed procedures for isolation of pure NT types B and E in large quantities (average yield 92 and 62 mg, respectively) suitable for crystallization are reported.  
Language: English  
English  
Publication Type: Journal Article  
Classification: J 02822 Biosynthesis and physicochemical properties  
Classification: A 01023 Others  
Classification: X 24171 Microbial  
Subfile: Microbiology Abstracts A: Industrial & Applied Microbiology; Microbiology Abstracts B: Bacteriology; Toxicology Abstracts

Prakash, A. and Bhattacharya, R. (1993). Investigations on Downward Translocation of BPMC in Rice. *J.Insect Sci.(Lunhiana)* 6: 146-147.

EcoReference No.: 85965  
Chemical of Concern: DZ,OXD,FNT,PPHD,CBF; Habitat: AT; Effect Codes: MOR,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Praly, J. P., El Kharraf, Z., and Descotes, G. (1990). Synthesis of C-1 spirocyclopropyl sugars from anomeric diazides. *Tetrahedron Letters* 31: 4441-4442.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The photolysis of peracetylated glucopyranosylidene diazide in the presence of acrylonitrile in excess yields four C-1 spirocyclopropyl sugars in a 65% combined yield. This unprecedented synthesis of bis C,C-glycosides is supposed to inlvolve anomeric carbene intermediates.

Praly, Jean-Pierre, Di Stefano, Carmela, Descotes, Gerard, and Faure, Rene (1994). Photolysis of sugar anomeric diazides: Sugar-derived tetrazoles as evidences for a major nitrene decomposition pathway. *Tetrahedron Letters* 35: 89-92.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The preponderance of regioisomeric sugar-derived tetrazoles (up to 75% total yield) obtained upon photolysis of protected (benzyl, acetyl) glucopyranosylidene diazides, even in the presence of added acrylonitrile, proved that azidonitrene intermediates predominate over anomeric carbenes, in the reaction. Revisions are presented for its mechanism and one structure.

PRASAD BP, KANTAM ML, CHOUDARY BM, SUKUMAR, K., and SATYANARAYANA, K. (1990). New pesticide metal complexes for controlled release. *PESTIC SCI; 28* 157-166.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. Six new pesticide metal complexes were synthesised, characterised and evaluated for controlled release by chemical and bioassay methods. Chemical assay and bioassay data demonstrate the increased persistence and increased shelf life of the pesticide upon complexation. Biology/Methods/ Minerals/ Biophysics/Methods/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Anatomy, Comparative/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Diptera

Prasad, Tekkatte Krishnamurthy, Rangaraj, Nandini, and Rao, Nalam Madhusudhana (2005). Quantitative aspects of endocytic activity in lipid-mediated transfections. *FEBS Letters* 579: 2635-2642.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Variation in transfection efficiency observed in different cell-types is poorly understood. To investigate the influence of endocytic activity on lipid-mediated transfections, we have monitored both the processes in 12 different cell-types. The endocytic activity shows a strong positive correlation (P 70% compared to controls. Our study based on several cell-types demonstrates for the first time that quantitative aspects of endocytosis have decisive influence on the overall process of lipid-mediated transgene expression. Cationic lipid/ Gene delivery/ Endocytosis/ Mitosis

Prieto, A., Molero, D., Gonzalez, G., Buscema, I., Ettiene, G., and Medina, D. (2002). Persistence of Methamidophos, Diazinon, and Malathion in Tomatoes. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 69, no. 4, pp. 479-485. 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0007-4861  
Descriptors: Persistence  
Descriptors: methamidophos  
Descriptors: Malathion  
Descriptors: Diazinon  
DOI: 10.1007/s00128-002-0087-5  
Language: English  
Publication Type: Journal Article  
Classification: X 24120 Food, additives & contaminants  
Subfile: Toxicology Abstracts

Prieto, M. J. E., Castanho, M., Coutinho, A., Ortiz, A., Aranda, F. J., and Gomez-Fernandez, J. C. (1994). Fluorescence study of a derivatized diacylglycerol incorporated in model membranes. *Chemistry and Physics of Lipids* 69: 75-85.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A fluorescence study of a diacylglycerol derivatized with the n-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) chromophore (NBD) was carried out. Fluorescence self-quenching was observed for this probe in lecithin model membranes due to collisional interaction rather than to an aggregational behaviour of the probe. The efficient energy migration (Ro = 28 A) of the NBD fluorophore was studied via the fluorescence depolarization upon increase of probe concentration in membranes, and the results are compared with a model where a random distribution of the probes is assumed. A surface location of the chromophore was concluded for the NBD derivative of diacylglycerol, both from the fluorescence parameters and from the study of its fluorescence quenching by spin label probes. Very high lateral diffusion coefficients were obtained for these probes, both from the self-quenching (D = 2-6 x 10-6 cm2 s-1) and from the spin probe quenching (D = 3.5 x 10-6 cm2 s-1) studies. A concomitant fluorescence study of the related probe NBD-phosphatidylcholine revealed that its photophysical behaviour is similar to the derivatized diacylglycerol. NBD-Dioleoylglycerol/ Phospholipid vesicles/ Fluorescence

PRITCHARD PH (1988). FATE OF POLLUTANTS. *J WATER POLLUT CONTROL FED; 60* 983-994.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW WATER POLLUTION KINETICS MONITORING HYDROCARBONS PESTICIDE METALS Ecology/ Oceanography/ Fresh Water/ Biochemistry/ Minerals/ Air Pollution/ Soil Pollutants/ Water Pollution

Proctor, N. H., Moscioni, A. D., and Casida, J. E. (1976). Chicken Embryo Nad Levels Lowered by Teratogenic Organophosphorus and Methylcarbamate Insecticidesag. *Biochem.Pharmacol.* 25: 757-762.

EcoReference No.: 84915  
Chemical of Concern: DZ,CBL,CBF,ADC; Habitat: T; Effect Codes: GRO; Rejection Code: NO ENDPOINT(DZ).

Provini, A., Maio, E. d. i., and Galassi, S. ( Pesticide contamination in some tributaries of the Tyrrhenian Sea. *ENVIRONMENTAL POLLUTION AND ITS IMPACT ON LIFE IN THE MEDITERRANEAN REGION., 1991, pp. 157-165, Toxicological and Environmental Chemistry [TOXICOL. ENVIRON. CHEM.], vol. 31-32*.  
Chem Codes: Chemical of Concern: DMT Rejection Code: SURVEY.  
  
Organophosphorus and organochlorine pesticides were analyzed in some tributaries of the Tyrrhenian Sea, draining an agricultural area of Southern Italy (Calabria). Dimethoate, diazinon and lindane are the pesticides most frequently found in river waters. Occasionally parathion-methyl is present. Results are in good agreement with those expected on the basis of sale data and persistence. Pesticide concentrations in water are generally higher by far than those of the large rivers and similar to levels determined in some other Mediterranean rivers (Spain, Greece). The risk to the aquatic life by these compounds and their contribution to the sea pollution are discussed. Classification: Q5 01503 Characteristics, behavior and fate; P 2000 FRESHWATER POLLUTION agricultural pollution/ pollution effects/ pesticides/ river discharge/ organophosphorus compounds/ organochlorine compounds/ phosphorus compounds/ tributaries/ MED, Italy, Calabria/ freshwater organisms/ chlorine compounds/ MED, Tyrrhenian Sea/ marine pollution/ Italy, Calabria/ Tyrrhenian Sea

Provini, A., Maio, E. d. i., Galassi, S., Lahaniatis, E. S., Parlar, H., Lay, J. P., Pfister, G., Bergheim, W., and Kotzias, D. (eds) (1991). Pesticide contamination in some tributaries of the Tyrrhenian Sea.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0277-2248  
Descriptors: agricultural pollution  
Descriptors: pollution effects  
Descriptors: pesticides  
Descriptors: river discharge  
Descriptors: phosphorus compounds  
Descriptors: tributaries  
Descriptors: freshwater organisms  
Descriptors: chlorine compounds  
Descriptors: marine pollution  
Descriptors: organophosphorus compounds  
Descriptors: organochlorine compounds  
Descriptors: MED, Italy, Calabria  
Descriptors: MED, Tyrrhenian Sea  
Descriptors: Italy, Calabria  
Abstract: Organophosphorus and organochlorine pesticides were analyzed in some tributaries of the Tyrrhenian Sea, draining an agricultural area of Southern Italy (Calabria). Dimethoate, diazinon and lindane are the pesticides most frequently found in river waters. Occasionally parathion-methyl is present. Results are in good agreement with those expected on the basis of sale data and persistence. Pesticide concentrations in water are generally higher by far than those of the large rivers and similar to levels determined in some other Mediterranean rivers (Spain, Greece). The risk to the aquatic life by these compounds and their contribution to the sea pollution are discussed.  
Conference: 5. International Congress on Environmental Pollution and its Impact on Life in the Mediterranean Region, Blanes (Spain), 2-6 Oct 1989  
Language: English  
English  
Publication Type: Book Monograph  
Publication Type: Conference  
Environmental Regime: Marine; Brackish; Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 2000 FRESHWATER POLLUTION  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Prysak, M. F. and Joesten, M. D. (1970). Metal complexes of ethyl dimethylamidopyrophosphates. *Inorganica Chimica Acta* 4: 383-389.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Metal ion complexes of asym-diethyltetramethyldiami- do-pyrophosphate (ASM) and ethl hexamethyltria- midopyrophosphate (MONE) have been prepared. Complexes of tetraethyl pyrophosphate (TEPP) are very difficult to isolate. Thus far, only an adduct of TEPP with antimony pentachloride has been isolated. The coordinating ability of ASYM, MONE, and TEPP is compared with that of octamethylpyrophosphoramide (OMPA) and sym-diethyl tetramethyl- diamidopyrophosphate (SYM). The order of coordinating ability is OMPA>MONE>SYM>ASYM>TEPP.

Puyal, Christophe, Maurin, Luc, Miquel, Genevieve, Bienvenue, Alain, and Philippot, Jean (1994). Design of a short membrane-destabilizing peptide covalently bound to liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1195: 259-266.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We characterized the physical and biological properties of a 14-residue amphipathic sequence called SFP (for short fusogenic peptide). At acidic pH, this short synthetic peptide interacts with various phospholipidic monolayers. These interactions were correlated with a pH-dependent conformational transition of SFP resulting in a hydrophobic [alpha]-helical structure. The hemolysis assay showed a pH-dependent weak membrane destabilizing activity of SFP. However, membrane anchoring of SFP through a covalently bound myristic acid enhanced by 1000-fold its membrane-destabilizing power. Moreover, SFP covalently bound to fluorescent-labeled liposomes induced a pH-dependent mixing of both membranes. SFP, a small synthetic peptide, is thus able to mimick many aspects of viral protein-induced membrane fusion: conformational change, membrane destabilization, membrane anchoring and finally pH-dependent lipid mixing. Fusogenic peptide/ Monolayer/ Liposome

Qadri, N. and Dutta, H. M. (1995). Long Term Effects of Low and High Concentrations of Diazinon on Bluegill Fish, Lepomis macrochirus: A Light Microscopic Study. *Am.Soc.Zool.* 144A.

EcoReference No.: 45078  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ABSTRACT.

QADRI NB and DUTTA HM (1997). EFFECTS OF DIAZINON ON THE GILL AND MACROPHAGE OF THE BLUEGILL SUNFISH LEPOMIS MACROCHIRUS A TEM STUDY. *FIFTH INTERNATIONAL CONGRESS OF VERTEBRATE MORPHOLOGY, BRISTOL, ENGLAND, UK, JULY 12-17, 1997. JOURNAL OF MORPHOLOGY; 232* 311.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT LEPOMIS-MACROCHIRUS BLUEGILL SUNFISH DIAZINON GILLS MACROPHAGE DETOXIFICATION SURVIVAL POLLUTION DEFENSE RESPONSE TOXICOLOGY TRANSMISSION ELECTRON MICROSCOPY RESPIRATORY SYSTEM RESPIRATORY SYSTEM BLOOD AND LYMPHATICS IMMUNE SYSTEM ANALYTICAL METHOD Congresses/ Biology/ Animals/ Cytology/ Histocytochemistry/ Cytology/ Microscopy/ Microscopy, Electron/ Respiratory Tract Diseases/Physiopathology/ Poisoning/ Animals, Laboratory/ Immunity, Cellular/ Fishes

Qadri, S. S. H., Sultana, H., and Anjum, F. (1982). Selective Toxicity of Organophophorous and Carbamate Pesticides to Honey Bee and Freshwater Fish. *Int.Pest Control* 24: 124-74.

EcoReference No.: 68557  
Chemical of Concern: DZ; Habitat: AT; Effect Codes: MOR,BCM; Rejection Code: NO CONTROL(ALL CHEMS).

Qiao, D. a. n., Seidler, F. J., and Slotkin, T. A. \*. (2001). Developmental Neurotoxicity of Chlorpyrifos Modeled in Vitro: Comparative Effects of Metabolites and Other Cholinesterase Inhibitors on DNA Synthesis in PC12 and C6 Cells. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 109, no. 9, pp. 909-913. Sep 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 0091-6765  
Descriptors: Chlorpyrifos  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Neurotoxicity  
Descriptors: DNA biosynthesis  
Abstract: The widely used organophosphate pesticide chlorpyrifos is a suspected neuroteratogen. In the current study, we compared the effects of chlorpyrifos and its major metabolites in two in vitro models, neuronotypic PC12 cells and gliotypic C6 cells. Chlorpyrifos inhibited DNA synthesis in both cell lines but had a greater effect on gliotypic cells. Chlorpyrifos oxon, the active metabolite that inhibits cholinesterase, also decreased DNA synthesis in PC12 and C6 cells with a preferential effect on the latter. Trichloropyridinol, the major catabolic product of chlorpyrifos, had a much smaller, but nevertheless statistically significant, effect that was equivalent in both cell lines. Diazinon, another organophosphate pesticide, also inhibited DNA synthesis with preference toward C6 cells, but was less effective than was chlorpyrifos. Physostigmine, a non-organophosphate cholinesterase inhibitor, was less effective than either chlorpyrifos or diazinon, but still caused significant inhibition of DNA synthesis in C6 cells. We also found that the addition of sera protected the cells from the adverse effects of chlorpyrifos and that the effect could be reproduced by addition of albumin. These results indicate that chlorpyrifos and other organophosphates such as diazinon have immediate, direct effects on neural cell replication, preferentially for gliotypic cells. In light of the protective effect of serum proteins, the fact that the fetus and newborn possess lower concentrations of these proteins suggests that greater neurotoxic effects may occur at blood levels of chlorpyrifos that are nontoxic to adults.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Classification: N3 11101 General  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Qu Q. S., Chen L. C., Gordon T., Amdur M., and Fine J. M. (1993). Alteration of Pulmonary Macrophage Intracellular pH Regulation by Sulfuric Acid Aerosol Exposures. *Toxicology and Applied Pharmacology* 121: 138-143.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE, INHALE.  
  
In vivo exposure to sulfuric acid aerosols produces profound effects on pulmonary macrophage (PM[phi]) phagocytic function and cytokine release and perturbs intracellular pH (pHi) homeostasis. Because pHi influences a multitude of cellular processes, we sought to investigate the mechanism by which acid aerosol exposure affects its regulation. Guinea pigs underwent a single or 5 repeated 3-hr exposures to sulfuric acid aerosol (969 and 974 [mu]g/m3 for single and repeated exposures, respectively). PM[phi] harvested immediately after exposure were incubated in HCO3-free media and their pHi recovery from an intracellular acid load was examined. The overall pHi recovery was depressed after single and multiple exposures to sulfuric acid aerosol. [Delta]pHi (the difference between initial pHi and the one measured at 150 sec) decreased by 15.6 and 23.3% (p dpHi/dt (maximum pHi recovery rate) after cytoplasmic acidification diminished by 20.3 and 32.2%, which were not statistically significant (p = 0.08 for repeated exposure). To determine whether the activity of the H+-ATPase pump or the Na+-H+ exchanger was specifically altered by the acid exposures, PM[phi] were first incubated in Na+ and HCO3-free media with NBD-Cl (7-chloro-4-nitro-benz-2-oxa-1,3-diazol, blocking H+-ATPase and leaving only the Na+-H+ exchanger in effect) and then challenged with 30 mM NaCl. The pHi recovery of PM[phi] after Na challenge was significantly reduced in acid aerosol exposed guinea pigs (p pHi, 18.2% lower in single exposure and 22.7% in multiple exposure groups; for initial dpHi/dt, 26.9% lower in single exposure and 22.4% in multiple exposure groups). In contrast, the H+-ATPase pump was inconsistently affected as indicated by [Delta]pHi and initial dpHi/dt measured in the presence of MIA (amiloride-5-N-methylisobutyl, inhibiting the Na+-H+ exchanger and leaving only the H+-ATPase pump in effect). These results suggest that in vivo exposure to sulfuric acid aerosols induces alterations in pHi regulation in guinea pig PM[phi] attributable to changes in Na+-H+ exchanger activity.

Quistad, G. B., Fisher, K. J., Owen, S. C., Klintenberg, R., and Casida, J. E. (2005). Platelet-Activating Factor Acetylhydrolase: Selective Inhibition by Potent n-Alkyl Methylphosphonofluoridates. *Toxicol.Appl.Pharmacol.* 205: 149-156.

EcoReference No.: 80192  
Chemical of Concern: CPY,DZ,TBO; Habitat: T; Effect Codes: MOR,PHY,CEL; Rejection Code: NO CONTROL(ALL CHEMS).

Quistad Gary B, Liang Shannon N, Fisher Karl J, Nomura Daniel K, and Casida John E (2006). Each Lipase Has a Unique Sensitivity Profile for Organophosphorus Inhibitors. *Toxicological Sciences [Toxicol. Sci.]. Vol. 91, no. 1, pp. 166-172. May 2006.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
ISSN: 1096-6080  
Descriptors: Triacylglycerol lipase  
Descriptors: esterase  
Descriptors: serine hydrolase  
Descriptors: Pancreas  
Descriptors: Cholesterol  
Descriptors: Milk  
Descriptors: Chlorpyrifos  
Descriptors: Brain  
Descriptors: Enzymes  
Descriptors: Nutrition  
Descriptors: Insecticides  
Descriptors: Acetylcholinesterase  
Descriptors: Paraoxon  
Descriptors: Reviews  
Descriptors: Phosphate  
Descriptors: oxides  
Descriptors: Pesticides  
Descriptors: Lipoprotein lipase  
Descriptors: Liver  
Descriptors: Dichlorvos  
Descriptors: Pseudomonas  
Abstract: Lipases sensitive to organophosphorus (OP) inhibitors play critical roles in cell regulation, nutrition, and disease, but little is known on the toxicological aspects in mammals. To help fill this gap, six lipases or lipase-like proteins are assayed for OP sensitivity in vitro under standard conditions (25 degree C, 15 min incubation). Postheparin serum lipase, lipoprotein lipase (LPL) (two sources), pancreatic lipase, monoacylglycerol (MAG) lipase, cholesterol esterase, and KIAA1363 are considered with 32 OP pesticides and related compounds. Postheparin lipolytic activity in rat serum is inhibited by 14 OPs, including chlorpyrifos oxon (IC sub(50) 50-97 nM). LPL (bovine milk and Pseudomonas) generally is less inhibited by the insecticides or activated oxons, but the milk enzyme is very sensitive to six fluorophosphonates and benzodioxaphosphorin oxides (IC sub(50) 7-20 nM). Porcine pancreatic lipase is very sensitive to dioctyl 4-nitrophenyl phosphate (IC sub(50) 8 nM), MAG lipase of mouse brain to O-4-nitrophenyl methyldodecylphosphinate (IC sub(50) 0.6 nM), and cholesterol esterase (bovine pancreas) to all of the classes of OPs tested (IC sub(50) < 10 nM for 17 compounds). KIAA1363 is sensitive to numerous OPs, including two O-4-nitrophenyl compounds (IC sub(50) 3-4 nM). In an overview, inhibition of 28 serine hydrolases (including lipases) by eight OPs (chlorpyrifos oxon, diazoxon, paraoxon, dichlorvos, and four nonpesticides) showed that brain acetylcholinesterase is usually less sensitive than butyrylcholinesterase, liver esterase, cholesterol esterase, and KIAA1363. In general, each lipase (like each serine hydrolase) has a different spectrum of OP sensitivity, and individual OPs have unique ranking of potency for inhibition of serine hydrolases.  
Publisher: Oxford University Press, Oxford Journals, Great Clarendon Street Oxford OX2 6DP UK, [mailto:jnl.samples@oup.co.uk], [URL:http://www3.oup.co.uk/jnls/]  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

Quistad, Gary B., Nomura, Daniel K., Sparks, Susan E., Segall, Yoffi, and Casida, John E. (2002). Cannabinoid CB1 receptor as a target for chlorpyrifos oxon and other organophosphorus pesticides. *Toxicology Letters* 135: 89-93.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Cannabinoid receptor/ CB1 receptor/ Chlorpyrifos oxon/ Insecticides/ Organophosphorus pesticides/ Tribufos Binding of the endocannabinoid anandamide or of [Delta]9-tetrahydrocannabinol to the agonist site of the cannabinoid receptor (CB1) is commonly assayed with [3H]CP 55,940. Potent long-chain alkylfluorophosphonate inhibitors of agonist binding suggest an additional, important and closely-coupled nucleophilic site, possibly undergoing phosphorylation. We find that the CB1 receptor is also sensitive to inhibition in vitro and in vivo by several organophosphorus pesticides and analogs. Binding of [3H]CP 55,940 to mouse brain CB1 receptor in vitro is inhibited 50% by chlorpyrifos oxon at 14 nM, chlorpyrifos methyl oxon at 64 nM and paraoxon, diazoxon and dichlorvos at 1200-4200 nM. Some 15 other organophosphorus pesticides and analogs are less active in vitro. The plant defoliant tribufos inhibits CB1 in vivo, without cholinergic poisoning signs, by 50% at 50 mg/kg intraperitoneally with a recovery half-time of 3-4 days, indicating covalent derivatization. [3H-ethyl]Chlorpyrifos oxon may be suitable for radiolabeling and characterization of this proposed nucleophilic site.

Quistad, Gary B., Sparks, Susan E., and Casida, John E. (2001). Fatty Acid Amide Hydrolase Inhibition by Neurotoxic Organophosphorus Pesticides. *Toxicology and Applied Pharmacology* 173: 48-55.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Organophosphorus (OP) compound-induced inhibition of acetylcholinesterase (AChE) and neuropathy target esterase explains the rapid onset and delayed neurotoxic effects, respectively, for OP insecticides and related compounds but apparently not a third or intermediate syndrome with delayed onset and reduced limb mobility. This investigation tests the hypothesis that fatty acid amide hydrolase (FAAH), a modulator of endogenous signaling compounds affecting sleep (oleamide) and analgesia (anandamide), is a sensitive target for OP pesticides with possible secondary neurotoxicity. Chlorpyrifos oxon inhibits 50% of the FAAH activity (IC50 at 15 min, 25[deg]C, pH 9.0) in vitro at 40-56 nM for mouse brain and liver, whereas methyl arachidonyl phosphonofluoridate, ethyl octylphosphonofluoridate (EOPF), oleyl-4H-1,3,2-benzodioxaphosphorin 2-oxide (oleyl-BDPO), and dodecyl-BDPO give IC50s of 0.08-1.1 nM. These BDPOs and EOPF inhibit mouse brain FAAH in vitro with >=200-fold higher potency than for AChE. Five OP pesticides inhibit 50% of the brain FAAH activity (ED50) at diazinon, and methamidophos occurs near acutely toxic levels, profenofos and tribufos are effective at asymptomatic doses. Two BDPOs (dodecyl and phenyl) and EOPF are potent inhibitors of FAAH in vivo (ED50 0.5-6 mg/kg). FAAH inhibition of >=76% in brain depresses movement of mice administered anandamide at 30 mg/kg ip, often leading to limb recumbency. Thus, OP pesticides and related inhibitors of FAAH potentiate the cannabinoid activity of anandamide in mice. More generally, OP compound-induced FAAH inhibition and the associated anandamide accumulation may lead to reduced limb mobility as a secondary neurotoxic effect. anandamide/ anandamide amidohydrolase/ chlorpyrifos/ delayed neurotoxicity/ fatty acid amide hydrolase/ neuropathy target esterase/ oleamide/ profenofos/ serine hydrolases/ tribufos

Radeleff, R. D. and Kunz, S. E. (1972). Toxicity and Hazard of Diazinon, Ethion, and Supracide to Turkeys. *J.Econ.Entomol.* 65: 162-165.

EcoReference No.: 38425  
Chemical of Concern: ETN,DZ; Habitat: T; Effect Codes: BCM,MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Ramesh, A and Balasubramanian, M (1999). Kinetics and hydrolysis of fenamiphos, fipronil, and trifluralin in aqueous buffer solutions. *Journal Of Agricultural And Food Chemistry* 47: 3367-3371.  
Chem Codes: Chemical of Concern: FPN Rejection Code: METHODS.  
  
Hydrolyses of fenamiphos, fipronil, and trifluralin were studied in aqueous buffer solutions of pH 4.1, 7.1, and 9.1 at different temperatures, 5, 22 +/- 1, 32 +/- 1, and 50 +/- 1 degrees C. Fenamiphos, fipronil, and trifluralin were found to be more stable in acidic and neutral buffer solutions at temperatures of 5 and 22 +/- 1, and dissipation is rapid at 50 +/- 1 degrees C. In basic buffer and at higher temperature, degradation of fenamiphos was found to be very rapid when compared with fipronil and trifluralin. The rate constants calculated at 32 degrees C for fenamiphos were 2349.4 x 10(-)(8) (pH 4.1), 225.2 x 10(-)(8) (pH 7.1), and 30476.0 x 10(-)(8) (pH 9.1); for fipronil 1750.0 x 10(-)(8) (pH 4.1), 3103.0 x 10(-)(8) (pH 7.1), and 3883.0 x 10(-)(8) (pH 9.1); and for trifluralin 2331.0 x 10(-)(8) (pH 4.1), 2360.0 x 10(-)(8) (pH 7.1), and 3188.0 x 10(-)(8) (pH 9.1). On the basis of rate constant values, these pesticides appeared to be more susceptible to hydrolysis than synthetic organophosphorus compounds such as chlorpyriphos, diazinon, malathion, and ronnel. DT(50) values calculated at 32 degrees C were 228 (pH 4.1), 5310.24 (pH 7.1), and 37.68 (pH 9.1) h for fenamiphos; 608.6 (pH 4.1), 373.9 (pH 7.1), and 270.2 (pH 9.1) h for fipronil; and 502.1 (pH 4.1), 496.8 (pH 7.1), and 355.7 (pH 9.1) h for trifluralin. [Journal Article; In English; United States]

Ramirez, Andres D., Wong, Stephen K. F., and Menniti, Frank S. (2003). Pramipexole inhibits MPTP toxicity in mice by dopamine D3 receptor dependent and independent mechanisms. *European Journal of Pharmacology* 475: 29-35 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
Parkinson's disease/ MPTP/ Pramipexole/ Dopamine D3 receptor The role of dopamine D3 receptors was investigated in mediating the neuroprotective effect of the dopamine D2/D3 receptor agonist (S)-2-amino-4,5,6,7-tetrahydro-6-propylamine-benzothiazole (pramipexole) in vivo. Pramipexole retained the ability to inhibit 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)-induced dopamine depletion in mice in which the dopamine D3 receptor had been deleted. However, the neuroprotective efficacy was reduced in the dopamine D3 receptor-deleted mice compared to that in littermates expressing the wildtype receptor. Furthermore, the dopamine D3 receptor selective antagonist 2-{3-[4-(2-tert-butyl-6-trifluoromethyl-4-pyrimidinyl)-1-piperazinyl]propylthio}-4-pyrimidinol (A-437203) partially inhibited the neuroprotective effect of pramipexole in dopamine D3 receptor expressing mice but not in receptor-deleted mice. These results indicate that pramipexole protects dopamine neurons from MPTP-induced toxicity by mechanisms that are both dependent and independent of an interaction with dopamine D3 receptors.

RAMMELL CG and BENTLEY GR (1989). DECAY RATES OF ORGANOPHOSPHATE RESIDUES IN THE FLEECES OF SHEEP DIPPED FOR FLYSTRIKE CONTROL. *N Z J AGRIC RES; 32* 213-218.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM DIAZINON PROPETAMPHOS BROMOPHOS ETHYL CHLORFENVINPHOS COUMAPHOS UV LIGHT LIVESTOCK INDUSTRY Radiation Effects/ Radiation Protection/ Biochemistry/ Darkness/ Light/ Lighting/ Animal Husbandry/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Animals, Domestic/ Animals, Zoo/ Parasitic Diseases/Veterinary/ Artiodactyla

RAMMELL CG and BENTLEY GR (1990). Photodegradation of flystrike control organophosphate pesticides in wool. *N Z J AGRIC RES; 33* 85-88.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. Five organophosphate (OP) pesticides decayed faster in wool under UV irradiation than in control wool. The mean half-life in days, at an ambient temperature of 24-32ęC for the irradiated/control wool was, respectively. 0.5/15 (coumaphos), 4/9 (diazinon), 4/13 (propetamphos), 11/23 (bromophos ethyl), and 13/21 (chlorfenvinphos). Both UV and thermal components need to be considered in assessing the effects of solar radiation on OP residue levels in wool. Biochemistry/ Animal Husbandry/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Rao, A. V. and Sethunathan, N. (1985). Microbiology of the Rice Soils. *In: A.M.Wadhwani (Ed.), Rice Research in India, Indian Counc.of Agric.Res., New Delhi, India* 331-343.  
Chem Codes: EcoReference No.: 84872  
Chemical of Concern: DZ,HCCH,PRN Rejection Code: REVIEW.

RAO, P. SC, HORNSBY AG, and JESSUP RE (1985). INDICES FOR RANKING THE POTENTIAL FOR PESTICIDE CONTAMINATION OF GROUNDWATER. *44TH ANNUAL MEETING OF THE SOIL AND CROP SCIENCE SOCIETY OF FLORIDA, JACKSONVILLE BEACH, FLA., USA, OCT. 23-25, 1984. SOIL CROP SCI SOC FLA PROC; 44* 1-8.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LEACHING SOLUBILITY HALF-LIFE NEMATICIDES HERBICIDES Congresses/ Biology/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides

RASHID KA and MUMMA RO (1986). SCREENING PESTICIDES FOR THEIR ABILITY TO DAMAGE BACTERIAL DNA. *J ENVIRON SCI HEALTH PART B PESTIC FOOD CONTAM AGRIC WASTES; 21* 319-334.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM SALMONELLA-TYPHIMURIUM ESCHERICHIA-COLI CARCINOGEN MUTAGEN Cytology/ Histocytochemistry/ Genetics/ Cytogenetics/ Biochemistry/ Comparative Study/ Biochemistry/ Nucleic Acids/ Purines/ Pyrimidines/ Comparative Study/ Pathology/ Nucleic Acids/Metabolism/ Purines/Metabolism/ Pyrimidines/Metabolism/ Poisoning/ Animals, Laboratory/ Carcinogens/ Bacteria/Genetics/ Viruses/Genetics/ Herbicides/ Pest Control/ Pesticides/ Enterobacteriaceae

Rasmussen, S. G. F., Carroll, F. I., Maresch, M. J., Jensen, A. D., Tate, C. G., and Gether, U. (2001). Biophysical Characterization of the Cocaine Binding Pocket in the Serotonin Transporter Using a Fluorescent Cocaine Analogue as a Molecular Reporter. *Journal of Biological Chemistry [J. Biol. Chem.]. Vol. 276, no. 7, pp. 4717-4723. 16 Feb 2001.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
ISSN: 0021-9258  
Descriptors: Fluorescence  
Descriptors: Cocaine  
Abstract: To explore the biophysical properties of the binding site for cocaine and related compounds in the serotonin transporter SERT, a high affinity cocaine analogue (3 beta -(4-methylphenyl)tropane-2 beta -carboxylic acid N-(N-methyl-N-(4-nitrobenzo-2-oxa-1,3-diazol-7- yl)ethanolamine ester hydrochloride (RTI-233); K sub(i) = 14 nM) that contained the environmentally sensitive fluorescent moiety 7-nitrobenzo-2-oxa-1,3-diazole (NBD) was synthesized. Specific binding of RTI-233 to the rat serotonin transporter, purified from Sf-9 insect cells, was demonstrated by the competitive inhibition of fluorescence using excess serotonin, citalopram, or RTI-55 (2 beta -carbomethoxy-3 beta -(4-iodophenyl)tropane). Moreover, specific binding was evidenced by measurement of steady-state fluorescence anisotropy, showing constrained mobility of bound RTI-233 relative to RTI-233 free in solution. The fluorescence of bound RTI-233 displayed an emission maximum ( lambda sub(max)) of 532 nm, corresponding to a 4-nm blue shift as compared with the lambda sub(max) of RTI-233 in aqueous solution and corresponding to the lambda sub(max) of RTI-233 in 80% dioxane. Collisional quenching experiments revealed that the aqueous quencher potassium iodide was able to quench the fluorescence of RTI-233 in the binding pocket (K sub(SV =) 1.7 M super(-1)), although not to the same extent as free RTI-233 (K sub(SV =) 7.2 M super(-1)). Conversely, the hydrophobic quencher 2,2,6,6-tetramethylpiperidine-N-oxyl (TEMPO) quenched the fluorescence of bound RTI-233 more efficiently than free RTI-233. These data are consistent with a highly hydrophobic microenvironment in the binding pocket for cocaine-like uptake inhibitors. However, in contrast to what has been observed for small-molecule binding sites in, for example, G protein-coupled receptors, the bound cocaine analogue was still accessible for aqueous quenching and, thus, partially exposed to solvent.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24180 Social poisons & drug abuse  
Subfile: Toxicology Abstracts

Rasmusssen, R. R., Poulsen, M. E., and Hansen, H. C. B. (2003). Distribution of multiple pesticide residues in apple segments after home processing. *Food Additives and Contaminants [Food Addit. Contam.]. Vol. 20, no. 11, pp. 1044-1063. Nov 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0265-203X  
Descriptors: Fruits  
Descriptors: Food contamination  
Descriptors: Pesticides  
Descriptors: Residues  
Descriptors: Pesticide residues  
Descriptors: Malus domestica  
Abstract: The effects of washing, storing, boiling, peeling, coring and juicing on pesticide residue were investigated for field-sprayed Discovery and Jonagold apples. Residues of chlorpyrifos, cypermethrin, deltamethrin, diazinon, endosulfan, endosulfan sulfate, fenitrothion, fenpropathrin, iprodione, kresoxim-methyl, lambda-cyhalothrin, quinalphos, tolylfluanid and vinclozolin in the processed apples were analysed by gas chromatography. Statistical analysis showed that reductions of 18-38% were required to obtain significant effects of processing practices, depending on pesticide and apple variety. Juicing and peeling the apples significantly reduced all pesticide residues. In the case of detectable pesticide residues, 1-24% were distributed in the juice and in the peeled apple. None of the pesticide residues was significantly reduced when the apples were subject to simple washing or coring. Storing significantly reduced five of the pesticide residues: diazinon, chlorpyrifos, fenitrothion, kresoxim-methyl and tolylfluanid, by 25-69%. Residues of the metabolite endosulfan sulfate were increased by 34% during storage. Boiling significantly reduced residues of fenitrothion and tolylfluanid by 32 and 81%, respectively. Only a few of the observed effects of processing could be explained by the physical or chemical characteristics of the pesticides. No differences in effect of processing due to apple variety were identified.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24120 Food, additives & contaminants  
Classification: H 4000 Food and Drugs  
Subfile: Toxicology Abstracts; Health & Safety Science Abstracts

RAWLINS BG, FERGUSON AJ, CHILTON PJ, ARTHURTON RS, REES JG, and BALDOCK JW (1998). Review of agricultural pollution in the Caribbean with particular emphasis on small island developing states. *MARINE POLLUTION BULLETIN; 36* 658-668.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Recent studies have attributed the degradation of coastal living resources in the Caribbean to the potential impacts of agricultural pollution. Physical features controlling the delivery, retention and dispersal of pollutants throughout the region are discussed. Information relating to four types of agricultural pollution is presented and assessed: soil erosion leading to siltation, nutrient enrichment, pesticide contamination and agro-industrial pollution. The results of this review have enabled gaps in knowledge to be identified. Areas prone to soil erosion and the reasons for their susceptibility are known. There is a paucity of baseline data on turbidity and on the concentration of nutrients and pesticides in the coastal zone. The increase in the use of agricultural fertilizers and pesticides over the last 20 years suggests a concomitant rise in their loads to coastal waters. Few studies have made direct links between agricultural pollution, reduction in coastal wat Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides

Rawlins, S. C. and Mansingh, A. (1978). Patterns of Resistance to Various Acaricides in Some Jamaican Populations of Boophilus microplus. *J.Econ.Entomol.* 71: 956-960 .

EcoReference No.: 72313  
Chemical of Concern: CBL,CPY,DZ,HCCH,DDT; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Rebbeck, Joanne and Brennan, Eileen (1984). The effect of simulated acid rain and ozone on the yield and quality of glasshouse-grown alfalfa. *Environmental Pollution Series A, Ecological and Biological* 36: 7-16.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE, NO TOX DATA.  
  
Under glasshouse conditions, alfalfa Medicago sativa L. cv &lsquo;Saranac&rsquo; was exposed to simulated rain at pH values of 5[middle dot]6 and 3[middle dot]0, 1-2 times per week with or without ozone (ranging from 98 to 294 [mu]g m-3 for 7 h/day) once a week. The pesticide diazinon (o,o-diethyl-o-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothiate), reported as having anti-oxidant activity on pinto bean, was used in the first of these experiments, but protection from ozone injury was not observed. After weekly exposures to simulated rain and ozone over a two-month period, no yield reductions occurred in a single alfalfa harvest. When rain treatments were increased to twice weekly over two consecutive harvests, no significant yield reductions attributable to increased acidity were found. Percent dry weight in all experiments was either increased or unaffected by simulated rain and ozone exposures. Percent nitrogen, an indicator of forage quality, showed decreases of 18-37% in plants treated with simulated rain at pH 3[middle dot]0 when compared with control plants. The data revealed no synergistic-like effect on both the yield and quality of alfalfa due to simulated rain and ozone.

Reddy, G. P. V. and Murthy, M. M. K. (1989). Integrated Pest Management in Rice. *Pesticides* 23: 32f-32i.  
Chem Codes: Chemical of Concern: SZ,AND,CHL,CBL,CPY,DZ,EN,HPT,ATZ,MOM,ADC,CBF,DMT,DMB Rejection Code: NO TOX DATA.

Reddy, G. P. V. and Murthy, M. M. K. (1989). Integrated Pest Management in Rice. *Pesticides* 23: 32F-32I.  
Chem Codes: Chemical of Concern: SZ,AND,CHL,CBL,CPY,DZ,EN,HPT,ATZ,MOM,ADC,CBF,DMT,DMB,ATN Rejection Code: NO TOX DATA.

Regev, Ronit, Yeheskely-Hayon, Daniella, Katzir, Hagar, and Eytan, Gera D. (2005). Transport of anthracyclines and mitoxantrone across membranes by a flip-flop mechanism. *Biochemical Pharmacology* 70: 161-169.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The objectives of the present work are to characterize the transport of mitoxantrone and three anthracyclines in terms of binding to the membrane surface, flip-flop across the lipid core of the membrane, and release into the medium. Mitoxantrone and anthracyclines are positively charged amphipathic molecules, and as such are located at the surface of membranes among the headgroups of the phospholipids. Therefore, their transport across membranes occurs by a flip-flop mechanism, rather than by diffusion down a continuous concentration gradient located in the lipid core of the membrane. Flip-flop rates have been estimated with liposomes labeled at their surface with 7-nitrobenzo-2-oxa-1,3-diazol-4-yl (NBD) moiety attached to the headgroup of phosphatidylethanolamine. Flip-flop of mitoxantrone, doxorubicin, daunorubicin, and idarubicin occurred with half-lives of 6, 0.7, 0.15, and 0.1 min, respectively. Partition of the drugs into the membrane occurred with lipid phase/aqueous medium coefficients of 230,000, 8600, 23,000, and 40,000 for mitoxantrone, doxorubicin, daunorubicin, and idarubicin, respectively, which are much higher than their corresponding octanol/aqueous medium values. There was no direct correlation between the lipophilicity of the drugs and their lipid phase/aqueous medium partition coefficient or their flip-flop rate. Mitoxantrone exhibited the highest affinity toward liposome membranes, but the slowest flip-flop across the lipid core of the membranes. Simulation of drug uptake into liposomes revealed that transmembrane movement of the mitoxantrone and anthracyclines is determined by their flip-flop rate and affinity toward membranes. Membrane transport/ Anthracyclines/ Doxorubicin/ Mitoxantrone/ Multidrug resistance/ P-glycoprotein

Reish, D. J., Kauwling, T. J., Mearns, A. J., Oshida, P. S., Rossi, S. S., Wilkes, F. G., and Ray, M. J. ( Marine And Estuarine Pollution.  
Chem Codes: Cu Rejection Code : SURVEY.  
  
pestab. acute toxicological effects of the following pesticides are discussed: altosid (methoprene), azodrin (monocrotophos), binapacryl, carbofuran, chlordane, chlorpyrifos, copper sulfate, cutrine, ddt, diazinon, dinitrophenol, dinitrocresol (dnoc), dinocap, dinosam, dinoseb, endrin, endosulfan, formalin- malachite green, heptachlor, heptachlor epoxide, hyamine, kepone (chlordecone), malachite, malathion, methoxychlor, methylene blue, methyl parathion, permethrin, and toxaphene. sublethal effects of the following pesticides are presented: ddt, malathion, seven (carbaryl), sodium pentachlorphenate, guthion (azinphos-methyl), dursban (chlorpyrifos), dibrom (naled), methoxychlor, mirex, temofos, parathion, kelthane (dicofol), malachite green, altosid, dieldrin, aldrin, heptachlor, endrin, kepone and dcma. bioaccumulation of the following pesticides by estuarine and marine organisms is reviewed: alpha-bhc, dieldrin, ddt, endosulfan, endrin, heptachlor, kepone, methoxychlor, mirex, permethrin, and toxaphene. environmental residues of the following pesticides found in sediments or water are listed: malathion, parathion, diazinon, dieldrin, mirex, ddt, dde, ddd (tde), toxaphene, aldrin, alpha-chlordane, gamma-chlordane, and lindane. environmental residues in biota of the following chemicals are listed: aldrin, ddd, dde, ddt, dieldrin, heptachlor, heptachlor epoxide, lindane and parathion. chemical residues reported from marine organisms include: aluminum, antimony, arsenic, barium, bismuth, cadmium, calcium, cesium, chromium, cobalt, copper, europium, gold, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, rubidium, scandium, selenium, silver, strontium, tin, titanium, vanadium, and zinc.

Relimpio, Angel M. (1978 ). Relation between chemical structure and biological activity of anticholinesterases. *General Pharmacology: The Vascular System* 9: 49-53.  
Chem Codes : Chemical of Concern: DZ Rejection Code: NO COC.  
  
1. A series of ethyl- mono- and disubstituted phenyl-methylphosphonates have been synthesized and their biological activities in vitro and in vivo studied.2. The treatment [varrho]-[sigma]-[pi] of biological activity in vivo leads to the conclusion that the electronic effects of the para substituents play a preponderant role on the activity, whereas the role of the meta substituents is moreover conditioned by the steric factors.3. The study of the effects that the solubility exerts on the activity has been shown to be too small to represent an appreciable factor.4. The results obtained have been compared with their diethyl-phosphate analogues.

Rettich, F. (1977). The Susceptibility of Mosquito Larvae to Eighteen Insecticides in Czechoslovakia. *Mosq.News* 37: 252-257.

EcoReference No.: 2914  
Chemical of Concern: CBL,CPY,DZ,HCCH,MLN,DLD,TCF,MXC,DDT,FNTH,DOVP,PPX,FNT,TMP; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Reyes, J. G. G., Dalla-Venezia, L., and Alvarez, M. G. L. (2002). Effect of Some Organophosphorus Pesticides on Oxygen Consumption of Shrimp, Litopenaeus vannamei. *Ecotoxicol.Environ.Saf.* 52: 134-136.

EcoReference No.: 65857  
Chemical of Concern: DZ,AZ; Habitat: A; Effect Codes: PHY; Rejection Code: NO ENDPOINT(ALL CHEMS).

RICHARDS, P., JOHNSON, M., RAY, D., and WALKER, C. (1999). Novel protein targets for organophosphorus compounds. *CHEMICO-BIOLOGICAL INTERACTIONS; 119-120* 503-511.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. Inhibition of tritiated di-isopropyl phosphorofluoridate labelling by a range of organophopshorus compounds was used to screen for novel OP-reactive targets in rat-brain homogenates. Analysis of target proteins was conducted by SDS and detection of tritiated proteins using a thin layer chromatography (TLC) linear analyser. Two major sites of 3H-DFP labelling were found with relative molecular masses of 30 and 85 kDa. Rates of reaction of these labelling sites with a range of OP compounds we Biochemistry/ Biophysics/ Coenzymes/ Comparative Study/ Enzymes/ Metabolism/ Diagnosis/ Nervous System/ Poisoning/ Animals, Laboratory/ Muridae

Richards, Roberta L., Habbersett, Robert C., Scher, Irwin, Janoff, Andrew S., Schieren, Hugh P., Mayer, Lawrence D., Cullis, Pieter R., and Alving, Carl R. (1986). Influence of vesicle size on complement-dependent immune damage to liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 855: 223-230.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Complement-dependent antibody-mediated damage to multilamellar lipid vesicles (MLVs) normally results in a maximum release of 50-60% of trapped aqueous marker. The most widely accepted explanation for this is that only the outermost lamellae of MLVs are attacked by complement. To test this hypothesis, complement damage to two different types of large unilamellar vesicles (LUVs), large unilamellar vesicles prepared by the reverse-phase evaporation procedure (REVs) and large unilamellar vesicles prepared by extrusion techniques (LUVETs), were determined. In the presence of excess antibody and complement the LUVs released a maximum of only approx. 25 to 40% of trapped aqueous marker, instead of close to 100% that would be expected. Since small unilamellar vesicles apparently differ from LUVs in that they can release 100% of trapped aqueous marker it appeared that the size of the vesicles was an important factor. Because of these observations the influence of MLV size on marker release was examined. Three populations of MLVs of different sizes were separated by a fluorescence activated cell sorter. Assays of the separated MLV populations showed that the degree of complement-dependent marker release was inversely related to MLV size. No detectable glucose was taken up by MLVs when glucose was present only outside the liposomes during complement lysis. Our results can all be explained by the closing, or loss, of complement channels. We conclude that complement channels are only transiently open in liposomes, and that loss of channel patency may be due to either channel closing or to loss of channels. Large unilamellar vesicle/ Glucose release/ Membrane damage/ Liposome/ Complement/ Immune complex/ Vesicle size

Richter, Pablo, Sepulveda, Betsabet, Oliva, Rodrigo, Calderon, Katia, and Seguel, Rodrigo (2003). Screening and determination of pesticides in soil using continuous subcritical water extraction and gas chromatography-mass spectrometry. *Journal Of Chromatography. A* 994: 169-177.  
Chem Codes: Chemical of Concern: SZ,ADC,CBF ,DMT Rejection Code: CHEM METHODS.  
  
In the present work the efficiency of water under subcritical conditions for the extraction of pesticides having a broad spectrum of polarities from soils was evaluated. The pesticides under study were carbofuran, hexachlorobenzene, dimethoate, simazine, atrazine, lindane, diazinon, methylparathion, alachlor, aldrin-R, metholachlor, chlorpyrifos, heptachlor epoxide, dieldrin, endrin, 4,4-DDT and metoxichlor. Optimization studies were carried out using a blank soil (Non-Polluted Soil 1, CLN-1, RTC) and a real soil which were previously spiked with the pesticide mixture and aged for 60 days. A laboratory-made aluminum oven with controlled temperature was used to carry out the leaching process with subcritical water, where it is placed a pre-heater and the extraction cell. The following variables were studied, keeping the pressure controlled about 1200 p.s.i.: the extraction temperature, the time of static and dynamic extraction and the flow-rate of water (1 p.s.i. = 6894.76 Pa). The extraction efficiency of the pesticides increases with the temperature trending to the quantitative extraction at temperatures near to 300 degrees C. After the extraction process, the analytes were transferred quantitatively to 5 ml dichloromethane, before the determination by GC-MS. The results indicate that under the optimized conditions mostly of the analytes are extracted quantitatively in 90 min with recoveries quite similar to those obtained by the standard Soxhlet extraction procedure. Alternatively, by using an extraction time of 25 min, the method can be used as screening for all the pesticides, with recoveries depending on their polarity. [Journal Article; In English; Netherlands] http://www.sciencedirect.com/science/article/B6WVB-48S4R4G-R0/2/731337af2e8b0c67e2f146fdb9fded75

RIDDLES PW and NOLAN, J. (1987). PROSPECTS FOR THE MANAGEMENT OF ARTHROPOD RESISTANCE TO PESTICIDES. *SYMPOSIUM ON PARASITOLOGY: QUO VADIT HELD AT THE SIXTH INTERNATIONAL CONGRESS OF PARASITOLOGY, BRISBANE, QUEENSLAND, AUSTRALIA, AUGUST 24-29, 1986. INT J PARASITOL; 17* 679-688.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ARTHROPODS GENETICS IMMUNOLOGY MATHEMATICAL MODEL Congresses/ Biology/ Mathematics/ Statistics/ Biology/ Biophysics/ Cybernetics/ Immunity/ Disinfection/ Pest Control/ Disease Vectors/ Pesticides/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Arthropods

Riegert, P. W., Ewen, A. B., and Lockwood, J. A. (1997). A History of Chemical Control of Grasshoppers and Locusts 1940-1990. *In: S.K.Ganwere, M.C.Muralirangan, and M.Muralirangan (Eds.), The Bionomics of Grasshoppers, Katydids and Their Kin, Chapter 17, CAB International, Wallingford, England* 385-405.  
Chem Codes: EcoReference No.: 70023  
Chemical of Concern: RSM,HCCH,FRN,CPY,DZ,TXP,CHD,AND,DDT,DLD,HPT,EN,PRN,DMT,AZD,CYP Rejection Code: REFS CHECKED/REVIEW.

Risbo, Jens, Jorgensen, Kent, Sperotto, Maria M., and Mouritsen, Ole G. (1997). Phase behavior and permeability properties of phospholipid bilayers containing a short-chain phospholipid permeability enhancer. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1329: 85-96.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The thermodynamic phase behavior and trans-bilayer permeability properties of multilamellar phospholipid vesicles containing a short-chain DC10PC phospholipid permeability enhancer have been studied by means of differential scanning calorimetry and fluorescence spectroscopy. The calorimetric scans of DC14PC lipid bilayer vesicles incorporated with high concentrations of DC10PC demonstrate a distinct influence on the lipid bilayer thermodynamics manifested as a pronounced freezing-point depression and a narrow phase coexistence region. Increasing amounts of DC10PC lead to a progressive lowering of the melting enthalpy, implying a mixing behavior of the DC10PC in the bilayer matrix similar to that of a substitutional impurity. The phase behavior of the DC10PC-DC14PC mixture is supported by fluorescence polarization measurements which, furthermore, in the low-temperature gel phase reveal a non-monotonic concentration-dependent influence on the structural bilayer properties; small concentrations of DC10PC induce a disordering of the acyl chains, whereas higher concentrations lead to an ordering. Irreversible fluorescence quench measurements demonstrate a substantial increase in the trans-bilayer permeability over broad temperature and composition ranges. At temperatures corresponding to the peak positions of the heat capacity, a maximum in the trans-bilayer permeability is observed. The influence of DC10PC on the lipid bilayer thermodynamics and the associated permeability properties is discussed in terms of microscopic effects on the lateral lipid organization and heterogeneity of the bilayer. Lipid bilayer/ Phase equilibrium/ Short chain lipid/ Permeability enhancer/ Calorimetry/ Fluorescence polarization/ Bilayer heterogeneity

Ritter, W. F., Johnson, H. P., Lovely, W. G., and Molnau, M. (1974). Atrazine, Propachlor, and Diazinon Residues on Small Agricultural Watersheds: Runoff Losses, Persistence, and Movement. *Environ.Sci.Technol.* 8: 38-42.  
Chem Codes: EcoReference No.: 65677  
Chemical of Concern: ATZ,DZ Rejection Code: NO SPECIES.

RIVIERE JE (1992). DERMAL ABSORPTION AND METABOLISM OF XENOBIOTICS IN FOOD-PRODUCING ANIMALS. *HUTSON, D. H., ET AL. (ED.). ACS SYMPOSIUM SERIES, 503. XENOBIOTICS AND FOOD-PRODUCING ANIMALS: METABOLISM AND RESIDUES; 202ND NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, NEW YORK, NEW YORK, USA, AUGUST 25-30, 1991. XII+255P. AMERICAN CHEMICAL SOCIETY: WASHINGTON, DC, USA. ISBN 0-8412-2472-2.; 0 (0). 1992. 88-97.*   
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM, HUMAN HEALTH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM TOXICOLOGY Congresses/ Biology/ Biochemistry/ Metabolism/ Skin/Physiology/ Pharmacology/ Pharmaceutical Preparations/Metabolism/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Animal Husbandry/ Veterinary Medicine/ Animals

RO KS, CHUNG KH, CHUNG YC, and TSAI F-J (1997). PESTICIDES AND HERBICIDES. *WATER ENVIRONMENT RESEARCH; 69* 664-667.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW PESTICIDES HERBICIDES BIODEGRADATION SORPTION ENVIRONMENTAL FATE GROUNDWATER POLLUTION Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

RO KS and LIBRA JA (1995). PESTICIDES AND HERBICIDES. *WATER ENVIRONMENT RESEARCH; 67* 548-552.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW PESTICIDES HERBICIDES WATER POLLUTION MICROBIAL ACTIVITY ANALYTICAL METHODS BIODEGRADATION SORPTION BIOACCUMULATION POLLUTANT FATE COMPUTER MODEL TREATMENT POLLUTION MH - BIOCHEMISTRY Biophysics/ Cybernetics/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biodegradation/ Industrial Microbiology/ Herbicides/ Pest Control/ Pesticides

Roberts, Stephen M., Roth, Lois, Harbison, Raymond D., and James, Robert C. (1992). Cocaethylene hepatotoxicity in mice. *Biochemical Pharmacology* 43: 1989-1995.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
Cocaethylene is a novel metabolite of cocaine formed in the presence of ethanol. When administered to ICR male mice in dosages ranging from 10 to 50 mg/kg, i.p., cocaethylene was found to produce dose-dependent hepatic necrosis in the midlobular zone (zone 2). Severity of the lesion was maximal 12-24 hr after administration. A transient but significant decrease in hepatic glutathione content was observed 1 hr after cocaethylene administration. Pretreatment with the cytochrome P450 inhibitors cimetidine (200 mg/kg, i.p., in divided doses) or SKF 525A (50 mg/kg, i.p.) diminished toxicity. Pretreatment of mice with the esterase inhibitor diazinon (10 mg/kg, i.p.) increased cocaethylene hepatotoxicity, as did pretreatment with the cytochrome P450 inducing agents phenobarbital (80 mg/kg/day, i.p., for 3 days) or [beta]-naphthoflavone (40 mg/kg/day, i.p., for 3 days). Phenobarbital pretreatment also caused a shift in the morphologic site of necrosis from midzonal to peripheral lobular (zone 1) regions. The type of hepatic lesion produced by cocaethylene, its morphologic distribution (including the shift with phenobarbital treatment), the potency of cocaethylene in producing this effect, and the apparent requirement of oxidative metabolism for hepatoxicity were all remarkably similar to observations with its parent compound, cocaine, in this and earlier studies. This suggests that these compounds produce liver toxicity through the same or similar mechanisms.

ROBINSON DE and MANSINGH, A. (1999). Insecticide contamination of Jamaican environment. IV. Transport of residues from coffee plantations in the Blue Mountains to coastal waters in eastern Jamaica. *ENVIRONMENTAL MONITORING AND ASSESSMENT; 54* 125-141.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. A survey of 120 coffee farmers in the Portland watershed revealed that they lacked training in pesticide application, and had no concept of the transport of residues in the environment and their impact on non-target organisms. Residues of organochlorine (OC) and organophosphorous compounds (OP) were monitored monthly for over a year in plantation soil, and water, sediment and fauna of three rivers and coastal waters of Portland watershed by gas chromatography. OP residues were not detected in an 0.68 | 12.63, respectively, in sea coast; beta-endosulfan, 1.2 | 0.48, 0 and 8.1 | 1.99, respectively, in Spanish River, 1.9 | 0.49, 0.75 | 0.32 and 11. | 4.32, respectively, in Swift River; 0, 5.1 | 0.30 and 30.9 | 15.96, respectively, in sea coast; endosulfan sulphate, 0.12 | 0.12, 4.8 | 1.62 and 10.0 | 2.02, respectively, in Spanish River, 3.6 | 0.95, 3.1 | 0.56 and 7.9 | 1.29, respectively, in Swift River and 0, 3.9 | 2.17 and 24.0 | 14.67, respectively, in sea coast. Dieldr Ecology/ Public Health/ Herbicides/ Pest Control/ Pesticides

Robinson, P. W. (1999). The Toxicity of Pesticides and Organics to Mysid Shrimps can be Predicted from Daphnia spp. Toxicity Data. *Water Res.* 33: 1545-1549.  
Chem Codes: Chemical of Concern: ACP,BCM,CPY,CMPH,CYH,CYP,CYR,DM,DZ,DFZ,DMM,DMP,FCX,LNR,PTP,DCB,DPDP,DNT,NBZ,NP,SFL,4CE Rejection Code: MODELING/REFS CHECKED/REVIEW.

Rodrigues, G. S., Pimentel, D., and Weinstein, L. H. (1998). In Situ Assessment of Pesticide Genotoxicity in an Integrated Pest Management Program: II. Maize Waxy Mutation Assay. *Mutat.Res.* 412: 245-250.

EcoReference No.: 73530  
Chemical of Concern: MTL,CYP,CZE,HCCH,CPY,DZ,Captan; Habitat: T; Effect Codes: CEL; Rejection Code: NO MIXTURE(MTL,CYP,CZE,HCCH,CPY,DZ,Captan,TARGET-MTL).

Roex, E. W. M, Van Gestel, C. A. M., Van Wezel, A. P., and Van Straalen, N. M. (2000). Ratios Between Acute Aquatic Toxicity and Effects on Population Growth Rates in Relation to Toxicant Mode of Action. *Environ.Toxicol.Chem.* 19: 685-693.  
Chem Codes: EcoReference No.: 56910  
Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

Roinestad, K. S., Louis, J. B., and Rosen, J. D. (1993). Determination of pesticides in indoor air and dust. *Journal of Aoac International* 76 : 1121-1126.  
Chem Codes: Chemical of Concern: RSM Rejection Code: NO SPECIES.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Improved analytical and sampling methods were developed for the multiresidue determination of pesticides in indoor air. Air analysis consists of adsorption of the pesticides in 1 m3 of air onto Tenax TA via an air sampling pump, desorption with acetone, and determination and quantitation by gas chromatography/mass spectrometry (GC) with chemical ionization on an ion trap mass spectrometer. Limits of detection for the 23 pesticides studied ranged from 0.5 ng/m3 for chlorpyrifos and diazinon to 30 ng/m3 for o-phenylphenol (approximately 0.5-30 parts per trillion on a w/w basis). A simple method for the detection of pesticides in dust was also developed. This method involves emptying the contents of a vacuum cleaner bag into a standard household food processor and extracting 1 g homogenized dust with acetone before GC/MS. Limits of detection were 25-100 ppb because of interferences by common household chemicals. However, pesticide concentrations were higher in dust than in  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-General Biophysical Techniques  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control

Rojakovick, Arnold S. and March, Ralph B. (1976). Insecticide cyclic nucleotide interactions : I. Quinoxalinedithiol derivatives: A new group of potent phosphodiesterase inhibitors. *Pesticide Biochemistry and Physiology* 6: 10-19.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The direct effects of tepp, methyl paraoxon, DDT, dieldrin, aldicarb, dimetilan, rotenone, allethrin, and oxythioquinox were surveyed on cockroach brain adenyl cyclase and phosphodiesterase in vitro. The most striking result of this survey was the observation that oxythioquinox is a potent inhibitor of phosphodiesterase. The inhibitory activities of seven different quinoxalinedithiol derivatives were compared with those of methyl-xanthines and SQ 65,442 on phosphodiesterases from cockroach brain, rat brain, and beef heart. Although I50 values of the quinoxaline inhibitors were found to be in the [mu]M range, solubility deficiencies apparently limit their effectiveness with inhibition reaching limiting values of about 70-90% as concentrations are increased. Evaluation of the quinoxaline inhibitors to enhance the accumulation of cyclic AMP in the assay of adenyl cyclase did not demonstrate any significant advantage over the use of aminophylline, a standard inhibitor for this purpose. A new assay for phosphodiesterase, involving separation of substrate from product on aluminum oxide columns, was developed by modification of similar techniques utilized in the assay of adenyl cyclase.

Rollins-Smith, L. A. and Hopkins, B. D. (1997). Immunotoxic Effects of Diazinon and Lead on the Developing Hematopoietic System of Xenopus laevis: The 7th Congress of the International Society of Developmental and Comparative Immunology. *Dev.Comp.Immunol.* 21: 121.  
Chem Codes: Chemical of Concern: DZ,Pb Rejection Code: ABSTRACT.

Rongsriyam, Y., Prownebon, S., and Hirakoso, S. (1968). Effects of Insecticides on the Feeding Activity of the Guppy, a Mosquito-Eating Fish, in Thailand. *Bull.W.H.O.* 39: 977-980.

EcoReference No.: 3663  
Chemical of Concern: CPY,DZ,HCCH,MLN,ATN,ABT,FNT,DDVP,FNTH,DDT; Habitat: A; Effect Codes: MOR,BEH; Rejection Code: NO CONTROL,ENDPOINT(ALL CHEMS).

Rosen, P. (1967). The Susceptibility of Culex pipiens fatigans Larvae to Insecticides in Rangoon, Burma. *Bull.W.H.O.* 37: 301-310.

EcoReference No.: 4677  
Chemical of Concern: FNTH,DLD,DDT,MLN,HCCH,DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

ROSENTHAL WD and HIPP BW (1993). FIELD AND MODEL ESTIMATES OF PESTICIDE RUNOFF FROM TURFGRASS. *RACKE, K. D. AND A. R. LESLIE (ED.). ACS SYMPOSIUM SERIES, 522. PESTICIDES IN URBAN ENVIRONMENTS: FATE AND SIGNIFICANCE; 203RD NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, SAN FRANCISCO, CALIFORNIA, USA, APRIL 5-10, 1992. XII+378P. AMERICAN CHEMICAL SOCIETY: WASHINGTON, DC, USA. ISBN 0-8412-2627-X.; 0 (0). 1993. 208-213.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM CYNODON-DACTYLON BUCHLOE-DACTYLOIDES WATER POLLUTION Congresses/ Biology/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Herbicides/ Pest Control/ Pesticides/ Grasses

Ross, L. and Domagalski, J. ( Temporal and spatial distribution of pesticides in the San Joaquin River, California. *13th Annual Meeting Society of Environmental Toxicology and Chemistry - Abstracts. vp. 1992.*  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO SPECIES.  
  
In 1988 scientist from a California water quality control agency began testing water quality in the San Joaquin River and tributaries using biotoxicity tests. Results from these studies indicated Ceridaphnia sp. mortality was linked to pesticides. In response, scientists from the Department of Pesticide Regulation and the U.S. Geological Survey began a study of the spatial and temporal distribution of organophosphate and carbamate pesticides in this system. Sampling was conducted during the seasons of intense pesticide use including: spring (March/April), summer (July /August/September) and winter (December/January/February). In spring, carbofuran was detected most frequently with a maximum concentration of 0.23 mu g/L. During the summer, dimethoate and methomyl was detected most frequently with maximum concentrations of 1.05 and 2.04 mu g/L, respectively. In winter, diazinon was detected most frequently with maximum concentration of 0.54 mu g/L. Since California was in its fifth year of drought at the time of our first monitoring effort in March 1991, data cannot be extrapolated to wetter years. Continued monitoring during years with higher precipitation and river flows will expand our knowledge of pesticide distribution during more typical conditions. AFSA Input Center Number: KE1992  
Classification: Q5 01501 General Pesticides/ Chemical pollutants/ Toxicity tests/ Pollutant identification/ Toxicity/ Toxicity tolerance/ Toxicology/ Mortality/ Water quality/ INE, USA, California, Sacramento-San Joaquin Delta

Royal Society of Chemistry (1991). Agrochemicals Handbook. *Third Edition, The Royal Society of Chemistry*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Ruden, Christina and Hansson, Sven Ove (2003). How accurate are the European Union's classifications of chemical substances. *Toxicology Letters* 144: 159-172.  
Chem Codes: Chemical of Concern: DDAC Rejection Code: SURVEY.  
  
The European Commission has decided on harmonized classifications for a large no. of individual chems. according to its own directive for classification and labeling of dangerous substances. The authors have compared the harmonized classifications for acute oral toxicity to the acute oral toxicity data available in the RTECS database. Of the 992 substances eligible for this comparison, 15% were assigned a too low danger class and 8% a too high danger class according to the RTECS data. Due to insufficient transparency-scientific documentations of the classification decisions are not available-the causes of this discrepancy can only be hypothesized. It is proposed that the scientific motivations of future classifications be published and that the apparent over- and underclassifications in the present system be either explained or rectified, according to what are the facts in the matter. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
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CAS Registry Numbers: 51-34-3 (Scopolamine); 51-55-8 (Atropine); 51-79-6 (Ethyl urethane); 52-51-7 (2-Bromo-2-nitropropan-1,3-diol); 55-63-0 (Nitroglycerin); 56-23-5 (Carbon tetrachloride); 58-08-2 (Caffeine); 60-51-5 (Dimethoate); 62-56-6 (2-Thiourea); 62-73-7 (Dichlorovos); 64-18-6 (Formic acid); 67-56-1 (Methanol); 70-25-7 (1-Methyl-3-nitro-1-nitrosoguanidine); 71-23-8 (1-Propanol); 71-43-2 (Benzene); 71-63-6 (Digitoxin); 74-83-9 (Bromomethane); 74-87-3 (Chloromethane); 74-95-3 (Dibromomethane); 75-01-4 (Chloroethene); 75-04-7 (Ethanamine); 75-05-8 (Acetonitrile); 75-07-0 (Acetaldehyde); 75-08-1 (Ethanethiol); 75-09-2 (Dichloromethane); 75-15-0 (Carbon disulfide); 75-21-8 (Ethylene oxide); 75-25-2 (Bromoform); 75-31-0 (Isopropylamine); 75-35-4 (1,1-Dichloroethene); 75-36-5 (Acetyl chloride); 75-75-2 (Methanesulfonic acid); 75-85-4 (2-Methyl-2-butanol); 76-01-7 (Pentachloroethane); 77-78-1 (Dimethyl sulfate); 78-11-5 (Pentaerythritol tetranitrate); 78-67-1 (2,2'-Azobis(2-methylpropionitrile); 78-90-0 (1,2-Propanediamine); 78-96-6 (1-Aminopropan-2-ol); 79-04-9 (Chloracetyl chloride); 79-10-7 (Acrylic acid); 79-22-1 (Chloroformic acid methyl ester); 79-27-6 (1,1,2,2-Tetrabromoethane); 79-34-5 (1,1,2,2-Tetrachloroethane); 81-82-3 (Coumachlor); 82-68-8 (Pentachloronitrobenzene); 83-26-1 (Pindone); 88-10-8; 88-85-7 (2-sec-Butyl-4,6-dinitrophenol); 90-04-0 (o-Anisidine); 90-41-5 (2-Biphenylamine); 90-43-7 (2-Phenylphenol); 92-13-7 (Pilocarpine); 92-43-3 (1-Phenyl-3-pyrazolidinone); 94-96-2 (2-Ethylhexane-1,3-diol); 95-53-4 (o-Toluidine); 95-54-5 (o-Phenylenediamine); 96-09-3 (Styrene oxide); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-29-7 (2-Butanone oxime); 96-96-8 (4-Methoxy-2-nitroaniline); 97-02-9 (2,4-Dinitroaniline); 97-17-6; 97-99-4 (Tetrahydrofurfuryl alcohol); 98-00-0 (Furfuryl alcohol); 98-07-7 (Benzyl trichloride); 98-87-3 (a,a-Dichlorotoluene); 98-88-4 (Benzoyl chloride); 98-95-3 (Nitrobenzene); 99-35-4 (1,3,5-Trinitrobenzene); 100-00-5 (1-Chloro-4-nitrobenzene); 101-02-0 (Triphenyl phosphite); 101-77-9 (4,4'-Methylenedianiline); 101-90-6 (1,3-Bis(2,3-epoxypropoxy)benzene); 104-94-9 (p-Anisidine); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-87-6 (1,2-Epoxy-4-(epoxyethyl)cyclohexane); 107-05-1 (3-Chloropropene); 107-07-3 (2-Chloroethanol); 107-14-2 (Chloracetonitrile); 107-19-7 (2-Propyn-1-ol); 107-21-1 (1,2-Ethanediol); 107-22-2 (Glyoxal); 107-92-6 (Butyric acid); 108-30-5 (Succinic anhydride); 108-44-1 (m-Toluidine); 108-68-9 (3,5-Xylenol); 108-77-0 (2,4,6-Trichloro-1,3,5-triazine); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexylamine); 108-95-2 (Phenol); 109-77-3 (Malononitrile); 109-86-4 (2-Methoxyethanol); 109-99-9 (Tetrahydrofuran); 110-49-6 (Ethylene glycol methyl ether acetate); 110-80-5 (2-Ethoxyethanol); 110-85-0 (Piperazine); 110-89-4 (Piperidine); 111-15-9 (2-Ethoxyethyl acetate); 111-44-4 (2,2'-Dichlorethyl ether); 112-57-2 (1,4,7,10,13-Pentaazatridecane); 115-29-7 (Endosulfan); 116-01-8 (Ethoate methyl); 117-18-0 (Tecnazene); 117-52-2 (3-(a-Acetonylfurfuryl)-4-hydroxycoumarin); 117-80-6 (Dichlone); 118-96-7 (2,4,6-Trinitrotoluene); 120-83-2 (2,4-Dichlorophenol); 121-29-9 (Pyrethrin II); 121-69-7 (N,N-Dimethylaniline); 121-79-9 (Propyl 3,4,5-trihydroxybenzoate); 121-87-9 (4-Nitro-2-chloroaniline); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 123-38-6 (Propionaldehyde); 123-54-6 (2,4-Pentanedione); 123-63-7 (2,4,6-Trimethyl-1,3,5-trioxane); 123-88-6 (Chloro(2-methoxyethyl)mercury); 126-73-8 (Tributyl phosphate); 137-05-3 (Methyl 2-cyanoacrylate); 141-32-2; 141-43-5 (2-Aminoethanol); 144-62-7 (Oxalic acid); 149-30-4 (2-Benzothiazolethiol); 156-62-7; 300-76-5 (Naled); 302-17-0 (Chloral hydrate); 333-41-5 (Diazinon); 485-31-4 (Binapacryl); 492-80-8 (4,4'-(Imidocarbonyl)bis(N,N-dimethylaniline); 545-06-2 (Trichloroacetonitrile); 556-56-9 (3-Iodopropene); 563-12-2 (Ethion); 563-80-4 (3-Methyl-2-butanone); 592-01-8 (Calcium cyanide); 593-60-2 (Bromoethene); 594-72-9 (1,1-Dichloro-1-nitroethane); 628-96-6 (Ethylene glycol dinitrate); 644-64-4 (Dimetilane); 693-21-0 (Diethylene glycol dinitrate); 731-27-1 (Tolylfluanide); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 818-61-1 (2-Hydroxyethyl acrylate); 868-77-9 (2-Hydroxyethyl methacrylate); 991-42-4 (Norbormide); 1024-57-3 (Heptachlor epoxide); 1070-70-8 (1,4-Butanediol diacrylate); 1120-71-4 (1,3-Propane sultone); 1303-28-2 (Arsenic pentoxide); 1306-19-0 (Cadmium oxide); 1306-23-6 (Cadmium sulfide); 1313-13-9 (Manganese dioxide); 1313-82-2 (Sodium sulfide); 1314-62-1 (Vanadium pentoxide); 1330-78-5 (Tricresyl phosphate); 1336-21-6 (Ammonium hydroxide); 1420-06-0 (Triphenmorphe); 1420-07-1 (Dinoterb); 1582-09-8 (Trifluraline); 1680-21-3 (Triethylene glycol diacrylate); 1698-60-8 (Chloridazon); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2425-79-8 (1,4-Bis(2,3-epoxypropoxy)butane); 2597-03-7 (Fenthoate); 2703-37-9 (O,O-Dimethyl S-(2-ethylsulfinyl)ethyl dithiophosphate); 2778-04-3 (Endothion); 3524-68-3 (Pentaerythritol triacrylate); 3861-47-0 (Ioxynil octanoate); 4067-16-7 (Pentaethylenehexamine); 4074-88-8 (Diethylene glycol diacrylate); 5827-05-4 (o,o-Diisopropyl-S-ethylsulfinylmethyldithiophosphate); 5836-29-3 (Coumatetralyl); 6164-98-3 (Chlordimeform); 6834-92-0 (Disodium metasilicate); 6988-21-2 (Dioxacarb); 7173-51-5 (Dimethyldidecylammonium chloride); 7440-38-2 (Arsenic); 7601-89-0 (Perchloric acid sodium salt); 7601-90-3 (Perchloric acid); 7646-79-9 (Cobalt(II) chloride); 7646-85-7 (Zinc chloride); 7647-18-9 (Antimony pentachloride); 7664-38-2 (Phosphoric acid); 7723-14-0 (Phosphorus); 7733-02-0 (Zinc sulfate); 7761-88-8 (Silver(I) nitrate); 7778-50-9 (Potassium dichromate); 7782-49-2 (Selenium); 7789-06-2 (Strontium chromate); 7789-23-3 (Potassium fluoride); 7790-80-9 (Cadmium iodide); 7790-94-5 (Chlorosulfonic acid); 9080-17-5 (Ammonium polysulfide); 10004-44-1 (3-Hydroxy-5-methylisoxazole); 10025-87-3 (Phosphorus oxychloride); 10025-91-9 (Antimony trichloride); 10043-52-4 (Calcium chloride); 10049-04-4 (Chlorine oxide (ClO2); 13121-70-5 (Cyhexatin); 14484-64-1 (Ferbam); 16872-11-0 (Tetrafluoroboric acid); 16961-83-4 (Hexafluorosilicic acid); 19937-59-8 (Metoxuron); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 25311-71-1 (Isofenphos); 25646-71-3; 26399-36-0 (Profluralin); 26628-22-8 (Sodium azide); 26764-44-3; 28434-01-7 (Bioresmethrin); 29973-13-5 (Ethiofencarb); 31895-22-4; 39515-41-8 (2,2,3,3-Tetramethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester); 40487-42-1; 50864-67-0 (Barium polysulfide); 66230-04-4 (Esfenvalerate); 68359-37-5; 77402-03-0 (Methyl acrylamidoglycolate methyl ether); 79983-71-4 (RS-2-(2,4-Dichlorophenyl)-1-(1H-1,2,4-triazol-1-yl)hexan-2-ol); 83164-33-4 (Diflufenican); 96489-71-3 (2-tert-Butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one); 114369-43-6 (4-(4-Chlorophenyl)-2-phenyl-2-(1H-1,2,4-triazol-1-ylmethyl)butyronitrile) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (accuracy of European Union's classifications of chem. substances); 57-74-9 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (chlordane; accuracy of European Union's classifications of chem. substances)  
Citations: Anon; Official Journal 1967, L196/1  
Citations: Anon; Official Journal 2001, L225/1  
Citations: Anon; Official Journal 2000, L136  
Citations: Hansson, S; J Risk Res 2003, 6, 3  
Citations: Kifs; Kemikalieinspektionens forfattningssamling 2001, 3 classification/ chem/ European/ Union;/ acute/ toxicity/ chem/ European/ Union

Rueegg, Willy T (20040812). Synergistic herbicidal compositions comprising insecticides. 380 pp.  
Chem Codes: Chemical of Concern: CYP FVL, RSM SPM,CaPS Rejection Code: NON-ENGLISH.  
  
The title compns. comprise I (R = Cl or alkyl; R1 = H or alkyl; R2 = alkyl) and any of a large no. of known insecticides. [on SciFinder (R)] synergism/ herbicide/ compn/ insecticide Copyright: Copyright 2004 ACS on SciFinder (R))  
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Accession Number: AN 2004:649296  
Chemical Abstracts Number: CAN 141:152560  
Section Code: 5-3  
Section Title: Agrochemical Bioregulators  
Coden: GWXXBX  
Index Terms: Bacillus sphaericus; Bacillus thuringiensis; Schoenocaulon (mixts. contg.; synergistic herbicidal compns.); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. contg.; synergistic herbicidal compns.); Petroleum products (oils, mixts. contg.; synergistic herbicidal compns.); Insecticides (synergistic herbicidal compns. comprising insecticides); Cereal; Zea mays (synergistic herbicidal compns. for); Herbicides (synergistic; synergistic herbicidal compns. comprising insecticides); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. contg.; synergistic herbicidal compns.)  
CAS Registry Numbers: 143807-66-3D (Chromafenozide) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. contg.; synergistic herbicidal compns.); 50-29-3D (DDT); 50-29-3D (DDT); 52-68-6D (Trichlorphon); 52-85-7D (Famphur); 54-11-5D (Nicotine); 55-38-9D (Fenthion); 56-23-5D (Carbon tetrachloride); 56-38-2D (Parathion); 56-72-4D (Coumaphos); 58-89-9D (g-HCH); 60-51-5D (Dimethoate); 60-57-1D (Dieldrin); 62-73-7D (Dichlorvos); 63-25-2D (Carbaryl); 70-38-2D (Dimethrin); 72-43-5D (Methoxychlor); 72-54-8D (TDE); 74-83-9D (Methyl bromide); 74-90-8D (Hydrogen cyanide); 75-15-0D (Carbon disulfide); 76-06-2D (Chloropicrin); 76-44-8D (Heptachlor); 78-34-2D (Dioxathion); 78-53-5D (Amiton); 78-57-9D (Menazon); 83-79-4D (Rotenone); 86-50-0D (Azinphos-methyl); 87-86-5D (Pentachlorophenol); 97-17-6D (Dichlofenthion); 106-93-4D (Ethylene dibromide); 107-06-2D (Ethylene dichloride); 107-13-1D (Acrylonitrile); 107-49-3D (TEPP); 112-80-1D (Oleic acid); 114-26-1D (Propoxur); 115-26-4D (Dimefox); 115-29-7D (Endosulfan); 115-90-2D (Fensulfothion); 116-01-8D (Ethoate-methyl); 116-06-3D (Aldicarb); 119-12-0D (Pyridaphenthion); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 126-22-7D (Butonate); 126-75-0D (Demeton-S); 131-89-5D (Dinex); 141-66-2D (Dicrotophos); 143-50-0D (Chlordecone); 144-41-2D (Morphothion); 144-54-7D (Metam); 152-16-9D (Schradan); 297-78-9D (Isobenzan); 298-00-0D (Parathion-methyl); 298-02-2D (Phorate); 298-03-3D (Demeton-O); 298-04-4D (Disulfoton); 299-84-3D (Fenchlorphos); 299-86-5D (Crufomate); 300-76-5D (Naled); 301-12-2D (Oxydemeton-methyl); 309-00-2D (Aldrin); 315-18-4D (Mexacarbate); 327-98-0D (Trichloronate); 333-41-5D (Diazinon); 370-50-3D (Flucofuron); 371-86-8D (Mipafox); 465-73-6D (Isodrin); 470-90-6D (Chlorfenvinfos); 494-52-0D (Anabasine); 533-74-4D (Dazomet); 534-52-1D (DNOC); 556-61-6D (Methyl isothiocyanate); 563-12-2D (Ethion); 572-48-5D (Coumithoate); 584-79-2D (Bioallethrin); 640-15-3D (Thiometon); 644-64-4D (Dimetilan); 671-04-5D (Carbanolate); 682-80-4D (Demephion-O); 732-11-6D (Phosmet); 786-19-6D (Carbophenothion); 867-27-6D (Demeton-O-methyl); 919-76-6D (Amidithion); 919-86-8D (Demeton-S-methyl); 944-22-9D (Fonofos); 950-10-7D; 950-37-8D (Methidathion); 1113-02-6D (Omethoate); 1129-41-5D (Metolcarb); 1303-96-4D (Borax); 1344-81-6D (Calcium polysulfide); 1563-66-2D (Carbofuran); 1563-67-3D (Decarbofuran); 1646-88-4D (Aldoxycarb); 2032-59-9D (Aminocarb); 2104-64-5D (EPN); 2104-96-3D (Bromophos); 2274-67-1D (Dimethylvinphos); 2275-14-1D (Phencapton); 2275-18-5D (Prothoate); 2275-23-2D (Vamidothion); 2310-17-0D (Phosalone); 2385-85-5D (Mirex); 2425-10-7D (Xylylcarb); 2463-84-5D (Dicapthon); 2497-07-6D (Oxydisulfoton); 2540-82-1D (Formothion); 2550-75-6D (Chlorbicyclen); 2587-90-8D (Demephion-S); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2631-37-0D (Promecarb); 2631-40-5D (Isoprocarb); 2636-26-2D (Cyanophos); 2642-71-9D (Azinphos-ethyl); 2655-14-3D (XMC); 2655-19-8D (Butacarb); 2669-32-1D (Lythidathion); 2674-91-1D (Oxydeprofos); 2699-79-8D (Sulfuryl fluoride); 2778-04-3D (Endothion); 2921-88-2D (Chlorpyriphos); 3383-96-8D (Temephos); 3466-00-0D (Phospholane); 3689-24-5D (Sulfotep); 3734-95-0D (Cyanthoate); 3761-41-9D (Mesulfenfos); 3766-81-2D (Fenobucarb); 3811-49-2D (Dioxabenzofos); 4151-50-2D (Sulfluramid); 4234-79-1D (Kelevan); 4824-78-6D (Bromophos-ethyl); 5221-49-8D (Pyrimitate); 5598-13-0D; 5598-52-7D (Fospirate); 5826-76-6D (Phosnichlor); 5827-05-4D (IPSP); 5834-96-8D (Azothoate); 6164-98-3D (Chlordimeform); 6392-46-7D (Allyxycarb); 6923-22-4D (Monocrotophos); 6988-21-2D (Dioxacarb); 7219-78-5D (Mazidox); 7292-16-2D (Propaphos); 7345-69-9D (GY-81); 7546-30-7D (Mercurous chloride); 7681-49-4D (Sodium fluoride); 7696-12-0D (Tetramethrin); 7700-17-6D (Crotoxyphos); 7786-34-7D (Mevinphos); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor); 8022-00-2D (Demeton-methyl); 8065-36-9D (Bufencarb); 8065-48-3D (Demeton); 8065-62-1D (Demephion); 10265-92-6D (Methamidophos); 10311-84-9D (Dialifos); 10453-86-8D (Resmethrin); 11141-17-6D (Azadirachtin); 12407-86-2D (Trimethacarb); 12789-03-6D (Chlordane); 13067-93-1D (Cyanophenphos); 13071-79-9D (Terbufos); 13171-21-6D (Phosphamidon); 13194-48-4D (Ethoprophos); 13457-18-6D (Pyrazophos); 13593-03-8D (Quinalfos); 13593-08-3D; 14816-16-1D (Phoxim-methyl); 14816-18-3D (Phoxim); 14816-20-7D (Chlorphoxim); 15096-52-3D (Cryolite); 15263-53-3D (Cartap); 15589-31-8D (Terallethrin); 16752-77-5D (Methomyl); 16893-85-9D (Sodium hexafluorosilicate); 17040-19-6D (Demeton-S-methylsulfone); 17080-02-3D (Furethrin); 17606-31-4D (Bensultap); 18181-70-9D (Jodfenphos); 18809-57-9D (EMPC); 18854-01-8D (Isoxathion); 19691-80-6D (Athidathion); 20425-39-2D (Pyresmethrin); 20859-73-8D (Aluminum phosphide); 21548-32-3D (Fosthietan); 22248-79-9D (Tetrachlorvinphos); 22259-30-9D (Formetanate); 22439-40-3D (Quinothion); 22781-23-3D (Bendiocarb); 23031-36-9D (Prallethrin); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 23505-41-1D (Pirimiphos-ethyl); 23560-59-0D (Heptenophos); 24017-47-8D (Triazophos); 24019-05-4D (Sulcofuron); 24934-91-6D (Chlormephos); 25171-63-5D (Thiocarboxime); 25311-71-1D (Isofenphos); 25601-84-7D (Methocrotophos); 26002-80-2D (Phenothrin); 28434-00-6D (S-Bioallethrin); 28434-01-7D (Bioresmethrin); 29104-30-1D (Benzoximate); 29173-31-7D (Mecarphon); 29232-93-7D (Pirimiphos-methyl); 29672-19-3D (Nitrilacarb); 29973-13-5D (Ethiofencarb); 30087-47-9D (Fenethacarb); 30560-19-1D (Acephate); 30864-28-9D (Methacrifos); 31218-83-4D (Propetamphos); 31377-69-2D (Pirimetaphos); 31895-21-3D (Thiocyclam); 33089-61-1D (Amitraz); 33399-00-7D (Bromfenvinphos); 34264-24-9D (Promacyl); 34643-46-4D (Prothiophos); 34681-10-2D (Butocarboxim); 34681-23-7D (Butoxycarboxim); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprofos); 35575-96-3D (Azamethiphos); 36145-08-1D (Chlorprazophos); 36614-38-7D (Isothioate); 37032-15-8D (Sophamide); 38260-54-7D (Etrimfos); 38260-63-8D (Lirimfos); 38524-82-2D (Trifenofos); 39196-18-4D (Thiofanox); 39247-96-6D (Primidophos); 39515-40-7D (Cyphenothrin); 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231937-89-6D; 283594-90-1D (Spiromesifen); 548460-64-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic herbicidal compns.)  
Patent Application Country: Application: DE  
Priority Application Country: CH  
Priority Application Number: 2003-441  
Priority Application Date: 20030318

Rueegg, Willy T (20040812). **<04 Article Title>.**  <25 Page(s)>.

Chemical of Concern: FVL, RSM, SPM; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Rueegg, Willy T (20040812). Synergistic herbicidal compositions comprising insecticides. 380 pp.  
Chem Codes: Chemical of Concern: AZD,SPM Rejection Code: NON-ENGLISH.  
  
The title compns. comprise I (R = Cl or alkyl; R1 = H or alkyl; R2 = alkyl) and any of a large no. of known insecticides. [on SciFinder (R)] synergism/ herbicide/ compn/ insecticide Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2004:649296  
Chemical Abstracts Number: CAN 141:152560  
Section Code: 5-3  
Section Title: Agrochemical Bioregulators  
Coden: GWXXBX  
Index Terms: Bacillus sphaericus; Bacillus thuringiensis; Schoenocaulon (mixts. contg.; synergistic herbicidal compns.); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. contg.; synergistic herbicidal compns.); Petroleum products (oils, mixts. contg.; synergistic herbicidal compns.); Insecticides (synergistic herbicidal compns. comprising insecticides); Cereal; Zea mays (synergistic herbicidal compns. for); Herbicides (synergistic; synergistic herbicidal compns. comprising insecticides); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. contg.; synergistic herbicidal compns.)  
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231937-89-6D; 283594-90-1D (Spiromesifen); 548460-64-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic herbicidal compns.)  
Patent Application Country: Application: DE  
Priority Application Country: CH  
Priority Application Number: 2003-441  
Priority Application Date: 20030318

Ruegg, Willy T (20040923). Selective synergistic herbicidal compositions. 524 pp.  
Chem Codes: Chemical of Concern: RTN, SPM Rejection Code: NON-ENGLISH.  
  
Salective synergistic herbicidal compns. comprise the pyridine deriv. I (R1,R2 = H; R1R2 = ethylene) and any of a very large no. of known pesticides. The compns. are esp. effective in corn and cereals. [on SciFinder (R)] selective/ synergistic/ herbicide/ compn/ pyridine/ deriv Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2004:773771  
Chemical Abstracts Number: CAN 141:255883  
Section Code: 5-3  
Section Title: Agrochemical Bioregulators  
Coden: GWXXBX  
Index Terms: Bacillus sphaericus; Bacillus thuringiensis; Schoenocaulon (mixts. with pyridine derivs.; selective synergistic herbicidal compns. for); Petroleum; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with pyridine derivs.; selective synergistic herbicidal compns. for); Cereal; Zea mays (selective synergistic herbicidal compns. for); Herbicides (selective, synergistic; compns. contg. pyridine deriv.); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. with pyridine derivs.; selective synergistic herbicidal compns. for)  
CAS Registry Numbers: 352010-68-5D; 380354-72-3D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (selective synergistic herbicidal compns.); 50-29-3D; 52-68-6D (Trichlorfon); 52-85-7D (Famphur); 54-11-5D (Nicotine); 55-38-9D (Fenthion); 56-23-5D (Carbon tetrachloride); 56-38-2D (Parathion); 56-72-4D (Coumaphos); 58-89-9D (g-HCH); 60-51-5D (Dimethoate); 60-57-1D (Dieldrin); 62-73-7D (Dichlorvos); 63-25-2D (Carbaryl); 70-38-2D (Dimethrin); 72-43-5D (Methoxychlor); 72-54-8D (TDE); 74-83-9D (Methyl bromide); 74-90-8D (Hydrogen cyanide); 75-15-0D (Carbon disulfide); 76-06-2D (Chloropicrin); 76-44-8D (Heptachlor); 78-34-2D (Dioxathion); 78-53-5D (Amiton); 78-57-9D (Menazon); 83-79-4D (Rotenone); 86-50-0D (Azinphos-methyl); 87-86-5D (Pentachlorophenol); 94-19-9D (Etazole); 97-17-6D (Dichlofenthion); 106-93-4D (Ethylene dibromide); 107-06-2D (Ethylene dichloride); 107-13-1D (ACRYLONITRILE); 107-49-3D (TEPP); 112-80-1D (Oleic acid); 114-26-1D (Propoxur); 115-26-4D (Dimefox); 115-29-7D (Endosulfan); 115-90-2D (Fensulfothion); 116-01-8D (Ethoate-methyl); 116-06-3D (Aldicarb); 119-12-0D (Pyridaphenthion); 121-75-5D (Malathion); 122-14-5D; 126-75-0D (Demeton-S); 131-89-5D (Dinex); 141-66-2D (Dicrotophos); 143-50-0D (Chlordecone); 144-41-2D (Morphothion); 144-54-7D (Metam); 152-16-9D (Schradan); 297-78-9D (Isobenzan); 298-00-0D (Parathion-methyl); 298-02-2D (Phorate); 298-03-3D (Demeton-O); 298-04-4D (Disulfoton); 299-84-3D (Fenchlorphos); 299-86-5D (Crufomate); 300-76-5D (Naled); 301-12-2D (Oxydemeton-methyl); 309-00-2D (Aldrin); 315-18-4D (Mexacarbate); 327-98-0D (Trichloronat); 333-41-5D (Diazinon); 370-50-3D (Flucofuron); 371-86-8D (Mipafox); 465-73-6D (Isodrin); 470-90-6D (Chlorfenvinphos); 494-52-0D (Anabasine); 533-74-4D (Dazomet); 534-52-1D (DNOC); 556-61-6D (Methyl isothiocyanate); 563-12-2D (Ethion); 572-48-5D (Coumithoate); 584-79-2D (Bioallethrin); 640-15-3D (Thiometon); 644-64-4D (Dimetilan); 671-04-5D (Carbanolate); 682-80-4D (Demephion-O); 732-11-6D (Phosmet); 786-19-6D (Carbophenothion); 867-27-6D (Demeton-O-methyl); 919-76-6D (Amidithion); 919-86-8D (Demeton-S-methyl); 944-22-9D (Fonofos); 950-10-7D; 950-37-8D (Methidathion); 1113-02-6D (Omethoate); 1129-41-5D (Metolcarb); 1303-96-4D (Borax); 1344-81-6D (Calcium polysulfide); 1563-66-2D (Carbofuran); 1563-67-3D (Decarbofuran); 1646-88-4D (Aldoxycarb); 2032-59-9D (Aminocarb); 2032-65-7D (Methiocarb); 2104-64-5D (EPN); 2104-96-3D (Bromofos); 2274-67-1D (Dimethylvinphos); 2275-14-1D (Phenkapton); 2275-18-5D (Prothoate); 2275-23-2D (Vamidothion); 2310-17-0D (Phosalone); 2385-85-5D (Mirex); 2425-10-7D (Xylylcarb); 2463-84-5D (Dicapthon); 2497-07-6D (Oxydisulfoton); 2540-82-1D (Formothion); 2550-75-6D (Chlorbicyclen); 2587-90-8D (Demephion-S); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2631-37-0D (Promecarb); 2631-40-5D (Isoprocarb); 2636-26-2D (Cyanophos); 2642-71-9D (Azinphos-ethyl); 2655-14-3D (XMC); 2655-19-8D (Butacarb); 2669-32-1D (Lythidathion); 2674-91-1D (Oxydeprofos); 2699-79-8D (Sulfuryl fluoride); 2778-04-3D (Endothion); 2921-88-2D (Chlorpyriphos); 3383-96-8D (Temefos); 3466-00-0D (Phospholane); 3689-24-5D (Sulfotep); 3734-95-0D (Cyanthoate); 3761-41-9D (Mesulfenfos); 3766-81-2D (Fenobucarb); 3811-49-2D (Dioxabenzofos); 4151-50-2D (Sulfluramid); 4234-79-1D (Kelevan); 4824-78-6D; 5221-49-8D (Pyrimitate); 5598-13-0D; 5598-52-7D (Fospirate); 5826-76-6D (Phosnichlor); 5827-05-4D (IPSP); 5834-96-8D (Azothoate); 6164-98-3D (Chlordimeform); 6392-46-7D (Allyxycarb); 6923-22-4D (Monocrotophos); 6988-21-2D (Dioxacarb); 7219-78-5D (Mazidox); 7292-16-2D (Propaphos); 7345-69-9D (GY-81); 7546-30-7D (Mercurous chloride); 7681-49-4D (Sodium fluoride); 7696-12-0D (Tetramethrin); 7700-17-6D (Crotoxyphos); 7786-34-7D (Mevinphos); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor); 8022-00-2D (Demeton-methyl); 8065-36-9D (Bufencarb); 8065-48-3D (Demeton); 8065-62-1D (Demephion); 10265-92-6D (Methamidophos); 10311-84-9D (Dialifos); 10453-86-8D (Resmethrin); 11141-17-6D (Azadirachtin); 12407-86-2D (Trimethacarb); 12789-03-6D (Chlordane); 13067-93-1D (Cyanophenphos); 13071-79-9D (Terbufos); 13171-21-6D (Phosphamidone); 13194-48-4D (Ethoprophos); 13457-18-6D (Pyrazophos); 13593-03-8D (Quinalfos); 13593-08-3D; 14816-16-1D (Phoxim-methyl); 14816-18-3D (Phoxim); 14816-20-7D (Chlorphoxim); 15096-52-3D (Cryolite); 15263-53-3D (Cartap); 15589-31-8D (Terallethrin); 16752-77-5D (Methomyl); 16893-85-9D (Sodium hexafluorosilicate); 17040-19-6D (Demeton-S-methylsulfone); 17080-02-3D (Furethrin); 17606-31-4D (Bensultap); 18181-70-9D (Jodfenphos); 18809-57-9D (EMPC); 18854-01-8D (Isoxathion); 19691-80-6D (ATHIDATHION); 20425-39-2D (Pyresmethrin); 20859-73-8D (Aluminum phosphide); 21548-32-3D (Fosthietan); 22248-79-9D (Tetrachlorvinfos); 22259-30-9D (Formetanate); 22439-40-3D (Quinothion); 22781-23-3D (Bendiocarb); 23031-36-9D (Prallethrin); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 23505-41-1D (Pirimiphos-ethyl); 23560-59-0D (Heptenophos); 24017-47-8D (Triazophos); 24019-05-4D (Sulcofuron); 24353-61-5D; 24934-91-6D (Chlormephos); 25171-63-5D (Thiocarboxime); 25311-71-1D (Isofenphos); 25601-84-7D (Methocrotophos); 26002-80-2D (Phenothrin); 28434-00-6D (S-Bioallethrin); 28434-01-7D (Bioresmethrin); 29104-30-1D (Benzoximate); 29173-31-7D (Mecarphon); 29232-93-7D (Pirimiphos-methyl); 29672-19-3D (Nitrilacarb); 29973-13-5D (Ethiofencarb); 30087-47-9D (Fenethacarb); 30560-19-1D (Acephate); 30864-28-9D (Methacrifos); 31218-83-4D (Propetamphos); 31377-69-2D (Pirimetaphos); 31895-21-3D (Thiocyclam); 33089-61-1D (Amitraz); 33399-00-7D (Bromfenvinfos); 34264-24-9D (Promacyl); 34643-46-4D (Prothiofos); 34681-10-2D (Butocarboxim); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprofos); 35575-96-3D (Azamethiphos); 36145-08-1D (Chlorprazophos); 36614-38-7D (Isothioate); 37032-15-8D (Sophamide); 38260-54-7D (Etrimfos); 38260-63-8D (Lirimfos); 38524-82-2D (Trifenofos); 39196-18-4D (Thiofanox); 39247-96-6D (Primidophos); 39515-40-7D (Cyphenothrin); 39515-41-8D (Fenpropathrin); 40085-57-2D (Tazimcarb); 40596-69-8D (Methoprene); 40596-80-3D (Triprene); 41096-46-2D (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2D (Dithicrofos); 41219-32-3D (Thicrofos); 42509-80-8D (Isazofos); 42588-37-4D (Kinoprene); 50864-67-0D (Barium polysulfide); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 51877-74-8D (Biopermethrin); 52207-48-4D (Thiosultap-sodium); 52315-07-8D (BetaCypermethrin); 52645-53-1D (Permethrin); 52918-63-5D (Deltamethrin); 54406-48-3D (Empenthrin); 54593-83-8D (Chlorethoxyfos); 55285-14-8D (Carbosulfan); 57342-02-6D (Epofenonane); 57960-19-7D (Acequinocyl); 58769-20-3D (RU 15525); 58842-20-9D (Nithiazine); 59669-26-0D (Thiodicarb); 60238-56-4D (Chlorthiophos); 60589-06-2D (Metoxadiazone); 61444-62-0D (Nifluridide); 61949-77-7D (Trans-Permethrin); 63837-33-2D (Diofenolan); 63935-38-6D (Cycloprothrin); 64628-44-0D (Triflumuron); 65907-30-4D (Furathiocarb); 66215-27-8D (Cyromazine); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67375-30-8D; 67485-29-4D (Hydramethylnon); 68085-85-8D (Cyhalothrin); 68359-37-5D (Beta-Cyfluthrin); 68523-18-2D (Fenpirithrin); 69327-76-0D (Buprofezin); 69409-94-5D (Fluvalinate); 69770-45-2D (Flumethrin); 70124-77-5D (Flucythrinate); 71422-67-8D (Chlorfluazuron); 71697-59-1D (ThetaCypermethrin); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 72963-72-5D (Imiprothrin); 75867-00-4D (Fenfluthrin); 79538-32-2D (Tefluthrin); 80060-09-9D (Diafenthiuron); 80844-07-1D (Etofenprox); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 83733-82-8D (Fosmethilan); 84466-05-7D (Amidoflumet); 86479-06-3D (Hexaflumuron); 89784-60-1D (Pyraclofos); 90338-20-8D (Butathiophos); 91465-08-6D (l-Cyhalothrin); 95465-99-9D (Cadusafos); 95737-68-1D (Pyriproxyfen); 96182-53-5D (Tebupirimfos); 96489-71-3D (Pyridaben); 98886-44-3D (Fosthiazate); 101007-06-1D (Acrinathrin); 102851-06-9D (Tau-fluvalinate); 103055-07-8D (Lufenuron); 105024-66-6D (Silafluofen); 105779-78-0D (Pyrimidifen); 107713-58-6D (Flufenprox); 111988-49-9D (Thiacloprid); 112143-82-5D (Triazamate); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 112636-83-6D (Dicyclanil;); 113036-88-7D (Flucycloxuron); 114797-39-6D (Methothrin); 116714-46-6D (Novaluron); 118712-89-3D (Transfluthrin); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 121451-02-3D (Noviflumuron); 122453-73-0D (Chlorfenapyr); 122705-57-1D; 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad); 135410-20-7D (Acetamiprid); 138261-41-3D (Imidacloprid); 143807-66-3D (Chromafenozide); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 150824-47-8D (Nitenpyram); 153719-23-4D (Thiamethoxam); 158062-67-0D (Flonicamid); 160791-64-0D (ZXI 8901); 161050-58-4D (Methoxyfenozide); 165252-70-0D (Dinotefuran); 168316-95-8D (Spinosad); 170015-32-4D (Flufenerim); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole); 210880-92-5D (Clothianidin); 229977-93-9D (Fluacrypyrim); 231937-89-6D; 283594-90-1D (Spiromesifen); 500790-39-6D; 548460-64-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (selective synergistic herbicidal compns. for)  
Patent Application Country: Application: DE  
Priority Application Country: CH  
Priority Application Number: 2003-442  
Priority Application Date: 20030318

Ruppel, R. F. and Yun, Y. M. (1965). Ground-Applied Insecticides Against the Cereal Leaf Beetle. *J.Econ.Entomol.* 58: 41-46.

EcoReference No.: 71476  
Chemical of Concern: CBL,DLD,EN,HCCH,DDT,AND,PRN,TXP,DZ; Habitat: T; Effect Codes: POP,MOR; Rejection Code: TARGET(DZ).

S. Bhatt, Ram, Hough, Leslie, and C. Richardson, Anthony (1975). The synthesis of 4&prime;,6&prime;-diacetamido-4&prime;,6&prime;-dideoxycellobiose hexa-acetate from lactose. *Carbohydrate Research* 43: 57-67.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Reaction of methyl 4&prime;,6&prime;-di-O-mesyl-[beta]-lactoside pentabenzoate (8), synthesised via the 4&prime;,6&prime;-O-benzylidene derivative (6), with sodium azide in hexamethylphosphoric triamide gave three products. In addition to the required 4&prime;,6&prime;-diazidocellobioside (9), an elimination product, methyl 4-O-(6-azido-2,3-di-O-benzoyl-4,6-dideoxy-[alpha]--threo-hex-4-enopyranosyl)-2,3,6-tri-O-benzoyl-[beta]--glucopyranoside (12), and an unexpected product of interglycosidic cleavage, methyl 2,3,6-tri-O-benzoyl-[beta]--glucopyranoside (13), were formed. The origin of the latter product is discussed. The diazide 9 was converted into 4&prime;,6&prime;-diacetamido-4&prime;,6&prime;-dideoxycellobiose hexa-acetate (16) by sequential debenzoylation, catalytic reduction, acetylation, and acetolysis.

Sabaitis, C. P., Leong, B. K. J., Rop, D. A., and Aaron, C. S. (1999). Validation of Intratracheal Instillation as an Alternative for Aerosol Inhalation Toxicity Testing. *J.Appl.Toxicol.* 19: 133-140.

EcoReference No.: 66654  
Chemical of Concern: DZ,PRN,PPHD; Habitat: T; Effect Codes: BCM; Rejection Code: NO CONTROL(ALL CHEMS).

Sabra, Mads C., Jorgensen, Kent, and Mouritsen, Ole G. (1996). Lindane suppresses the lipid-bilayer permeability in the main transition region. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1282: 85-92 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effects of a small molecule, the insecticide lindane, on unilamellar DMPC bilayers in the phase transition region, have been studied by means of differential scanning calorimetry and fluorescence spectroscopy. The calorimetric data show that increasing concentrations of lindane broaden the transition and lower the transition temperature, without changing the transition enthalpy significantly. Lindane therefore enhances the thermal fluctuations of the bilayer. The calorimetric data furthermore suggest that the bilayer structure is intact and not disrupted by even high concentrations (32 mol%) of lindane. Fluorescence spectroscopy was used to measure the passive permeability of unilamellar DMPC bilayers to Co2+ ions. The data show that lindane seals the bilayer for Co2+ penetration and that this effect increases with increasing lindane concentration. The results are discussed in relation to the effects on the permeability of other small molecules, e.g., anesthetics. Lindane/ Lipid bilayer/ Permeability/ Phase transition/ Fluorescence spectroscopy

Saglio, P., Olsen, K. H., and Bretaud, S. (2001). Behavioral and Olfactory Responses to Prochloraz, Bentazone, and Nicosulfuron-Contaminated Flows in Goldfish. *Arch.Environ.Contam.Toxicol.* 41: 192-74.

EcoReference No.: 60972  
Chemical of Concern: NSF,DZ; Habitat: A; Effect Codes: BEH; Rejection Code: OK(ALL CHEMS),NO COC(DZ).

Saito, Seiki, Nishikawa, Toshiya, Yokoyama, Yoshie, and Moriwake, Toshio (1990). Efficient nucleophilic oxirane ring cleavage with dibutyltin diazide. *Tetrahedron Letters* 31: 221-224.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Dibutyltin diazide has proven to be potential in nucleophilic ring opening of a variety of oxiranes to give 1,2-azido alcohols in less than four hours (DMF at 60 [deg]C) in fair to excellent yields.

SAKA, M., IIJIMA, K., ODANAKA, Y., and KATO, Y. (1998). Supercritical fluid extraction of pesticides in fruits and vegetables: Application of new polymer absorbent. *JOURNAL OF PESTICIDE SCIENCE; 23* 414-418.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE PLANT PLANT FRUIT VEGETABLE SUPERCRITICAL FLUID EXTRACTION PESTICIDES POLYMER ABSORBENT DIATOMACEOUS EARTH SILICAGEL METHODOLOGY LABORATORY METHOD Ecology/ Herbicides/ Pest Control/ Pesticides/ Plants

Sakai, M. (2003). Investigation of Pesticides in Rainwater at Isogo Ward of Yokohama. *Journal of health science [j. Health sci.]. Vol. 49, no. 3, pp. 221-225. 2003.*  
Chem Codes: MLT Rejection Code: HUMAN HEALTH.  
  
Abstract: Large amounts of various pesticides have been used in farms, rice paddies and gardens. However, few studies on the pesticides in rainwater have been conducted in Japan. Thus, rainwater samples were collected from August 2001 until July 2002 at Isogo Ward of Yokohama, and 51 kinds of pesticides in the 51 samples were investigated. Although sampling point was not located in the agricultural area, dichlorvos (0.33-0.05 mu g/l), chlorothalonil (0.27-0.05 mu g/l), fenitrothion (0.24-0.05 mu g/l), molinate (0.12-0.05 mu g/l), diazinon (0.07-0.05 mu g/l), and malathion (0.05 mu g/l) were detected. Dichlorvos was the most frequently detected (65% of samples) and its highest concentration in rainwater (0.33 mu g/l) was found on May 7, 2002. Chlorothalonil was the second most frequently detected (33% of samples) and its highest concentration in rain-water (0.27 mu g/l) was found on May 26, 2002.

Sakamoto, Mitsushi and Tsutsumi, Taizou (2004). **<04 Article Title>.**  *Journal of Chromatography, A* 1028: <25 Page(s)>.

Chemical of Concern: FVL, TCZ; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Sakr, S. A. and Gabr, S. A. (1992). Ultrastructural Changes Induced by Diazinon and Neopybuthrin in Skeletal Muscles of Tilapia nilotica. *Bull.Environ.Contam.Toxicol.* 48: 467-473.

EcoReference No.: 5008  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(DZ).

SALES, N., LEVOT GW, and HUGHES PB (1989). MONITORING AND SELECTION OF RESISTANCE TO PYRETHROIDS IN THE AUSTRALIAN SHEEP BLOWFLY LUCILIA-CUPRINA. *MED VET ENTOMOL; 3* 287-292.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM DAMALINIA-OVIS PEST CONTROL INSECTICIDE CYPERMETHRIN CYHALOTHRIN CYCLOPROTHRIN DIAZINON CARBAMATE BUTACARB DELTAMETHRIN ORGANOPHOSPHATE DDT Animals/Genetics/ Biochemistry/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Anoplura/ Diptera/ Artiodactyla

Salman, Michael and Rottem, Shlomo (1995). The cell membrane of Mycoplasma penetrans: lipid composition and phospholipase A1 activity. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1235: 369-377.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Analysis of Mycoplasma penetrans membrane lipids revealed that, in addition to large amounts of unesterified cholesterol, M. penetrans incorporated exogenous phospholipids, preferentially sphingomyelin, from the growth medium. The major phospholipids synthesized de novo by M. penetrans were phosphatidylglycerol (PG) and diphosphatidylglycerol (DPG). In vivo labeling of PG and DPG by growing the cells with radioactive palmitate or oleate, followed by snake venom phospholipase A2 treatment, enabled us to assess the positional distribution of fatty acids in these lipids. Saturated fatty acids were found preferentially in position 2 of the glycerol backbone, and not in position 1 as found elsewhere in nature, while unsaturated fatty acids prefer position 1. M. penetrans membranes contain phospholipase activity of the A1 type, removing a fatty acid from the sn-1 ester bond of phospholipids. The activity was neither stimulated by Ca2+ nor inhibited by EGTA and had a broad pH spectrum. The substrate specificity of the enzyme was investigated with various natural lipids and with a fluorescent analog of the phosphatidylcholine. The enzyme was equally active toward phosphatidyl-choline and phosphatidylglycerol, but did not hydrolyze diphosphatidylglycerol. The enzyme did not act on triacylglycerol, diacylglycerol or cholesteryl ester, but low activity was detected toward monoacylglycerol. The enzyme was heat-sensitive and detergent-sensitive, and was almost completely inhibited by p-bromophenacylbromide (50 [mu]M), but was not affected by SH reagents. This study is the first one reporting phospholipase A1 activity in Mollicutes. A possible role of this enzyme in forming lipid mediators upon the interaction of M. penetrans cells with eukaryotic cells is suggested. Phospholipase A1/ Membrane lipid/ AIDS/ (Molliicutes)/ (Mycoplasma penetrans)

Salvucci, Michael E. (2004). Potential for interactions between the carboxy- and amino-termini of Rubisco activase subunits. *FEBS Letters* 560: 205-209.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The subunit interactions of Rubisco activase were investigated using mutants containing an introduced Cys near the N- and/or C-terminus. Chemical cross-linking of the C-terminal and double insertion mutant produced subunit dimers and dimers plus high ordered oligomers, respectively. Fluorescence measurements with N,N&prime;-dimethyl-N-(iodoacetyl)-N&prime;-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)ethylenediamine showed that the environment around the introduced Cys near the C-terminus becomes more hydrophilic upon nucleotide binding. The Cys insertion mutants catalyzed Rubisco activation and ATP hydrolysis even when the subunits of the C-terminal or double insertion mutants were completely cross-linked. The results indicate that the termini of adjacent activase subunits are in close proximity and can be modified and even joined without affecting enzyme function. Author Keywords: AAA+ protein/ ATPase/ Carbon metabolism/ Cross-linking/ Photosynthesis

SAMOKYSZYN VM, THOMAS CE, REIF DW, SAITO, M., and AUST SD (1988). RELEASE OF IRON FROM FERRITIN AND ITS ROLE IN OXYGEN RADICAL TOXICITIES. *DRUG METAB REV; 19* 283-304.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLSIM.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RAT DIQUAT XENOBIOTIC LIPID PEROXIDATION HEPATOTOXICITY Gases/ Biochemistry/ Amino Acids/ Peptides/ Proteins/ Lipids/ Minerals/ Minerals/Metabolism/ Digestive System Diseases/\*Pathology/ Digestive System/Pathology/ Poisoning/ Animals, Laboratory/ Muridae

Sams, C., Cocker, J., and Lennard, M. S. (2004). Biotransformation of chlorpyrifos and diazinon by human liver microsomes and recombinant human cytochrome P450s (CYP). *Xenobiotica [Xenobiotica]. Vol. 34, no. 10, pp. 861-873. Oct 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0049-8254  
Descriptors: Chlorpyrifos  
Descriptors: Diazinon  
Descriptors: Liver  
Descriptors: Microsomes  
Descriptors: biotransformation  
Descriptors: Cytochrome P450  
Descriptors: Hydrolysis  
Descriptors: Insecticides  
Descriptors: Detoxification  
Abstract: 1. The cytochrome P450 (CYP)-mediated biotransformation of the organophosphorothioate insecticides chlorpyrifos and diazinon was investigated. Rates of desulphuration to the active oxon metabolite (chlorpyrifos-oxon and diazinon-oxon) and dearylation to non-toxic hydrolysis products were determined in human liver microsome preparations from five individual donors and in recombinant CYP enzymes. 2. Chlorpyrifos and diazinon underwent desulphuration in human liver microsome with mean K sub(m) = 30 and 45 mu M and V sub(max) = 353 and 766 pmol min super(-1) mg super(-1), respectively. Dearylation of these compounds by human liver microsome proceeded with K sub(m) = 12 and 28 mu M and V sub(max) = 653 and 1186 pmol min super(-1) mg super(-1), respectively. The apparent intrinsic clearance (V sub(max)/K sub(m)) of dearylation was 4.5- and 2.5-fold greater than desulphuration for chlorpyrifos and diazinon, respectively. 3. Recombinant human CYP2B6 possessed the highest desulphuration activity for chlorpyrifos, whereas CYP2C19 had the highest dearylation activity. In contrast, both desulphuration and dearylation of diazinon were catalysed at similar rates, in the rank order CYP2C19 > CYP1A2 > CYP2B6 > CYP3A4. 4. Both organophosphorothioates were more readily detoxified (dearylation) than bioactivated (desulphuration) in all human liver microsome preparations. However, the role of individual CYP enzymes in these two biotransformation pathways varied according to the structure of the organophosphorothioate, which was reflected in different activation/detoxification ratios for chlorpyrifos and diazinon. Variability in activity of individual CYP enzymes may influence interindividual sensitivity to the toxic effects of chlorpyrifos and diazinon.  
DOI: 10.1080/00498250400017273  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Sams, C., Mason, H. J., and Rawbone, R. (2000). Evidence for the activation of organophosphate pesticides by cytochromes P450 3A4 and 2D6 in human liver microsomes. *Toxicology Letters [Toxicol. Lett.]. Vol. 116, no. 3, pp. 217-221. 16 Aug 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0378-4274  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Parathion  
Descriptors: Liver  
Descriptors: Microsomes  
Abstract: The role of specific cytochrome P450 isoforms in catalysing the oxidative biotransformation of the organophosphorothioate pesticides parathion, chlorpyrifos and diazinon into structures that inhibit cholinesterase has been investigated in human liver microsomes using chemical inhibitors. Pesticides were incubated with human liver microsomes and production of the anticholinergic oxon metabolite was investigated by the inhibition of human serum cholinesterase. Quinidine and ketoconazole at 10 mu mol/l inhibited oxidative biotransformation. Compared to control incubations (no inhibitor) where cholinesterase activity was inhibited to between 1 and 4% of control levels, incorporation of the CYP2D6 inhibitor quinidine into the microsomal incubation resulted in cholinesterase activity of 50% for parathion, 38% for diazinon and 30% for chlorpyrifos. Addition of the CYP3A4 inhibitor ketoconazole to microsomal incubations resulted in 66% cholinesterase activity with diazinon, 20% with parathion and 5% with chlorpyrifos. The unexpected finding that CYP2D6, as well as CYP3A4, catalysed oxidative biotransformation was confirmed for chlorpyrifos and parathion using microsomes prepared from a human lymphoblastoid cell line expressing CYP2D6. While parathion has been investigated only as a model compound, chlorpyrifos and diazinon are both very important, widely used pesticides and CYP2D6 appears to be an important enzyme in their bioactivation pathway. CYP2D6 is polymorphic and hence may influence individual susceptibility to exposure to chlorpyrifos and diazinon as well as other structurally similar pesticides.  
DOI: 10.1016/S0378-4274(00)00221-6  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Subfile: Toxicology Abstracts

Sanchez-Camazano, M., Arienzo, M., Sanchez-Martin, M. J., and Crisanto, T. (1995). Effect of different surfactants on the mobility of selected non-ionic pesticides in soil. *Chemosphere* 31 : 3793-3801.  
Chem Codes: MTL Rejection Code: FATE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The influence of the surfactants tetradecyltrimethylammonium bromide (cationic), lauryl sulphate (anionic) and tween 80 (non-ionic) on the leaching of the pesticides diazinon, atrazine, metolachlor and acephate in soil was studied by using soil thin layer chromatography, 14C-labelled pesticides and a linear analyser for measuring the mobility parameter Rf. The results obtained are quite interesting in that they support the use of surfactants for solving soil pollution problems caused by pesticides. The increase or decrease of pesticide mobility in soil was found to depend on the chemical nature of the surfactant, its concentration in the soil or in the leaching water and the pesticide hydrophobicity. Consequently, the surfactant of choice and its concentration will be dictated in each case by the nature of the pesticide involved and the specific problem faced (pesticide immobilization or leaching).  
KEYWORDS: Comparative Biochemistry  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-Molecular Properties and Macromolecules  
KEYWORDS: Movement (1971- )  
KEYWORDS: Toxicology-Antidotes and Preventative Toxicology (1972- )  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Agronomy-Weed Control  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control

Sanchez-Camazano M., Iglesias-Jimenez E., and Sanchez-Martin M. J. (1997). City refuse compost and sodium dodecyl sulphate as modifiers of diazinon leaching in soil. *Chemosphere* 35: 3003-3012.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The effect of a city refuse compost (CRC) and of an anionic surfactant (sodium dodecyl sulphate (SDS) on the leaching of diazinon (0,0-diethyl 0-2-isopropyl-6-methylpyrimidin-4-yl-phosphorothioate) in the soil was studied using packed soil columns. Breakthrough curves showed the existence of various regimes of pesticide adsorption related to the pesticide and organic material nature and the soil properties. Leaching rate and mass transfer of diazinon decrease following the addition of CRC to the soil and increase after the addition of SDS. The degree of increase or decrease was found to depend strongly on the amendment dose added, especially in the case of SDS. The results afford basic data on which to base the possible use of the organic amendments studied in physicochemical methods designed to prevent the pollution of water by hydrophobic pesticides (immobilization) or to restore soils contaminated by these compounds (leaching).

Sanchez-Camazano, M., Sanchez-Martin, M. J., Poveda, E., and Iglesias-Jimenez, E. (1996). Study of the effect of exogenous organic matter on the mobility of pesticides in soils using soil thin-layer chromatography. *Journal of Chromatography A, 754 (1-2) pp. 279-284, 1996*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0021-9673  
Descriptors: soil  
Descriptors: environmental analysis  
Descriptors: pesticide mobility  
Descriptors: pesticides  
Abstract: The effect of soil amendment using urban compost, agricultural organic amendments and surfactants on the mobility of two sparingly-soluble pesticides - diazinon and linuron - was studied by soil thin-layer chromatography. The modifications in R(F) values due to the addition of the amendments were similar for both pesticides. No significant correlation was found between the R(F) values and the content of total organic carbon in the amended soils. This fact indicated that not only the organic carbon content of amended soils but also the amendment nature, specially their content in soluble fractions must play a very important role in the pesticide mobility. The surfactants gave rise to important alterations in pesticide mobility; the pesticides changed from being slightly mobile in natural soil to being immobile in the soil sample modified with tetradecyltrimethylammonium bromide and to being mobile in the soil sample amended with sodium dodecyl sulphate.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: Netherlands  
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science  
Subfile: Plant Science

Sanchez, M. E., Estrada, I. B., Martinez, O., Martin-Villacorta, J., Aller, A., and Moran, A. (2004). Influence of the application of sewage sludge on the degradation of pesticides in the soil. *Chemosphere* 57: 673-679.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
A study was made of the influence of the application of sewage sludge on the degradation of pesticides in the soil. Two kinds of sludge were used, with different characteristics, one from an urban treatment plant and one from a food processing plant. Three organophosphorus insecticides, fenitrothion, diazinon and dimethoate, were studied. The relative importance was determined of the chemical and biological degradation processes, which involved experiments on soil and sterile soil samples. A comparative study was also made of the degradation of pesticide residues and the evolution of the microbial population. The application of sludge seems to have a complex effect on the degradation of pesticides, determined by the bioavailability and biodegradability of their active ingredient. The biodegradation of pesticide residues brings about alterations in the microorganism population of the soil. Sludge/ Organophosphorus pesticides/ Degradation/ Soil

Sanchez-Martin, M. J., Crisanto, T., Arienzo, M. , and Sanchez-Camazano, M. (1994). Evaluation of the mobility of C14-labelled pesticides in soils by thin layer chromatography using a linear analyser. *Journal of Environmental Science and Health Part B Pesticides Food Contaminants and Agricultural Wastes* 29 : 473-484.  
Chem Codes: MTL Rejection Code: FATE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The mobility of seven pesticides in a chromic cambisol soil was studied by soil thin layer chromatography. Pesticide mobilities were determined by means of conventional autoradiographs of the chromatograms, as well as from sequential series of curves and images of the pesticide spots provided by a linear analyser. The Rf values obtained from the autoradiographs and those provided by the linear analyser were quite consistent. Based on such values, pesticide mobility decreased in the following order: acephate > fluometuron > atrazine > ethofumesate > metolachlor > diazinon > glyphosate. According to the mobility scale proposed by Helling and Turner (1968), acephate is highly mobile; atrazine, fluometuron, ethofumesate and metolachlor are moderately mobile; diazinon is slightly mobile; and glyphosate is immobile. The images provided by the linear analyser allow to determine the Rf values for the zones of maximum activity in the pesticide spots (Rfmax), as  
KEYWORDS: General Biology-Conservation  
KEYWORDS: Radiation-Radiation and Isotope Techniques  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Biophysics-General Biophysical Techniques  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Soil Science-Physics and Chemistry (1970- )  
KEYWORDS: Pest Control

Sancho, E., Ferrando, M. D., Gamon, M., and Andreu-Moliner, E. (1993). An Approach to the Diazinon Toxicity in the European Eel: Bioaccumulation Studies. *Sci.Total Environ.(Suppl.)* 461-468.

EcoReference No.: 4352  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR,ACC; Rejection Code: NO CONTROL(DZ).

Sanders, H. O. and Cope, O. B. (1966). Toxicities of Several Pesticides to Two Species of Cladocerans. *Trans.Am.Fish.Soc.* 95: 165-169 (Author Communication Used) (Publ in Part As 6797).

EcoReference No.: 888  
Chemical of Concern: 24DXY,CBL,DBN,DU,DZ,HCCH,MLN,Naled,CYT,PYN,TFN,RTN,As; Habitat: A; Effect Codes: PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Sands, William A. and Kusel, John R. (1992). Changes in the lateral diffusion of fluorescent lipid analogues in the surface membrane of adult male Schistosoma mansoni. *Molecular and Biochemical Parasitology* 53: 233-239.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOXICANT.  
  
The effect of serotonin on the fluidity of the tegumental membranes of adult male Schistosoma mansoni was assessed by the fluorescence recovery after photobleaching technique. It was demonstrated that the translational diffusion of 5-N&prime;-octadecanoyl aminofluorescein is reduced by a mechanism involving G-protein coupled activation of adenylate cyclase and lowering of intracellular calcium concentration. Furthermore, the lateral diffusion coefficient and the mobile fraction appear to be controlled by calcium and cAMP dependent pathways respectively. No change in the diffusion of the fluorescent phospholipid N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)-phosphatidyl choline was observed, suggesting the two probes used here partition into two different domains that are under independent control. An increase in the amount of protein associating with a membrane cytoskeleton is also demonstrated. Fluidity/ Tegument/ Schistosoma mansoni/ Serotonin

Sangwan, A. K., Chhabra, M. B., and Samantaray, S. (1988). Comparative efficacy of some pesticides against Hyalomma anatolicum anatolicum ticks in vitro. *Indian Veterinary Journal [INDIAN VET. J.]. Vol. 65, no. 12, pp. 1084-1087. 1988.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Descriptors: pesticides  
Descriptors: Ixodidae  
Descriptors: Hyalomma anatolicum anatolicum  
Descriptors: Acari  
Abstract: Five commercially available pesticides were assessed in vitro for their comparative toxicity to unfed adults of Hyalomma anatolicum anatolicum . Two of these were also tested against the engorged female ticks. The comparative effectiveness of pesticides was judged in terms of mortality in unfed adults after treatment and reduction of egg laying and hatching in engorged females. Decamethrin 2.8% EC proved the most effective. Of the other agents evaluated, oxinotiofos 50% EC and diazinon 20% EC, fared moderately, while amitraz 12.5% EC was the least effective.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Z 05183 Toxicology & resistance  
Subfile: Entomology Abstracts

Sapozhnikova, Yelena, Bawardi, Ola, and Schlenk, Daniel (2004). Pesticides and PCBs in sediments and fish from the Salton Sea, California, USA. *Chemosphere* 55: 797-809.  
Chem Codes: Chemical of Concern: DMT Rejection Code: SURVEY.  
  
The Salton Sea, the largest manmade lake in California, is officially designated by the State of California as an agricultural drainage reservoir. The purpose of this study was to determine organochlorine and organophosphorous pesticides, as well as polychlorinated biphenyl (PCB) concentrations in sediments and fish tissues in the Salton Sea and evaluate the relative ecological risk of these compounds. Sediment samples were taken during 2000-2001 and fish tissues (Tilapia mossambique, Cynoscion xanthulu) were collected in May 2001. All samples were analyzed for 12 chlorinated pesticides, 6 organophosphorus pesticides, and 55 polychlorinated biphenyl (PCB) congeners. [sum]Dichlorodiphenyltrichloroethane ([sum]DDT) and total PCB concentrations observed in sediments ranged from 10 to 40 and 116 to 304 ng/g dry wt, respectively. DDT/DDD ratios in sediments and fish tissues of the northern Sea in 2001 indicated recent DDT exposure. Lindane, dieldrin, dichlorodiphenylethane (DDE) and total PCB concentrations detected in sediments exceeded probable effect levels established for freshwater ecosystems, and pp-DDE and total PCB concentrations were higher than effect range-median values developed for marine and estuarine sediments. In fish liver, concentrations of endrin and [sum]DDT exceeded threshold effect level established for invertebrates. [sum]DDT concentrations detected in fish tissues were higher than threshold concentrations for the protection of wildlife consumers of aquatic biota. DDE concentrations in fish muscles tissues were above the 50 ng/g concentration threshold for the protection of predatory birds. Dimethoate, diazinon, malathion, chlorpyrifos, disulfoton varied from [les]0.15 to 9.5 ng/g dry wt in sediments and from [les]0.1 to 80.3 ng/g wet wt in fish tissues. Disulfoton was found in relatively high concentrations (up to 80.3 ng/g) in all organs from Tilapia and Corvina. These results demonstrate continued contamination of specific organochlorine compounds in sediments and resident fish species of the Salton Sea.

Sapozhnikova, Yelena, Bawardi, Ola, and Schlenk, Daniel (2004). Pesticides and PCBs in sediments and fish from the Salton Sea, California, USA. *Chemosphere* 55: 797-809.  
Chem Codes: Chemical of Concern:DMT Rejection Code: 10/SURVEY.  
  
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Sapozhnikova, Yelena, Bawardi, Ola, and Schlenk, Daniel (2004). Pesticides and PCBs in sediments and fish from the Salton Sea, California, USA. *Chemosphere* 55: 797-809.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
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Sastry, K. V. and Sharma, K. (1981). Diazinon-Induced Histopathological and Hematological Alterations in a Freshwater Teleost, Ophiocephalus punctatus. *Ecotoxicol.Environ.Saf.* 5: 329-340.

EcoReference No.: 15173  
Chemical of Concern: DZ; Habitat: A; Effect Codes: BCM; Rejection Code: NO ENDPOINT(DZ).

Sato, M. E., Raga, A., Ceravolo, L. C., De souza Filho, M. F., Rossi, A. C., and De Moraes, G. J. (2001). Effect of Insecticides and Fungicides on the Interaction Between Members of the Mite Families Phytoseiidae and Stigmaeidae on Citrus. *Exp.Appl.Acarol.* 25: 809-818.

EcoReference No.: 71531  
Chemical of Concern: DZ,CuO,DMT,MDT,DM,ALSV; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS,TARGET-ALSV,DZ)).

SATO, T., TAGUCHI, M., NAGASE, H., KITO, H., and NIIKAWA, M. (1998). Augmentation of allergic reactions by several pesticides. *TOXICOLOGY; 126* 41-53.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. The augmentative effects of several pesticides on histamine release from mast cells of rats that had been sensitized passively by anti-dinitrophenol (DNP) monoclonal IgE antibodies were investigated in vitro. Various pesticides, especially phenthoate (PAP), chlornitrofen (CNP) and paraquat (PQ), increased histamine release. This increase was not observed in histamine release with non-antigen or induction by calcium ionophore A23187 or compound 48/80. Passive cutaneous anaphylaxis (PCA) was examined, and an increase of PCA was observed with PAP and PQ, but not with CNP, while an increase of tumor necrosis factor-alpha (TNF-alpha) production was observed with CNP and PQ, but not PAP. These results suggest that various pesticides as environmental pollutants exacerbate allergic diseases. Animals/ Cytology/ Histocytochemistry/ Biochemistry/ Amino Acids/ Peptides/ Proteins/ Carbohydrates/ Inflammation/Pathology/ Hematologic Diseases/Pathology/ Hematologic Diseases/Physiopathology/ Hematopoietic System/Pathology/ Hematopoietic System/Physiopathology/ Lymphatic Diseases/Pathology/ Lymphatic Diseases/Physiopathology/ Reticuloendothelial System/Pathology/ Reticuloendothelial System/Physiopathology/ Hematopoietic System/Physiology/ Lymph/Chemistry/ Lymph/Physiology/ Lymphatic System/Physiology/ Reticuloendothelial System/Physiology/ Endocrine Glands/ Skin Diseases/Pathology/ Poisoning/ Animals, Laboratory/ Immunity, Cellular/ Hypersensitivity/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Muridae

Sattar, M. A. (1990). Fate of organophosphorus pesticides in soils. *Chemosphere* 20: 387-396.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
A silty clay acid and a sandy clay neutral soils were treated with 10, 100 and 1000 ppm levels of dichlorvos, phosdrin, diazinon and parathion organophosphorus pesticides at field capacity moisture, and incubated for 80 days in glass containers at room temperature. The soil samples were collected after 0, 10, 20, 40 and 80 days of incubation, and analysed for the residues by GC.At O-day of observation, the recovery results of the compounds were 99%, and then the pesticides degraded linearly with incubation time. The residues remained in soils after 80 days, varied from 3 to 15%. A fast degradation was noticed with dichlorvos and phosdrin. The rate of degradation was slightly higher in neutral than that of acid soils. The results were applied to the first order rate constants, and the half-life time was measured with each compound in each soil which varied from 13 (phosdrin) to 32 (diazinon) days. The average % residues remaining in soils were well fitted to the regression lines (r= 0.969 to -0.998).

SATTAR MA (1991). Degradation of diazinon in soils. *PAK J SCI IND RES; 34* 274-276.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. A silty clay acid soil was treated with diazinon by 30, 300 and 3000 ppm levels at field capacity, air-dry moisture conditions, and incubated for 200 days under laboratory conditions. The residues were determined after 0, 10, 40, 80, 120, 160 and 200 days of incubation. The degradation of diazinon was rapid at field capacity moisture levels wherever the rate was very slow in air-dry soils. With high dosages, the compound persisted longer in both soil conditions. The fate was linear and are well fitted to the regression lines. Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

Savarie, P. J. and Bruggers, R. L. (1999). Candidate Repellents, Oral and Dermal Toxicants, and Fumigants for Brown Treesnake Control. *In: G.H.Rodda, Y.Sawai, D.Chiszar, and H.Tanaka (Eds.), Problem Snake Management: The Habu and the Brown Treesnake, Cornell Univ.Press, Ithaca, NY* 417-422.  
Chem Codes: EcoReference No.: 74375  
Chemical of Concern: MOM,DZ,NAPH Rejection Code: REVIEW.

Sawaya, Wajih N., Al-Awadhi, Fawzia A., Saeed, Talat, Al-Omair, Ali, Husain, Adnan, Ahmad, Nissar, Al-Omirah, Husam, Al-Zenki, Sameer, Khalafawi, Sherif, Al-Otaibi, Jamla, and Al-Amiri, Hanan (2000). Dietary intake of organophosphate pesticides in Kuwait. *Food Chemistry* 69: 331-338.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
The State of Kuwait, in cooperation with the U.S. FDA, conducted a total diet study (TDS) to estimate pesticide intake by the population. The organophosphate (OP) pesticide levels in 139 food items, constituting the TDS core list, are reported here. The TDS core food list was established through a nationwide food consumption survey. All foods were prepared as eaten, and analyzed for their organochlorine pesticide, OP, carbamate, benzimidazole and phenyl urea contents. The FDA's Multiresidue Methods, PAM I, were used employing GC, HPLC and GPC. Twenty-five of the foods analyzed contained OPs. These included 7 of 12 cereal products (chloropyriphos=0.03-0.21 ppm and fenetrothion=0.016-0.84 ppm), 6 of 16 vegetables (diazinon=0.05-0.2 ppm, and chloropyrifos, and fenthione sulfone), 1 of 16 fruits (monocrotophos) and 11 of 47 composite dishes (chloropyrifos methyl=0.011-0.089 ppm and fenetrothion 0.011-0.044 ppm). The higher levels of fenetrothion in one cereal product exceeded the MRLs, and warrant corrective and preventive measures. The daily intakes of OP pesticide residues are discussed in light of the ADIs of the FAO/WHO (1993). Codex Alimentarius. Pesticide residues in food (Vol. 2, 2nd ed.). Rome: Joint FAO/WHO Food Standards Programme. Pesticides/ Organophosphates/ ADIs/ MRLs/ Analysis/ GC

Sawyer, T. W., Weiss, M. T., and Dickinson, T. (1996). Effect of Metabolism on the Anticholinesterase Activity of Carbamate and Organophosphate Insecticides in Neuron Culture. *In Vitro Toxicol.* 9: 343-352.  
Chem Codes: Chemical of Concern: ADC,TBC,CBL,MOM,ABT,PRN,ACP,PRT,PPHD,FNF,DZ,ETN,FNTH,TCF,AZ,PHSL,MLN,MP,Naled,DMT,DS,CPY Rejection Code: IN VITRO/METABOLISM.

SAWYER TW, WEISS MT, and DICKINSON, T. (1996). Effect of metabolism on the anticholinesterase activity of carbamate and organophosphate insecticides in neuron culture. *IN VITRO TOXICOLOGY; 9* 343-352.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. The anticholinesterase activities of 30 organophosphate and carbamate insecticides were assessed in primary cultures of chick embryo forebrain neurons. The median inhibitory concentrations for these compounds ranged over several orders of magnitude. However, these values did not correlate with the literature reported in vivo rodent toxicities of the corresponding insecticides. Preincubation of an arbitrary selection of 18 of these insecticides with rat hepatic S-9 fractions altered their anticholinesterase activities so that they became predictive of their relative in vivo toxicities. This approach may be of utility in assessing the toxicity of these classes of compounds in vivo. Animals/ Cytology/ Histocytochemistry/ Biochemistry/ Amino Acids/ Peptides/ Proteins/ Enzymes/Physiology/ Nervous System Diseases/Pathology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Birds

SCHAEFFER, A. (1993). PESTICIDE EFFECTS ON ENZYME ACTIVITIES IN THE SOIL ECOSYSTEM. *BOLLAG, J.-M. AND G. STOTZKY (ED.). SOIL BIOCHEMISTRY, VOL. 8. XI+418P. MARCEL DEKKER, INC.: NEW YORK, NEW YORK, USA; BASEL, SWITZERLAND. ISBN 0-8247-9044-8.; 0 (0). 1993. 273-340.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MICROORGANISM AGROCHEMISTRY POLLUTION BIODEGRADATION Biochemistry/ Amino Acids/ Peptides/ Proteins/ Microbiological Techniques/ Air Pollution/ Soil Pollutants/ Water Pollution/ Biodegradation/ Industrial Microbiology/ Soil Microbiology/ Soil/ Herbicides/ Pest Control/ Pesticides/ Microbiology

Schafer, E. W. (1972). The Acute Oral Toxicity of 369 Pesticidal, Pharmaceutical and Other Chemicals to Wild Birds. *Toxicol.Appl.Pharmacol.* 21: 315-330.

EcoReference No.: 38655  
Chemical of Concern: Ziram,AN,BZO,BZC,Captan,THM,ZINEB,CYT,SFL,MAL,MRX,ACL,MLN,ABT,CBZ,MCB,CBL,CMPH,HCCH,EN,AND,ES,NP,TCF,CPY,DDVP,PPHD,DCTP,DS,PRT,DMT,AZ,PSM,ETN,DEM,DZ,FNTH,MP,NCTN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS),NO COC(4AP).

Schafer, E. W. Jr. and Bowles, W. A. Jr. (1985). Acute Oral Toxicity and Repellency of 933 Chemicals to House and Deer Mice. *Arch.Environ.Contam.Toxicol.* 14: 111-129.

EcoReference No.: 35426  
Chemical of Concern: ADC,CST,MOM,CPC,ZnP,DOD,MLN,Cu,AQS,CuCO,RSM,ACL,4AP,DZ,As; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Schafer, E. W. Jr., Bowles, W. A. Jr., and Hurlbut, J. (1983). The Acute Oral Toxicity, Repellency, and Hazard Potential of 998 Chemicals to One or more Species of Wild and Domestic Birds. *Arch.Environ.Contam.Toxicol.* 12: 355-382.

EcoReference No.: 38656  
Chemical of Concern: RSM,TBT,CBL,EN,PAH,ACL,PL,ES,AND,DZ,CPY,Sb,Pb,Zn,Cu,Tl,DLD,HCCH,APAC,4AP; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

SCHATTENBERG, H. J. III and HSU J-P (1992). Pesticide residue survey of produce from 1989 to 1991. *J AOAC (ASSOC OFF ANAL CHEM) INT; 75 (5). 1992. 925-933.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A pesticide residue screening program for 111 pesticides was performed on 6970 produce samples. Of the 81 varieties of samples, 2.4% contained illegal levels of pesticide residues (that is, higher than U.S. Environmental Protection Agency (EPA) tolerance or no tolerance specified), and 13.3% contained levels within tolerable limits established by EPA. Pesticide results are presented both by commodity and category type. The nature of violative residues is discussed. Legislation/ Organization and Administration/ Biology/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides

SCHENCK FJ, WAGNER, R., HENNESSY MK, and OKRASINSKI, J. L. JR (1994). Screening procedure for organochlorine and organophosphorus pesticide residues in eggs using a solid-phase extraction cleanup and gas chromatographic detection. *JOURNAL OF AOAC INTERNATIONAL; 77* 1036-1040.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. A solid-phase extraction (SPE) screening procedure for the isolation and gas chromatographic (GC) determination of organochlorine and organophosphorus pesticide residues in eggs is described. Eggs are extracted with acetonitrile. The extract is subjected to a cleanup on tandem C18 and Florisil SPE columns. Organochlorine and organophosphorus pesticide residues are determined by GC with electron capture and flame photometric detection, respectively. Because the injected extracts are free from matrix interferences, the amount of residue present is easy to calculate. The average recoveries of 9 spiked organochlorine pesticide residues (0.01-1.0 ppm) ranged from 80.9 to 91.1 %. The average recoveries of 7 spiked organophosphorus pesticide residues (0.020.50 ppm) ranged from 80.3 to 89.5%. The SPE method results in a 90% reduction in organic solvent consumption and an 85% reduction in hazardous waste production compared with the AOAC methodology. Minerals/Analysis/ Biophysics/Methods/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Herbicides/ Pest Control/ Pesticides

SCHENKE, D. and GEMMEKE, H. (1999). Behavior of O,O-Diethyl- and O,O-Diethylthiophosphate in fecal samples under field conditions. *218TH NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, PARTS 1 AND 2, NEW ORLEANS, LOUISIANA, USA, AUGUST 22-26, 1999.YABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 218* AGRO 118.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BEHAVIOR OF O,O-DIETHYL- AND O,O-DIETHYLTHIOPHOSPHATE IN FECAL SAMPLES UNDER FIELD CONDITIONSYMEETING ABSTRACT RABBIT PESTICIDES TOXICOLOGY O,O-DIETHYL THIOPHOSPHATE FECAL SAMPLES PESTICIDE BIOCHEMISTRY AND BIOPHYSICS Congresses/ Biology/ Biochemistry/ Biophysics/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Lagomorpha

Schenke, Detlef (2000). Analytical method for the determination of O,O-diethyl phosphate and O,O-diethyl thiophosphate in faecal samples. *Chemosphere* 41: 1313-1320.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Dialkylphosphates/ Faecal samples/ GC-NPD/ GC-FPD A residue analytical method was developed for the determination of the dialkylphosphate metabolites of parathion in faecal samples obtained from rabbits. The faecal pieces were homogenised in water and highly water-soluble O,O-diethyl phosphate (DEP) and O,O-diethyl thiophosphate (DETP) were subsequently alkylated to pentafluorobenzyl esters by a phase transfer reaction. Derivatisation yields depend on the reaction time. The recovery rates were determined over the complete procedure using authentic reference standards in matrix solution. The reference standards allow to observe an effect of the sample matrix on the area of signals while GC-FPD is used. The recoveries over the concentration range from 0.05 to 5 [mu]g/g were 47-62% for O,O-diethyl phosphate and 92-106% for O,O-diethyl thiophosphate potassium salt with FPD.

Scheuhammer, A. M. and Wilson, L. K. (1990). Effects of lead and pesticides on delta -aminolevulinic acid dehydratase of ring doves (Streptopelia risoria ). *Environmental Toxicology and Chemistry [ENVIRON. TOXICOL. CHEM.]. Vol. 9, no. 11, pp. 1379-1386. 1990.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO, MIXTURE.  
  
ISSN: 0730-7268  
Descriptors: pesticides  
Descriptors: blood  
Descriptors: liver  
Descriptors: kidney  
Descriptors: Streptopelia risoria  
Abstract: The effects of lead (Pb super(2+)) and various pesticides on delta -aminolevulinic acid dehydratase (ALA-d) in avian blood, liver and kidney were studied. In blood, virtually all of the ALA-d activity was localized in the cellular fraction. Complete inhibition of RBC ALA-d occurred at an in vitro Pb super(2+) concentration of similar to 10 mu mol/g protein, with an IC50 of similar to 0.9 mu mol/g protein. Pesticides (carbaryl, carbofuran, chlorpyrifos, diazinon, dieldrin, fenitrothion, hexachlorobenzene) added to blood samples up to 10 mM in vitro had no inhibitory effect on ALA-d, nor did the presence of pesticides greatly modify the response of ALA-d to inhibition by increasing concentrations of Pb super(2+). Recovery of Pb-inactivated RBC ALA-d activity was accomplished by treatment of blood hemolysates with Zn super(2+) and an SH-reducing agent such as dithiothreitol (DTT). A combination of Zn super(2+) (4 mM) and DTT (120 mM) was required to achieve complete recovery of Pb-inhibited enzyme activity. Normal avian ALA-d activity was greatest in blood, followed by liver, then kidney.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24135 Biochemistry  
Classification: X 24165 Biochemistry  
Subfile: Toxicology Abstracts

Scheunert, I., Mansour, M., Dorfler, U., and Schroll, R. (1993). Fate of Pendimethalin, Carbofuran and Diazinon Under Abiotic and Biotic Conditions. *Sci.Total Environ.* 132: 361-369.  
Rejection Code: FATE/NO SPECIES/NO TOX DATA.  
  
Diazinon-99//Diazinon DRAFT/REFs 1999//  
EcoReference No.: 45852  
User Define 2: WASH,CALF,CORE,NA  
Chemical of Concern: CBF,DZ,PDM

Scheunert, I., Mansour, M., Dorfler, U., and Schroll, R. (1993). Fate of pendimethalin, carbofuran and diazinon under abiotic and biotic conditions. *The Science of The Total Environment* 132: 361-369.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The insecticides carbofuran and diazinon as well as the herbicide pendimethalin were irradiated with UV light of different wavelengths in water or water/soil suspensions under various conditions. As compared to pure distilled water, photodegradation was increased in the presence of titanium dioxide, hydrogen peroxide or ozone, or by using natural river or lake water. In a water/soil suspension, diazinon was converted, besides to other products, to the isomeric isodiazation. When subjected to various direct or indirect photolysis conditions, pendimethalin was transformed to various products resulting from dealkylation and reduction. [14C]Pendimethalin was applied to two natural sandy soils in lysimeters under outdoor conditions. Leachate collected at 1 m depth was analysed for radioactivity for 300 days. Radioactive products were detected from the third week onwards and continued to be leached during the whole experimental period. The radioactive products were neither the parent compound nor carbon dioxide nor carbonate but water-soluble organic conversion products. pendimethalin/ carbofuran/ diazinon/ photodegradation/ lysimeter/ leaching

Scheunert, I., Mansour, M., Dorfler, U., and Schroll, R. (1993). Fate of Pendimethalin, Carbofuran and Diazinon Under Abiotic and Biotic Conditions. *Sci.Total Environ.* 132: 361-369.  
Chem Codes: EcoReference No.: 45852  
Chemical of Concern: CBF,DZ,PDM Rejection Code: FATE/NO SPECIES/NO TOX DATA.

Schiff, K., Bay, S., and Stransky, C. (2002). Characterization of stormwater toxicants from an urban watershed to freshwater and marine organisms. *Urban Water [Urban Water]. Vol. 4, no. 3, pp. 215-227. Sep 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 1462-0758  
Descriptors: Toxicity testing  
Descriptors: Organophosphates  
Descriptors: Pesticides  
Descriptors: Trace metals  
Descriptors: Urban areas  
Descriptors: Wastewater discharges  
Descriptors: Stormwater runoff  
Descriptors: Diazinon  
Descriptors: Zinc  
Descriptors: Copper  
Descriptors: Urban environments  
Descriptors: Aquatic organisms  
Descriptors: Water sampling  
Descriptors: Storm water  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Chlorpyrifos  
Descriptors: Urban Watersheds  
Descriptors: Water Pollution Effects  
Descriptors: Toxicity  
Descriptors: Experimental Data  
Descriptors: Aquatic Animals  
Descriptors: Toxicity tests  
Descriptors: Urban runoff  
Descriptors: Pollution effects  
Descriptors: Urbanization  
Descriptors: Land use  
Descriptors: Ceriodaphnia  
Descriptors: Strongylocentrotus purpuratus  
Descriptors: Mysidopsis bahia  
Descriptors: USA, California, San Diego, Chollas Creek  
Descriptors: USA, California, San Diego Bay  
Descriptors: INE, USA, California, San Diego Bay  
Abstract: Stormwater samples were collected from Chollas Creek, a highly urbanized watershed in San Diego, California, that discharges directly to San Diego Bay and tested using one freshwater species (Ceriodaphnia, water flea) and two marine species (Strongylocentrotus purpuratus, purple sea urchin; and Mysidopsis bahia, mysid shrimp). No two species responded similarly after exposure to urban wet weather discharges. Strongylocentrotus was extremely sensitive to stormwater, exhibiting responses during every storm at concentrations as low as 6-12% stormwater. In contrast, Mysidopsis, exhibited no response to stormwater for any of the storms sampled. Ceriodaphnia exhibited intermediate toxic responses; two of three samples were toxic at relatively high concentrations of 50-100% stormwater. Toxicity identification evaluations (TIEs) were conducted on each species to determine the toxic constituent(s). Organophosphate pesticides, most likely diazinon and chlorpyrifos, were responsible for the toxicity observed in Ceriodaphnia. Trace metals, most likely zinc and copper, were responsible for the toxicity observed to the sea urchin.  
DOI: 10.1016/S1462-0758(02)00007-9  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater; Brackish; Marine  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: X 24136 Environmental impact  
Classification: SW 3030 Effects of pollution  
Classification: Q5 01504 Effects on organisms  
Classification: EE 50 Water & Wastewater Treatment  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Toxicology Abstracts; Water Resources Abstracts

Schiff, K., Bay, S., and Stransky, C. (2002). Characterization of Stormwater Toxicants from an Urban Watershed to Freshwater and Marine Organisms. *Urban Water* 4: 215-227.  
Chem Codes: Chemical of Concern: Cu,Pb,Ni,Cr,Se,PPB,Zn,DZ,As,CPY,Cd,HCCH,DDE,MBZ,DMM Rejection Code: EFFLUENT.

Schiff, K. and Sutula, M. (2004). Organophosphorus pesticides in storm-water runoff from Southern California (USA). *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 23, no. 8, pp. 1815-1821. Aug 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ISSN: 0730-7268  
Descriptors: Organophosphorus compounds  
Descriptors: Watersheds  
Descriptors: Pesticides  
Descriptors: Diazinon  
Descriptors: Stormwater runoff  
Descriptors: Land use  
Descriptors: Nonpoint Pollution Sources  
Descriptors: Variability  
Descriptors: Storms  
Descriptors: Storm Runoff  
Descriptors: Urban Watersheds  
Descriptors: Open Space  
Descriptors: Runoff  
Descriptors: Organophosphorus Pesticides  
Descriptors: USA, California, South  
Descriptors: USA, California  
Abstract: Large quantities of the organophosphorus (OP) pesticides diazinon and chlorpyrifos are applied to California (USA) watersheds every year, but few data are available on the sources of OP pesticides in urban watersheds. The goal of this study was to characterize diazinon and chlorpyrifos concentrations from different land uses indicative of source categories in urban southern California watersheds. This characterization included analysis of 128 runoff samples from eight different land uses over five storm events. Diazinon was consistently detected (93% of samples) during this study, whereas chlorpyrifos was not consistently detected (12% of samples). The mixed agricultural land use had the highest flow weighted mean (FWM) concentration of diazinon (4,076 ng/L), which exceeded the next-highest land-use categories (commercial and residential) by one to two orders of magnitude (324-99 ng/L, respectively). Open space had the lowest concentration of diazinon (<20 ng/L). Concentrations of diazinon at replicate land-use sites and during replicate storm events at the same site were highly variable. The difference in diazinon FWM concentrations among replicate sites ranged from 1.5-fold to 45-fold. The difference in diazinon FWM concentrations among storms at the same site ranged from 1.25-fold to 30-fold. Part of this variability is a response to the temporal patterns observed within a storm event. The majority of land-use site-events had peak concentrations before peak flow indicating a first-flush effect, but this was not always a predictable temporal trend. The first-flush effect was rarely evident in terms of mass loadings because flows can range orders of magnitude during a single event in highly impervious urban watersheds. Flow variability thus overwhelms the variability in diazinon concentrations attributable to the first-flush effect.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: SW 3010 Identification of pollutants  
Classification: AQ 00002 Water Quality  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Aqualine Abstracts; Water Resources Abstracts; Environmental Engineering Abstracts; Pollution Abstracts

Schoettger, R. A. (1973). Fish-Pesticide Research Laboratory. *In: Resour.Publ.No.121, Prog.Sport Fish.Res., Div.Fish.Res., Bur.Sport Fish.Wildl., U.S.D.I., Washington, D.C.* 2-17.

EcoReference No.: 16616  
Chemical of Concern: MXC,PHTH,ABT,PCB,DDT,DLD,EN,AND,HCCH,HPT,CHD,DZ,ATM,TXP,MP,SZ,Captan,TCF,DCF,CMPH,CBL,PCL; Habitat: A; Effect Codes: POP,PHY,ACC,REP,MOR,BCM; Rejection Code: NO ENDPOINT(SZ),CONTROL(ATM,DZ).

Schole, J. and Schole, Chr. (1994). &quot;Radical Theory&quot; of Oxidative Phosphorylation and Photophosphorylation. *Journal of Theoretical Biology* 169: 197-207.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
Ketyl radicals of acetone, dihydroxy acetone, and cardiolipin ketone react in 1,2-dimethoxyethane with inorganic phosphate (model: diethyl phosphate) to form phosphate esters of isopropanol, glycerol, or cardiolipin, respectively. After administration of diethyl phosphate to phosphate-impoverished rats, cardiolipin diethyl phosphate (probably as enol phosphate) has been isolated from liver mitochondria. Hence it is assumed that the enol phosphates of cardiolipin or of an analogous compound (mitochondria and chloroplasts) can be considered as high-energy intermediates of both oxidative and photochemical phosphorylation. Moreover, owing to earlier investigations which show that the formation of the phosphoric-acid-anhydride bond occurs proton-catalytically by acidolysis of enol phosphates, it is attempted here to combine the classic theories--&quot;Chemical Coupling&quot;, &quot;Chemiosmosis&quot;, and &quot;Cooperativity&quot;, including the &quot;Collision Hypothesis&quot;--into the &quot;Radical Theory of Oxidative Phosphorylation and Photophosphorylation&quot;.

Schuntner, C. A. and Roulston, W. J. (1968). A Resistance Mechanism in Organophosphorus-Resistant Strains of Sheep Blowfly (Lucilia cuprina). *Aust.J.Biol.Sci.* 21: 173-176.

EcoReference No.: 72013  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Rejection Code: TARGET(DZ).

Schuntner, C. A. and Thompson, P. G. (1966). Detection and estimation of [14C]diazoxon in vivo by countercurrent distribution and inhibition assay. *Biochimica et Biophysica Acta (BBA) - General Subjects* 115: 225-227.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

SCHUSTER DJ, KRING JB, and PRICE JF (1991). Association of the sweetpotato whitefly with a silverleaf disorder of squash. *HORTSCIENCE; 26* 155-156 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOXICANT.  
  
BIOSIS COPYRIGHT: BIOL ABS. The sweetpotato whitefly, Bemisia tabaci (Gennadius), was associated with symptoms of a silver leaf disorder of acorn squash (Cucurbita pepo L. cvs. Table King Bush and Table Ace) in cage studies in the greenhouse. Symptoms appeared on uninfested leaves that develop after plants were infested with the whitefly. When the infested lower leaves were removed and the young leaves protected from infestation with insecticides, new growth was asymptomatic or nearly so and symptomatic leaves remained symptomatic. Symptom expression was related more to nymphal density than to adult density since the relationship between log nymph density and symptoms was linear when adult densities were equal. Biochemistry/ Plants/Anatomy & Histology/ Plants/Metabolism/ Vegetables/ Arachnida/ Insects/ Nematoda/ Parasites/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Plants/ Insects

SCHUSTER DJ, MUELLER TF, KRING JB, and PRICE JF (1990). Relationship of the sweetpotato whitefly to a new tomato fruit disorder in Florida (USA). *HORTSCIENCE; 25* 1618-1620.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOXICANT.  
  
BIOSIS COPYRIGHT: BIOL ABS. Anew disorder of fruit has been observed on tomato (Lycopersicon esculentum Mill.) in Florida. The disorder, termed irregular ripening, was associated with field populations of the sweetpotato whitefly, Bemisia tabaci (Gennadius) and is characterized by incomplete ripening of longitudinal sections of fruit. An icnrease in internal white tissue also was associated with whitefly populations. In field cage studies, fruiton tomato plants not infested with the sweetpotato whitefly exhibited slight or no irregular ripening, whereas fruit from infested plants did. Fruit from plants on which a whitefly infestation had been controlled before the appearance of external symptoms exhibited reduced symptoms compared to fruit from plants on which an infestation was controlled. Biochemistry/ Plants/Anatomy & Histology/ Plants/Metabolism/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Growth & Development/ Vegetables/ Arachnida/ Insects/ Nematoda/ Parasites/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants/ Insects

SCHWARTZ, S. (1995). AN UNUSUAL CASE OF ACUTE AGGRESSION IN A CAT ASSOCIATED WITH SERUM ORGANOPHOSPHATE DIAZINON. *FELINE PRACTICE; 23* 13-19.  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM CASE STUDY TOXICODYNAMICS CONTAMINATED TOY Behavior, Animal/ Minerals/ Minerals/Metabolism/ Blood Chemical Analysis/ Body Fluids/Chemistry/ Lymph/Chemistry/ Animal/ Toxicology/ Veterinary Medicine/ Animal Diseases/Pathology/ Animal Diseases/Physiopathology/ Carnivora

Schwarz, Stephan, Haest, Cees W. M., and Deuticke, Bernhard (1999). Extensive electroporation abolishes experimentally induced shape transformations of erythrocytes: a consequence of phospholipid symmetrization? *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1421: 361-379.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
As shown in earlier work (M.M. Henszen et al., Mol. Membr. Biol. 14 (1997) 195-204), exposure of erythrocytes to single brief electric field pulses (5-7 kV cm-1) enhances the transbilayer mobility of phospholipids and produces echinocytes which can subsequently be transformed into stomatocytes in an ATP-dependent process. These shape transformations arise from partly reversible changes of the transbilayer disposition of phospholipids, in agreement with the bilayer couple concept. Extensive membrane modification by repetitive (2+ incorporation and exposure to membrane active amphiphiles, but also (B) metabolic depletion, binding of band 3 ligands, alkaline pH and contact with glass surfaces. The suppression of type A effects can readily be interpreted by a complete symmetrization of the phospholipids in extensively field pulse-modified cells which prevents shape transformations related to the asymmetric disposition of the phospholipids. This symmetrization could be further substantiated by more direct determinations of the transbilayer distribution of phospholipids. Suppression of shape transformations of type B may indicate an involvement of phospholipid asymmetry in these processes on a yet unknown mechanistic basis. Alternatively we discuss field pulse-induced alterations of the disposition of peripheral proteins or of the conformation of integral membrane proteins as mechanisms interfering with shape transformations of type B. Erythrocyte membrane/ Phospholipid asymmetry/ Electroporation/ Phospholipid scrambling/ Erythrocyte shape

Schweig, Arinin, Baumgartl, Horst, and Schulz, Reinhard (1991). IR and UV matrix photochemistry and solvent effects: the isomerization of diazocyclohexadienones (ortho quinone diazides) -- detection of molecules with the 1,2,3-benzoxadjazole structure. A UV/Vis and IR absorption and UV photoelectron spectroscopic investigation. *Journal of Molecular Structure* 247: 135-171.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
6-Diazo-2,4-cyclohexadienone and derivatives with fluoro, chloro, methyl, tert-butyl and methoxy substituents have been investigated by UV/ Vis absorption, IR absorption and UV photoelectron spectroscopy. Spectral results obtained in the gas phase, in an argon matrix at 10 K and in n-hexane solution at room temperature reveal an equilibrium with the respective 1,2,3-benzox- adiazole isomers, thus disproving current textbook opinions. The 1,2,3-benzoxadiazole structure is derived from the agreement of observed and calculated vertical ionization energies, characteristic IR and UV/Vis absorption bands as well as selective IR and UV photochemical transformations. The relative concentration of the respective l,2,3-benzoxadiazole in equilibrium with the diazoketone isomer strongly depends on the substituents and on solvent effects. The diazoketone structure is stabilized by hydrogen bonding and polar interactions. The most stable 1,2,3- benzoxadiazole in this study, the 5,7-di-tert-butyl derivative, is at least 6.3 kJ mol-1 more stable than its diazocyclohexadienone valence isomer, whereas 2,3,4,5-tetrafluoro-6-diazo-2,4-cyclohexadienone and 3-methoxy-6-diazo-2,4-cyclohexadienone did not isomerize to a notable extent. Energetic considerations for the stabilization of 1,2,3-oxadiazoles are discussed and compared with experimental and theoretical findings.

Scott, J. G. and Zhang, L. (2003). The house fly aliesterase gene (Md[alpha]E7) is not associated with insecticide resistance or P450 expression in three strains of house fly. *Insect Biochemistry and Molecular Biology* 33: 139-144.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SPECIES.  
  
It was recently proposed that a mutation (G137D) in the Md[alpha]E7 gene was responsible for increasing transcription of a P450 (CYP6A1) resulting in resistance to diazinon. To examine if Md[alpha]E7 had a role in resistance in other strains we sequenced a fragment (~700 bp) of the Md[alpha]E7 gene from individual flies of two insecticide susceptible and three insecticide resistant (due to increased monooxygenase-mediated detoxification) strains. Five unique alleles were discovered. While all of the susceptible strains had Gly137, so did the resistant LPR and NG98 strains. Of the two alleles in the YPER strain one had the G137D substitution and the other did not. Based on the lack of correlation between the presence of the &lsquo;mutant&rsquo; Md[alpha]E7 and resistance (or P450 levels), we conclude that the G137D mutation in Md[alpha]E7 is not involved in transcriptional control of the P450s involved in resistance in the LPR, NG98 or YPER strains. The relationship between Md[alpha]E7 alleles and insecticide resistance is discussed in light of these findings. Gene regulation/ Cytochrome P450/ Insecticide metabolism/ Mutant aliesterase

Segal, Dina, Shalitin, Channa, Shalitin, Yechiel , Fischer, David R., and Stang, Peter J. (1996). Alkynyl phosphates are potent inhibitors of serine enzyme. *FEBS Letters* 392: 117-120.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SPECIES.  
  
Alkynyl phosphate/ Covalent inhibition/ Serine enzyme Propynyl, hexynyl and t-butylethynyl diethyl phosphates were found to be very powerful covalent inhibitors of serine enzymes. Esterases were inhibited with second-order rate constants of 107-108 M-1 min-1. Most proteases were inhibited with a rate constant of 104-105 M-1 min-1. By inhibiting chymotrypsin with (3-14C)-1-propynyl diethyl phosphate, it was established that inhibition was caused by binding of the phosphate group to the enzyme active site.

Seguchi, K. and Asaka, S. (1981). Intake and Excretion of Diazinon in Freshwater Fishes. *Bull.Environ.Contam.Toxicol.* 27: 244-249.

EcoReference No.: 15174  
Chemical of Concern: DZ; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(DZ).

SEIFERT, J. (1992). PYRIMIDINYL PHOSPHOROTHIOATES AND CROTONAMIDE PHOSPHATES ALTER URINARY XANTHURENIC ACID EXCRETION IN MICE. *203RD ACS (AMERICAN CHEMICAL SOCIETY) NATIONAL MEETING, SAN FRANCISCO, CALIFORNIA, USA, APRIL 5-10, 1992. ABSTR PAP AM CHEM SOC; 203 (1-3). 1992. AGRO54.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT DIAZINON ETHYL PRIMIPHOS ORGANOPHOSPHORUS INSECTICIDES LIVER L KYNURENINE FORMAMIDASE SEX DIFFERENCE Congresses/ Biology/ Biochemistry/ Enzymes/Physiology/ Amino Acids/Metabolism/ Peptides/Metabolism/ Proteins/Metabolism/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Urinary Tract/Physiology/ Urinary Tract/Metabolism/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Muridae

SEIFERT, J. (1998). TOXICOLOGICAL SIGNIFICANCE OF HYPERGLYCEMIA INDUCED BY ORGANO-PHOSPHOROUS INSECTICIDES OPI'S. *216TH NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, BOSTON, MASSACHUSETTS, USA, AUGUST 23-27, 1998. ABSTRACTS OF PAPERS AMERICAN CHEMICAL SOCIETY; 216* AGRO 89.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT MOUSE FEMALE MALE PESTICIDES METABOLISM TOXICOLOGY DIAZINON TOXICITY ORGANOPHOSPHORUS INSECTICIDE HYPERGLYCEMIA METABOLIC DISEASE Congresses/ Biology/ Metabolism/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Muridae

Seifert, Josef and Casida, John E. (1984). Neural microtubular and lysosomal phenyl valerate esterases and proteases in relation to organophosphate-induced delayed neurotoxicity. *Comparative Biochemistry and Physiology Part C: Comparative Pharmacology* 78: 271-276.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
1. At least three forms of phenyl valerate esterases are present in hen brain cytoplasmic microtubules (MT).2. Thermostability studies reveal two additional forms in brain homogenates of cow, mouse, pig, rabbit and rat.3.The distribution of these brain esterases is not related to the age of the hens or the susceptibility of the species to organophosphate (OP)-induced delayed neurotoxicity.4. MT phenyl valerate esterases are distinct enzymes from the MT-associated proteases degrading high-molecular weight MT-associated proteins (hmw MAPs).5. Hen brain and spinal cord lysosomes on in vitro incubation release phenyl valerate esterases(s) and hmw MAPs-protease(s).6. OP neurotoxicants act in vitro to stabilize rat but not hen brain lysosomes.7. In vivo studies with hen brain and spinal cord lysosomes indicate that OP-induced delayed neurotoxicity is not initiated by disruption of lysosomal stability.

Semel, M. (1959). Control of the Corn Earworm Attacking Sweet Corn. *J.Econ.Entomol.* 52: 1111-1114.

EcoReference No.: 71074  
Chemical of Concern: DDT,EN,CBL,ES,DZ,TXP,HPT,MLN; Habitat: T; Effect Codes: POP; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ,MLN).

Seppen, Jurgen, Ramalho-Santos, Jaao, de Carvalho, Arselio P., ter Beest, Martin, Kok, Jan Willem, Pedroso de Lima, Maria C., and Hoekstra, Dick (1992). Interaction of clathrin with large unilamellar phospholipid vesicles at neutral pH. Lipid dependence and protein penetration. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1106: 209-215.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The interaction of clathrin with large unilamellar vesicles of various lipid compositions has been examined at neutral pH. Clathrin induces leakage of contents of vesicles that contain the acidic phospholipid phosphatidylserine. Leakage is greatly enhanced by the presence of a relatively minor amount of cholestrol, but is inhibited by phosphatidylcholine. Resonance energy transfer measurements between tryptophan residues of the protein and a fluorecent lipid analog, N-(7-nitrobenz-2-oxa-1,3-diazol-4- yl)phosphatidylethanolamine incorporated into the liposomal bilayer, suggests a dynamic interaction of clathrin with the bilayer at neutral pH. This interaction includes a (partial) penetration of the protein into the lipid bilayer, as revealed by hydrophobic photoaffinity labeling with 3-(trifluoromethyl-3-(m-[125I]iodophenyl)-diazirine. The interaction of clathrin with lipid vesicles at neutral pH is inhibited when the protein is pretreated with trypsin or with the reducing agent dithiothreitol, suggesting that structural requirements govern clathrin-membrane interaction at these conditions. The physiological relevance of the present observations in light of vesiculation and endosomal maturation is discussed. Clathrin/ Lipid-protein interaction/ Resonance energy transfer/ Photoaffinity labeling/ Protein penetration

Setakana, P. and Tan, K. H. (1991). Insecticide Resistance and Multi-Resistance in Two Strains of Culex quinquefasciatus Say Larvae in Penang, Malaysia. *Mosquito-Borne Dis.Bull.* 8: 40-44.

EcoReference No.: 45077  
Chemical of Concern: DDT,MLN,DZ,CYP,FNT,DLD,PMR,PPX; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Sethunathan, N. (1973). Microbial Degradation of Insecticides in Flooded Soil and in Anaerobic Cultures. *Residue Rev.* 47: 143-166.  
Chem Codes: EcoReference No.: 65627  
Chemical of Concern: DZ Rejection Code: BACTERIA.

Sethunathan, N., Caballa, S., and Pathak, M. D. (1971). Absorption and translocation of diazinon by rice plants from submerged soils ad paddy water and the persistence of residues in plant tissues. *J. Econ. Entomol. Vol. 64, no. 3, pp. 571-576. 1971.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Descriptors: Indexing in process  
Abstract: Diazinon applied to paddy water was readily absorbed by rice roots and translocated to the leaf sheath and leaf blade. Maximum residues in plant tissues were recovered 5 days after application but declined rapidly thereafter. This insecticide loss observed in plant tissues between 5 and 10 days was greater following a 2nd application. Diazinon persisted longer in the standing water of covered unplanted pots than in water of uncovered unplanted pots, indicating that the insecticide volatilized in the latter. Greater loss of insecticide from the standing water and soils following the 2nd application appeared to be due to increased absorption by the older plants and to the establishment of a diazinon-degrading microbial factor in the paddy water in response to the first application. Paddy water collected from plots that had received several diazinon applications caused faster degradation of diazinon than the water from untreated plots. This diazinon degradation property was minimized but not eliminated even after the plots were drained and reirrigated.  
13 refs. Records keyed from 1972 ASFA printed journals.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01501 General  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Sethunathan, N., Caballa, S., and Pathak, M. D. (1971). Absorption and Translocation of Diazinon by Rice Plants from Submerged Soils and Paddy Water and the Persistence of Residues in Plant Tissues. *J.Econ.Entomol.* 64: 571-576.

EcoReference No.: 71081  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(DZ).

Sethunathan, N. and MacRae, I. C. (1969). Some Effects of Diazinon on the Microflora of Submerged Soils. *Plant Soil* 30: 109-112 .  
Chem Codes: EcoReference No.: 65628  
Chemical of Concern: DZ Rejection Code: BACTERIA.

Sethunathan, N. and Pathak, M. D. (1972). Increased Biological Hydrolysis of Diazinon After Repeated Application in Rice Paddies. *J.Agric.Food Chem.* 20: 586-589.  
Chem Codes: EcoReference No.: 65626  
Chemical of Concern: DZ Rejection Code: FATE.

Sethunathan, N. and Yoshida, T. (1969). Fate of Diazinon in Submerged Soil. *J.Agric.Food Chem.* 17: 1192-1195.

EcoReference No.: 54064  
Chemical of Concern: DZ; Habitat: T; Effect Codes: PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Shain, Sydney A., Shaeffer, J. Christopher, and Boesel, Robert W. (1977). The effect of chronic ingestion of selected pesticides upon rat ventral prostate homeostasis. *Toxicology and Applied Pharmacology* 40: 115-130.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The ability of the pesticides carbofuran, chlordane, diazinon, heptachlor, methoxychlor, and parathion to diminish 5[alpha]-dihydrotestosterone binding to rat ventral prostate cytoplasmic and nuclear androgen receptors was evaluated by in vitro studies. Only parathion and diazinon consistently inhibited 5[alpha]-dihydrotestosterone binding to ventral prostate cytoplasmic or nuclear androgen receptors, the remaining pesticides being relatively ineffective. The data suggested that only parathion and diazinon should be able to affect prostate homeostasis via a mechanism involving altered androgen receptor function. After 90 days of pesticide ingestion, ventral prostate androgen receptor homeostasis was altered in all the rats. Significantly, receptor homeostasis was least affected in diazinon- and parathion-fed rats, whereas ingestion of carbofuran or chlordane produced the most profound changes. Methoxychlor ingestion diminished prostate size and cell content. Carbofuran, chlordane, and parathion, but not heptachlor or diazinon, altered ventral prostate RNA metabolism without affecting cell content. Since pesticide ingestion did not alter mean plasma testosterone concentration, changes in both androgen receptor and prostate homeostasis could be attributed to pesticide action principally occurring in the ventral prostate. The absence of a correlation between pesticide inhibition of 5[alpha]-dihydrotestosterone binding to prostate androgen receptors and the pesticide's capacity to alter prostate homeostasis demonstrated inhibition studies to be ambiguous predictors of pesticide action in the ventral prostate.

Shalaby, A. A., Mostafa, A. A., and Allam, K. A. M. (2002). Field Studies on the Susceptibility of Housefly to Certain Insecticides in Nine Egyptian Governorates. *J.Egypt.Soc.Parasitol.* 32: 91-97.

EcoReference No.: 70112  
Chemical of Concern: RSM,DZ,MLN,FNTH,DM,BRSM; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ,RSM).

SHAMIYEH NB, PEREIRA, R., STRAW RA, FOLLUM RA, and MEISTER CW (1999). Control of wireworms in potatoes, 1998. *SAXENA, K. N. (ED.). ARTHROPOD MANAGEMENT TESTS, VOL. 24. V+478P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA. ISBN 0-938522-86-8; 24 (0). 1999. 164-165.*  
Chem Codes: Chemical of Concern: FPN Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER SOLANUM TUBEROSUM MELANOTUS BEAUVERIA BASSIANA METARHIZIUM ANISOPLIAE POTATO WIREWORM CULTIVAR-YUKON GOLD HOST VEGETABLE CROP PEST CONTROL BIOLOGICAL CONTROL AGENT HORTICULTURE ECONOMIC ENTOMOLOGY PEST MANAGEMENT PESTICIDES ARTHROPOD MANAGEMENT ADMIRE INSECTICIDE EFFICACY MYCOTROL TN67-97 AGENDA FIPRONIL MOCAP DIAZINON CROSSVILLE TENNESSEE USA Vegetables/ Arachnida/ Insects/ Nematoda/ Parasites/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Mitosporic Fungi/ Plants/ Coleoptera

Sharma, R. P. and Reddy, R. V. (1987). Toxic Effects of Chemicals on the Immune System. *In: T.J.Haley and W.O.Berndt (Eds.), Handbook of Toxicology, Chapter 15, Hemisphere Publ.Corp., Washington, D.C.* 555-591.  
Chem Codes: EcoReference No.: 70597  
Chemical of Concern: PNB,DDT,HCCH,DZ,CHD,DLD,END,HPT,TXP,PRN,CBL,AND,CTC,DBAC Rejection Code: REFS CHECKED/REVIEW.

Sharma, S. R., Singh, R. P., and Ahmed, S. R. (1985). Effect of different saline, alkaline salts, fertilizers, and surfactants on the movement of some phosphorus-containing pesticides in soils. *Ecotoxicology and Environmental Safety* 10: 339-350.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The influence of organic matter, calcium carbonate, flyash, saline and alkaline salts, inorganic fertilizers, surfactants, and exchangeable ions on the mobility of different phosphorus pesticides has been studied using soil thin-layer chromatographic techniques. The variations in Rf, RB, and RM values of DDVP, diazinon, Ekatin, Folithion, malathion, metasystox, parathion methyl, and Rogor under different treatments is reported and explained on the basis of adsorption and leachability.

SHARMA SR, SINGH RP, and AHMED SR (1986). Effect of different salt leachates on the movement of some phosphorus containing pesticides in soils using thin-layer chromatography. *ECOTOXICOL ENVIRON SAF; 11* 229-240.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The influence of pH, leachates of alkaline and saline salts, inorganic fertilizers, and surfactants on the movement of eight organophosphorus pesticides, viz., DDVP, diazinon, Ekatin, Folithion, malathion, metasystox, parathione methyl, and Rogor has been studied using soil thin layer chromatographic techniques. The variation in the movement of pesticides under different solvent amendments are expressed in terms of Rf, RB, and RM values and are explained on the basis of adsorption and leachability.

Sharom, M. S., Miles, J. R. W., Harris, C. R., and McEwen, F. L. (1980 ). Behaviour of 12 insecticides in soil and aqueous suspensions of soil and sediment. *Water Research* 14: 1095-1100.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The behaviour of 12 insecticides in soil and aqueous suspensions of soil and sediment was studied in the laboratory. Insecticides used were representative of the organochlorine, organophosphorus, and carbamate groups. Tests were conducted using three soils and a stream sediment. The order of adsorption on soil was DDT > leptophos > dieldrin > endrin > ethion > chlorpyrifos > lindane > parathion > diazinon > carbaryl > carbofuran > mevinphos. Organic soil had the greatest adsorptive capacity > stream sediment > Beverly sandy loam >Z Plainfield sand. Desorption and mobility of the insecticides increased with increasing solubility of the insecticides in water, even though the insecticides tested were very different in chemical structure. The results indicated that adsorption, desorption, and mobility of insecticides in soil and water will be dependent to a large extent on the nature of the adsorbents and water solubility of the insecticides.

Sharom, M. S., Miles, J. R. W., Harris, C. R., and McEwen, F. L. (1980 ). Persistence of 12 insecticides in water. *Water Research* 14: 1089-1093.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The relative importance of chemical and biological processes in the degradation of 12 insecticides in water was studied by comparing their persistence in four types of water: natural, distilled, sterilized natural and sterilized distilled. DDT, lindane and parathion dissappeared fairly quickly in the natural water, but were very persistent in the other types indicating the importance of microbial action in their degradation. There was little indication of chemical degradation of any of the organochlorine (OC) insecticides. The four compounds most stable in water were dieldrin, endrin (OCs) ethion and leptophos [organo-phosphorus (OP) insecticides]. Generally the other OP insecticides and both carbamates disappeared from all four types of water, demonstrating that chemical processes played a major role in their degradation, with biological processes having a secondary role for chlorpyrifos, diazinon and carbaryl. The observed order of persistence after 8 weeks in natural water was dieldrin > endrin > ethion > leptophos > lindane > chlorpyrifos > diazinon > mevinphos > carbofuran > p,p&prime;-DDT > carbaryl > parathion. The random occurrence of the chemical types in this list demonstrates that generalization on persistence in the environment cannot be made on the basis of chemical structure.

Shavnin, Sergei A., Pedroso de Lima, Maria C., Fedor, Jane, Wood, Periann, Bentz, Joe, and Duzgunes, Nejat (1988). Cholesterol affects divalent cation-induced fusion and isothermal phase transitions of phospholipid membranes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 946: 405-416.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The influence of cholesterol on divalent cation-induced fusion and isothermal phase transitions of large unilamellar vesicles composed of phosphatidylserine (PS) was investigated. Vesicle fusion was monitored by the terbium/dipicolinic acid assay for the intermixing of internal aqueous contents, in the temperature range 10-40[deg]C. The fusogenic activity of the cations decreases in the sequence Ca2+ > Ba2+ > Sr2+ >> Mg2+ for cholesterol concentrations in the range 20-40 mol%, and at all temperatures. Increasing the cholesterol concentration decreases the initial rate of fusion in the presence of Ca2+ and Ba2+ at 25[deg]C, reaching about 50% of the rate for pure PS at a mole fraction of 0.4. From 10 to 25[deg]C, Mg2+ is ineffective in causing fusion at all cholesterol concentrations. However, at 30[deg]C, Mg2+-induced fusion is observed with vesicles containing cholesterol. At 40[deg]C, Mg2+ induces slow fusion of pure PS vesicles, which is enhanced by the presence of cholesterol. Increasing the temperature also causes a monotonic increase in the rate of fusion induced by Ca2+, Ba2+ and Sr2+. The enhancement of the effect of cholesterol at high temperatures suggests that changes in hydrogen bonding and interbilayer hydration forces may be involved in the modulation of fusion by cholesterol. The phase behavior of PS/cholesterol membranes in the presence of Na+ and divalent cations was studied by differential scanning calorimetry. The temperature of the gel-liquid crystalline transition (Tm) in Na+ is lowered as the cholesterol content is increased, and the endotherm is broadened. Addition of divalent cations shifts the Tm upward, with a sequence of effectiveness Ba2+ > Sr2+ > Mg2+. The Tm of these complexes decreases as the cholesterol content is increased. Although the transition is not detectable for cholesterol concentrations of 40 and 50 mol% in the presence of Na+, Sr2+ or Mg2+, the addition of Ba2+ reveals endotherms with Tm progressively lower than that observed at 30 mol%. Although the presence of cholesterol appears to induce an isothermal gel-liquid crystalline transition by decreasing the Tm, this change in membrane fluidity does not enhance the rate of fusion, but rather decreases it. The effect of cholesterol on the fusion of PS/phosphatidylethanolamine (PE) vesicles was investigated by utilizing a resonance energy transfer assay for lipid mixing. The initial rate of fusion of PS/PE and PS/PE/cholesterol vesicles is saturated at high Mg2+ concentrations. With Ca2+, saturation is not observed for cholesterol-containing vesicles. The highest rate of fusion for both Ca2+- and Mg2+-induced fusion is observed with vesicles containing 30 mol% cholesterol. Membrane fusion/ Cholesterol/ Divalent cation/ Phospholipid vesicle/ Phase transition/ Phosphatidylserine/ Phosphatidylethanolamine

SHAW, A., LIN YJ, and PFEIL, E. (1997). QUALITATIVE AND QUANTITATIVE ANALYSIS OF DIAZINON IN FABRIC EXPOSED TO VARIOUS SIMULATED SUNLIGHT AND HUMIDITY CONDITIONS. *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 59* 389-395.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE DIAZINON PESTICIDES QUALITATIVE ANALYSIS QUANTITATIVE ANALYSIS SIMULATED SUNLIGHT HUMIDITY ZONYL FINISHED FABRICS PROTECTIVE CLOTHING FABRIC WEATHERING Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Darkness/ Light/ Lighting/ Humidity/ Herbicides/ Pest Control/ Pesticides

Shaw, R. D., Cook, M., and Carson, R. E. Jr. (1968). Developments in the Resistance Status of the Southern Cattle Tick to Organophosphorus and Carbamate Insecticides. *J.Econ.Entomol.* 61: 1590-1594.

EcoReference No.: 72637  
Chemical of Concern: PRN,DZ,CBL,HCCH,TXP,CPY; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Shaw, R. D., Thompson, G. E., and Baker, J. A. F. (1967). Resistance to Cholinesterase-Inhibitors in the Blue Tick, Boophilus decoloratus, in South Africa. *Vet.Rec.* 81: 548-549.

EcoReference No.: 72320  
Chemical of Concern: CBL,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ).

Shawali, Ahmad S., Farag, Ahmad M., Albar, Hassan A., and Dawood, Kamal M. (1993). Facile Syntheses of Bi-1,2,4-triazoles via hydrazonyl halides. *Tetrahedron* 49: 2761-2766.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Reaction of oxalodihydrazonyl dihalides 1 with sodium azide afforded the corresponding di-azides 2. Reduction of the latter with LiAlH4 yielded the diamidrazones 4 which react with acyl halides to give the bi-1,2,4-triazoles 5. The latter products were alternatively prepared by reaction of 2 with triphenylphosphine to give the phosphinimines 6 followed by treatment of the latter with acyl halides. Oxalodihydrazonyl dihalides/ oxaldiamidrazones/ oxalodihydrazonyl diazides/ bi-1,2,4-triazoles

Shellenberger, T. E., Bridgman, R. M., and Newell, G. W. (1965). inhibition of rabbit whole blood cholinesterase following intravenous infusion of a diethyl organophosphate inhibitor and reactivation with 2-PAM. *Life Sciences* 4: 1973-1979.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
It is now generally accepted that the reaction of a dialkyl organophosphate with cholinesterase involves phosphorylation with the active site of the enzyme. Subsequent reactions of the phosphorylated enzyme include spontaneous reactivation and conversion, apparently first order, to a non-reversible or &ldquo;aged&rdquo; enzyme. The extent of these reactions is dependent on the alkyl substituents of the inhibitor and the enzyme source.Vandekar and Heath (1, 2) reported marked differences in the recovery rate of brain and erythrocyte cholinesterase activity following inhibition with &ldquo;persistent&rdquo; and &ldquo;non-persistent&rdquo; dimethyl phosphate inhibitors; enzyme recovery was more rapid after inhibition by the &ldquo;non-persistent&rdquo; inhibitors. However, spontaneous recovery of the enzyme, inhibited by &ldquo;non-persistent&rdquo; inhibitors, was markedly reduced following continuous intravenous infusion of the materials for several hours. These workers also reported that the spontaneous recovery of enzyme activity was high following short periods of compound infusion, which has been confirmed by Shellenberger (2), using three dimethyl phosphate inhibitors. When these compounds were infused intravenously into rabbits for 2 hours or less, there was rapid but incomplete recovery of inhibited whole blood cholinesterase during the immediate post-infusion period.The spontaneous reactivation of diethyl-phosphoryl cholinesterase is generally of low magnitude, even though it may occur over several days (3). The reversal of diisopropyl-phosphoryl enzyme is negligible. However, the reversal depends on both the inhibitor and the enzyme source. Species differences and differences between true and pseudo-cholinesterase reactivation have been demonstrated.In the current study, rabbit whole blood cholinesterase was rapidly and almost completely inhibited during intravenous infusion of 2, 2-dichlorovinyl diethyl phosphate. There was little, if any, spontaneous reversal of inhibited enzyme during a subsequent 3-hour postinfusion period. Intravenous injection of 2-PAM immediately and up to 2 hours after infusion produced an immediate partial recovery of enzyme activity. The extent of recovery was directly related to the dosage level of injected reactivator.

Shemer, Hilla and Linden, Karl G. ( Degradation and by-product formation of diazinon in water during UV and UV/H2O2 treatment. *Journal of Hazardous Materials* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Kinetics and degradation products resulting from the application of UV and UV/H2O2 to the US EPA Contaminant Candidate List pesticide diazinon were studied. Batch experiments were conducted with both monochromatic (low pressure [LP] UV 253.7 nm) and polychromatic (medium pressure [MP] UV 200-300 nm) UV sources alone or in the presence of up to 50 mg l-1 H2O2, in a quasi-collimated beam apparatus. Degradation of diazinon by both UV and UV/H2O2 exhibited pseudo first order reaction kinetics, and quantum yield of 8.6 x 10-2 and 5.8 x 10-2 mol E-1 for LP and MP lamps respectively. Photolysis studies under MP UV lamp showed 2-isopropyl-6-methyl-pyrimidin-4-ol (IMP) to be the main degradation product of diazinon at aqueous solution pH values of 4, 7 and 10. Trace levels up to 1.8 x 10-3 [mu]M of diazinon oxygen analogue diethyl 2-isopropyl-6-methylpyrimidin-4-yl phosphate (diazoxon) were detected only during the UV/H2O2 reaction. Decay of both products was observed, as the UV/H2O2 reaction prolonged, yet no mineralization was achieved over the UV fluence levels examined. Photolysis kinetics, quantum yield and UV/H2O2 degradation of the reaction product IMP was determined using MP UV lamp at pH values of 4, 7 and 10. Insecticides/ Photolysis/ Advanced oxidation/ Ultraviolet irradiation

Shen, B. and Shen, Q. (1991). Pesticide Pollution. *J.Environ.Sci.(China)* 3: 31-48.  
Chem Codes: Chemical of Concern: DDT,TCF,HCCH,DZ,ACP,MLN,DDVP,PPHD,PRN,FNT,FNTH,DEM,DMT,MTM,DS,MLT Rejection Code: REFS CHECKED/REVIEW.

Shigehisa, H. and Shiraishi, H. (1998). Biomonitoring with shrimp to detect seasonal change in river water toxicity. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 17, no. 4, pp. 687-694. Apr 1998.*   
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0730-7268  
Descriptors: Pollution effects  
Descriptors: Pollution monitoring  
Descriptors: Indicator species  
Descriptors: Bioassays  
Descriptors: Toxicity tests  
Descriptors: Pesticides  
Descriptors: Mortality  
Descriptors: Agricultural runoff  
Descriptors: Rice fields  
Descriptors: Bioindicators  
Descriptors: Toxicity  
Descriptors: Seasonal Variations  
Descriptors: Shrimp  
Descriptors: Insecticides  
Descriptors: Water Pollution Effects  
Descriptors: Rivers  
Descriptors: Water quality  
Descriptors: Freshwater organisms  
Descriptors: Paratya compressa improvisa  
Descriptors: Japan  
Abstract: Seasonal changes in toxicity of Kokai River water to a freshwater shrimp (Paratya compressa improvisa) were monitored from 1989 to 1993. A 4-d toxicity test was conducted three times a week from April to August from 1989 to 1993 to measure mortality. Seventeen pesticides were analyzed during the biological monitoring. Expected shrimp mortalities were calculated by adding mortalities caused by each insecticide at the measured concentrations. Shrimp mortalities increased in late May to mid-June and could be attributed to additive effects of insecticides such as pyridaphenthion, malathion, and fenobucarb. Mortalities decreased toward the end of June but increased again from July to mid-August and could be attributed to insecticides such as diazinon or fenobucarb, which drifted directly into the river after aerial pesticide spraying on paddy fields. High mortalities decreased rapidly after heavy rains in August.  
Issue includes papers from the Silver Toxicity Symposium.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Q5 01504 Effects on organisms  
Classification: SW 3030 Effects of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: X 24136 Environmental impact  
Classification: X 24221 Toxicity testing  
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Toxicology Abstracts

Shigeshisa, H. and Shiraishi, H. (1998). Biomonitoring with shrimp to detect seasonal change in river water toxicity. *Environmental Toxicology and Chemistry* 17 : 687-694.  
Chem Codes: SZ,MLT Rejection Code: MIXTURE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Seasonal changes in toxicity of Kokai River water to a freshwater shrimp (Paratya compressa improvisa) were monitored from 1989 to 1993. A 4-d toxicity test was conducted three times a week from April to August from 1989 to 1993 to measure mortality. Seventeen pesticides were analyzed during the biological monitoring. Expected shrimp mortalities were calculated by adding mortalities caused by each insecticide at the measured concentrations. Shrimp mortalities increased in late May to mid-June and could be attributed to additive effects of insecticides such as pyridaphenthion, malathion, and fenobucarb. Mortalities decreased toward the end of June but increased again from July to mid-August and could be attributed to insecticides such as diazinon or fenobucarb, which drifted directly into the river after aerial pesticide spraying on paddy fields. High mortalities decreased rapidly after heavy rains in August.  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Pathology  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control  
KEYWORDS: Invertebrata  
KEYWORDS: Malacostraca

Shin, S. W., Chung, N. I., Kim, J. S., Chon, T. S., Kwon, O. S., Lee, S. K., and Koh (2001). Effect of Diazinon on Behavior of Japanese Medaka (Oryzias latipes) and Gene Expression of Tyrosine Hydroxylase as a Biomarker. *J.Environ.Sci.Health Part B* 36: 783-795.

EcoReference No.: 85508  
Chemical of Concern: DZ; Habitat: A; Effect Codes: BEH,CEL; Rejection Code: NO ENDPOINT(DZ).

Shiraishi, H., Pula, F., Otsuki, A., and Iwakuma, T. (1988). BEHAVIOR OF PESTICIDES IN LAKE KASUMIGAURA JAPAN. *Sci Total Environ* 72 : 29-42.  
Chem Codes: MLT Rejection Code: SURVEY, MIXTURE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RICE PADDY FIELD OXADIAZON DIAZINON SIMETRYNE BENTHIOCARB ISOPROTHIOLANE PERSISTENCE MOBILITY SURFACE RUNOFF  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Movement (1971- )  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Agronomy-Grain Crops  
KEYWORDS: Pest Control

Shiraishi, Hiroaki, Pula, Flutra, Otsuki, Akira, and Iwakuma, Toshio (1988). Behaviour of pesticides in Lake Kasumugaura, Japan. *The Science of The Total Environment* 72: 29-42.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Pesticides such as oxadiazon, isoprothiolane, diazinon, IBP, simetryne and benthiocarb, from surface runoff from rice paddy fields to Lake Kasumigaura, Japan were examined in order to determine seasonal changes in their concentrations in the lake water. The highest concentrations were observed near the river mouths during May to August, soon after pesticide application; hence they are transported mainly by surface runoff. Although these pesticides have been reported to be labile, concentrations of some of them, dispersed with the movement of the water, did not decrease rapidly in the natural aquatic environment. The highest concentrations, in 1985, of oxadiazon, isoprothiolane, diazinon, IBP, simetryne, benthiocarb and CSB were 0.66, 0.84, 0.16, 3.24, 3.23, 2.15 and 1.13 ppb, respectively. The relative order of persistence and mobility of pesticides in the lake water was estimated as: isoprothiolane, CSB, simetryne > IBP > diazinon >> oxadiazon > benthiocarb.

Shishido, Takashi and Fukami, Jun-ichi (1972). Enzymatic hydrolysis of diazoxon by rat tissue homogenates. *Pesticide Biochemistry and Physiology* 2: 39-50.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The enzymatic hydrolysis of 32P-labeled diazoxon was studied using tissue homogenates of rat and American cockroach. The order of the hydrolytic activities of rat tissues for diazoxon was as follows: liver > blood > lung > heart > kidney > brain. A liver enzyme hydrolyzing diazoxon to diethyl phosphoric acid and 2-isopropyl-4-methyl-6-hydroxypyrimidine was located in the microsomes. The activity of the microsomal enzyme was inhibited by EDTA, heavy and rare earth metal ions, and SH reagents. Ca2+ activated the enzyme and protected it from inactivation. Mitochondrial and soluble enzymes from liver and a serum enzyme also hydrolyzed diazoxon and they were also activated by Ca2+. The removal of calcium bound to the microsomal enzyme protein by dialysis against EDTA led to a partially irreversible change of the enzyme. The hydrolysis of diazoxon by the Ca2+-requiring microsomal and serum enzymes was more rapid than that of paraoxon. Hydrolysis of diazoxon did not occur in American cockroach homogenates. This difference in the capacity to hydrolyze diazoxon between mammals and insects is discussed in relation to the selective toxicity of diazinon.

Shishido, Takashi, Usui, Kenji, and Fukami, Jun-ichi (1972). Oxidative metabolism of diazinon by microsomes from rat liver and cockroach fat body. *Pesticide Biochemistry and Physiology* 2: 27-38.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Metabolism of 32P-, ethyl-1-14C-, and pyrimidine-2-14C-labeled diazinon was studied using microsomal preparations from rat liver and American cockroach fat body. The oxidation of diazinon by both microsomal enzyme systems fortified with NADPH or NADH occurred through desulfuration, hydroxylation of the ring-alkyl side chain, and cleavage of the aryl phosphate bond. The major metabolic products of diazinon were hydroxydiazinon, diazoxon, and hydroxydiazoxon, which were all biologically active, and the others were identified as 2-isopropyl-4-methyl-6-hydroxypyrimidine, 2-(2&prime;-hydroxy-2&prime;-propyl)-4-methyl-6-hydroxypyrimidine, diethyl phosphorothioic acid, and diethyl phosphoric acid which were all produced by the cleavage of the aryl phosphate bond. The rat liver enzyme system showed a higher rate of the oxidative metabolism of diazinon than the American cockroach fat body system. EDTA stimulated the overall metabolism of diazinon. Especially the accumulation of diaxoxon from diazinon and that of hydroxydiazoxon from both diazoxon and hydroxydiazinon in the rat liver microsomal system were stimulated by EDTA. On the basis of these in vitro studies, the general pathways of oxidative metabolism of diazinon in the mammal and the insect were presented.

Shishido, Takashi, Usui, Kenji, Sato, Motomu, and Fukami, Jun-ichi (1972). Enzymatic conjugation of diazinon with glutathione in rat and American cockroach. *Pesticide Biochemistry and Physiology* 2: 51-63.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The mechanism of cleavage of the pyrimidinyl-phosphate bond of 32P- and pyrimidine-2-14C-labeled diazinon or 32P-labeled diazoxon by soluble enzyme preparations from rat liver and fat body of American cockroach was studied. The reaction products were identified as diethyl phosphorothioic acid and S-(2-isopropyl-4-methyl-6-pyrimidinyl) glutathione, which were formed by conjugation of reduced glutathione and the pyrimidinyl moiety of diazinon with the simultaneous cleavage of the phosphate ester bond. Several tissues in cockroach and rat were active in this conjugation, but the highest activity was found in the fat body and the liver. The glutathione S-transferase catalyzing the conjugation was specific for glutathione, and could not be replaced by other SH compounds. Diazoxon, n-propyl, and isopropyl diazinons having the structure similar to diazinon were also cleaved to give the glutathione conjugates. The pH optimum was 6.5 for the fat body and 6.0 for the liver enzyme. Both enzymes were inhibited by various SH reagents, oxidized glutathione, and some chelating agents. The fat body enzyme showed marked sensitivity to inhibition by o-phenanthroline.

Shlosberg, A., Bellaiche, M., Hanji, V., and Ershov, E. (1996). Treatment of Anticholinesterase Toxicoses in Birds. *Israel J.Vet.Med.* 51: 129.

EcoReference No.: 74345  
Chemical of Concern: MOM,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL,ENDPOINT(DZ).

Shoji, Ryo, Sakoda, Akiyoshi, Sakai, Yasuyuki, Utsumi, Hideo, and Suzuki, Motoyuki (2000). A new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells. *Journal of Health Science* 46: 493-502 .  
Chem Codes: Chemical of Concern: APAC Rejection Code: HUMAN HEALTH.  
  
A rapid and sensitive bioassay for detecting cytotoxicity was developed in this study to be used in evaluating many kinds of chems. This assay, based on the LDL (low d. lipoprotein)-uptake activity of human hepatoblastoma cells, Hep G2, can evaluate cytotoxicity for 48 h with high sensitivity and selectivity using a 96 well plate and a fluorescent plate reader. We evaluate the toxicity of 230 kinds of chems. and formulate the dose response data by a simple math. equation. The toxicity parameters derived by the formulation had some correlations in terms of chem. groups, which were classified as aroms., orgs., metals, and so on. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2000:886769  
Chemical Abstracts Number: CAN 134:14080  
Section Code: 4-1  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Animal cell line (Hep G2; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); Toxicology (anal.; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); Mathematical methods (curve; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); Toxicity (hepatotoxicity; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); Lipoproteins Role: BOC (Biological occurrence), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence), PROC (Process) (low-d.; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); Cytotoxicity (new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); Liver (toxicity; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells)  
CAS Registry Numbers: 25340-17-4 (Diethylbenzene) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (mixt.; new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); 50-00-0 (Formaldehyde); 50-32-8 (Benzo[a]pyrene); 51-28-5 (2,4-Dinitrophenol); 51-79-6 (Ethylcarbamate); 53-70-3 (1,2:5,6-Dibenzanthracene); 55-18-5 (N-Nitrosodiethylamine); 55-38-9 (MPP); 56-49-5 (3-Methylcholanthrene); 56-53-1 (Diethylstilbestrol); 56-55-3 (1,2-Benzanthracene); 56-57-5 (4-Nitroquinoline-N-oxide); 57-63-6; 58-27-5 (Menadione); 58-89-9 (1,2,3,4,5,6-Hexachloro cyclohexane); 59-50-7 (4-Chloro-3-methylphenol); 60-35-5 (Acetamide); 60-51-5 (Dimethoate); 61-82-5 (3-Amino-1H-1,2,4-triazole); 62-53-3 (Aniline); 62-56-6 (Thiourea); 62-73-7 (DDVP); 62-75-9 (N-Nitrosodimethylamine); 63-25-2 (NAC); 64-67-5 (Diethyl sulfate); 65-85-0 (Benzoic acid); 68-12-2 (N,N-Dimethylformamide); 70-30-4 (Hexachlorophene); 70-55-3; 71-36-3 (1-Butanol); 72-43-5 (Methoxychlor); 75-07-0 (Acetaldehyde); 75-25-2 (Bromoform); 75-27-4 (Bromodichloromethane); 77-73-6 (Dicyclopentadiene); 78-51-3; 78-59-1 (Isophorone); 78-83-1 (2-Methyl-1-propanol); 79-06-1 (Acrylamide); 79-11-8 (Monochloroacetic acid); 79-94-7 (2,2-Bis(3,5-dibromo-4-hydroxyphenyl)propane); 80-05-7 (Bisphenol A); 82-68-8 (PCNB); 84-65-1 (9,10-Anthracenedione); 84-66-2 (Diethyl phthalate); 84-74-2 (Dibutyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 87-61-6 (1,2,3-Trichlorobenzene); 87-68-3 (Hexachloro-1,3-butadiene); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-73-3 (o-Chloronitrobenzene); 88-75-5 (o-Nitrophenol); 90-12-0 (1-Methylnaphthalene); 90-30-2 (N-Phenyl-1-naphthylamine); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 92-52-4 (Biphenyl); 93-76-5 (2,4,5-Trichlorophenoxyacetic acid); 94-75-7 (2,4-Dichlorophenoxy acetic acid); 95-50-1 (o-Dichlorobenzene); 95-53-4 (o-Toluidine); 95-54-5 (1,2-Benzenediamine); 95-80-7 (2,4-Diaminotoluene); 95-82-9 (2,5-Dichloroaniline); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (1,2-Epoxyethylbenzene); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-18-4 (1,2,3-Trichloropropane); 96-23-1 (1,3-Dichloro-2-propanol); 96-45-7 (2-Mercaptoimidazoline); 97-00-7; 97-02-9 (2,4-Dinitroaniline); 98-73-7 (p-t-Butylbenzoic acid); 98-82-8 (Cumene); 98-83-9 (a-Methylstyrene); 98-95-3 (Nitrobenzene); 99-99-0 (p-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-21-0 (Terephthalic acid); 100-41-4 (Ethyl benzene); 100-42-5 (Styrene); 100-51-6 (Benzylalcohol); 100-52-7 (Benzaldehyde); 100-61-8 (N-Methylaniline); 100-63-0 (Phenylhydrazine); 101-81-5 (Diphenylmethane); 101-83-7 (Dicyclohexylamine); 102-71-6; 103-23-1 (Di-2-ethylhexyl adipate); 103-50-4 (Dibenzyl ether); 103-69-5 (N-Ethylaniline); 104-40-5 (p-Nonylphenol); 104-51-8 (n-Butylbenzene); 106-20-7 (Bis(2-ethylhexyl)amine); 106-41-2 (p-Bromophenol); 106-43-4 (4-Chlorotoluene); 106-44-5 (p-Cresol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (p-Chlorophenol); 106-89-8 (Epichlorohydrin); 106-93-4 (1,2-Dibromoethane); 107-21-1 (Ethylene glycol); 107-22-2 (Glyoxal); 108-46-3 (Resorcinol); 108-78-1 (Melamine); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexanamine); 108-93-0 (Cyclohexanol); 108-94-1 (Cyclohexanone); 108-95-2 (Phenol); 109-06-8 (2-Methylpyridine); 110-80-5 (Ethyleneglycol monoethyl ether); 110-91-8 (Morpholine); 111-44-4 (Bis(2-chloroethyl)ether); 111-46-6 (Diethyleneglycol); 112-24-3 (Triethylenetetramine); 112-30-1 (n-Decyl alcohol); 112-57-2 (Tetraethylenepentamine); 115-09-3 (Methylmercury chloride); 115-32-2 (Kelthane); 115-96-8 (Tris(2-chloroethyl) phosphate); 117-79-3 (2-Aminoanthraquinone); 117-81-7 (Di-2-ethylhexyl phthalate); 118-79-6 (2,4,6-Tribromophenol); 119-61-9 (Benzophenone); 119-93-7 (o-Tolidine); 120-12-7 (Anthracene); 120-80-9 (Catechol); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-44-8 (Triethylamine); 121-69-7 (N,N-Dimethylaniline); 121-75-5 (Malathion); 122-14-5 (MEP); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 123-31-9 (Hydroquinone); 123-91-1 (1,4-Dioxane); 124-04-9 (Adipic acid); 124-48-1 (Chlorodibromomethane); 126-73-8 (Tributyl phosphate); 127-18-4 (Tetrachloroethylene); 128-37-0 (2,6-Di-tert-butyl-4-methylphenol); 129-00-0 (Pyrene); 131-11-3 (Dimethyl phthalate); 133-06-2 (Captan); 135-88-6 (N-Phenyl-2-naphthylamine); 137-26-8 (Thiuram); 137-30-4 (Ziram); 139-13-9 (Nitrilotriacetic acid); 139-33-3; 141-32-2; 141-43-5 (2-Aminoethanol); 143-08-8 (1-Nonanol); 149-30-4 (2-Mercaptobenzothiazole); 151-21-3 (Sodium lauryl sulfate); 151-50-8 (Potassium cyanide); 191-24-2 (Benzo[ghi]perylene); 192-97-2 (Benzo[e]pyrene); 205-99-2 (Benzo[b]fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 310-71-4; 333-41-5 (Diazinon); 479-13-0 (Coumestrol); 528-29-0 (o-Dinitrobenzene); 542-75-6 (1,3-Dichloropropene); 554-00-7 (2,4-Dichloroaniline); 554-84-7; 581-42-0 (2,6-Dimethylnaphthalene); 583-78-8 (2,5-Dichlorophenol); 591-27-5; 607-57-8 (2-Nitrofluorene); 613-13-8 (2-Aminoanthracene); 625-38-7 (Vinylacetic acid); 630-20-6 (1,1,1,2-Tetrachloroethane); 639-58-7; 709-98-8 (DCPA); 892-21-7; 1014-70-6 (Simetryne); 1162-65-8 (Aflatoxin B1); 1163-19-5 (Decabromodiphenyl ether); 1461-22-9 (Tributyltin chloride); 1582-09-8 (Trifluralin); 1743-60-8 (b-Estradiol-17-acetate); 1836-75-5 (NIP); 1897-45-6 (TPN); 2104-64-5 (EPN); 2212-67-1 (Molinate); 2597-03-7 (PAP); 3766-81-2 (BPMC); 4685-14-7 (Paraquat); 5522-43-0 (1-Nitropyrene); 7487-94-7 (Mercury(II) chloride); 7718-54-9 (Nickel(II) chloride); 7758-98-7 (Copper(II) sulfate); 7778-50-9 (Potassium dichromate(VI); 7784-46-5 (Sodium arsenite); 7791-12-0 (Thallium(I) chloride); 8018-01-7 (Manzeb); 10025-91-9 (Antimony(III) chloride); 10039-54-0 (Hydroxyl ammonium sulfate); 10043-35-3 (Boric acid); 10099-74-8 (Lead nitrate); 10102-40-6; 10108-64-2 (Cadmium chloride); 12427-38-2 (Maneb); 13410-01-0 (Sodium selenate); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17109-49-8 (EDDP); 23564-05-8; 26087-47-8 (IBP); 27355-22-2 (Fthalide); 28249-77-6 (Thiobencarb); 30560-19-1 (Acephate); 42397-64-8 (1,6-Dinitropyrene); 42397-65-9 (1,8-Dinitropyrene); 42576-02-3 (Bifenox); 50471-44-8 (Vinclozolin); 52645-53-1; 62450-07-1 (Trp-P-2); 77500-04-0 (MeIQx); 89383-05-1 (Marthasteroside A1); 105650-23-5D (PhIP); 111755-37-4 (Microcystin RR); 119945-08-3 (Aplysiaterpenoid A); 125640-33-7 (Cucumechinoside D) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells); 1327-53-3 (Arsenic oxide (As2O3) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (new assay for evaluating hepatotoxicity and cytotoxicity using LDL-uptake activity of liver cells) bioassay/ hepatotoxicity/ cytotoxicity/ LDL/ uptake/ activity/ liver/ cell;/ math/ curve/ bioassay/ hepatotoxicity/ LDL/ uptake/ activity/ Hep/ G2

Shultz, R. R., Hobba, WA Jr, and Kozar, M. D. (1994). Geohydrology, ground-water availability, and ground-water quality of Berkeley County, West Virginia, with emphasis on the carbonate-rock area.  
 Chem Codes: Chemical of Concern: SZ Rejection Code: NO SPECIES.  
  
Berkeley County is underlain by carbonate rocks, upon which karst topography has developed, and by noncarbonate rocks. Ground-water levels tend to follow seasonal trends, and fluctuate more in carbonate areas than in noncarbonate areas. Well yields of greater than 100 gallons per minute are possible from the carbonate rocks, but are unlikely from the noncarbonate rocks. The largest springs, which yield more than 2,000 gallons per minute, are located in the carbonate rocks and are typically on or near faults or the limestone-shale contacts. Ground-water-flow velocities in the carbonate rocks ranged from 32 to 1,879 feet per day. Recharge was estimated to be about 10 inches per year for a 60-square-mile area of carbonate rocks. Specific yield for carbonate rocks ranged from 0.044 to 0.049. Estimated transmissivity values for carbonate rocks ranged from 730 to 9,140 feet squared per day. Concentrations of the following constituents exceeded the maximum and secondary maximum contaminant levels set by the U.S. Environmental Protection Agency in ground water from at least one site: iron, manganese, nitrate, fecal coliform and fecal streptococcal bacteria, pH, total dissolved solids, and chloride. Analyses of the ground water indicated that the following organochlorine and organophosphate insecticides were present in detectable concentrations: chlordane, DDE, DDT, diazinon, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, and malathion. Triazine herbicides that were present in detectable concentrations were atrazine, cyanazine, and simazine. Radon concentrations ranged from 92 to, 1,600 picocuries per liter. Ground water from four springs in the carbonate rocks was analyzed for 36 volatile organic compounds. None of the compounds were present in detectable concentrations US GEOLOGICAL SURVEY, EARTH SCIENCE INFORMATION CENTER, OPEN-FILEREPORTS SECTION, BOX 25286, MS 517, DENVER, CO 80225 (USA), 1994, 88 pp  
Water Resources Investigations Report: 93-4073  
English  
English  
Report  
SW 0840 Groundwater  
Water Resources Abstracts  
3857056 A1: Alert Info 20030131 Record 161 of 181

Shvo, Youval and Goldman-Lev, Vered (2002). Catalytic oxidation of alcohols with allyl diethyl phosphate and palladium acetate. *Journal of Organometallic Chemistry* 650: 151-156.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Oxidation/ Alcohols/ Palladium acetate/ Allyl diethyl phosphate Allyl diethyl phosphate (ADP) was found to function as a stoichiometric hydrogen acceptor in a catalytic oxidation reaction of alcohols with Pd(OAc)2. A variety of acyclic primary and secondary alcohols were oxidized in good yields and under mild conditions to the corresponding aldehydes and ketones, in the presence of Na2CO3 or K2CO3. Simple aliphatic primary alcohols yielded esters, exclusively. Polar ligand solvents (DMF, DMSO) were found to accelerate the reaction. Slow, but high yield reactions were encountered in THF and acetonitrile as solvents. The reactivity of several other allyl systems serving as H-acceptors, and several Pd compounds serving as catalysts, in the above oxidation reaction, was evaluated. It has been experimentally demonstrated (H-NMR) that ADP is capable of generating a [pi]-allyl-Pd complex using a Pd(0) complex. Consequently, a catalytic cycle was proposed for the above oxidation reaction.

Sibley, P. K., Chappel, M. J., George, T. K., Solomon, K. R., and Liber, K. (2000). Integrating Effects of Stressors Across Levels of Biological Organization: Examples Using Organophosphorus Insecticide Mixtures in Field-Level Exposures. *J.Aquat.Ecosyst.Stress Recovery* 7: 117-130.  
Chem Codes: Chemical of Concern: AZ,CPY,DZ Rejection Code: MIXTURE.

Silva, Liana, Coutinho, Ana, Fedorov, Alexander, and Prieto, Manuel (2003). Solution conformation of a nitrobenzoxadiazole derivative of the polyene antibiotic nystatin: a FRET study. *Journal of Photochemistry and Photobiology B: Biology* 72: 17-26.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Nystatin is a polyene antibiotic frequently applied in the treatment of topical fungal infections. In this work, a 7-nitrobenz-2-oxa-1,3-diazole (NBD) hexanoyl amide derivative of nystatin was synthesized and its detailed photophysical characterization is presented. The average conformation of the labelled antibiotic in tetrahydrofuran, ethanol and methanol was determined by intramolecular (tetraene to NBD) fluorescence resonance energy transfer measurements. At variance with the literature [Can. J. Chem. 63 (1985) 77-85], it was concluded that there is no need to invoke a solvent-dependent conformational equilibrium between extended and closed conformers of the antibiotic, because the mean tetraene-to-NBD separating distance was found to remain constant ([approximate]18 A) in all the solvents studied. In addition, the large solvent dependence of the fluorescence anisotropy observed for the non-derivatized nystatin, was rationalized on the basis of the prolate ellipsoidal geometry of the molecule. It was concluded that the rod shaped and amphipathic antibiotic remains monomeric in different solvents within the concentration range studied (2-20 [mu]M). Nystatin/ Polyene antibiotic/ Fluorescence/ FRET

Silvius, John R. (2005). Partitioning of membrane molecules between raft and non-raft domains: Insights from model-membrane studies: Lipid Rafts: From Model Membranes to Cells. *Biochimica et Biophysica Acta (BBA) - Molecular Cell Research* 1746: 193-202.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The special physical and functional properties ascribed to lipid rafts in biological membranes reflect their distinctive organization and composition, properties that are hypothesized to rest in part on the differential partitioning of various membrane components between liquid-ordered and liquid-disordered lipid environments. This review describes the principles and findings of recently developed methods to monitor the partitioning of membrane proteins and lipids between liquid-ordered and liquid-disordered domains in model membranes, and how these approaches can aid in elucidating the properties of rafts in biological membranes. Membrane domain/ Cholesterol/ Cellular membrane/ Lipid raft/ Fluorescence spectroscopy/ Fluorescence microscopy/ Electron spin resonance/ Sphingolipid

SIMINSZKY, B., CORBIN FT, WARD ER, FLEISCHMANN TJ, and DEWEY RE (1999). Expression of a soybean cytochrome P450 monooxygenase cDNA in yeast and tobacco enhances the metabolism of phenylurea herbicides. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; 96* 1750-1755.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
BIOSIS COPYRIGHT: BIOL ABS. A strategy based on the random isolation and screening of soybean cDNAs encoding cytochrome P450 monooxygenases (P450s) was used in an attempt to identify P450 isozymes involved in herbicide metabolism. Nine full-length (or near-full-length) P450 cDNAs representing eight distinct P450 families were isolated by using PCR-based technologies. Five of the soybean P450 cDNAs were expressed successfully in yeast, and microsomal fractions generated from these strains were tested for their potential to catalyze the metabolism of 10 herbicides and 1 insecticide. In vitro enzyme assays showed that the gene product of one heterologously expressed P450 cDNA (CVP71A10) specifically catalyzed the metabolism of phenylurea herbicides, converting four herbicides of this class (fluometuron, linuron, chlortoluron, and diuron) into more polar compounds. Analyses of the metabolites suggest that the CYP71A10 encoded enzyme functions primarily as an N-demethylase with regard to fluometuron, l Biochemistry/ Coenzymes/ Comparative Study/ Enzymes/ Metabolism/ Herbicides/ Pest Control/ Pesticides/ Fungi/ Legumes/ Plants

Simplicio, A. L. and Vilas Boas, L. (1999). Validation of a solid-phase microextraction method for the determination of organophosphorus pesticides in fruits and fruit juice. *Journal of Chromatography A, 833 (1) pp. 35-42, 1999*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0021-9673  
Descriptors: Fruits  
Descriptors: Fruit juices  
Descriptors: Sample handling  
Descriptors: Food analysis  
Descriptors: Pesticides  
Descriptors: Organophosphorus compounds  
Abstract: A method for the determination of organophosphorus pesticides (diazinon, fenitrothion, fenthion, quinalphos, triazophos, phosalon and pyrazophos) in fruit (pears) and fruit juice samples was developed and validated. The samples were diluted with water, extracted by solid-phase microextraction (SPME) and analysed by gas chromatography (GC) using a flame photometric detector in phosphorous mode. Limits of detection of the method for fruit and fruit juice matrices were below 2 mu g/kg for all pesticides. Relative standard deviations for triplicate analyses of samples fortified at 25 mu g/kg of each pesticide were not higher than 8.7%. Recovery tests were performed for concentrations between 25 and 250 mu g/kg. Mean recoveries for each pesticide were all above 75.9% and below 102.6% for juice, and between 70 and 99% for fruit except for pyrazophos in the fruit sample (with mean recovery of 53%). Therefore, the proposed method is applicable in the analysis of pesticides in fruit matrices and the use of the method in routine analysis of pesticide residues is discussed. Copyright (C) 1999 Elsevier Science B.V.  
15 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Conference Paper  
Country of Publication: Netherlands  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

Simpson, G. R. ( Blood Cholinesterase Survey. Blood Cholinesterase Levels Of Persons Exposed To Organic Phosphate Pesticides In The Agricultural Field.  
Rejection Code: HUMAN HEALTH.  
  
 pestab. a widespread blood cholinesterase survey was conducted during the 1974 spraying season to assess the overall exposure situation among agricultural workers in the field. the primary areas surveyed were wee waa and trangie. of 952 persons studied, 5 were seriously affected with blood cholinesterase levels below 40% of normal. a further 16 persons had blood cholinesterase levels below 60% of normal. in general, these persons were associated with aerial spraying operations in cotton fields. it was noted that the people were not using proper protective clothing during the handling of the toxic chemicals. market gardeners also showed some group evidence of lowered cholinesterase levels. the pesticides used in cotton spraying included chlorcam-ddt, endrin-ddt, monocrotophos, and parathion. the most popular pesticide used in orcharding was azinphos plus some light applications of methidothion, vamidothion, and leptophos. tobacco growers used parathion, azinphos, methomyl, and aminocarb, plus some methyl demeton. terracur and nemacur were used in soil treatment. diazinon was the main chemical used for fly control in grazing. fenthion-ethyl was also used. tomato growers used terracur and nemacur, methyl demeton, parathion, methomyl and mevinphos. this data indicates that in the areas of market gardening and aerial field spraying, adequate protective measures are not being observed. ai: yes db: tox sf: pestab

Sinclair, Chris J. and Boxall, Alistair B. A (2003). Assessing the Ecotoxicity of Pesticide Transformation Products. *Environmental Science and Technology* 37: 4617-4625.  
Chem Codes: Chemical of Concern: DZM Rejection Code: QSAR.  
  
Once released to the environment, pesticides may be degraded by abiotic and biotic processes. While parent compds. are assessed in detail in many regulatory schemes, the requirements for the assessment of transformation products are less well developed. This study was therefore performed to explore the relationships between the toxicity of transformation products and their parent compds. and to develop a pragmatic approach for use in the risk assessment of transformation products. Data were obtained on the properties and ecotoxicity of transformation products arising from a wide range of pesticides. Generally, transformation products were less toxic to fish, daphnids, and algae than their parent compd. In instances where a product was more toxic, the increase in toxicity could be explained by either (1) the presence of a pesticide toxicophore; (2) the fact that the product is the active part of a propesticide; (3) the product is accumulated to a greater extent than the parent compd.; or (4) the product has a more potent mode of action than the parent. On the basis of the findings, an approach has been proposed to est. the ecotoxicity of transformation products based on chem. structure and data on the toxicity of the parent compd. The assessments can be performed at an early stage in the risk assessment process to identify those substances that require further testing. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2003:669759  
Chemical Abstracts Number: CAN 139:318570  
Section Code: 4-4  
Section Title: Toxicology  
Document Type: Journal  
Language: written in English.  
Index Terms: Algae; Daphnia; Ecotoxicity; Fish; Pesticides; Risk assessment (assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); Molecular structure-property relationship (hydrophobicity; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); Structure-activity relationship (toxic; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); Pesticides (toxicity; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae)  
CAS Registry Numbers: 50-00-0 (Formaldehyde); 50-29-3 (DDT); 50-30-6 (2,6-Dichlorobenzoic acid); 50-31-7 (2,3,6-TBA); 56-38-2 (Parathion); 58-89-9 (g-HCH); 58-90-2 (2,3,4,6-Tetrachlorophenol); 63-25-2 (Carbaryl); 72-54-8 (DDD); 72-55-9 (DDE); 74-89-5 (Methylamine); 75-05-8 (Acetonitrile); 75-08-1 (Ethyl mercaptan); 79-09-4 (Propionic acid); 82-68-8 (Quintozene); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 90-15-3 (1-Naphthol); 94-75-7 (2,4-D); 95-50-1 (1,2-Dichlorobenzene); 95-76-1 (3,4-Dichloroaniline); 95-95-4 (2,4,5-Trichlorophenol); 96-45-7 (Ethylenethiourea); 98-16-8 (3-Trifluoromethylbenzenamine); 100-02-7 (4-Nitrophenol); 100-52-7 (Benzaldehyde); 106-46-7 (1,4-Dichlorobenzene); 106-48-9 (4-Chlorophenol); 108-44-1 (3-Toluidine); 108-46-3 (1,3-Dihydroxybenzene); 109-73-9 (n-Butylamine); 110-15-6 (Succinic acid); 110-17-8 (Fumaric acid); 110-96-3 (Diisobutylamine); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 117-18-0 (Tecnazene); 120-80-9 (1,2-Dihydroxybenzene); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 120-93-4 (Ethyleneurea); 121-75-5 (Malathion); 123-30-8 (4-Aminophenol); 123-31-9 (1,4-Dihydroxybenzene); 141-05-9 (Diethylmaleate); 144-62-7 (Oxalic acid); 288-88-0 (1H-1,2,4-Triazole); 311-45-5 (Paraoxon); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 330-54-1 (Diuron); 333-41-5 (Diazinon); 454-89-7 (m-(Trifluoromethyl)benzaldehyde); 481-39-0 (5-Hydroxy-1,4-naphthoquinone); 533-74-4 (Dazomet); 534-13-4 (N,N'-Dimethylthiourea); 556-61-6 (Methyl isothiocyanate); 591-35-5 (3,5-Dichlorophenol); 609-19-8 (3,4,5-Trichlorophenol); 623-91-6 (Diethylfumarate); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 709-98-8 (Propanil); 767-00-0 (4-Hydroxybenzonitrile); 813-78-5 (Dimethyl phosphate); 933-75-5 (2,3,6-Trichlorophenol); 933-78-8 (2,3,5-Trichlorophenol); 935-95-5 (2,3,5,6-Tetrachlorophenol); 1071-83-6 (Glyphosate); 1194-65-6 (Dichlobenil); 1198-55-6 (Tetrachlorocatechol); 1646-88-4 (Aldicarb sulfone); 1689-84-5 (Bromoxynil); 1825-21-4 (Pentachloroanisole); 1836-77-7 (Chlornitrofen); 1912-24-9 (Atrazine); 2008-41-5 (Butylate); 2008-58-4 (2,6-Dichlorobenzamide); 2138-22-9 (4-Chlorocatechol); 2164-17-2 (Fluometuron); 2465-65-8; 2814-20-2 (Pyrimidinol); 2921-88-2 (Chlorpyrifos); 3397-62-4 (Deisopropyldeethyl atrazine); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3689-24-5 (Sulfotep); 4901-51-3 (2,3,4,5-Tetrachlorophenol); 6515-38-4 (3,5,6-Trichloro-2-pyridinol); 7783-06-4 (Hydrogen sulfide); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 12122-67-7 (Zineb); 13121-70-5 (Cyhexatin); 13684-63-4 (Phenmedipham); 15299-99-7 (Napropamide); 15950-66-0 (2,3,4-Trichlorophenol); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 30560-19-1 (Acephate); 40843-25-2 (Diclofop); 41083-11-8 (Azocyclotin); 51338-27-3 (Diclofop methyl); 55335-06-3 (Triclopyr); 59669-26-0 (Thiodicarb); 59756-60-4 (Fluridone); 68671-90-9 (2,3,5,6-Tetrachlorothioanisole); 90717-03-6 (Quinmerac); 112143-82-5 (Triazamate); 122931-48-0 (Rimsulfuron); 126535-15-7 (Triflusulfuron-methyl); 136426-54-5 (Fluquinconazole) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); 168900-02-5 (FBC 96912) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (fluquinconazole transformation product; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); 614720-01-3 (BH 518-5); 614720-02-4 (BH 518-2) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (quinmerac transformation product; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); 614746-49-5 (IN 70942) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (rimsulfuron transformation product; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); 112143-82-5D (Triazamate) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (triazamate metabolite II; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae); 614746-45-1 (IN-D 8526-2) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (trisulfusulfuron Me transformation product; assessing ecotoxicity of pesticide transformation products in fish, daphnids and algae)  
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Citations: 46) Focus; FOCUS surface water scenarios in the EU evaluation process under 91/414/EEC; EC Document Sanco/4802/2001-rev-1 2002 ecotoxicity/ pesticide/ transformation/ risk/ assessment/ toxicophore

Singh Brajesh K, Walker Allan, Morgan JAlun W, and Wright Denis J (2004). Biodegradation of Chlorpyrifos by Enterobacter Strain B-14 and Its Use in Bioremediation of Contaminated Soils. *Applied and Environmental Microbiology [Appl. Environ. Microbiol.]. Vol. 70, no. 8, pp. 4855-4863. Aug 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
ISSN: 0099-2240  
Descriptors: Soil pollution  
Descriptors: Biodegradation  
Descriptors: Bioremediation  
Descriptors: Soil remediation  
Descriptors: Pesticides  
Descriptors: Chlorpyrifos  
Descriptors: Mineralization  
Descriptors: Soil contamination  
Descriptors: Bacteria  
Descriptors: Strains  
Descriptors: Soils  
Descriptors: Chemical analysis  
Descriptors: Pollution control  
Descriptors: Enzymatic activity  
Descriptors: Microorganisms  
Descriptors: Glucose  
Descriptors: Agricultural pollution  
Descriptors: Water pollution treatment  
Descriptors: Chromosomes  
Descriptors: Enterobacter asburiae  
Descriptors: Enterobacter  
Descriptors: Australia  
Abstract: Six chlorpyrifos-degrading bacteria were isolated from an Australian soil and compared by biochemical and molecular methods. The isolates were indistinguishable, and one (strain B-14) was selected for further analysis. This strain showed greatest similarity to members of the order Enterobacteriales and was closest to members of the Enterobacter asburiae group. The ability of the strain to mineralize chlorpyrifos was investigated under different culture conditions, and the strain utilized chlorpyrifos as the sole source of carbon and phosphorus. Studies with ring or uniformly labeled [ super(14)C]chlorpyrifos in liquid culture demonstrated that the isolate hydrolyzed chlorpyrifos to diethylthiophospshate (DETP) and 3, 5, 6-trichloro-2-pyridinol, and utilized DETP for growth and energy. The isolate was found to possess mono- and diphosphatase activities along with a phosphotriesterase activity. Addition of other sources of carbon (glucose and succinate) resulted in slowing down of the initial rate of degradation of chlorpyrifos. The isolate degraded the DETP- containing organophosphates parathion, diazinon, coumaphos, and isazofos when provided as the sole source of carbon and phosphorus, but not fenamiphos, fonofos, ethoprop, and cadusafos, which have different side chains. Studies of the molecular basis of degradation suggested that the degrading ability could be polygenic and chromosome based. Further studies revealed that the strain possessed a novel phosphotriesterase enzyme system, as the gene coding for this enzyme had a different sequence from the widely studied organophosphate- degrading gene (opd). The addition of strain B-14 (10 super(6) cells g super(-1)) to soil with a low indigenous population of chlorpyrifos-degrading bacteria treated with 35 mg of chlorpyrifos kg super(-1) resulted in a higher degradation rate than was observed in noninoculated soils. These results highlight the potential of this bacterium to be used in the cleanup of contaminated pesticide waste in the environment.  
Publisher: American Society for Microbiology, 1752 N Street N.W. Washington, DC 20036 USA, [URL:http://www.asm.org/]  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: A 01016 Microbial degradation  
Classification: W2 32510 Waste treatment, environment, pollution  
Classification: P 5000 LAND POLLUTION  
Classification: Q5 01522 Protective measures and control  
Classification: Q1 01206 Physiology, biochemistry, biophysics  
Classification: EE 30 Soil Pollution: Monitoring, Control & Remediation  
Classification: A 01055 Other soil treatments  
Subfile: ASFA 1: Biological Sciences & Living Resources; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Agricultural and Environmental Biotechnology Abstracts; Microbiology Abstracts A: Industrial & Applied Microbiology; Environmental Engineering Abstracts

Singh, Brajesh K., Walker, Allan, and Wright, Denis J. (2005). Cross-enhancement of accelerated biodegradation of organophosphorus compounds in soils: Dependence on structural similarity of compounds. *Soil Biology and Biochemistry* 37: 1675-1682.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Rates of degradation of seven organophosphate nematicides and insecticides were examined in two soils known to show accelerated biodegradation of fenamiphos and one soil known to show accelerated biodegradation of chlorpyrifos. The results indicated that several organophosphate insecticides and one nematicide were susceptible to cross-enhanced degradation in the soil showing accelerated biodegradation of chlorpyrifos. No cross-enhancement was observed in the two soils showing accelerated degradation of fenamiphos. Fumigation resulted in the complete inhibition of pesticide degradation in all soils. The data suggested that the cross-enhancement of selected pesticides in chlorpyrifos-degrading soil was dependent on the structural similarity of the compounds. Mechanisms of degradation of pesticide in soil support this hypothesis, where structurally similar compounds (diazinon, parathion, coumaphos and isazofos) were hydrolysed by microbial activity in chlorpyrifos-degrading soil but the degradation products were accumulated. Enhanced degradation of chlorpyrifos and fenamiphos was found to be stable in the laboratory condition for a period of one year. Accelerated degradation/ Cross-enhancement/ Organophosphorus pesticides/ Degradation rate

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EcoReference No.: 8986  
Chemical of Concern: DZ,HCCH,EN; Habitat: A; Effect Codes: GRO; Rejection Code: NO ENDPOINT(ALL CHEMS).

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Chem Codes: Chemical of Concern: MOM,ADC,CBF,DMT,AZD,CYP,FVL,MTM,MP,MLN,FNT,FNTH,DDVP,DZ,CPY,ACE,HPT,HCCH,MVP,PRT,PHSL,PPHD,DM,PMR Rejection Code : REFS CHECKED/REVIEW.

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Chem Codes: EcoReference No.: 70474  
Chemical of Concern: SZ,PNB,ATZ,PCP,DDT,AND,DLD,HPT,EN,CHD,ES,DZ,PRN,CBL,FRN,MLT,ADC,CBF,CLNB Rejection Code: REFS CHECKED/REVIEW.

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Chem Codes: EcoReference No.: 45853  
Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

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Chemical of Concern: DZ,PRN,MP,AZ,MVP; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

SKIPPER HD, WOLLUM, A. G. II, TURCO RF, and WOLF DC (1996). Microbiological aspects of environmental fate studies of pesticides. *WEED TECHNOLOGY; 10* 174-190.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Surface and subsurface soils are complex biological, chemical, and physical environments and to understand the fate of pesticides in the soil environment is a formidable task. To determine the environmental fate of pesticides requires a diverse array of techniques and procedures. Microbiological approaches range from applied to basic, laboratory to field, qualitative to quantitative, and from low to high technology. In the arena of biodegradation, teams of scientists are needed to develop predictive models for the behavior of pesticides in the soil environment. From our perspectives, we have documented the existing status of the microbiology of environmental fate studies with pesticides. Verification of data from laboratory studies to the field environment is needed. On the other hand, efforts to design better field studies to assess microbial processes are essential to advance our understanding of environmental fate studies with pesticides. Bacteria/Physiology/ Bacteria/Metabolism/ Soil Microbiology/ Biophysics/ Plants/Metabolism/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides/ Bacteria/ Fungi

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EcoReference No.: 71765  
Chemical of Concern: AND,DZ,DLD,DMT,MLN,TXP; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS,TARGET-DZ).

Slotte, J. Peter (1995). Effect of sterol structure on molecular interactions and lateral domain formation in monolayers containing dipalmitoyl phosphatidylcholine. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1237: 127-134.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Molecular associations between different sterols and dipalmitoyl phosphatidylcholine (DPPC) were examined in monolayers at the air/water interface. The sterols examined included cholesterol, 5-cholesten-3-one, 4-cholesten-3[beta]-ol, 4-cholesten-3-one, cholesteryl acetate, and cholesteryl methyl-and ethyl ether. Information about the long-range order in pure sterol monolayers, as well as lateral domain-formation in mixed sterol/DPPC monolayers was obtained from the lateral miscibility or distribution of NBD-cholesterol (present at 0.5 mol%), as determined by monolayer epifluorescence microscopy. It was observed that the miscibility of NBD-cholesterol with the host sterol was limited in all monolayers except those of 5-cholesten-3-one and 4-cholesten-3-one, suggesting that only these monolayers lacked a long-range order present in the other sterol monolayers. Note that the term long-range order does not necessarily imply that the monolayer is solid. In mixed monolayers containing 3[beta]-OH sterols and DPPC, cholesterol formed laterally condensed domains whereas 4-cholesten-3[beta]-ol did not. This finding suggest that the sterol/DPPC interaction is sensitive to the position of the double-bond of the sterol molecule ([Delta]5 versus [Delta]4). Neither of the 3-keto sterols formed laterally condensed domains with DPPC. Cholesteryl acetate, however, formed lateral domains with DPPC which were in part similar to those seen in the cholesterol/DPPC system. The domains formed were circular, indicating their fluid nature. Mixed monolayers containing either of the ether sterol derivatives failed to produce clearly defined condensed domains with DPPC, although both mixed monolayers had a surface texture which suggested some degree of nonuniform distribution of the fluorescent probe. In summary, these novel results directly demonstrate the selective importance of both the [Delta]5 double bond, as well as of specific functional groups at the 3-position, for the molecular association with DPPC, and consequently for the formation of sterol/phospholipid-rich lateral domains. Sterol/ Cholesteryl ether/ Cholesteryl acetate/ Mixed monolayer/ Lateral domain/ Miscibility/ Condensation/ Surface potential

Slotte, J. Peter (1995). Lateral domain formation in mixed monolayers containing cholesterol and dipalmitoylphosphatidylcholine or N-palmitoylsphingomyelin. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1235: 419-427.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Epifluorescence microscopy was used to visualize the formation of lateral fluid domains in monolayers of dipalmitoylphosphatidylcholine (DPPC) or N-palmitoylsphingomyelin (N-P-SM) containing cholesterol. NBD-Cholesterol was used as a fluorophore at 1 mol%. Image analysis of the monolayer surface texture (taken during the first compression at 22[deg] C and 1.5 mN/m) showed that the area of the liquid-condensed domains increased (from zero to 90% of the total area) with increasing cholesterol concentration (5 to 40 mol%), both in DPPC and N-P-SM mixed monolayers. The liquid-condensed domains had a significantly larger size in DPPC than in N-P-SM monolayers, but were more numerous in N-P-SM monolayers. Lateral domain boundary lines begun to dissipate at a certain surface pressure. This characteristic phase transformation pressure was markedly higher in N-P-SM (3-12 mN/m) than in DPPC mixed monolayers (1.8-3.7 mN/m), and also increased with increasing cholesterol concentration. If a monolayer was first compressed above the phase transformation pressure (to 15 mN/m), and then expanded to a lateral surface pressure of 1.5 mN/m, the liquid-condensed domains coalesced if the cholesterol concentrations was 25 mol% or higher (both DPPC and N-P-SM monolayers). In conclusion, the cholesterol/DPPC and cholesterol/N-P-SM interactions in the monolayers appeared to differ to a large extent, since the liquid-condensed domains in the two systems differed in number, size, and properties. Differences in molecular properties were reflected in the phase transformation pressures, which were markedly higher in cholesterol/N-P-SM monolayers as compared to cholesterol/DPPC membranes. Lateral domain/ Phase separation/ Cholesterol/ Phosphatidylcholine/ Sphingomyelin/ Epifluorescence microscopy/ Monolayer membrane

Slotte, J. Peter and Mattjus, Peter (1995). Visualization of lateral phases in cholesterol and phosphatidylcholine monolayers at the air/water interface - a comparative study with two different reporter molecules. *Biochimica et Biophysica Acta (BBA) - Lipids and Lipid Metabolism* 1254: 22-29.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
This study has compared two chemically distinct NBD-lipids with regard to their partitioning properties into lateral phases of pure and mixed cholesterol/phosphatidylcholine monolayers. Pure NBD-cholesterol (22-(N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)-23,24-bisnor-5-cholen-3-ol), which has the NBD-function in the sterol side chain (at carbon 22), gave a liquid-expanded force-area isotherm on water at 22[deg]C (having a compressibility of 0.005 to 0.007 m/mN), although epifluorescence microscopy of the compressed NBD-cholesterol monolayer revealed that it had a solid-like surface texture. When the compressed NBD-cholesterol monolayer was allowed to expand, it fragmented into large flakes (tens to hundreds of [mu]m in width) which eventually dissolved into a liquid state. The force-area isotherm of pure NBD-phosphatidylcholine (1-hexadecanoyl-2-(12-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)dodecyl-sn-glycero-3-phosphocholine) was also liquid-expanded. When a compressed (30 mN/m) monolayer of NBD-phosphatidylcholine was examined by microscopy, it displayed many bright crystalline spots (about 50 [mu]m across) which appeared to form when the monolayer was allowed to stabilize at this lateral surface pressure. These bright spots disappeared when the monolayer was expanded. When the surface texture of a pure cholesterol monolayer was examined, both probes (at 1 mol%) partitioned very similarly in the sterol monolayer. At low lateral surface pressures (1 and 5 mN/m) the probes appeared to be excluded from the cholesterol phase, forming very bright liquid-like areas against a uniformly black cholesterol phase. At 30 mN/m, NBD-phosphatidylcholine appeared to distribute increasingly into the cholesterol phase, whereas NBD-cholesterol still did not to mix with cholesterol. The characteristic surface texture of the liquid-expanded to liquid-condensed lateral phase transition of pure dipalmitoyl phosphatidylcholine (DPPC) monolayers could be visualized identically with both probes, indicating that these were similarly excluded from the liquid-condensed solid phase of DPPC. Finally, in mixed monolayers containing cholesterol and DPPC (molar ratio 33:67), both probes (at 1 mol%) revealed a similar surface texture of the monolayers (examined at a lateral surface pressure of 0.5 mN/m), suggesting that these partitioned similarly between the different lateral phases present in the mixed monolayer. In conclusion, although the two NBD-probes differed from each other in chemical and physical properties, both acted like &lsquo;impurities&rsquo; when admixed into pure or mixed monolayers, and appeared to be equally excluded from lateral phases in which the packing density was high. Cholesterol/ Phosphatidylcholine/ Lateral phase/ Epifluorescence microscopy/ Monolayer/ NBD-cholesterol/ NBD-phosphatidylcholine

Smital, T., Luckenbach, T., Sauerborn, R., Hamdoun, A. M., Vega, R. L., and Epel, D. (2004). Emerging Contaminants - Pesticides, PPCPs, Microbial Degradation Products and Natural Substances as Inhibitors of Multixenobiotic Defense in Aquatic Organisms. *Mutat.Res.* 552: 101-117.  
Chem Codes: EcoReference No.: 81257  
Chemical of Concern: FXC,24DXY,ES,DZ,DDVP,MLN,MOM Rejection Code: REVIEW.

Smith, B. R., Dauterman, W. C., and Hodgson, Ernest (1974). Selective inhibition of the metabolism of diazinon and diazoxon in vitro by piperonyl butoxide, NIA 16824, and 1-(2-isopropylphenyl)imidazole.  *Pesticide Biochemistry and Physiology* 4: 337-345.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Several pesticide synergists known to be mixed-function oxidase inhibitors were found to inhibit the in vitro metabolism of diazinon by mouse liver microsomes. Piperonyl butoxide and NIA 16824 (O-isobutyl-O-propargyl phenylphosphonate) inhibit all oxidative reactions of diazinon to the same extent. In contrast, 1-(2-isopropylphenyl)imidazole selectively inhibits oxidative dearylation and thiophosphate to phosphate conversion without significant effect on ring side chain hydroxylation. This selectivity suggests that two different mechanisms of oxidative detoxification may be operating, mechanisms which may involve either two cytochrome P-450s or two different binding sites on the same cytochrome.

Smith, F. F., Ota, A. K., and Boswell, A. L. (1970). Insecticides for Control of the Greenhouse Whitefly. *J.Econ.Entomol.* 63: 522-527.

EcoReference No.: 72077  
Chemical of Concern: ES,DMT,CBF,PRT,DS,AZ,PRN,DZ,DDVP,ADC; Habitat: T; Effect Codes: MOR,POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Smith, J. W. M. (1979). Triforine Sensitivity in Lettuce: A Potentially Useful Genetic Marker. *Euphytica* 28: 351-360.

EcoReference No.: 29114  
Chemical of Concern: TFR,DDT,DZ,THM; Habitat: T; Effect Codes: MOR,CEL; Rejection Code: OK(TFR),NO ENDPOINT(DZ,DDT,THM).

SMOLEN JM and STONE AT (1997). Divalent metal ion-catalyzed hydrolysis of phosphorothionate ester pesticides and their corresponding oxonates. *ENVIRONMENTAL SCIENCE & TECHNOLOGY; 31* 1664-1673.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The divalent metal ion-catalyzed hydrolysis of thionate (P=S) and oxonate (P=O) organophosphorus pesticides has been examined in light of three possible catalysis mechanisms: (1) metal ion coordination of the thionate sulfur or oxonate oxygen to enhance the electrophilicity of the phosphorus electrophilic site; (2) metal ion coordination and induced deprotonation of water to create a reactive nucleophile; and (3) metal ion coordination of the leaving group to facilitate its exit The effect of the following metals at a concentration of 1 mM was examined: CoII, NiII, CuII, ZnII, and PbII. These metal ions were chosen for their ability to complex organic ligands and inorganic nucleophiles. Of these metal ions, Cull possesses properties mostsuitable for all three catalytic mechanisms and serves as the most effective catalyst for the five thionate esters (chlorpyrifosmethyl, zinophos, diazinon, parathion-methyl, and ronnel) and the two oxonate esters (chlorpyrifos-methyl oxo Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Herbicides/ Pest Control/ Pesticides

Snoep, J. J., Sol, J., Sampimon, O. C., Roeters, N., Elbers, A. R. W., Scholten, H. W., and Borgsteede, F. H. M. (2002). Myiasis in sheep in The Netherlands. *Veterinary Parasitology* 106: 357-363.  
 Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
In 1999, among 164 randomly selected Dutch sheep farmers, a questionnaire was carried out to estimate the prevalence of myiasis in sheep and to investigate factors associated with the occurrence of myiasis. The total number of sheep and/or lambs on the reference date 1 August 1999 was 12,200: 5243 ewes, 225 rams, 3393 ewe- and 3339 ram lambs.On 86 (52.4%) of the farms 349 (2.9%) of all sheep and/or lambs contracted myiasis, of which two died. Myiasis was seen significantly more frequently on farms with over 25 ewes compared to smaller farms. Cases of myiasis were detected from April to September, with a peak (47.1%) in August. Occurrence of myiasis was most frequently associated with hot and humid weather and was mainly observed (69.1%) in the area around the tail.Ewes and ewe lambs had significantly more myiasis when compared with rams and ram lambs. There was no relationship with tail docking, with breed, with the time of shearing, with the kind of soil (clay, sand, etc.), with the environment (bush, trees, water, etc.), with the type of treatment (pour on, dipping, spraying), the used insecticides (synthetic pyrethroids, diazinon, cyromazin, etc.), the number of preventive treatments, the time of treatment or the number of observations on the herd (once a day, once a week, etc.). Myiasis/ Wohlfahrtia magnifica/ Lucilia sericata/ Sheep/ Prevalence/ Netherlands

SOLARIS Consumer Affairs for Ortho Products (1998). SOLARIS Consumer Affairs for Ortho Products. *SOLARIS Consumer Affairs for Ortho Products, Personal Communication*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.

Soleas, G. J., Yan, J., Hom, K., and Goldberg, D. M. ( Multiresidue analysis of seventeen pesticides in wine by gas chromatography with mass-selective detection. *Journal of Chromatography A, 882 (1-2) pp. 205-212, 2000*.  
Chem Codes: Chemical of Concern: DMT,DCNA Rejection Code: METHODS.  
  
We have developed a multiresidue method permitting the simultaneous quantitation of 17 pesticides in wine: dicloran, dimethoate, diazinon, chlorpyrifos-methyl, vinclozolin, carbaryl, methiocarb, dichlofluanid, parathion-ethyl, triadimefon, procymidone, myclobutanil, iprodione, imidan, dicofol, phosalone and azinphos-methyl. Solid-phase extraction of 0.5 ml of wine sample is followed by direct injection of 1 mu l of the eluent onto a DB-5 MS gas chromatographic column followed by mass-selective detection using one target and two qualifier ions for each pesticide. The extraction and injection steps are carried out with automatic instrumentation. Good resolution of all compounds was achieved with a run-time approximating 23 min. Detection and quantitation limits were around 2 mu g/l and 10 mu g/l, respectively, with linear calibration curves up to 3 mg/l for most constituents. Recovery in half the compounds was greater than 90%, and greater than 80% in most of the remainder. Imprecision (relative standard deviation) was less than 10% for most pesticides and less than 18% in all. Further analytes can be added to the repertoire without difficulty. The method merits consideration together with four other multiresidue methods now available that offer similar analytical characteristics, slower run-times, and a different selection of analytes. Copyright (C) 2000 Elsevier Science B.V. Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues Wine/ Food analysis/ Sample preparation/ Pesticides

Soleas, G. J., Yan, J., Hom, K., and Goldberg, D. M. ( Multiresidue analysis of seventeen pesticides in wine by gas chromatography with mass-selective detection. *Journal of Chromatography A, 882 (1-2) pp. 205-212, 2000*.  
Chem Codes: Chemical of Concern: TDF Rejection Code: SURVEY.  
  
We have developed a multiresidue method permitting the simultaneous quantitation of 17 pesticides in wine: dicloran, dimethoate, diazinon, chlorpyrifos-methyl, vinclozolin, carbaryl, methiocarb, dichlofluanid, parathion-ethyl, triadimefon, procymidone, myclobutanil, iprodione, imidan, dicofol, phosalone and azinphos-methyl. Solid-phase extraction of 0.5 ml of wine sample is followed by direct injection of 1 mu l of the eluent onto a DB-5 MS gas chromatographic column followed by mass-selective detection using one target and two qualifier ions for each pesticide. The extraction and injection steps are carried out with automatic instrumentation. Good resolution of all compounds was achieved with a run-time approximating 23 min. Detection and quantitation limits were around 2 mu g/l and 10 mu g/l, respectively, with linear calibration curves up to 3 mg/l for most constituents. Recovery in half the compounds was greater than 90%, and greater than 80% in most of the remainder. Imprecision (relative standard deviation) was less than 10% for most pesticides and less than 18% in all. Further analytes can be added to the repertoire without difficulty. The method merits consideration together with four other multiresidue methods now available that offer similar analytical characteristics, slower run-times, and a different selection of analytes. Copyright (C) 2000 Elsevier Science B.V. Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues Wine/ Food analysis/ Sample preparation/ Pesticides

Soleas, G. J., Yan, J., Hom, K., and Goldberg, D. M. (2000). Multiresidue analysis of seventeen pesticides in wine by gas chromatography with mass-selective detection. *Journal of Chromatography A, 882 (1-2) pp. 205-212, 2000*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0021-9673  
Descriptors: Wine  
Descriptors: Food analysis  
Descriptors: Sample preparation  
Descriptors: Pesticides  
Abstract: We have developed a multiresidue method permitting the simultaneous quantitation of 17 pesticides in wine: dicloran, dimethoate, diazinon, chlorpyrifos-methyl, vinclozolin, carbaryl, methiocarb, dichlofluanid, parathion-ethyl, triadimefon, procymidone, myclobutanil, iprodione, imidan, dicofol, phosalone and azinphos-methyl. Solid-phase extraction of 0.5 ml of wine sample is followed by direct injection of 1 mu l of the eluent onto a DB-5 MS gas chromatographic column followed by mass-selective detection using one target and two qualifier ions for each pesticide. The extraction and injection steps are carried out with automatic instrumentation. Good resolution of all compounds was achieved with a run-time approximating 23 min. Detection and quantitation limits were around 2 mu g/l and 10 mu g/l, respectively, with linear calibration curves up to 3 mg/l for most constituents. Recovery in half the compounds was greater than 90%, and greater than 80% in most of the remainder. Imprecision (relative standard deviation) was less than 10% for most pesticides and less than 18% in all. Further analytes can be added to the repertoire without difficulty. The method merits consideration together with four other multiresidue methods now available that offer similar analytical characteristics, slower run-times, and a different selection of analytes. Copyright (C) 2000 Elsevier Science B.V.  
32 refs.  
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English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: Netherlands  
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues  
Subfile: Plant Science

Soliman, S. A., Sovocool, G. W., Curley, A., Ahmed, N. S., El-Fiki, S., and El-Sebae, A. K. (1982). Two Acute Human Poisoning Cases Resulting from Exposure to Diazinon Transformation Products in Egypt. *Arch.Environ.Health* 37: 207-212.  
Chem Codes: EcoReference No.: 45854  
Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.

Solomon, K. R., MacDonald, S., Surgeoner, G., and Harris, C. R. (1990). Housefly Resistance to Pyrethroids. *Pyrethrum Post* 17: 146-152.  
Chem Codes: EcoReference No.: 70455  
Chemical of Concern: RSM,CYP,DZ,DDT,PYT,MOM,ADC,CBF,PPB,DMT Rejection Code: REVIEW.

Somasundaram, L. and Coats, J. R. (1988). Role Of Hydrolysis Products In The Development Of Enhanced Degradation Of Soil Applied Pesticides. 196: Agro-169.  
Chem Codes: CHLOR Rejection Code: BACTERIA/EFFLUENT.  
  
biosis copyright: biol abs. rrm abstract soil microbiology toxicity 2 4 dichlorophenol 2 4-d 2 4 5-t chlorpyrifos carbofuran diazinon mineralization energy source general biology-symposia, transactions and proceedings of conferences, congresses, revie/ biochemical studies-general/ biochemical studies-minerals/ metabolism-energy and respiratory metabolism/ metabolism-minerals/ toxicology-environmental and industrial toxicology/ microorganisms, general/ public health: environmental health-air, water and soil pollution/ soil microbiology/ pest control, general/ pesticides/ herbicides/ microorganisms-unspecified

Sonnet, P. E., Lye, T. L., and Sackett, R. R. (1978). Effects of Selected Herbicides on the Toxicity of Several Insecticides to Honey Bees. *Environ.Entomol.* 7: 254-256.

EcoReference No.: 35454  
Chemical of Concern: CBF,MLN,MP,CBL,DZ,MVP,24DXY,PRN,ATZ; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS),MIXTURE(ATZ).

SORANNO TM and SULTATOS LG (1992). Biotransformation of the insecticide parathion by mouse brain. *TOXICOL LETT (AMST); 60 (1). 1992. 27-38.*   
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
BIOSIS COPYRIGHT: BIOL ABS. The acute toxicity of organothiophosphate insecticides like parathion results from their metabolic activation by cytochromes P450. The present study is directed towards the characterization of cytochrome-P450-dependent metabolism of parathion by various mouse brain regions. Intraperitoneal administration of (35S)parathion to mice led to covalently bound (35S)sulfur in various tissues, indicating their capacity to oxidatively desulfurate this insecticide. Liver contained the greatest amount of covalently bound sulfur, and brain the least. Among individual brain regions the olfactory bulb and hypothalamus possessed the highest levels of sulfur binding when expressed on a per milligram tissue basis. However, when expressed on a per brain region basis, sulfur binding was greatest within the cortex as a result of the large mass of this region, compared to the hypothalamus and olfactory bulb. Incubation of the 78 000in formation of p-nitrophenol, although paraoxon could not Biochemistry/ Minerals/ Coenzymes/ Comparative Study/ Enzymes/ Metabolism/ Nervous System Diseases/Pathology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Muridae

Sot, Jesus, Goni, Felix M., and Alonso, Alicia (2005). Molecular associations and surface-active properties of short- and long-N-acyl chain ceramides. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1711: 12-19.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The behaviour of N-hexadecanoylsphingosine (Cer16), N-hexanoylsphingosine (Cer6) and N-acetylsphingosine (Cer2) in aqueous media and in lipid-water systems, monolayers and bilayers has been comparatively examined using Langmuir balance and fluorescence techniques. Cer16 behaves as an insoluble non-swelling amphiphile, not partitioning into the air-water interface, thus not modifying the surface pressure of the aqueous solutions into which it is included. By contrast both Cer6 and Cer2 behave as soluble amphiphiles, up to approx. 100 [mu]M. At low concentrations, they become oriented at the air-water interface, increasing surface pressure in a dose-dependent way up to ca. 5 [mu]M bulk concentration. At higher concentrations, the excess ceramide forms micelles, critical micellar concentrations of both Cer6 and Cer2 being in the 5-6 [mu]M range. When the air-water interface is occupied by a phospholipid, 6Cer2 and Cer6 become inserted in the phospholipid monolayer, causing a further increase in surface pressure. This increase is dose dependent, and reaches a plateau at ca. 2 [mu]M ceramide bulk concentration. Both Cer2 and Cer6 become inserted in phospholipid monolayers with initial surface pressures of up to 43 and 46 mN m-1, respectively, which ensures their capacity to become inserted into cell membranes whose monolayers are estimated to support a surface pressure of about 30 mN m-1. Both Cer2 and Cer6, but not Cer16, had detergent-like properties, such as giving rise to phospholipid-ceramide mixed micelles, when added to phospholipid monolayers or bilayers. The short-chain ceramides form large aggregates and precipitate at concentrations above approx. 100 [mu]M. These results are relevant in cell physiology studies in which short- and long-chain ceramides are sometimes used as equivalent molecules, in spite of their different biophysical behaviour. Ceramide/ Short-chain ceramide/ Amphiphile/ Surfactant/ Detergent/ Lipid monolayer/ Surface pressure/ Bilayer solubilization/ Micelle

SOUTH DB and ZWOLINSKI JB (1996). Chemicals used in southern forest nurseries. *SOUTHERN JOURNAL OF APPLIED FORESTRY; 20* 127-135.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. Large-scale tree planting programs have placed a tremendous pressure on nursery managers to supply unprecedented numbers of seedlings. Inclusion of chemicals into seed production regimes have made it possible for southern pine nurseries to be the most productive in the world, in terms of both output per nursery and average cost per seedling. Nursery managers in the South rely on the use of fertilizers, fumigants, and pesticides to help keep production costs low. Judicious use of fertilizers can reduce the production of cull seedlings as well as increase field growth after outplanting. It has been our experience that investing in the use of pesticides and inorganic fertilizers provides a high rate of return for the nursery manager. Biochemistry/ Trees/ Herbicides/ Pest Control/ Pesticides/ Plants

Sovocool, G. W., Harless, R. L., Bradway, D. E., Wright, L. H., Lores, E. M., and Feige, L. E. (1981). The Recognition of Diazinon, an Organophosphorus Pesticide, when Found in Samples in the Form of Decomposition Products. *J.Anal.Toxicol.* 5: 73-80.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.

Speese, J. Iii (1996). COMPARISON OF VARIOUS SOIL INSECTICIDES AND FOLIAR SPRAYS FOR SOIL INSECT CONTROL IN SWEET POTATOES PAINTER VA 1995. *Burditt, A. K. Jr. (Ed.). Arthropod Management Tests, Vol. 21. Iv+462p. Entomological Society of America: Lanham, Maryland, Usa. Isbn 0-938522-55-8.* 21 : 176-177 .  
Chem Codes: CBF Rejection Code: BOOK ORDERED - BURDITT VOL 21.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER IPOMOEA-BATATAS CONODERUS-VESPERTINUS MELANOTUS-COMMUNIS SYSTENA-SPP CHAETOCNEMA-CONFINIS DIABROTICA-UNDECIMPUNCTATA-HOWARDI WHITE GRUBS SCARABAEIDAE CULTIVAR JEWEL FURADAN 4F THIODAN 3EC SEVIN XLR 4F MOCAP 6EC DIAZINON 14G DYFONATE 15G INSECTICIDE  
KEYWORDS: Toxicology-General  
KEYWORDS: Horticulture-Vegetables  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Field  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Invertebrata  
KEYWORDS: Convolvulaceae  
KEYWORDS: Coleoptera

SPEESE, J. III (1997). FOLIAR AND ROOT SWELL INSECTICIDE APPLICATIONS TO CONTROL SOIL INSECTS IN SWEETPOTATOES 1996. *SAXENA,* C. R. ARTHROPOD MANAGEMENT TESTS, VOL. 22. IV+469P. ENTOMOLOGICAL SOCIETY OF AMERICA: LANHAM, MARYLAND, USA. ISBN 0-938522-61-2.; 22: 171-172.  
Chem Codes: Chemical of Concern: FPN Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER CONODERUS-VESPERTINUS DIABROTICA-UNDECIMPUNCTATA-HOWARDI MELANOTUS-COMMUNIS SYSTENA AGROTIS-IPSILON PERIDROMA-SAUCIA SOUTHERN CORN ROOTWORM WIREWORM FLEA BEETLE BLACK CUTWORM VARIEGATED CUTWORM WHITE GRUB SCARABAEIDAE AGRICULTURAL PEST AGRONOMY FIPRONIL FOLIAR APPLICATION SOIL INSECTICIDE PEST MANAGEMENT SOIL INSECT CONTROL SEVIN THIODAN IMIDAN DYFONATE ROOT SWELL APPLICATION DIAZINON ARTHROPOD MANAGEMENT TEST PAINTER VIRGINIA USA Vegetables/ Arachnida/ Insects/ Nematoda/ Parasites/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Coleoptera/ Lepidoptera

Spradbery, J. P. and Tozer, R. S. (1996). The Efficacy of Diazinon Impregnated Ear Tags Against Buffalo Fly and Resulting Weight Gains and Diazinon Residues in Meat and Milk. *Aust.Vet.J.* 73: 6-10.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.

Sprenger, Wander W., Dijkstra, Annereinou, Zwart, Gabriel J. M., van Agterveld, Miranda P. , van Noort, Paul C. M., and Parsons, John R. (2003). Competition of a parathion-hydrolyzing Flavobacterium with bacteria from ditch water in carbon-, nitrate- and phosphate-limited continuous cultures. *FEMS Microbiology Ecology* 43: 45-53.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
Organophosphorus/ Pesticide/ Biodegradation/ Nutrient/ Competition/ Chemostat The effect of competition for macroelements with bacteria from ditch water on the parathion-hydrolyzing Flavobacterium sp. ATCC 27551 (FB) was investigated within mixed continuous cultures under carbon-, nitrate- or phosphate-limited conditions. The high initial rate of parathion hydrolysis decreased rapidly in all cultures due to the loss of strain FB. Addition of 2-isopropyl-6-methyl-4-pyrimidinol (a selective source of carbon, nitrogen and energy for FB) to one nitrate- and carbon-limited chemostat caused a 20-fold increase in parathion-hydrolyzing activity compared to unamended control cultures and retention of FB. The presence of the parathion hydrolase-encoding gene could be demonstrated by a newly developed PCR detection method in all FB cultures during most of the cultivation period. These results suggest that competition effects cause the pesticide-degrading capacity of microbial communities depending on their frequency of exposure to the pesticide compounds.

Srinivas Rao, Chennamaneni, Venkateswarlu, Vobalaboina, and Achaiah, Garlapati (2006). Quaternary salts of 4,3' and 4,4' bis-pyridinium monooximes. Part 2: Synthesis and biological activity. *Bioorganic & Medicinal Chemistry Letters* 16: 2134-2138.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Organophosphate/ Pesticide/ Tetraethylpyrophosphate/ Acetylcholinesterase/ Pralidoxime/ Bis-pyridinium monooximes In continuation of our investigations of unsymmetrical bisquaternary monooximes, we synthesized four new series of compounds bridged by hexyl, heptyl, octyl and nonyl groups. All eight monooximes viz., dibromides of 1-(4-hydroxyiminomethylpyridinium)6-(3/4-carbamoylpyridinium)hexane, 1-(4-hydroxyiminomethylpyridinium)-7-(3/4-carbamoylpyridinium)heptane, 1-(4-hydroxyiminomethylpyridinium)-8-(3/4-carbamoylpyridinium)octane, 1-(4-hydroxyiminomethylpyridinium)-9-(3/4-carbamoylpyridinium)nonane as well as the corresponding bis-oximes were synthesized and characterized by spectral data. Their ability to reactivate tetraethylpyrophosphate (TEPP) inhibited mouse total brain cholinesterase was investigated and compared with the conventional oxime 2-pyridinealdoxime chloride (2-PAM). Mouse brain homogenate was used as the source of acetylcholinesterase. Among all the compounds, tested the compound with the hexylene bridge (6b) and a 3-carbamoyl group on the second pyridine ring was found to be the most active acetylcholinesterase reactivator (72%) which is greater than that of 2-PAM (56%). However, the activity was reversed; as the chain length increased from a heptylene to a nonylene bridge, they potentiated the inhibitory effect of TEPP rather than reactivation. It is interesting to note that compound 6b with a carbamoyl group at the 3rd position of the pyridine ring showed dose dependent reactivation whereas the corresponding compound 6a with the carbamoyl group present at the 4th position of the pyridine ring showed reactivation at lower concentration (30 [mu]M) and potentiation of TEPP inhibition at higher concentrations (100 and 300 [mu]M).

Stadnichenko, A. P., Ivanenko, L. D., and Sitnjakowskaja, A. M. (1987). Effect of Phenol and Pesticides on Physical and Chemical Properties of Haemolymph of Gastropods (Gastopoda, Pulmonata) Infected with Trematode Parthenits. *Parazitologiya (Leningr.)* 21: 716-720 (RUS) (ENG ABS).

EcoReference No.: 3383  
Chemical of Concern: DZ,MLN,CuS,PL; Habitat: A; Effect Codes: BCM; Rejection Code: NO FOREIGN.

Stadnyk, L., Campbell, R. S., and Johnson, B. T. (1971). Pesticide Effect on Growth and C14 Assimilation in a Freshwater Alga. *Bull.Environ.Contam.Toxicol.* 6: 1-8.

EcoReference No.: 2251  
Chemical of Concern: 24DXY,CBL,DU,DZ; Habitat: A; Effect Codes: PHY; Rejection Code: NO ENDPOINT(DZ).

Stamer, J. K. and Wieczorek, M. E. (1996). PESTICIDE DISTRIBUTION IN SURFACE WATER. *American Water Works Association Journal* 88 : 79-87.  
Chem Codes: SZ,MTL,MLT,ADC,CBF Rejection Code: SURVEY.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE ORGANONITROGEN HERBICIDES HERBICIDES DIAZINON INSECTICIDES ATRAZINE ALACHLOR PESTICIDE DISTRIBUTION SURFACE WATER CONTAMINATION CYANAZINE PESTICIDES PESTICIDES POLLUTION PLATTE RIVER NICKERSON LOUISVILLE MAPLE CREEK NEBRASKA USA  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-General  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

STAMER JK and WIECZOREK ME (1996). PESTICIDE DISTRIBUTION IN SURFACE WATER. *AMERICAN WATER WORKS ASSOCIATION JOURNAL; 88* 79-87.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE ORGANONITROGEN HERBICIDES HERBICIDES DIAZINON INSECTICIDES ATRAZINE ALACHLOR PESTICIDE DISTRIBUTION SURFACE WATER CONTAMINATION CYANAZINE PESTICIDES PESTICIDES POLLUTION PLATTE RIVER NICKERSON LOUISVILLE MAPLE CREEK NEBRASKA USA Ecology/ Fresh Water/ Biochemistry/ Poisoning/ Animals, Laboratory/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Stan, Hans-Juergen and Linkerhaegner, Manfred (1996). Pesticide residue analysis in foodstuffs applying capillary gas chromatography with atomic emission detection. State-of-the-art use of modified multimethod S19 of the Deutsche Forschungsgemeinschaft and automated large-volume injection with programmed-temperature vaporization and solvent venting. *Journal of Chromatography, A* 750: 369-390.  
Chem Codes: Chemical of Concern: DZM Rejection Code: METHODS.  
  
At. emission detection (AED) provides high element-specific detection of all compds. amenable to gas chromatog. (GC). The heteroatoms N, Cl, P, S, Br and F, which are important elements in pesticide residue anal., are of major interest. A main drawback of AED is its lower sensitivity with respect to other selective detection methods used in pesticide residue anal. such as electron-capture and N-P detection. This holds true esp. for the important N trace. For this reason, more sensitive detection can be achieved by injection of larger vols. or higher concns. of sample exts., because matrix compds. were usually registered only in the C, H, O traces. This paper focuses on recent developments from the authors' lab. to demonstrate the feasibility of screening analyses with the identification of pesticide residues down to the 0.01 ppm concn. level in plant foodstuffs. This has been achieved by means of automated large vol. injection with programmed-temp. vaporization and solvent venting as well as careful optimization of make-up and reactant gases with AED. Clean up follows the principle of multimethod S19 of the Deutsche Forschungsgemeinschaft in a reduced procedure. After elimination of lipids and waxes by gel permeation chromatog., exts. from 10 g of the food samples were concd. to 200 ml, of which 12.5 ml were introduced into the GC-AED system. Two analyses were usually performed with the element traces of S, P, N, and C in the 1st run and Cl and Br in the 2d run. F and O were not detected in any screening analyses. The method has proved to be of great value esp. with \"problem foodstuffs\". The limits of detection were detd. for 385 pesticides and are presented together with their retention data. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
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CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 53-19-0; 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9 (DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 83-26-1 (Pindone); 84-65-1 (Anthraquinone); 86-50-0 (Azinphos methyl); 87-82-1 (Hexabromobenzene); 87-86-5 (Pentachlorophenol); 88-85-7 (Dinoseb); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 94-75-7 (2,4-D); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barbane); 101-42-8 (Fenuron); 103-17-3 (Chlorbenside); 103-33-3 (Azobenzene); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 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1918-13-4 (Chlorthiamid); 1918-16-7 (Propachlor); 1918-18-9 (SWEP); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2314-09-2 (Flurenol butyl); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2439-01-2 (Chinomethionat); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Landrin); 2813-95-8 (Dinoseb acetate); 2921-88-2 (Chlorpyrifos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3204-27-1 (Dinoterb acetate); 3397-62-4; 3424-82-6; 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 3878-19-1 (Fuberidazol); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 4710-17-2; 4726-14-1 (Nitralin); 4824-78-6 (Bromophos ethyl); 5131-24-8 (Ditalimfos); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5284-41-3; 5598-13-0 (Chlorpyrifos methyl); 5707-69-7 (Drazoxolon); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6190-65-4; 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10552-74-6 (Nitrothal isopropyl); 12771-68-5 (Ancymidol); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14255-88-0 (Fenazaflor); 14816-18-3 (Phoxim); 15299-99-7 (Napropamide); 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27314-13-2 (Norflurazon); 28044-83-9 (trans-Heptachlor epoxide); 28249-77-6 (Thiobencarb); 28730-17-8 (Methfuroxam); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 30979-48-7 (Isocarbamide); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiophos); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 36734-19-7 (Iprodione); 36756-79-3 (Tiocarbazil); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 39205-60-2; 39300-45-3; 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2; 52315-07-8; 52645-53-1; 52756-22-6 (Flamprop isopropyl); 52918-63-5 (Deltamethrin); 53780-34-0 (Mefluidide); 55179-31-2; 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 55512-33-9 (Pyridate); 57018-04-9 (Tolclofos methyl); 57052-04-7 (Isomethiozin); 57369-32-1 (Pyroquilone); 57375-63-0 (Phenisopham); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60568-05-0 (Furmecyclox); 61213-25-0 (Flurochloridone); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66246-88-6 (Penconazole); 66290-20-8; 66290-21-9; 66840-71-9; 67129-08-2 (Metazachlor); 67375-30-8; 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 67890-39-5; 67890-40-8; 69581-33-5 (Cyprofuram); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 74430-92-5; 74430-94-7; 74782-23-3 (Oxabetrinil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77503-28-7 (Chlorthiophos III); 77503-29-8 (Chlorthiophos II); 77732-09-3 (Oxadixyl); 79241-46-6; 79983-71-4 (Hexaconazole); 81406-37-3; 82097-50-5 (Triasulfuron); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazol); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 98919-83-6; 102851-06-9; 103827-27-6 (Pirimiphos); 107534-96-3 (Tebuconazole); 112721-87-6; 116255-48-2 (Bromuconazole); 120523-07-1; 120523-08-2; 133855-98-8 (Epoxiconazole); 135757-91-4 Role: ANT (Analyte), BOC (Biological occurrence), BSU (Biological study, unclassified), PRP (Properties), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with at. emission detection) pesticide/ detection/ foodstuff/ capillary/ gas/ chromatog

Stan, Hans-Jurgen (2000). **<04 Article Title>.**  *Journal of Chromatography, A* 892: <25 Page(s)>.

Chemical of Concern: FVL, TCZ,RSM; Habitat: <40 Habitat Code>; Effect Codes: <08 Effects Code>.

Stan, Hans-Jurgen (2000). Pesticide residue analysis in foodstuffs applying capillary gas chromatography with mass spectrometric detection. State-of-the-art use of modified DFG-multi-method S19 and automated data evaluation. *Journal of Chromatography, A* 892: 347-377.  
Chem Codes: Chemical of Concern: TCZ,DCNA Rejection Code : CHEM METHODS.  
  
This paper focuses on recent developments in the author's lab. and reports on the \"ultimate\" anal. scheme which has evolved over the last 20 yr. This demonstrates the feasibility of screening analyses for pesticide residue identification, mainly by full scan GC-MS, down to the 0.01 ppm concn. level in plant foodstuffs. It is based on a miniaturized DFG S19 extn. applying acetone for extn. followed by liq.-liq. extn. with Et acetate-cyclohexane followed by gel permeation chromatog. The final chromatog. detn. is carried out with a battery of 3 parallel operating gas chromatog. systems using effluent splitting to electron-capture and nitrogen-phosphorus detection, one with a SE-54 the other with a OV-17 capillary column and the 3rd one with a SE-54 capillary column and mass selective detection for identification and quantitation. The method is established for monitoring >400 pesticides amenable to gas chromatog. These pesticide residues are identified in screening analyses by means of the dedicated mass spectral library PEST.L contg. ref. mass spectra and retention times of >400 active ingredients and also metabolites applying the macro program AuPest (Automated residue anal. on Pesticides) for automated evaluation which runs with Windows based HP ChemStation software. The 2 gas chromatog. systems with effluent splitting to electron-capture and nitrogen-phosphorus detection are used to check the results obtained with the automated GC-MS screening and also to detect those few pesticides which exhibit better response to electron-capture and nitrogen-phosphorus detection than to mass spectrometry in full scan. [on SciFinder (R)] pesticide/ residue/ detection/ food/ GC/ MS Copyright: Copyright 2004 ACS on SciFinder (R))  
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Index Terms: Mass spectrometry; Mass spectrometry (gas chromatog. combined with, capillary; pesticide residue anal. in foodstuffs applying); Gas chromatography; Gas chromatography (mass spectrometry combined with, capillary; pesticide residue anal. in foodstuffs applying); Food contamination (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection); Cinerins; Pyrethrins Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection); Food analysis (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection in); Pesticides (residue; anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection)  
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 53-19-0; 53-60-1 (Propazine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-48-8; 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 84-61-7; 84-62-8; 84-66-2; 84-69-5; 84-74-2; 85-41-6 (Isoindole-1,3-dione); 85-68-7; 86-50-0 (Azinphos-methyl); 87-82-1 (Hexabromobenzene); 87-86-5; 88-85-7 (Dinoseb); 90-43-7 (2-Phenylphenol); 90-98-2; 92-52-4 (Biphenyl); 95-76-1 (3,4-Dichloroaniline); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barban); 102-36-3 (3,4-Dichlorophenylisocyanate); 103-17-3 (Chlorbenside); 103-33-3 (Azobenzene); 106-47-8 (4-Chloroaniline); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 117-80-6 (Dichlone); 117-81-7; 117-84-0 (Phthalic acid dioctyl ester); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 131-11-3; 131-16-8; 133-06-2 (Captan); 133-07-3 (Folpet); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 150-50-5 (Merphos); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 533-74-4 (Dazomet); 534-52-1 (DNOC); 563-12-2 (Ethion); 584-79-2 (Allethrin); 608-93-5 (Pentachlorobenzene); 640-15-3 (Thiometon); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6; 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 933-78-8 (2,3,5-Trichlorophenol); 944-22-9 (Fonofos); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 973-21-7 (Dinobuton); 1007-28-9 (Desisopropylatrazine); 1014-69-3 (Desmetryne); 1014-70-6 (Simetryn); 1024-57-3; 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1593-77-7 (Dodemorph); 1610-17-9 (Atraton); 1610-18-0 (Prometon); 1634-78-2 (Malaoxon); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1713-15-1 (2,4-D Isobutyl ester); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-26-1 (Trietazine); 1918-16-7 (Propachlor); 1918-18-9 (Swep); 1928-37-6 (2,4,5-T, Methyl ester); 1928-38-7 (2,4-D Methyl ester); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2314-09-2 (Flurenol-butyl); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2436-73-9 ((2-Methyl-4-chlorophenoxy)acetic acid Methyl ester); 2439-01-2 (Quinomethionate); 2536-31-4 (Chlorflurenol-methyl); 2540-82-1 (Formothion); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Landrin); 2813-95-8 (Dinoseb acetate); 2921-88-2 (Chlorpyrifos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3397-62-4 (Desethyldesisopropylatrazine); 3424-82-6; 3689-24-5 (Sulfotep); 3878-19-1 (Fuberidazole); 4147-51-7 (Dipropetryn); 4466-14-2; 4658-28-0 (Aziprotryne); 4710-17-2 (DMSA); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimphos); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6190-65-4 (Desethylatrazine); 6923-22-4 (Monocrotophos); 7012-37-5 (PCB 28); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10552-74-6 (Nitrothal-isopropyl); 12771-68-5 (Ancymidol); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14214-32-5 (Difenoxuron); 14255-88-0 (Fenazaflor); 14437-17-3 (Chlorfenprop-methyl); 14816-18-3 (Phoxim); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18625-12-2 (2,4-DB Methyl ester); 19666-30-9 (Oxadiazon); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23844-56-6 (Mecoprop Methyl ester); 23844-57-7 (Methyl Dichlorprop); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24579-73-5 (Propamocarb); 24934-91-6 (Chlormephos); 25057-89-0 (Bentazone); 25059-80-7 (Benazolin-ethyl); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 28044-83-9; 28553-12-0; 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacriphos); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiophos); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 35693-99-3 (PCB 52); 36734-19-7 (Iprodione); 36756-79-3 (Tiocarbazil); 37680-73-2 (PCB 101); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazophos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2; 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 58810-48-3 (Ofurace); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 61213-25-0 (Flurochloridone); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron); 66246-88-6 (Penconazole); 67129-08-2 (Metazachlor); 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69409-94-5 (Fluvalinate); 69581-33-5 (Cyprofuram); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 74070-46-5 (Aclonifen); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofen-ethyl); 77732-09-3 (Oxadixyl); 79241-46-6; 79622-59-6 (Fluazinam); 79983-71-4 (Hexaconazole); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 87130-20-9 (Diethofencarb); 87674-68-8 (Dimethenamid); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 95465-99-9 (Cadusafos); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 110235-47-7 (Mepanipyrim); 112281-77-3 (Tetraconazole); 116255-48-2 (Bromuconazole); 118134-30-8 (Spiroxamine); 119168-77-3 (Tebufenpyrad); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 124495-18-7 (Quinoxyfen); 131341-86-1 (Fludioxonil); 133855-98-8 (Epoxiconazole); 135590-91-9 (Mefenpyr-diethyl); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection)

Stan, Hans-Jurgen (2000). Pesticide residue analysis in foodstuffs applying capillary gas chromatography with mass spectrometric detection. State-of-the-art use of modified DFG-multi-method S19 and automated data evaluation. *Journal of Chromatography, A* 892: 347-377.  
Chem Codes: Chemical of Concern: DZM Rejection Code: METHODS.  
  
This paper focuses on recent developments in the author's lab. and reports on the \"ultimate\" anal. scheme which has evolved over the last 20 yr. This demonstrates the feasibility of screening analyses for pesticide residue identification, mainly by full scan GC-MS, down to the 0.01 ppm concn. level in plant foodstuffs. It is based on a miniaturized DFG S19 extn. applying acetone for extn. followed by liq.-liq. extn. with Et acetate-cyclohexane followed by gel permeation chromatog. The final chromatog. detn. is carried out with a battery of 3 parallel operating gas chromatog. systems using effluent splitting to electron-capture and nitrogen-phosphorus detection, one with a SE-54 the other with a OV-17 capillary column and the 3rd one with a SE-54 capillary column and mass selective detection for identification and quantitation. The method is established for monitoring >400 pesticides amenable to gas chromatog. These pesticide residues are identified in screening analyses by means of the dedicated mass spectral library PEST.L contg. ref. mass spectra and retention times of >400 active ingredients and also metabolites applying the macro program AuPest (Automated residue anal. on Pesticides) for automated evaluation which runs with Windows based HP ChemStation software. The 2 gas chromatog. systems with effluent splitting to electron-capture and nitrogen-phosphorus detection are used to check the results obtained with the automated GC-MS screening and also to detect those few pesticides which exhibit better response to electron-capture and nitrogen-phosphorus detection than to mass spectrometry in full scan. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
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CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 53-19-0; 53-60-1 (Propazine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-48-8; 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 84-61-7; 84-62-8; 84-66-2; 84-69-5; 84-74-2; 85-41-6 (Isoindole-1,3-dione); 85-68-7; 86-50-0 (Azinphos-methyl); 87-82-1 (Hexabromobenzene); 87-86-5; 88-85-7 (Dinoseb); 90-43-7 (2-Phenylphenol); 90-98-2; 92-52-4 (Biphenyl); 95-76-1 (3,4-Dichloroaniline); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barban); 102-36-3 (3,4-Dichlorophenylisocyanate); 103-17-3 (Chlorbenside); 103-33-3 (Azobenzene); 106-47-8 (4-Chloroaniline); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 117-80-6 (Dichlone); 117-81-7; 117-84-0 (Phthalic acid dioctyl ester); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 131-11-3; 131-16-8; 133-06-2 (Captan); 133-07-3 (Folpet); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 150-50-5 (Merphos); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 533-74-4 (Dazomet); 534-52-1 (DNOC); 563-12-2 (Ethion); 584-79-2 (Allethrin); 608-93-5 (Pentachlorobenzene); 640-15-3 (Thiometon); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6; 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 933-78-8 (2,3,5-Trichlorophenol); 944-22-9 (Fonofos); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 973-21-7 (Dinobuton); 1007-28-9 (Desisopropylatrazine); 1014-69-3 (Desmetryne); 1014-70-6 (Simetryn); 1024-57-3; 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1593-77-7 (Dodemorph); 1610-17-9 (Atraton); 1610-18-0 (Prometon); 1634-78-2 (Malaoxon); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1713-15-1 (2,4-D Isobutyl ester); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 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13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14214-32-5 (Difenoxuron); 14255-88-0 (Fenazaflor); 14437-17-3 (Chlorfenprop-methyl); 14816-18-3 (Phoxim); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18625-12-2 (2,4-DB Methyl ester); 19666-30-9 (Oxadiazon); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23844-56-6 (Mecoprop Methyl ester); 23844-57-7 (Methyl Dichlorprop); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24579-73-5 (Propamocarb); 24934-91-6 (Chlormephos); 25057-89-0 (Bentazone); 25059-80-7 (Benazolin-ethyl); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 28044-83-9; 28553-12-0; 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacriphos); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiophos); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 35693-99-3 (PCB 52); 36734-19-7 (Iprodione); 36756-79-3 (Tiocarbazil); 37680-73-2 (PCB 101); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazophos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2; 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 58810-48-3 (Ofurace); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 61213-25-0 (Flurochloridone); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron); 66246-88-6 (Penconazole); 67129-08-2 (Metazachlor); 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69409-94-5 (Fluvalinate); 69581-33-5 (Cyprofuram); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 74070-46-5 (Aclonifen); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofen-ethyl); 77732-09-3 (Oxadixyl); 79241-46-6; 79622-59-6 (Fluazinam); 79983-71-4 (Hexaconazole); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 87130-20-9 (Diethofencarb); 87674-68-8 (Dimethenamid); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 95465-99-9 (Cadusafos); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 110235-47-7 (Mepanipyrim); 112281-77-3 (Tetraconazole); 116255-48-2 (Bromuconazole); 118134-30-8 (Spiroxamine); 119168-77-3 (Tebufenpyrad); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 124495-18-7 (Quinoxyfen); 131341-86-1 (Fludioxonil); 133855-98-8 (Epoxiconazole); 135590-91-9 (Mefenpyr-diethyl); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection)  
Citations: 1) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020  
Citations: 2) Koinecke, A; Fresenius J Anal Chem 1994, 349, 301  
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Citations: 11) Stan, H; J Chromatogr 1989, 467, 85  
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Citations: 17) Wiley, P; Abstracts of the 1st European Pesticide Residue Workshop 1996  
Citations: 18) Cook, J; JAOAC Int 1999, 82, 313  
Citations: 19) Stan, H; Intell Instrum & Comp 1987, 5, 103  
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Citations: 21) Stan, H; in preparation  
Citations: 22) Asmussen, C; J High Resolut Chromatogr 1998, 21, 597  
Citations: 23) van der Hoff, G; J Chromatogr A 1999, 843, 301  
Citations: 24) van Zoonen, P; Analytical Methods for Pesticides Residues in Foodstuffs, The Inspectorate for Health Protection, Ministry of Public Health, Welfare and Sport, 6th ed 1996  
Citations: 25) Anon; Methodensammlung zur Ruckstandsanalytik vor Pflantzenschutzmitteln 1991, 1  
Citations: 26) Health Protection Branch; Manual on Analytical Methods on Pesticide Residues in Foods 1985, 107  
Citations: 27) Food And Drug Administration; Pesticide Analytical Methods 1 1994  
Citations: 28) Anon; Materials and Methods Used for Pesticide Residues Monitoring in Sweden 1986, 38, 79  
Citations: 29) Tuinstra, L; J Chromatogr 1991, 552, 259  
Citations: 30) Sojo, L; J Chromatogr A 1997, 788, 141 pesticide/ residue/ detection/ food/ GC/ MS

Stanek, Katja, Drobne, Damjana, and Trebse, Polonca ( Linkage of biomarkers along levels of biological complexity in juvenile and adult diazinon fed terrestrial isopod (Porcellio scaber, Isopoda, Crustacea). *Chemosphere* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SOURCE.  
  
In parallel laboratory experiments, we determined the effect of a typical representative of organophosphorous pesticides, diazinon, on AChE activity, lipid, protein and glycogen content, weight change, feeding activity and mortality of juvenile and adult terrestrial isopods Porcellio scaber (Isopoda, Crustacea). Organophosphorous pesticides (OP) are among the most extensively used pesticides, which have replaced organochlorine pesticides. OPs inhibit the enzyme acetylcholinesterase (AChE), resulting in neurotoxicity. They have more widespread effects on non-target organisms than do organochlorine pesticides. The aim of this study was to link effect of diazinon on target enzyme to energy reserves and to integrated biomarker responses in juvenile and adult P. scaber. The non-observed effect concentration (NOEC) for AChE activity after diazinon exposure in two weeks toxicity study with isopods was below 5 [mu]g/g diazinon. There was a good agreement between concentrations at which AChE and survival were affected (10 [mu]g/g diazinon in juveniles, 100 [mu]g/g diazinon in adults). We revealed a link among AChE activity, protein content and mortality. Glycogen and lipid content, feeding activity and weight change were not affected in two weeks diazinon exposure up to 100 [mu]g/g diazinon. Juveniles were affected at concentrations that were an order of magnitude lower than those provoking similar effects on adults. Recommendations are made for future toxicity studies with terrestrial isopods. Terrestrial isopod/ Porcellio scaber/ Diazinon/ Toxicity/ AChE activity/ Survival/ Growth/ Energy reserves/ Biomarkers

Steen, R J, van der Vaart, J, Hiep, M, Van Hattum, B, Cofino, W P, and Brinkman, U A (2001). Gross fluxes and estuarine behaviour of pesticides in the Scheldt estuary (1995-1997). *Environmental Pollution (Barking, Essex: 1987)* 115: 65-79.  
Chem Codes: SZ,MTL Rejection Code: NO SPECIES.  
  
As part of the Fluxes of Agrochemicals into the Marine Environment (FAME) project, the gross fluxes of selected pesticides (i.e. the herbicides atrazine, simazine, alachlor and metolachlor, the atrazine degradation product desethylatrazine, the insecticide dichlorvos and the antifouling agent Irgarol 1051) transported by the river Scheldt and the Canal Ghent-Terneuzen were determined from March 1995 through February 1997. In general, the observed temporal trends were related to the application period of the pesticides, except for metolachlor for which elevated concentrations were observed in the winter of 1995-1996. Relatively large gross fluxes were found for desethylatrazine compared with its parent compound. A study on the estuarine behaviour of pesticides showed distinct differences between the compound classes. The mixing plots of the organophosphorus insecticides dichlorvos and diazinon revealed clear evidence of estuarine loss processes which agrees with their low DT50 values reported for water/sediment systems, their relatively high Henry's law constants and, for diazinon, its relatively high Koc value. The mixing plots of the acetanilides alachlor and metolachlor were strongly influenced by an additional direct emission into the estuary, which was evident from a maximum in dissolved concentration near a salinity of 10@1000. An apparent conservative behaviour was observed for the triazine compounds atrazine and Irgarol 1051. This was in contrast to simazine, which showed an apparent non-conservative behaviour. However, the time profiles of the riverine concentrations of simazine did not exclude that the observed curvature was solely caused by estuarine losses; therefore, additional modelling is required. In a follow-up study a suitable hydrological model of the Scheldt estuary was constructed; the results will be presented in a forthcoming paper (Steen, R.J.C.A., Evers, E.H.G., Van Hattum, B., Cofino, W.P. and Brinkman, U.A.Th. Net fluxes of pesticides from the Scheldt estuary into the North Sea: a model approach. Environmental Pollution, submitted. [Journal Article; In English; England] http://www.sciencedirect.com/science/article/B6WVB-45GVMYX-4XH/2/34259cd864ce08ba2ac804dae773f381

Steen, R. J. C. A., Leonards, P. E. G., Brinkman, U. A. T., Barcelo, J., Tronczynski, J., Albanis, T. A., and Cofino, W. P. (1999). Ecological Risk Assessment of Agrochemicals in European Estuaries. *Environ.Toxicol.Chem.* 18: 1574-1581.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

Steen, R. J. C. A., van der Vaart, J., Hiep, M., Van Hattum, B., Cofino, W. P., and Brinkman, U. A. Th. (2001). Gross fluxes and estuarine behaviour of pesticides in the Scheldt Estuary (1995-1997). *Environmental Pollution* 115: 65-79.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
As part of the Fluxes of Agrochemicals into the Marine Environment (FAME) project, the gross fluxes of selected pesticides (i.e. the herbicides atrazine, simazine, alachlor and metolachlor, the atrazine degradation product desethylatrazine, the insecticide dichlorvos and the antifouling agent Irgarol 1051) transported by the river Scheldt and the Canal Ghent-Terneuzen were determined from March 1995 through February 1997. In general, the observed temporal trends were related to the application period of the pesticides, except for metolachlor for which elevated concentrations were observed in the winter of 1995-1996. Relatively large gross fluxes were found for desethylatrazine compared with its parent compound. A study on the estuarine behaviour of pesticides showed distinct differences between the compound classes. The mixing plots of the organophosphorus insecticides dichlorvos and diazinon revealed clear evidence of estuarine loss processes which agrees with their low DT50 values reported for water/sediment systems, their relatively high Henry's law constants and, for diazinon, its relatively high Koc value. The mixing plots of the acetanilides alachlor and metolachlor were strongly influenced by an additional direct emission into the estuary, which was evident from a maximum in dissolved concentration near a salinity of 10[per mille sign]. An apparent conservative behaviour was observed for the triazine compounds atrazine and Irgarol 1051. This was in contrast to simazine, which showed an apparent non-conservative behaviour. However, the time profiles of the riverine concentrations of simazine did not exclude that the observed curvature was solely caused by estuarine losses; therefore, additional modelling is required. In a follow-up study a suitable hydrological model of the Scheldt estuary was constructed; the results will be presented in a forthcoming paper (Steen, R.J.C.A., Evers, E.H.G., Van Hattum, B., Cofino, W.P. and Brinkman, U.A.Th. Net fluxes of pesticides from the Scheldt estuary into the North Sea: a model approach. Enviromental Pollution, submitted). Pesticides/ Gross fluxes/ Estuarine behaviour/ Mixing plots/ Scheldt estuary

STEIN, R., ANDO, C., and WHITE, J. (1992). MONITORING REGIONAL AERIAL MOVEMENT AND DEPOSITION OF THREE ORGANOPHOSPHATE PESTICIDES. *203RD ACS (AMERICAN CHEMICAL SOCIETY) NATIONAL MEETING, SAN FRANCISCO, CALIFORNIA, USA, APRIL 5-10, 1992. ABSTR PAP AM CHEM SOC; 203 (1-3). 1992. AGRO98.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM PARSLEY AGRICULTURAL USE DIAZINON PARATHION CHLORPYRIFOS Congresses/ Biology/ Climate/ Ecology/ Meteorological Factors/ Ecology/ Plants/ Biochemistry/ Movement/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Plants

Steinberg, C. E. W., Sturm, A., Kelbel, J., Lee, S. K., Hertkorn, N., Freitag, D., and Kettrup, A. A. (1992). Changes of Acute Toxicity of Organic Chemicals to Daphnia magna in the Presence of Dissolved Humic Material (DHM). *Acta Hydrochim.Hydrobiol.* 20: 326-332.

EcoReference No.: 4056  
Chemical of Concern: DZ,24DC,PCP,4NP; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONC(DZ),OK(24DC,4NP),NO ENDPOINT(PCP).

Steinberg, C. E. W., Xu, Y., Lee, S. K., Freitag, D., and Kettrup, A. (1993). Effect of Dissolved Humic Material (DHM) on Bioavailability of Some Organic Xenobiotics to Daphnia magna. *Chem.Spec.Bioavail.* 5: 1-9.

EcoReference No.: 13435  
Chemical of Concern: DFZ,DZ,PCP; Habitat: A; Effect Codes: ACC; Rejection Code: NO ENDPOINT,CONTROL(DZ,PCP).

STEINBERG, C. EW, XU, Y., LEE SK, FREITAG, D., and KETTRUP, A. (1993). Effect of dissolved humic material (DHM) on bioavailability of some organic xenobiotics to Daphnia magna. *CHEM SPECIATION BIOAVAILABILITY; 5* 1-9.  
Chem Codes: Chemical of Concern: PCP Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The effects of dissolved humic material (DHM) on the bioconcentration of six organic xenobiotics-chlorobenzuron (CCU), diflubenzuron (DFB), terbutylazine (TBA), diazinon, 4-chloroaniline (4-CA) and pentachlorophenol (PCP) to Daphnia magna (Straus) in laboratory experiments were investigated. Commercial Aldrich humic acids (A-DHM) were used as the sources of DHM. 24 h bioconcentrations (BC24) for these xenobiotics were determined in the presence of 0, 0.5, 5.0, 10, 20 and 50 mg L-1 TOC. With diazinon, 4-CA and PCP 48 h bioconcentrations (BC48) were determined as well. The bioconcentrations (BC) of CCU and diazinon, were significantly reduced, when DHM concentrations increased. The effect on the other chemicals was insignificant. With diazinon DHM exhibited a distinct time-dependency: BC48 lay significantly below BC24-values. The observed reduction of bioavailability to Daphnia magna was attributed to the binding of the organic chemicals to DHM, which was quantitatively me Biochemistry/ Poisoning/ Animals, Laboratory/ Anatomy, Comparative/ Animal/ Arthropods/Physiology/ Physiology, Comparative/ Pathology/ Crustacea

Stelzle, Martin and Sackmann, Erich (1989). Sensitive detection of protein adsorption to supported lipid bilayers by frequency-dependent capacitance measurements and microelectrophoresis. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 981: 135-142.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In the first part, we report experiments which enable the sensitive detection of protein adsorption to lipid bilayers deposited onto chromium electrodes on glass substrates by frequency-dependent capacitance measurements. The sensitivity of the present type of sensor (better than 0.3 nm average protein layer thickness) is at least equivalent to that of ellipsometry. A high specific resistance of the supported bilayer of (1-5) [middle dot] 105 [Omega] [middle dot] cm2 is achieved by deposition of a tightly packed (crystalline) cadmium arachidate monolayer in contact with the substrate, whereas the outer monolayer can be more loosely packed (fluid phase or state of fluid-solid coexistence) which is essential for the incorporation of receptors. In the present work, charged lipids are incorporated as nonspecific receptors for polylysine and cytochrome c. The capacitance measurements provide a very sensitive test of the tightness and the long-time stability of the supported bilayers and, in combination with ellipsometric thickness measurements, enable estimations of dielectric properties of protein layers (such as the permittivity). In the second part, we report first electrophoresis experiments in asymmetric bilayers on substrates which enable simultaneous measurements of lateral diffusion coefficients and frictional coefficients between monolayers. The potential application of the electrophoretic effect for the differentiation between different receptors and the amplification of signals in biosensors is discussed. Supported bilayer/ Biosensor/ Langmuir-Blodgett film/ Protein adsorption/ Lipid bilayer/ Microelectrophoresis

Stephan, C. E., Mount, D. I., Hansen, D. J., Gentile, J. H., Chapman, G. A., and Brungs, W. A. (1985). Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, National Technical Information Services, Springfield, VA. *U.S.EPA* (PB85-227049).  
Chem Codes: EcoReference No.: 54512  
Chemical of Concern: NYP,TBT,Cr,CN,As,ACL,ACE,ACY,ADC,NH,Al,Ag,Cd,Se,ATZ,DZ,Pb,Ni,Zn Rejection Code: METHODS.

Steurbaut, W., Dejonckheere, W., and Drieghe, S. ( Pesticide residues after aerial application in greenhouses. 60: 599-609 CODEN: MFLBER.  
Rejection Code: NO TOX DATA.  
  
Residues of some frequently used pesticides are monitored in greenhouses after several modes of application and under varying conditions: dichlorvos, methamidophos, azinphos-Me, diazinon, chlorpyriphos, endosulfan, methomyl, bifenthrin, benomyl. The distribution of the residues was detd. in the air and on different surfaces (plants, soils, walls, clothes and exposed body parts of the applicator). The physicochem. properties of the pesticides affect the presence in the air (vapor pressure) and the surface deposits (adsorption, persistence). The mode of application is very important. High-vol. hydraulic spraying results in high deposits on the lower surfaces and on the applicator, while low-vol. misting ("cold fogging") gives rise to relative higher aerial concns. and also more deposites on higher construction surfaces. Climatic factors, such as increased temp., results in higher initial residues in the air but also in an accelerated breakdown in the air and on surfaces. Also the orientation, structure, isolation and construction materials of the greenhouses and the size and shape of the plant canopy can influence the importance and the homogeneous distribution of the residues. Certain materials can have a slow release effect and stationary layers with higher levels can be formed in the canopy due to the formation of stationary air layers. Construction and isolation can be the cause of local accumulation sites. Aerial treatment of greenhouses is very dependent on a multitude of interfering factors. A general approach for risk assessment is open to many questions, making modeling very debatable.

Steurbaut, W., Dejonckheere, W., and Drieghe, S. (1995). Pesticide residues after aerial application in greenhouses. *Mededelingen Faculteit Landbouwkundige En Toegepaste Biologische Wetenschappen Universiteit Gent* 60 : 599-609.  
Chem Codes: Chemical of Concern: MOM Rejection Code: NO TOX DATA.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Pesticide residues of some frequently used pesticides are monitored in greenhouses after several modes of application and under varying conditions and circumstances: dichlorvos, methamidophos, azinphos-methyl, diazinon, chlorpyriphos, endosulfan, methomyl, bifenthrin, benomyl. The distribution of the residues was determined in the air and on different surfaces (plants, soil, walls, clothes and exposed body parts of the applicator). The physicochemical properties of the pesticides play an important role on the presence in the air (vapor pressure) and the surface deposits (adsorption, persistence). Also the mode of application is very important: high volume hydraulic spraying results in high deposits on the lower surfaces and the applicator while low volume misting ("cold fogging") gives rise to relative higher aerial concentrations and also more deposits on higher construction surfaces. Climatic factors such as increased temperature results in higher initial residues in  
KEYWORDS: Toxicology-General  
KEYWORDS: Public Health: Environmental Health-Occupational Health  
KEYWORDS: Pest Control

Stevens, M. M. (1991). Insecticide Treatments Used Against a Rice Bloodworm, Chironomus tepperi (Diptera: Chironomidae): Toxicity and Residual Effects in Water. *J.Econ.Entomol.* 84: 795-800.

EcoReference No.: 45075  
Chemical of Concern: CPY,DZ,MLN,TCF; Habitat: A; Effect Codes: MOR; Rejection Code: NO ENDPOINT(DZ).

Stevenson, J. H. (1978). The Acute Toxicity of Unformulated Pesticides to Worker Honey Bees (Apis mellifera L.). *Plant Pathol.* 27: 38-40.

EcoReference No.: 38931  
Chemical of Concern: RSM,CBL,CHD,CPY,DDT,DZ,DLD,EN,HCCH,DMB,DZM; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS,TARGET-DZ).

Stillwell, William, Jenski, Laura J., Zerouga, Mustapha, and Dumaual, Alfred C. (2000). Detection of lipid domains in docosahexaenoic acid-rich bilayers by acyl chain-specific FRET probes. *Chemistry and Physics of Lipids* 104: 113-132.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A major problem in defining biological membrane structure is deducing the nature and even existence of lipid microdomains. Lipid microdomains have been defined operationally as heterogeneities in the behavior of fluorescent membrane probes, particularly the fluorescence resonance energy transfer (FRET) probes 7-nitrobenz-2-oxa-1,3-diazol-4-yl-diacyl-sn-glycero-3-phosphoethanolamine (N-NBD-PE) and (N-lissamine rhodamine B sulfonyl)-diacyl-sn-glycero-3-phosphoethanolamine (N-Rh-PE). Here we test a variety of N-NBD-PEs and N-Rh-PEs containing: (a) undefined acyl chains, (b) liquid crystalline- and gel-state acyl chains, and (c) defined acyl chains matching those of phase separated membrane lipids. The phospholipid bilayer systems employed represent a liquid crystalline/gel phase separation and a cholesterol-driven fluid/fluid phase separation; phase separation is confirmed by differential scanning calorimetry. We tested the hypothesis that acyl chain affinities may dictate the phase into which N-NBD-PE and N-Rh-PE FRET probes partition. While these FRET probes were largely successful at tracking liquid crystalline/gel phase separations, they were less useful in following fluid/fluid separations and appeared to preferentially partition into the liquid-disordered phase. Additionally, partition measurements indicate that the rhodamine-containing probes are substantially less hydrophobic than the analogous NBD probes. These experiments indicate that acyl chain affinities may not be sufficient to employ acyl chain-specific N-NBD-PE/N-Rh-PE FRET probes to investigate phase separations into biologically relevant fluid/fluid lipid microdomains. Lipid microdomains/ Lipid phase separation/ Membrane structure/ FRET probes

Stillwell, William, Yu Fong Cheng, and Wassall, Stephen R. (1990). Plant sterol inhibition of abscisic acid-induced perturbations in phospholipid bilayers. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1024: 345-351.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Abscisic acid (ABA)-induced phospholipid bilayer perturbations (permeability and lipid vesicle aggregation) are shown to be reversed by incorporation of a commercially available mixture of plant sterols (60% [beta]-sitosterol, 27% campesterol and 13% dihydrobrassicasterol) into the membranes. As little and 5 membrane mol% plant sterol inhibits ABA-stimulated permeability of both saturated and unsaturated mixed phosphatidylcholine/phosphatidylethanolamine bilayers to the fluorescent anion carboxyfluorescein by more than 50%. The same conclusion was reached by an osmotic swelling technique for the uncharged permeant solute erythritol. Hormone-induced carboxyfluorescein permeability to mixed acyl chain phosphatidylcholine bilayers was similarly inhibited by the sterols, but only if the membranes were tested at a temperature where liquid crystal and gel states coexist. The plant sterols were also shown to prevent the ABA-induced fusion of mixed phosphatidylcholine/phosphatidylethanolamine bilayers. The ABA effect on membranes is inhibited equally by plant sterols as well as cholesterol. From these experiments a possible role is suggested for plant sterols in controlling the mode of action of ABA. Abscisic acid/ Sterol/ Sitosterol/ Campesterol/ Phospholipid bilayer/ Membrane

STIMMANN MW and FERGUSON MP (1990). PROGRESS REPORT VICE PRESIDENT'S TASK FORCE ON PEST CONTROL ALTERNATIVES POTENTIAL PESTICIDE USE CANCELLATIONS IN CALIFORNIA USA. *CALIF AGRIC; 44* 12-16.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM FARMING INDUSTRY CROP INDUSTRY AGRICHEMICAL BAN LEGISLATION GOVERNMENT REGULATION SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT ENVIRONMENTAL PROTECTION ACT OF Legislation/ Organization and Administration/ Biology/ Biochemistry/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics

Stone, W. B. and Gradoni, P. B. (1985(Recd). RECENT POISONINGS OF WILD BIRDS BY DIAZINON AND CARBOFURAN. *Northeast Environ Sci* 4 : 1986).  
Chem Codes: CBF Rejection Code: SURVEY/INCIDENT.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BRANTA-BERNICLA CONSERVATION  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Pathology  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control  
KEYWORDS: Anseriformes

Stone, W. B. and Knoch, H. (1982). American Brant Killed on Golf Courses by Diazinon. *New York Fish and Game Journal [N.Y. FISH. GAME J.]. Vol. 29, no. 1, pp. 95-96. 1982.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT.  
  
ISSN: 0028-7210  
Descriptors: insecticides  
Descriptors: nontarget organisms  
Descriptors: mortality  
Descriptors: Branta bernicla  
Descriptors: USA, New York  
Abstract: Diazinon (O, O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidyl) phosphorothioate) is a cholinesterase inhibitor insecticide that was introduced in 1952 (Rudd and Genelly, 1956). When used to control insect pests of turf, it has accidentally poisoned birds, such as mallard ducks (Anas platyrhynchos ), black ducks (Anas rubripes ) and Canada geese (Branta canadensis ), that fed on grain or grass in areas where it had been applied (Zinkl et al., 1978; Stone, 1979). This paper reports on two cases in New York where it is believed that American brant (Branta bernicla ) were killed by feeding on golf courses that had been treated with Diazinon. Contact with pesticides applied to turf may be increasing for brant since they appear to be feeding more frequently than in the past on golf courses and other intensively managed grassy areas on Long Island.  
Language: English  
Publication Type: Journal Article  
Classification: D 04803 Pollution effects  
Classification: X 24132 Chronic exposure  
Subfile: Toxicology Abstracts; Ecology Abstracts

Stone, W. B. and Knoch, H. (1982). American Brant Killed on Golf Courses by Diazinon. *N.Y.Fish Game J.* 29: 95-96.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

Stratton, G. W. and Corke, C. T. (1981). Interaction of Permethrin with Daphnia magna in the Presence and Absence of Particulate Material. *Environ.Pollut.* 24: 135-144 .

EcoReference No.: 5197  
Chemical of Concern: PMR,DZ,CBL,MXC,CYP; Habitat: A; Effect Codes: MOR; Rejection Code: OK(PMR),NO CONTROL,ENDPOINT(DZ,MXC,CYP,CBL).

Strauss, John D., Zeugner, Claudia, and Caspar Ruegg, J. (1992). The positive inotropic calcium sensitizer EMD 53998 antagonizes phosphate action on cross-bridges in cardiac skinned fibers. *European Journal of Pharmacology: Molecular Pharmacology* 227: 437-441.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
The diazinone derivative EMD 53998 sensitizes skinned myocardial fibers to Ca2+ and enhances maximal calcium-activated force (pCa = 4.5) by approximately 100%, the EC50 is 10 [mu]M in the absence and about 30 [mu]M in the presence of added inorganic phosphate (10 mM). Although concentrations of added phosphate as low as 0.5 mM inhibit force, at high concentrations of EMD 53998 (>= 50 [mu]M), phosphate only inhibits at concentrations exceeding 20 mM. These data suggest that the effects of EMD 53998 and phosphate are mutually antagonistic. Importantly, both TMD 53998 and phosphate had similar effects on force generation in troponin I-depleted (Ca2+-independent) skinned fibers, thus demonstrating that these compounds are likely to affect cross-bridges directly and not via the Ca2+-regulatory system. Ca2+ sensitization/ Cardiac muscle (skinne)/ Muscle regulation/ Inroganic phosphate/ EMD 53998

Straw, N. A., Fielding, N. J., and Waters, A. (1996). Phytotoxicity of Insecticides Used to Control Aphids on Sitka Spruce, Picea sitchensis (Bong.) Carr. *Crop Prot.* 15: 451-459.

EcoReference No.: 67965  
Chemical of Concern: RSM,CPY,DZ,DMT; Habitat: T; Effect Codes: GRO, MOR; Rejection Code: TARGET(DMT,RSM,DZ).

Stromborg, K. L. (1977). Seed Treatment Pesticide Effects on Pheasant Reproduction at Sublethal Doses. *J.Wildl.Manag.* 41: 632-642.

EcoReference No.: 35481  
Chemical of Concern: DLD,DZ,Captan; Habitat: T; Effect Codes: BEH,MOR,REP,GRO; Rejection Code: NO ENDPOINT(ALL CHEMS).

Stromborg, K. L., Beyer, W. N., and Kolbe, E. (1982). Diazinon Residues in Insects from Sprayed Tobacco. *Chem.Ecol.* 1: 93-97.

EcoReference No.: 38985  
Chemical of Concern: DZ; Habitat: T; Rejection Code: TARGET(DZ).

Struger, J., Boyter, D., Licsko, Z. J., and Johnson, B. D. (1995). Environmental concentrations of urban pesticides. *PROCEEDINGS OF THE 38TH CONFERENCE OF THE INTERNATIONAL ASSOCIATION OF GREAT LAKES RESEARCH., INTERNATIONAL ASSOCIATION FOR GREAT LAKES RESEARCH, 2200 BONISTEEL BOULEVARD, ANN ARBOR, MI 48109-2099 (USA), 1995, p. 127* 127.  
Chem Codes: Chemical of Concern: 24DXY,DMT Rejection Code: ABSTRACT, NO SPECIES.  
  
A study of two streams in Hamilton and two stormwater detention ponds in Guelph was initiated in 1991 determine the degree of urban pesticide contamination of aquatic systems. Surface water samples were analyzed for selected pesticides, during base flow and precipitation events. Sediment was analyzed for persistent organochlorine compounds and selected pesticides. A pesticide use questionnaire was circulated to residents of the subdivisions in which the detention ponds were located. Canadian Water Quality Guidelines (CWQG) for Drinking Water were not exceeded for any of the pesticides. Concentrations of 2,4-D did, however, exceed the CWQG for the Protection of Freshwater Aquatic Life (4 mu g/L) in 10% of the samples collected. The maximum observed concentration was 14.6 mu g/L. Eight other phenoxy acid herbicides were also detected. The organophosphorus insecticides diazinon, dimethoate, and chlorpyrifos were detected in water. The herbicides atrazine, metolachlor, and trifluralin were also detected in water. Eight persistent organochlorines were detected in sediment samples. Survey results indicated that over twenty pesticide compounds were used in 1991. Sixty-six per cent of the lawns in the two subdivisions received at least one pesticide application and 36% of the homes used a professional lawn care service. Urban pesticide application rates were higher than agricultural rates for a number of compounds. AFSA Input Center Number: CS9525478  
Classification: SW 3020 Sources and fate of pollution; Q5 01503 Characteristics, behavior and fate pesticides/ urban areas/ streams/ storm water/ sediments/ water analysis/ stream pollution/ chemical analysis/ Canada, Ontario, Guelph/ Canada, Ontario, Hamiton/ pollution detection/ urban runoff/ tributaries/ stormwater runoff/ surface water/ sediment pollution/ freshwater pollution/ chlorinated hydrocarbons/ herbicides/ insecticides/ diazinon/ atrazine/ detention ponds

Struger, J., Boyter, D., Licsko, Z. J., and Johnson, B. D. (1995). Environmental concentrations of urban pesticides.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: pesticides  
Descriptors: urban areas  
Descriptors: streams  
Descriptors: storm water  
Descriptors: sediments  
Descriptors: water analysis  
Descriptors: stream pollution  
Descriptors: chemical analysis  
Descriptors: urban runoff  
Descriptors: tributaries  
Descriptors: surface water  
Descriptors: chlorinated hydrocarbons  
Descriptors: herbicides  
Descriptors: insecticides  
Descriptors: pollution detection  
Descriptors: stormwater runoff  
Descriptors: sediment pollution  
Descriptors: freshwater pollution  
Abstract: A study of two streams in Hamilton and two stormwater detention ponds in Guelph was initiated in 1991 determine the degree of urban pesticide contamination of aquatic systems. Surface water samples were analyzed for selected pesticides, during base flow and precipitation events. Sediment was analyzed for persistent organochlorine compounds and selected pesticides. A pesticide use questionnaire was circulated to residents of the subdivisions in which the detention ponds were located. Canadian Water Quality Guidelines (CWQG) for Drinking Water were not exceeded for any of the pesticides. Concentrations of 2,4-D did, however, exceed the CWQG for the Protection of Freshwater Aquatic Life (4 mu g/L) in 10% of the samples collected. The maximum observed concentration was 14.6 mu g/L. Eight other phenoxy acid herbicides were also detected. The organophosphorus insecticides diazinon, dimethoate, and chlorpyrifos were detected in water. The herbicides atrazine, metolachlor, and trifluralin were also detected in water. Eight persistent organochlorines were detected in sediment samples. Survey results indicated that over twenty pesticide compounds were used in 1991. Sixty-six per cent of the lawns in the two subdivisions received at least one pesticide application and 36% of the homes used a professional lawn care service. Urban pesticide application rates were higher than agricultural rates for a number of compounds.  
Conference: 38. Conference of the International Association for Great Lakes Research, East Lansing, MI (USA), 28 May-1 Jun 1995  
Summary only.  
Language: English  
Publication Type: Book Monograph  
Publication Type: Conference  
Publication Type: Summary  
Environmental Regime: Freshwater  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Struger, J., Martos, P., Ripley, B., Boyd, D., and Wilson, M. ( In-use Pesticide Concentrations in Canadian Tributaries of Lakes Ontario and Erie. *International Association for Great Lakes Research, 2205 Commonwealth Boulevard Ann Arbor MI 48105 USA. pp. 115-116.*  
Chem Codes: Chemical of Concern: DMB,DMT,24DXY Rejection Code: NO SPECIES.  
  
Pesticides are heavily used in agricultural production and in urban areas of southern Ontario. In 1998 and 1999, surface water samples were collected bi-monthly from eight Canadian Lake Erie tributaries including: the Grand River, Kettle Creek, Big Creek, the Canard River, the Sydenham River, the Thames River, Big Otter Creek and Turkey Creek. In 2000 and 2001, surface water samples were also collected from eight Canadian Lake Ontario tributaries including: 12 Mile Creek, Red Hill Creek, the Credit River, the Don River, the Humber River, Duffins Creek, the Ganaraska River, and the Trent River. Nine pesticides were detected in samples collected from Lake Erie tributaries and seven were detected in the Lake Ontario tributaries. In total, ten pesticides were detected including: MCPP, 2,4-D, diazinon, ppDDE, dicamba, metolachlor, atrazine, dimethoate, lindane, and metribuzin. Maximum concentrations of metolachlor, atrazine, dicamba, and diazinon were 22 mu g/L, 4.9 mu g/L, 2.7 mu g/L, and 0.31 mu g/L respectively. Spatial and temporal pesticide patterns were observed indicating that there were differences in pesticide inputs occurring in urban versus agricultural watersheds. These results will be discussed in relation to aquatic life guidelines, pesticide use information, and possible implications to aquatic ecosystems. AFSA Input Center Number: NO0301420  
Classification: P 2000 FRESHWATER POLLUTION; EE 40 Water Pollution: Monitoring, Control & Remediation; Q5 01503 Characteristics, behavior and fate; X 24136 Environmental impact Lakes/ Pesticides/ Surface water/ Water sampling/ Freshwater pollution/ Agricultural pollution/ Urban runoff/ Pollution dispersion/ Tributaries/ Environmental impact/ Rivers/ Streams/ Water pollution/ North America, Ontario L./ North America, Erie L./ Canada/ Canada, Ontario, Ontario L./ Canada, Ontario, Erie L.

Struger, J., Painter, S., Ripley, B., Thorburn, B., Boyd, D., and Bilyea, R. (1999). Agricultural pesticide concentrations in Canadian Lake Erie tributaries. *IAGLR '99. International Association for Great Lakes Research: Great Lakes, Great Science, Great Cities. Program and Abstracts. p. A-109*.  
Chem Codes: Chemical of Concern: DMB,DMT,24DXY Rejection Code: SURVEY.  
  
Agricultural pesticides are heavily used in agricultural production in the Lake Erie watershed. In 1998, surface water samples were collected bi-monthly from eight Ontario tributaries including: the Grand River, Kettle Creek, Big Creek, Canard Creek, Sydenham River, Thames River, Big Otter Creek, and Turkey Creek. Samples were anlayzed for a number of herbicides, insecticides, and fungicides commonly used in Ontario and the Great Lakes basin. Compounds detected included: MCPP, 2,4-D, diazinon, ppDDE, dicamba, metolachlor, atrazine, d-ethyl atrazine, dimethoate, and lindane. Maximum concentrations of metolachlor, atrazine and dicamba were 22 mu g/L, 4.9 mu g/L, 2.7 mu g/L respectively. These results will be discussed in relation to water quality guidelines, aquatic toxicity data, pesticide use data, and possible implications to aquatic ecosystems. AFSA Input Center Number: CS0217368  
Classification: SW 3020 Sources and fate of pollution; Q5 01503 Characteristics, behavior and fate; P 2000 FRESHWATER POLLUTION; EE 40 Water Pollution: Monitoring, Control & Remediation North America, Erie L./ Agricultural Chemicals/ Pesticides/ Nonpoint Pollution Sources/ Agricultural Runoff/ Stream Pollution/ Herbicides/ Insecticides/ Fungicides/ Toxicity/ Water Pollution Effects/ Watersheds/ DDE/ Pollution dispersion/ Tributaries/ Agricultural pollution/ Water sampling/ Agrochemicals/ Canada, Ontario, Thames R./ Canada, Ontario, Big Otter Creek/ Canada, Ontario, Turkey Creek/ Canada, Ontario, Kettle Creek/ Canada, Ontario, Sydenham R./ Canada, Ontario, Canard Creek/ Canada, Ontario, Big Creek/ Canada, Ontario, Grand R./ North America, Erie L.

Struger, J., Painter, S., Ripley, B., Thorburn, B., Boyd, D., and Bilyea, R. (1999). Agricultural pesticide concentrations in Canadian Lake Erie tributaries.  
Chem Codes: Chemical of Concern:DMB Rejection Code: NO SPECIES/SURVEY.  
  
Agricultural pesticides are heavily used in agricultural production in the Lake Erie watershed. In 1998, surface water samples were collected bi-monthly from eight Ontario tributaries including: the Grand River, Kettle Creek, Big Creek, Canard Creek, Sydenham River, Thames River, Big Otter Creek, and Turkey Creek. Samples were anlayzed for a number of herbicides, insecticides, and fungicides commonly used in Ontario and the Great Lakes basin. Compounds detected included: MCPP, 2,4-D, diazinon, ppDDE, dicamba, metolachlor, atrazine, d-ethyl atrazine, dimethoate, and lindane. Maximum concentrations of metolachlor, atrazine and dicamba were 22 mu g/L, 4.9 mu g/L, 2.7 mu g/L respectively. These results will be discussed in relation to water quality guidelines, aquatic toxicity data, pesticide use data, and possible implications to aquatic ecosystems

Stubbs, Christopher D., Williams, Brian Wesley, Boni, Lawrence T., Hoek, Jan B., Taraschi, Theodore F., and Rubin, Emanuel (1989). On the use of N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethnolamine in the study of lipid polymorphism. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 986: 89-96.  
Chem Codes : Chemical of Concern: DZ Rejection Code: METHODS.  
  
The change in the fluorescence properties of dioleoyl-N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)phosphatidylethanolamine (N-NBD-PE) as an indicator of the (liquid-crystalline) bilayer-to-non-bilayer hexagonalII (HII) phase transition has been investigated. Lipid bilayer systems which are known to undergo the bilayer-to-HII phase transition on addition of Ca2+ were compared with systems which can undergo aggregation and fusion but not HII phase formation. The former included Ca2+-triggered non-bilayer transitions in cardiolipin and in phosphatidylethanolamine mixed with phosphatidylserine. The latter type of system investigated included the addition of polylysine to cardiolipin and Ca2+ to phosphatidylserine. Freeze-fracture electron microscopy was used to confirm that under the experimental conditions used, the formation of HII phase was occurring in the first type of system, but not in the second, which was stable in the bilayer state. It was found that the fluorescence intensity of N-NBD-PE (at 1 mol% of the phospholipids) increased in both types of system, irrespective of the formation of the HII phase. A dehydration at the phospholipid head group is a common feature of the formation of the HII phase, the interaction of divalent cations with phosphatidylserine and the interaction of polylysine with lipid bilayers, suggesting that this may be the feature which affects the fluorescence properties of the NBD. The finding of a fluorescence intensity increase in systems lacking HII phase involvement clearly indicates that the effect is not unique to the formation of the HII phase. Thus, while offering high sensitivity and the opportunity to follow kinetics of lipid structural changes, changes in the N-NBD-PE fluorescence properties should be interpreted with caution in the study of the bilayer-to-HII phase transition. Lipid polymorphism/ Non-bilayer/ Fluorescence/ Cardiolipin/ Hexagonal HII phase

Sudo, M. and Kunimatsu, T. (1992). CHARACTERISTICS OF PESTICIDES RUNOFF FROM GOLF LINKS. *Meeting on Hazard Assessment and Control of Environmental Contaminants in Water Held at the 1st Iawprc (International Association on Water Pollution Research and Control), Otsu City, Shiga, Japan, November 25-28, 1991. Water Sci Technol* 25 : 85-92 .  
Chem Codes: Chemical of Concern: SZ Rejection Code: SURVEY.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PLANT CROP INDUSTRY HORTICULTURE WEATHER PESTICIDE HERBICIDE SIMAZINE OXADIAZON ATRAZINE INSECTICIDE DIAZINON WATER POLLUTION CONTROL HAZARDOUS MATERIALS WATER RESOURCES  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Horticulture-Flowers and Ornamentals  
KEYWORDS: Pest Control  
KEYWORDS: Gramineae

Sudo, M., Kunimatsu, T., and Matsui, S. (ed) (1992). Characteristics of pesticides runoff from golf links.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0273-1223  
Descriptors: pesticides  
Descriptors: runoff  
Descriptors: recreation areas  
Descriptors: rivers  
Descriptors: water pollution  
Descriptors: storms  
Descriptors: streams  
Descriptors: atrazine  
Descriptors: diazinon  
Descriptors: freshwater pollution  
Descriptors: watersheds  
Descriptors: stormwater runoff  
Descriptors: catchment area  
Descriptors: Japan  
Abstract: The concentration and the loading rate of pesticides were investigated in a streamlet flowing through a golf links. The water samples were collected once a week for a year and during three storm runoff events (23.9-188 mm). From the 50 weekly observations, the herbicides Simazin, Oxadiazon and Atrazine, and the insecticide Diazinon were detected. Atrazine, however, was not listed on the application record obtained from the golf links. The net average concentrations of pesticides discharged from the golf links were 0.92, 0.61, 0.28 and 0.04 mu g/l, respectively, and their detection rates were 98, 60, 62 and 92%, respectively. Fenitrothion and Fenthion, though listed on the applications, were not detected. None of these pesticides contaminated the runoff water from the neighboring upstream forested area. The concentrations of pesticides varied to a great extent with each storm runoff event. The loading rates of pesticides caused by the storm depended on the length of the period after the applications rather than being correlated with precipitation.  
Conference: 1. IAWPRC Int. Symp., Otsu City (Japan), 25-28 Nov 1991  
Language: English  
English  
Publication Type: Book Monograph  
Publication Type: Conference  
Environmental Regime: Freshwater  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: P 5000 LAND POLLUTION  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts

Sudo, M., Kunimatsu, T., and Okubo, T. (2002). Concentration and loading of pesticide residues in \*\*\*Lake\*\*\* Biwa basin (Japan). *Water Research (Oxford)* 36: 315-329.  
Rejection Code: NO SPECIES.  
  
Abstract: The concentrations and loading rates of pesticides used in paddy fields were investigated over a period of 5 years (1993-97) in the Seta \*\*\*River\*\*\* , which is the only natural outlet of \*\*\*Lake\*\*\* Biwa in Japan. The \*\*\*lake\*\*\* 's water catchment area is 3174 km2, 20% of which contains paddy fields. Water samples were also collected in six \*\*\*rivers\*\*\* flowing into the \*\*\*lake\*\*\* in order to compare the contamination level and concentration profile. The pesticides analysed were four herbicides (molinate, simetryn, oxadiazon, and thiobencarb), one fungicide (isoprothiolane), and two insecticides (diazinon and fenitrothion). Molinate, simetryn, oxadiazon and isoprothiolane were found at the higher frequencies with maximum concentrations of 1.1, 0.4, 0.1 and 0.5 micro g/litre in the effluent \*\*\*river\*\*\* , one or two order of magnitude higher than that of effluent in influent \*\*\*rivers\*\*\* . These peak concentrations were observed during the application period in influent \*\*\*rivers\*\*\* and two or three weeks after that in effluent \*\*\*river\*\*\* . The frequency of occurrence of thiobencarb, diazinon, and fenitrothion was relatively low and their maximum concentrations in the effluent remained below 0.1 micro g/litre. The decrease of molinate, simetryn and oxadiazon concentrations in the effluent \*\*\*river\*\*\* were approximated by two straight lines plotted on semilogarithmic scale. Increased loading was induced by intense rainfall, which took place during the application period. Simetryn and isoprothiolane persisted in relatively high concentrations through the year were also influenced on its loading by the heavy rainfall in the following months. The percentages of the total amount of pesticides released through \*\*\*Lake\*\*\* Biwa to the basin in downstream were estimated to be 1.3-2.9% for molinate, 5.4-10.0% for simetryn, 0.6-1.3% for oxadiazon, 0.2-0.9% for thiobencarb, 1.8-6.6% for isoprothiolane, 0.3-2.1% for diazinon, and 0% for fenitrothion.

Sudo, Miki, Kunimatsu, Takao, and Okubo, Takuya (2002). Concentration and loading of pesticide residues in Lake Biwa basin (Japan). *Water Research* 36: 315-329.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
The concentrations and loading rates of pesticides used in paddy fields were investigated over a period of 5 years in the Seta River, which is the only natural outlet of Lake Biwa. The lake's water catchment area is 3174 km2, 20% of which contains paddy fields. Water samples were also collected in six rivers flowing into the lake in order to compare the contamination level and concentration profile. The pesticides analyzed were four herbicides (molinate, simetryn, oxadiazon, and thiobencarb), one fungicide (isoprothiolane), and two insecticides (diazinon and fenitrothion). Molinate, simetryn, oxadiazon and isoprothiolane were found at the higher frequencies with maximum concentrations of 1.1, 0.4, 0.1 and 0.5 [mu]g/l in the effluent river, one or two order of magnitude higher than that of effluent in influent rivers. These peak concentrations were observed during the application period in influent rivers and two or three weeks after that in effluent river. The frequency of occurrence of thiobencarb, diazinon, and fenitrothion was relatively low and their maximum concentrations in the effluent remained below 0.1 [mu]g/l. The decrease of molinate, simetryn and oxadiazon concentrations in the effluent river were approximated by two straight lines plotted on semilogarithmic scale. Increased loading was induced by intense rainfall, which took place during the application period. Simetryn and isoprothiolane persisted in relatively high concentrations through the year were also influenced on its loading by the heavy rainfall in the following months. The percentages of the total amount of pesticides released through Lake Biwa to the basin in downstream were estimated to be 1.3-2.9% for molinate, 5.4-10.0% for simetryn, 0.6-1.3% for oxadiazon, 0.2-0.9% for thiobencarb, 1.8-6.6% for isoprothiolane, 0.3-2.1% for diazinon, and 0% for fenitrothion. Pesticide/ Paddy field/ Water contamination/ Lake Biwa

Sudoi, V. (1991). Effects of Insecticides on Mortality of Fried Egg Scale (Aspidiotus sp. Homoptera: Diaspidae) on Tea. *Tests Agrochem.Cultiv.* 12: 26-27.

EcoReference No.: 78129  
Chemical of Concern: ALSV,DZ,CYP,CPY; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),OK TARGET(ALSV,DZ).

Suenaga, Miwa, Lee, Sannamu, Park, Nam Gyu, Aoyagi, Haruhiko, Kato, Tesuo, Umeda, Akiko, and Amako, Kazunobu (1989). Basic amphipathic helical peptides induce destabilization and fusion of acidic and neutral liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 981: 143-150.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have studied the fusion of small unilamellar vesicles composed of egg PC and of a mixture of egg PC plus egg PA using various basic amphipathic peptides. Fusion was monitored by carboxyfluorescein leakage assay, light scattering, membrane intermixing assay, contents mixing assay and electron microscopy. Ac-(-Leu--Ala--Arg--Leu)3-NHCH3 (peptide 43) and Ac-(-Leu--Ala--Lys--Leu)3-NHCH3 (peptide 4&prime;3), which have high hydrophobic moments, caused transformation of small unilamellar vesicles into larger and relatively homogeneous ones. Ac-(-Leu--Leu--Ala--Arg--Leu)2-NHCH3(52), which has medium hydrophobic moment, induced weak but appreciable fusion, while Ac-(-Ala--Arg--Leu)3-NHCH3(33) which has no helical structure did not show any fusion. However, peptides 43, 4&prime;3 and 52 caused massive leakage of the contents from small unilamellar vesicles. These results indicated that interaction of the peptides with artificial membranes caused extensive perturbation of the lipid bilayer, followed by fusion. The fusogenic capacity of model basic peptides was correlated with the hydrophobic moment of each peptide when the peptides adopted an [alpha]-helical structure in the presence of acidic liposomes. Peptides 43 and 4&prime;3 also showed weak fusogenic ability for neutral liposomes, while 52 and 33 showed no ability, suggesting that highly amphipathic peptides, such as 43, interact weakly but distinctly with neutral liposomes to fuse them. Amphipathic alpha-helical peptide/ Fusogen/ Membrane fusion/ Liposome/ Cationic peptide/ Polymyxin B/ Hydrophobic moment

SUETT DL, FOURNIER J-C, PAPADOPOULOU-MOURKIDOU, E., PUSSEMIER, L., and SMELT, J. (1996 ). ACCELERATED DEGRADATION THE EUROPEAN DIMENSION. *SOIL BIOLOGY & BIOCHEMISTRY; 28* 1741-1748.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE HORTICULTURAL CROPS MICROORGANISM ARABLE CROPS ACCELERATED DEGRADATION PESTICIDE MICROBIAL COMMUNITY HERBICIDE SOIL FUMIGANT NEMATICIDE MEDITERRANEAN COUNTRIES GENETICS MICROFLORA BIODIVERSITY ENZYMES AGRICULTURE PESTICIDES METABOLISM EUROPE PALEARCTIC REGION Genetics/ Cytogenetics/ Enzymes/Physiology/ Metabolism/ Poisoning/ Animals, Laboratory/ Soil Microbiology/ Plants/Growth & Development/ Soil/ Fertilizers/ Soil/ Plants/Growth & Development/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Microbiology/ Plants

Sugimoto, Takanori, Wada, Yoko, Yamamura, Shosuke, and Ueda, Minoru (2001). Fluorescence study on the nyctinasty of Cassia mimosoides L. using novel fluorescence-labeled probe compounds. *Tetrahedron* 57: 9817-9825.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We synthesized fluorescence-labeled probe compounds bearing 6-((7-amino-4-methylcoumarin-3-acetyl)amino)-hexanoyl (AMCA, 1), 6-N-(7-nitrobenz-2-oxa-1, 3-diazol-4-yl)-aminohexanoyl (NBD, 2), and 6-(4-((5-dimethylaminonaphthalene-1-sulfonyl)-amino))-hexanoyl (dansyl, 3) groups as the fluorescent functionality. In these probe compounds, NBD-type probe, 2, showed leaf-opening activity at 5 x 10-6 M. The bioactivity of 2 is one-fifth as strong as that of the natural product, potassium isolespedezate (6). We carried out the binding experiment using 1 in a plant body. Then, it was suggested that fluorescence-labeled probe compound directly bound to a motor cell in pulvina of Cassia mimosoides. And this binding was specific to C. mimosoides. Probe compounds cannot bind plant sections of other nyctinastic plants. nyctinasty/ leaf-opening substance/ fluorescence/ probe compound/ motor cell

SUGIYAMA, S., IGARASHI, T., UENO, K., SATOH, T., and KITAGAWA, H. (1985). INCREASE IN ANTICARBOXYLESTERASE ACTION OF ORGANOPHOSPHOROTHIOATES BY NAD IN-VITRO. *RES COMMUN CHEM PATHOL PHARMACOL; 48* 455-458.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LIVER MICROSOME ETHYL-P-NITROPHENYLPHENYLPHOSPHATE SURECIDE PARATHION DIAZINON METHYLPARATHION FENITROTHION INSECTICIDE ACETYLCHOLINESTERASE PHOSPHORUS-SULFUR GROUP Biochemistry/ Nucleic Acids/ Purines/ Pyrimidines/ Amino Acids/ Peptides/ Proteins/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Enzymes/Physiology/ Nucleic Acids/Metabolism/ Purines/Metabolism/ Pyrimidines/Metabolism/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Poisoning/ Animals, Laboratory

Suhling, F., Befeld, S., Haeusler, M., Katzur, K., Lepkojus, S., and Mesleard, F. (2000). Effects of Insecticide Applications on Macroinvertebrate Density and Biomass in Rice-Fields in the Rhone-delta, France. *Hydrobiologia* 431: 69-79.  
Chem Codes: Chemical of Concern: DZ,HCCH Rejection Code: MIXTURE.

Sundberg, Richard J. and Baxter, Ellen W. (1986). Photochemistry of quinone diazides. Intramolecular oxygen transfer and carbenoid addition during photolysis of N-allylsulfonamido quinone diazides. *Tetrahedron Letters* 27: 2687-2690.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
An indole quinone diazide, 5-(N-allylsulfonamido)-4-diazo-3-methyl-4,-7-dihydroindol-7-one, which is a potential precursor of a -cyclopropane-indol-7-one structure has been prepared. A study of its photolysis and that of a model compound has identified oxygen transfer from the sulfonamido substituent as a process which competes with intramolecular carbenoid addition.

Surewicz, W. K., Epand, R. M., Vail, W. J., and Moscarello, M. A. (1985). Aliphatic aldehydes promote myelin basic protein-induced fusion of phospholipid vesicles. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 820: 319-323.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Myelin basic protein induces slow and limited fusion of phospholipid vesicles composed of a mixture of phosphatidylcholine and phosphatidylethanolamine. Addition of palmitoyl aldehyde to these vesicles dramatically increases their ability to fuse in the presence of myelin basic protein. Compared to aliphatic aldehydes, fatty acids are much less potent promoters of myelin basic protein-induced membrane fusion. The ability of aliphatic aldehydes to promote myelin basic protein-induced membrane fusion may be of relevance to myelin structure and function and, particularly, to the pathology of demyelinating diseases such as multiple sclerosis. Myelin basic protein/ Membrane fusion/ Aliphatic aldehyde/ Phospholipid vesicle/ Lipid-protein interaction

Surewicz, Witold K., Epand, Richard M., Epand, Raquel F., Hallett, F. Ross, and Moscarello, Mario A. (1986). Modulation of myelin basic protein-induced aggregation and fusion of liposomes by cholesterol, aliphatic aldehydes and alkanes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 863: 45-52.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The effect of cholesterol on myelin basic protein-induced aggregation of zwitterionic phospholipid vesicles was studied by turbidimetry, quasi-elastic light scattering and centrifugation techniques. Without cholesterol, the degree of vesicle aggregation caused by myelin basic protein is relatively low and is only slightly increased using cholesterol concentrations up to approx. 25-30 mol%. When the cholesterol content in the bilayer exceeds approx. 30 mol%, there is a dramatic increase in the susceptibility of the vesicles to aggregation in the presence of myelin basic protein. Palmitoyl aldehyde and eicosane, substances resembling products of lipid degradation, increase myelin basic protein promoted fusion of vesicles. The fusion is accompanied by increased leakage of entrapped carboxyfluorescein. In the presence of cholesterol, myelin basic protein-induced fusion of the liposomes becomes much more sensitive to the presence of aliphatic aldehydes or alkanes. The results suggest that cholesterol has an important role in promoting membrane adhesion in biological systems but these structures become unstable in the presence of small amounts of products of lipid degradation. The findings have important implications to the understanding of the stability of the myelin membrane. Liposome aggregation/ Myelin basic protein/ Cholesterol/ Aliphatic aldehyde/ Alkane/ (QELS)

Suzuki, Hitomi, Nakaya, Chie, and Matano, Yoshihiro (1993). Photochemical azido ligand transfer reaction of a triarylbismuth diazide with alkynes. *Tetrahedron Letters* 34: 1055-1056.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Irradiation of a triarylbismuth diazide in benzene in the presence of alkynes results in the transfer of one of the azido ligands to the triple bond, leading to N-unsubstituted 1,2,3-triazoles in fair to moderate yields.

Swan, S. H., Kruse, R. L., Liu, F., Barr, D. B., Drobnis, E. Z., Redmon, J. B., Wang, C., Brazil, C., and Overstreet, J. W. (2003). Semen Quality in Relation to Biomarkers of Pesticide Exposure. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 111, no. 12, pp. 1478-1484. Sep 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0091-6765  
Descriptors: Semen  
Descriptors: Pesticides  
Descriptors: Urine  
Descriptors: USA, Missouri  
Descriptors: USA, Minnesota  
Abstract: We previously reported reduced sperm concentration and motility in fertile men in a U.S. agrarian area (Columbia, MO) relative to men from U.S. urban centers (Minneapolis, MN; Los Angeles, CA; New York, NY). In the present study we address the hypothesis that pesticides currently used in agriculture in the Midwest contributed to these differences in semen quality. We selected men in whom all semen parameters (concentration, percentage sperm with normal morphology, and percentage motile sperm) were low (cases) and men in whom all semen parameters were within normal limits (controls) within Missouri and Minnesota (sample sizes of 50 and 36, respectively) and measured metabolites of eight current-use pesticides in urine samples provided at the time of semen collection. All pesticide analyses were conducted blind with respect to center and case-control status. Pesticide metabolite levels were elevated in Missouri cases, compared with controls, for the herbicides alachlor and atrazine and for the insecticide diazinon [2-isopropoxy-4-methyl-pyrimidinol (IMPY)]; for Wilcoxon rank test, p = 0.0007, 0.012, and 0.0004 for alachlor, atrazine, and IMPY, respectively. Men from Missouri with high levels of alachlor or IMPY were significantly more likely to be cases than were men with low levels [odds ratios (ORs) = 30.0 and 16.7 for alachlor and IMPY, respectively], as were men with atrazine levels higher than the limit of detection (OR = 11.3). The herbicides 2,4-D (2,4-dichlorophenoxyacetic acid) and metolachlor were also associated with poor semen quality in some analyses, whereas acetochlor levels were lower in cases than in controls (p = 0.04). No significant associations were seen for any pesticides within Minnesota, where levels of agricultural pesticides were low, or for the insect repellant DEET (N,N-diethyl-m-toluamide) or the malathion metabolic malathion dicarboxylic acid. These associations between current-use pesticides and reduced semen quality suggest that agricultural chemicals may have contributed to the reduction in semen quality in fertile men from mid-Missouri we reported previously.  
DOI: 10.1289/ehp.6417  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

Swancar, A. ( Water quality, pesticide occurrence, and effects of irrigation with reclaimed water at golf courses in Florida.  
Chem Codes: Chemical of Concern: SZ Rejection Code: NO SPECIES.  
  
Reuse of treated wastewater for golf course irrigation is an increasingly popular water management option in Florida, where growth has put stress on potable water supplies. Surface water, ground water, and irrigation water were sampled at three pairs of golf courses quarterly for one year to determine if pesticides were present, and the effect of irrigation with treated effluent on ground-water quality, with an emphasis on interactions of effluent with pesticides. In addition to the six paired golf courses, which were in central Florida, ground water was sampled for pesticides and other constituents at three more golf courses in other parts of the State. This study was the first to analyze water samples from Florida golf courses for a broad range of pesticides. Statistical methods based on the percentage of data above detection limits were used to determine the effects of irrigation with reclaimed water on ground-water quality. Shallow ground water at golf courses irrigated with treated effluent has higher concentrations of chloride, lower concentrations of bicarbonate, and lower pH than ground water at golf courses irrigated with water from carbonate aquifers. There were no statistically significant differences in nutrient concentrations in ground water between paired golf courses grouped by irrigation water type at a 95 percent confidence level. The number of wells where pesticides occurred was significantly higher at the paired golf courses using ground water for irrigation than at ones using reclaimed water. However, the limited occurrences of individual pesticides in ground water make it difficult to correlate differences in irrigation-water quality with pesticide migration to the water table. At some of the golf courses, increased pesticide occurrences may be associated with higher irrigation rates, the presence of well-drained soils, and shallow depths to the surficial aquifer. Pesticides used by golf courses for turf grass maintenance were detected in ground water on seven of nine golf courses studied and in 52 percent of ground-water samples. Concentrations of pesticides in ground water at golf courses were generally low relative to regulatory guidelines, with 45 percent of all occurrences at trace levels and 92 percent under the maximum contaminant level or guidance concentration. Two of the nine golf courses had no pesticides detected in ground water, and a third had only two occurrences, which were at trace levels. There were six occurrences of concentrations of arsenic, bentazon, or acephate in ground water above the maximum contaminant level or guidance concentration. Additionally, the following pesticides were detected in ground water from at least one site; atrazine, bromacil, diazinon, diuron, fenamiphos, metalaxyl, oxydiazon, and simazine. The fenamiphos metabolites, fenamiphos sulfoxide and fenamiphos sulfone, also were detected in ground water. Samples from wastewater treatment plants contained trace levels of atrazine, bromacil, and gamma-BHC (Lindane). Concentrations of pesticides in golf course ponds were generally low, with 60 percent of all occurrences at trace levels. All but one of the pond samples collected during the study contained at least one pesticide. The most commonly occurring pesticides in golf course ponds were: atrazine, fenamiphos and fenamiphos sulfoxide, and diuron U.S. GEOL. SURVEY, EARTH SCIENCE INFORMATION CENTER, OPEN FILEREPORTS SECTION, BOX 25286, MS 517, DENVER, CO 80225 (USA), [nd], 86 pp  
Water-Resources Investigations Report: 95-4250  
English  
English  
Report  
SW 3020 Sources and fate of pollution; SW 1030 Use of water of impaired quality; P 2000 FRESHWATER POLLUTION  
Water Resources Abstracts; Pollution Abstracts  
4082751 A1: Alert Info 20030131 Record 172 of 181

Swedburg, D. (1973). Diazinon Toxicity to Specified Fish. *U.S.EPA-OPP Registration Standard*.

EcoReference No.: 13006  
Chemical of Concern: DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(DZ).

Szardenings, Anna Katrin, Gordeev, Mikhail F., and Patel, Dinesh V. (1996). A general and convenient synthesis of novel phosphotyrosine mimetics. *Tetrahedron Letters* 37: 3635-3638.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A simple and general procedure for preparation of various phosphotyrosine mimetics from the corresponding phenolic precursors is described. In situ silylation of phenol acids followed by treatment with Et3N/CBr4/HP(O)(OEt)2 provides diethyl phosphate intermediates (36-96%), which can be cleanly deprotected in quantitative yields upon treatment with BSTFA/TMSI to afford novel phosphotyrosine mimetics.

SZAREK, J., FABCZAK, J., ZASADOWSKI, A., and SPODNIEWSKA, A. (1995). PATHOMORPHOLOGICAL PATTERNS OF THE LIVER AND KIDNEY IN RATS EXPOSED TO MIXED INTOXICATION WITH SELENIUM AND DIAZINON. *XVTH EUROPEAN CONGRESS OF PATHOLOGY, COPENHAGEN, DENMARK, SEPTEMBER 3-8, 1995. PATHOLOGY RESEARCH AND PRACTICE; 191* 790.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT SODIUM SELENITE ANTIDOTE-DRUG HISTOPATHOLOGY Congresses/ Biology/ Biochemistry/ Minerals/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Urologic Diseases/Pathology/ Urologic Diseases/Physiopathology/ Gastrointestinal Agents/Pharmacology/ Gastrointestinal System/Drug Effects/ Urinary Tract/Drug Effects/ Poisoning/ Animals, Laboratory/ Antidotes/ Poisoning/Prevention & Control/ Muridae

Szeto, S. Y. and Wan, M. T. (1996). Hydrolysis Of Azadirachtin In Buffered And Natural Waters. 44: 1160-1163.  
Chem Codes: Chemical of Concern: CHLOR, AZD Rejection Code: CHEM METHOD.  
  
biosis copyright: biol abs. the hydrolysis of azadirachtin was studied in several aqueous buffers of ph 4.1-8.1 and in four natural waters (ph 6.2, 7.3, 8.0, and 8.1) at 20-45~c. depending on the ph, several unidentified conversion products were detected in the incubated solutions. azadirachtin hydrolyzed readily at 35~c, and its disappearance followed simple pseudo-first-order kinetics. the rate constants ranged from 2.48.7e basis of calculations from the arrhenius plot, the energy of activation and the frequency factor a for the hydrolysis of azadirachtin at ph 7.0 were 103 kj mol-1 and 2.51pectively. on the basis of rate constants, azadirachtin appeared to be more susceptible to hydrolysis than synthetic organophosphates, e.g., chlorpyrifos, diazinon, malathion, parathion, and ronnel, or carbamates, e.g., carbaryl and propoxur. all of these insecticides are currently used extensively for pest control. accordingly, azadirachtin is expected to be nonpersistent in water. ecology/ environmental biology-oceanography and limnology/ comparative biochemistry, general/ biochemical methods-general/ biochemical studies-general/ biophysics-general biophysical studies/ biophysics-general biophysical techniques/ biophysics-molecular properties and macromolecules/ external effects-temperature as a primary variable (1971- )/ external effects-temperature as a primary variable-hot (1971- )/ toxicology-general/ methods and experimental/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides/ economic entomology-chemical and physical control, general/ apparatus

SZETO SY, BROWN MJ, MACKENZIE JR, and VERNON RS (1986). DEGRADATION OF TERBUFOS IN SOIL AND ITS TRANSLOCATION INTO COLE CROPS. *J AGRIC FOOD CHEM; 34* 876-879.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM CABBAGE MAGGOT BROCCOLI CAULIFLOWER FENSULFOTHION CHLORFENVINPHOS DIAZINON FOOD RESIDUE TERBUFOS SULFOXIDE TERBUFOS OXON SULFOXIDE TERBUFOS SULFONE INSECTICIDE Biochemistry/ Food Technology/ Fruit/ Nuts/ Vegetables/ Food Analysis/ Food Technology/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Soil/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Plants/ Lepidoptera

TAKAHASHI, H., FUTAGAWA, H., and TANAKA, N. (1996). CARDIOVASCULAR COLLAPSE AFTER INTRAVENOUS INJECTION OF ORGANOPHOSPHORUS INSECTICIDE DIAZINON IN RATS. *23RD ANNUAL MEETING OF THE JAPANESE SOCIETY OF TOXICOLOGICAL SCIENCES, FUKUOKA, JAPAN, JULY 24-26, 1996. JOURNAL OF TOXICOLOGICAL SCIENCES; 21* 399.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING POSTER RAT DIAZINON INTRAVENOUS INJECTION ORGANOPHOSPHORUS INSECTICIDE CARDIOVASCULAR COLLAPSE DIAZINON OXON PRESSOR RESPONSE HEART TOXICOLOGY CARDIOVASCULAR SYSTEM CIRCULATORY SYSTEM Congresses/ Biology/ Biochemistry/ Cardiovascular System/ Poisoning/ Animals, Laboratory/ Muridae

Takahashi, H., Kojima, T., Ikeda, T., Tsuda, S., and Shirasu, Y. (1991). Differences in the Mode of Lethality Produced Through Intravenous and Oral Administration of Organophosphorus Insecticides in Rats. *Fundam.Appl.Toxicol.* 16: 459-468.

EcoReference No.: 84998  
Chemical of Concern: DZ,FNTH,DDVP; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: NO ENDPOINT(DZ).

TAKAHASHI, Y., ODANAKA, Y., WADA, Y., MINAKAWA, Y., and FUKITA, T. (1999). Pesticide runoff and mass balance in field model tests analyzed by commercially available immunoassay kits. *JOURNAL OF PESTICIDE SCIENCE; 24* 255-261.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. To understand pesticide runoff due to surface water flow from sloped cropland (6-6.5ę) with planted cabbages, runoff model tests with artificial rainfall were performed in different sized blocks of land. Immunochemical determinations using commercially available immunoassay kits were applied for pesticides in surface water. One hour after application of each 400 ppm emulsion of chlorothalonil (TPN) and diazinon, artificial rainfalls of 60 mm/hr for 10 and 23 min were induced to two small fields on. When the results of analyses by both immunoassay and conventional GC were compared, they seemed to be roughly identical in similarly collected samples. Furthermore, deposits of pesticides on cabbages and soil surfaces were analyzed by immunoassay and the mass balance of each pesticide was estimated before and after rainfall in the test fields. TPN seemed to deposit better on cabbages and soil surfaces than did diazinon. Though in the block C almost half of the both pesticides initially depos Biology/Methods/ Climate/ Ecology/ Meteorological Factors/ Immunity/ Methods/ Plants/ Soil/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Plants

Takeda, K. (1996). Inheritance of Sensitivity to the Insecticide Diazinon in Barley and the Geographical Distribution of Sensitive Varieties. *Euphytica* 89: 297-304 .

EcoReference No.: 85175  
Chemical of Concern: DZ; Habitat: T; Effect Codes: PHY,MOR; Rejection Code: NO CONTROL(DZ).

Takeda, Tomoko, Nakamatsu, Yutaka, and Tanaka, Toshiharu ( Parasitization by Cotesia plutellae enhances detoxifying enzyme activity in Plutella xylostella. *Pesticide Biochemistry and Physiology* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SOURCE.  
  
Insecticidal tests using diazinon showed that the mortality of Plutella xylostella larvae parasitized by Cotesia plutellae was reduced by 4.6-fold compared to that of the nonparasitized hosts. The use of chemicals with synergistic effect to insecticides in toxicity assay helps to elucidate the kind of enzyme involved in lowering insect mortality. Synergism of diethyl maleate and piperonyl butoxide with diazinon resulted to 2.4- and 1.9-fold increase, respectively, in susceptibility of parasitized larvae compared to those of nonparasitized larvae. These results indicated the possibility that the decrease in susceptibility to diazinon was due to the elevated activities of glutathione-S-transferase (GST) and cytochrome P450 monooxygenase (CYP), respectively. The GST activities in parasitized larvae were significantly higher than those of nonparasitized ones starting from three days post-parasitization until emergence of parasitoid larva. High GST activities during late parasitism could be attributed to both enzyme activities toward diazinon of parasitized P. xylostella larva itself and C. plutellae larva inside larval host. High GST activity one day after parasitization, although statistical significance was not detected, was caused by polydnavirus (PDV) and the venom of C. plutellae not by parasitoid larvae. Artificial injection of PDV plus venom demonstrated that the resulting increase in GST activity is similar to the increase brought by parasitization. High CYP activity after 3 days post-parasitization in parasitized larva was attributed mainly to the activity of parasitoid larva. Carboxylesterase activity in the parasitized host remained at a high level, while that in the nonparasitized host decreased slightly as pupation approaches. On the other hand, acetylcholinesterase activity also remained constant after parasitization until larval emergence, while that of the nonparasitized hosts decreased gradually as the host larvae approach pupation. These results were supported by inhibition tests using diazoxon in vitro. Glutathione-S-transferase/ Cytochrome P450 monooxygenase/ Polydnavirus/ Venom/ Diazinon

Takeuchi, Ryo and Akiyama, Yasushi (2002). Iridium complex-catalyzed carbonylation of allylic phosphates. *Journal of Organometallic Chemistry* 651: 137-145.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Iridium/ Carbonylation/ Allylic phosphates/ syn-anti Isomerization/ [beta],[gamma]-Unsaturated esters/ [pi]-Allyl iridium [Ir(cod)Cl]2 with a ligand such as P(2-furyl)3, PPh2C6F5 or AsPh3 showed high catalytic activity for the carbonylation of allylic phosphates in the presence of alcohols to give the corresponding [beta],[gamma]-unsaturated esters. The carbonylation of diethyl (E)-3-phenyl-2-propenyl phosphate in the presence of EtOH under an initial carbon monoxide pressure of 40 kg cm-2 at 100 [deg]C gave ethyl (E)-4-phenyl-3-butenoate in 90% yield. No (Z)-isomer was obtained. The reaction proceeded smoothly without using an amine as an additive. The carbonylation of 2-alkenyl diethyl phosphates in the presence of EtOH gave a mixture of ethyl (E)- and (Z)-3-alkenoate. The stereochemistry of the starting material was lost by syn-anti isomerization of the [pi]-allyl iridium intermediate prior to the insertion of carbon monoxide into the iridium---carbon bond. Increasing the steric bulkiness of the substituent at the [gamma]-position of the allyl system or increasing the initial carbon monoxide pressure increased the selectivity for a product with the same stereochemistry as the starting material.

Talebi, K. (1998). Diazinon Residues in the Basins of Anzali Lagoon, Iran. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 61, no. 4, pp. 477-483. Oct 1998.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0007-4861  
Descriptors: Insecticides  
Descriptors: Pollutant persistence  
Descriptors: Pollution monitoring  
Descriptors: Water pollution  
Descriptors: Sediment pollution  
Descriptors: Coastal lagoons  
Descriptors: Diazinon  
Descriptors: Pesticides  
Descriptors: Water Pollution Sources  
Descriptors: Sediment Contamination  
Descriptors: Effluents  
Descriptors: Rivers  
Descriptors: Lagoons  
Descriptors: Surface water  
Descriptors: Water pollution measurements  
Descriptors: Streams  
Descriptors: Basins  
Descriptors: Rice fields  
Descriptors: Agrochemicals  
Descriptors: ISW, Iran  
Abstract: In the present study the level of diazinon was investigated in the surface water and sediment of the lagoon. The study began in May 1996 and continued until February 1997. In order to elucidate the pattern of diazinon pollution in the streams and rivers, one effluent river from central basin of the lagoon was chosen and the water samples were analyzed for the residue during the granule application season in ricefields.  
DOI: 10.1007/s001289900787  
Language: English  
Publication Type: Journal Article  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: O 4060 Pollution - Environment  
Classification: SW 3020 Sources and fate of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Subfile: Water Resources Abstracts; Oceanic Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts

Tanaka, A., Masago, H., Karino, K., and Ujie, A. (1983). Determination of Trace Agrochemicals in Water and Toxicity of Agrochemicals toFish. 2. Toxicity of Decomposition Products From Uv-Irradiated. *C.A.Sel.-Environ.Pollut.18:4 (1984) / Gunma-Ken Eisei Kogai Kenkyusho Nenpo* 15: 119-122.

EcoReference No.: 12241  
Chemical of Concern: DZ,MLN,CPYM; Habitat: A; Effect Codes: MOR; Rejection Code: NO ABSTRACT.

Tanigawa, Yoshio, Nishimura, Kazuaki, Kawasaki, Akihiko, and Murahashi, Shun-Ichi (1982). Palladium(O)-catalyzed allylic alkylation and amination of allylic phosphates. *Tetrahedron Letters* 23: 5549-5552.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Allyl diethyl phosphates (1) can be easily substituted with malonates and amines in the presence of palladium(O) catalyst. Synthetic utility of the reaction is demonstrated by the sequential amination-amination and alkylation-amination of (Z)-4-acetoxybut-2-enyl diethyl phosphate (1b) with high regio- and stereoselectivity.

Tashiro, H. and Kuhr, R. J. (1978). Some Factors Influencing the Toxicity of Soil Applications of Chlorpyrifos and Diazinon to European Chafer Grubs. *J.Econ.Entomol.* 71: 904-907.

EcoReference No.: 54739  
Chemical of Concern: CPY,DZ; Habitat: T; Effect Codes: MOR,ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

TAYLOR AW and SPENCER WF ( 1990). VOLATILIZATION AND VAPOR TRANSPORT PROCESSES. *CHENG, H. H. (ED.). SSSA (SOIL SCIENCE SOCIETY OF AMERICA) BOOK SERIES, NO. 2. PESTICIDES IN THE SOIL ENVIRONMENT: PROCESSES, IMPACTS, AND MODELING. XXIII+530P. SOIL SCIENCE SOCIETY OF AMERICA, INC.: MADISON, WISCONSIN, USA. ILLUS. ISBN 0-89118-791-X.; 0 (0). 1990. 213-270.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM PESTICIDE DISPERSAL VAPOR PRESSURE RESIDUE DISTRIBUTION SURFACE MOISTURE STATUS SOIL Biochemistry/ Environment/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Fertilizers/ Soil/ Herbicides/ Pest Control/ Pesticides

Taylor, R. N. (1982). Insecticide Resistance in Houseflies from the Middle East and North Africa with Notes on the Use of Various Bioassay Techniques. *Pestic.Sci.* 13: 415-425.

EcoReference No.: 71355  
Chemical of Concern: DDT,HCCH,RSM,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ,RSM).

Teh, S. J., Deng, D. F., Werner, I., Teh, F. C., and Hung, S. S. O. (2005). Sublethal Toxicity of Orchard Stormwater Runoff in Sacramento Splittail (Pogonichthys macrolepidotus) Larvae. *Mar.Environ.Res.* 59: 203-216.  
Chem Codes: Chemical of Concern: DZ,ESV Rejection Code: EFFLUENT.

Teh, Swee J, Deng, DongFang, Werner, Inge, Teh, FooChing, and Hung, Silas S O (2005). Sublethal toxicity of orchard stormwater runoff in Sacramento splittail (Pogonichthys macrolepidotus) larvae. *Marine Environmental Research* 59: 203-216.  
Chem Codes: Chemical of Concern: EFV Rejection Code: MIXTURE.  
  
The sublethal effects of stormwater runoff from sections of a plum orchard treated with esfenvalerate or diazinon were evaluated in 7-day-old Sacramento splittail (Pogonichthys macrolepidotus) larvae. Fish were exposed to eight runoff samples using the USEPA standard static renewal method for 96 h acute toxicity testing, then transferred to clean water for three-month to assess the survival, growth, histopathological abnormalities, and heat stress proteins (hsp). No significant mortality was observed at 96 h in exposed fish. At one week, histopathological abnormalities included severe glycogen depletion, cytoplasmic protein droplets, vacuolar degeneration, and cell necroses in liver of all exposure groups. Pyknotic nerve cells were seen in brain of one exposure group. Significantly higher cumulative mortality, lower condition factor, and elevated hsp60 and hsp70 levels (p < 0.05) were occurred in several exposure groups. No histopathological abnormalities were observed after three months in any exposure group. This study confirms that standard acute toxicity tests have underestimated the toxicity of stormwater runoff, and although splittail larvae survived the 96 h exposure, they exhibited reduced survival and growth and showed signs of cellular stress even after a three month recovery period. [Journal Article; In English; England]

Teixeira, H., Rosilio, V., Laigle, A., Lepault, J., Erk, I., Scherman, D., Benita, S., Couvreur, P., and Dubernet, C. (2001). Characterization of oligonucleotide/lipid interactions in submicron cationic emulsions: influence of the cationic lipid structure and the presence of PEG-lipids . *Biophysical Chemistry* 92: 169-181.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have recently described how oligonucleotide (ON) stability and release from O/W cationic emulsions are governed by the lipid composition. The aim of the present paper was to investigate the properties of the ON/lipid complexes through fluorescence resonance energy transfer (FRET), size, surface tension measurements and cryomicroscopy. Starting from a typical emulsion containing stearylamine as a cationic lipid, the influence of the lipid structure (monocationic molecules bearing mono or diacyl chains, or polycations) as well as of the presence of PEGylated lipids, were studied. The presence of a positive charge on the droplet surface clearly contributed to enhance the ON interaction with lipid monolayers and to bring the ON molecules closer to the interface. Hydrophobic interactions through the acyl chains were shown to further enhance the anchorage of the ON/lipid complexes. In contrast, the incorporation of PEGylated lipids acted as a barrier against the establishment of electrostatic bindings, the polyethyleneglycol chains acting themselves as interaction sites for the ON leading to hydrophilic complexes. Similar features were observed for the polycationic lipid, and cryomicroscopy revealed the existence of bridges of various intensities between the droplets of the emulsion containing either PEG or the polycation, probably because of the configuration of the ON at the interface. Cationic emulsion/ Oligonucleotide delivery/ Stearylamine/ DSPE-PEG/ FRET/ Surface tension

Terada, Megumi, Mizuhashi, Fukutaro, Murata, Kyoji, and Tomita, Takako (1999). Mepanipyrim, a New Fungicide, Inhibits Intracellular Transport of Very Low Density Lipoprotein in Rat Hepatocytes. *Toxicology and Applied Pharmacology* 154: 1-11.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE, IN VITRO.  
  
We have previously reported that ingestion of mepanipyrim induces fatty liver in rats due to the inhibitory effect on the synthesis or secretion of hepatocytic very low density lipoproteins (VLDL). To clarify the mechanism by which mepanipyrim induces fatty liver, morphological and biochemical effects of mepanipyrim on the movement of VLDL in rat liver and in the primary culture of rat hepatocytes were investigated. Inin vivoexperiments, rats were fed for 4 days a diet containing mepanipyrim at 4,000 ppm. VLDL accumulation in the Golgi apparatus of the liver, especially in the secretory vacuoles, was observed in the treated rats and in the hepatocytes treated for 2 hr with 25 [mu]g/ml mepanipyrim. Using 6-[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino]caproyl-sphingosine (C6-NBD-ceramide), a selective staining agent for the Golgi apparatus, it was found that mepanipyrim inhibited C6-NBD-ceramide transport from the Golgi to the cell surface of cultured hepatocytes. The density of the VLDL-loaded secretory vacuoles isolated from the Golgi fractions was greater in mepanipyrim-treated rat livers compared with that in the control. Immunofluorescence micrograph of rat hepatocytes stained with anti-[alpha]-tubulin monoclonal antibody demonstrated that mepanipyrim neither affected microtubule network nor changed the intracellular ATP level. These results together suggested that fatty liver induced by mepanipyrim results mainly from the inhibition of the transport of hepatic VLDL from the Golgi to the cell surface. The inhibition of the transport of hepatic VLDL appears to result from qualitative changes in VLDL such as alteration of the apoprotein composition and/or insufficient lipidation of VLDL.

Termonia, A. and Termonia, M. (1997). FULL SCAN GC-MS QUANTITATION OF PESTICIDES IN SPRING WATER AT THE 10 PPT LEVEL USING LARGE VOLUME ON-COLUMN INJECTION. *Hrc Journal of High Resolution Chromatography* 20 : 447-450.  
Chem Codes: MTL Rejection Code: FATE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE METHODOLOGY SPRING WATER DICHLORVOS POLLUTANT PESTICIDE ALPHA-HCH HCB ATRAZINE BETA-HCH DIAZINON DELTA-HCH LINDANE MALATHION METOLACHLOR PARATHION ENDOSULFAN ETHION CARBOPHENOTHION METHOXYCHLOR AZINPHOS-ETHYL TRACE LEVEL POLLUTANT DETECTION LARGE VOLUME ON-COLUMN INJECTION FULL SCAN GC-MS LARGE VOLUME ON-COLUMN INJECTION FULL SCAN GAS CHROMATOGRAPHY-MASS SPECTROMETRY POLLUTION ANALYTICAL METHOD  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biophysics-General Biophysical Techniques  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Pest Control

Thelin, G. P. (1997). National Assessment of Pesticides in the Streams, Rivers, and Ground Water of the United States. *U.S.G.S.National Water Quality Assessment Pesticide National Synthesis Project* 7.  
Chem Codes: EcoReference No.: 45855  
Chemical of Concern: DZ Rejection Code: NO SPECIES/NO TOX DATA.

Thomas, B. V. (1998). Organophosphate Insecticides: Metabolism, Excretion, Forensic and Mechanistic Investigations in Fish.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
Descriptors: Bioaccumulation  
Descriptors: Fish physiology  
Descriptors: Insecticides  
Descriptors: Bioassays  
Descriptors: Ictalurus punctatus  
Abstract: Organophosphate insecticides (OPs) can move off of application sites into non-target areas such as waterways and intoxicate fish and other biota. Methods of assessing OP exposure to fish need to be developed, and hydrolytic behavior of the compounds is important to characterize. After waterborne dosing the in vivo metabolism and excretion of terbufos and the associated acetylcholinesterase (AChE) depression were studied in channel catfish. Also, hydrolysis rates and mechanisms were determined for several OPs, and the relationship between hydrolytic stability and potency toward fish brain AChE from several species using five OPs was investigated. The major dialkyl phosphate metabolite of terbufos detected in the urine, bile and other matrices of dosed fish was diethylthiophosphate (DETP). A novel catheter design allowed measurement of a biphasic DETP excretion pattern in the urine up to 72 h post-dose. Terbufos was identified in the abdominal fat of dosed fish, and AChE activity in plasma and brain of dosed fish was significantly depressed. The amounts of DETP in urine, terbufos in fat and AChE inhibition were positively correlated with dose. DETP in bile, terbufos in fat, and brain AChE depression were also useful post-mortem indicators of OP exposure. Hydrolysis rates of selected OPs were similar to some published results but were higher than other reports. There were two different mechanisms (neutral and basic) by which terbufos, phorate and disulfoton were hydrolyzed. The neutral mechanism involved reaction in the leaving group and was the major degradation pathway for both terbufos and phorate under acidic and neutral conditions. The neutral mechanism was not a major pathway for disulfoton hydrolysis at any pH tested. At high pH the base-catalyzed mechanism (hydroxide reaction at the phosphorus) predominated for all three compounds. The dissimilarity in hydrolytic behavior under acid and neutral conditions for disulfoton compared to terbufos and phorate can be attributed to a slight difference in the leaving group structures of these compounds. The base- catalyzed hydrolysis rate constants for five OPs showed generally inverse linear correlation with their in vitro IC50s toward fish brain AChE when compared after log-log transformation.  
Thesis publ. date: 1996, 149pp. Source UMI, 300 N Zeeb Rd, POB 1346, Ann Arbor, MI 48106, USA (800.521.0600) or www.umi.com/hp/Products/Dissertations.html.  
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Classification: Q3 01582 Fish culture  
Subfile: ASFA 1: Biological Sciences & Living Resources; ASFA 3: Aquatic Pollution & Environmental Quality; ASFA Aquaculture Abstracts

Thompson, A. R. (1973). Persistence of Biological Activity of Seven Insecticides in Soil Assayed with Folsomia Candida. *J.Econ.Enthomol.* 66: 855-857 (OECDG Data File).

EcoReference No.: 56391  
Chemical of Concern: CBF,DLD,DZ,PRT,CPY; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Thompson, A. R. and Gore, F. L. (1972). Toxicity of Twenty-Nine Insecticides to Folsomia candida: Laboratory Studies. *J.Econ.Entomol.* 65: 1255-1260.

EcoReference No.: 40474  
Chemical of Concern: DLD,DDT,CBF,ADC,MOM,CBL,HCCH,AND,AZ,EN,PRN,MP,DS,DZ,CPY,CHD,PRT,FNT,DZ,FNF,HPT; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(ALL CHEMS).

Thompson, C. R., Kats, G., Dawson, P., and Doyle, D. (1981). Development of a Protocol for Testing Effects of Toxic Substances on Plants. *EPA-600/3-81-006, U.S.EPA, Corvallis, OR* 37 p. (U.S.NTIS PB81-157901).

EcoReference No.: 72129  
Chemical of Concern: EDT,DZ,ACP,PAQT,SFL,NACl0; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(ALL CHEMS).

THOMPSON HM, LANGTON SD, and HART, A. DM (1995). Prediction of inter-species differences in the toxicity of organophosphorus pesticides to wildlife: A biochemical approach. *COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY C PHARMACOLOGY TOXICOLOGY & ENDOCRINOLOGY; 111* 1-12.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. The activation of organophosphorus pesticides and sensitivity of 'B' esterases to inhibition (I50) by the oxon metabolites were investigated in brain, liver and serum as the basis for a model to predict the toxicity of organophosphorus pesticides to four avian species. There were statistically significant correlations between LD50 and brain rate of activation of the OP (r = 0.68), brain acetylcholinesterase I50 (r = 0.88), and serum carboxylesterase I50 (r = 0.60). A significant proportion of the oxon produced within the liver is unlikely to reach the brain, due to irreversible binding by 'B' esterases. The production of the active oxon form of the pesticide within the brain, and the sensitivity of the brain AChE to inhibition, are probably the most important factors in determining the avian toxicity of organophosphorus pesticides. Animals/ Ecology/ Biochemistry/ Amino Acids/ Peptides/ Proteins/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Enzymes/Physiology/ Physiology, Comparative/ Metabolism/ Amino Acids/Metabolism/ Peptides/Metabolism/ Proteins/Metabolism/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Blood Chemical Analysis/ Body Fluids/Chemistry/ Lymph/Chemistry/ Nervous System Diseases/Pathology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Birds/ Birds/ Birds/ Birds

Thompson, Nancy L., Brian, Adrienne A., and McConnell, Harden M. (1984). Covalent linkage of a synthetic peptide to a fluorescent phospholipid and its incorporation into supported phospholipid monolayers. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 772: 10-19.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A number of fluorescent peptide-lipid conjugates have been synthesized. Peptides with ten or eleven amino acids are linked through a single lysine residue to the headgroup of phosphatidylethanolamine, fluorescently labelled on one acyl chain, using homobifunctional disuccinimidyl crosslinking reagents. Peptide-lipids can be further derivatized with the hapten dinitrophenyl. Purified peptide-lipids have been incorporated into dimyristoylphosphatidylcholine monolayers at the interface of air and phosphate-buffered saline, at concentrations of up to 11 mol%. For equal average molecular areas, monolayers containing peptide-lipids have higher surface pressures than pure lipid monolayers; for equal surface pressures, peptide-lipid monolayers are have higher average molecular areas than pure lipid monolayers. When the peptide-lipid monolayers are transferred to hydrophobic glass slides, the fluorescence appears uniformly distributed. Fluorescence recovery after photobleaching measurements indicate that peptide-lipids diffuse in the monolayer with coefficient 1.5 [middle dot] 10-9 cm2/s, which is much smaller than that of typical lipids in fluid membranes. In addition, the diffusion coefficient of peptide-lipids decreases with increasing peptide-lipid concentration. We conclude that the peptide portion of the peptide-lipid associates with the lipid monolayer and/or that peptide-lipids oligomerize. Peptide-lipid conjugate/ Lipid monolayer/ Surface pressure/ Diffusion coefficient

Tice, Colin M (2002). Selecting the right compounds for screening: use of surface-area parameters. *Pest Management Science* 58: 219-233.  
Chem Codes: Chemical of Concern:PCZ,FZS,DSP,PYZ,RTN,RSM Rejection Code: CHEM METHODS.  
  
Polar surface area, total surface area and percentage surface area have been calcd. from three-dimensional structures of 88 post-emergence herbicides, 93 pre-emergence herbicides and 237 insecticides. Preferred ranges of values of these parameters were identified. Since the compds. in the training sets are used on a wide variety of species and target sites with various application modes, the parameter ranges are necessarily broad. The utility of the surface-area parameter ranges in selection of compds. for agrochem. screening was compared with the use of ranges of the Lipinski Rule of 5 parameters: mol. mass, calcd. log P, no. of hydrogen-bond donors and no. of hydrogen-bond acceptors. The more computationally intensive surface-area parameters did not offer any obvious advantage over the Lipinski Rule of 5 parameters. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
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Section Code: 5-4  
Section Title: Agrochemical Bioregulators  
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Index Terms: Surface area (mol.; use of surface-area parameters for agrochem. screening of herbicides and insecticides); Herbicides; Insecticides; Polar effect (use of surface-area parameters for agrochem. screening of herbicides and insecticides)  
CAS Registry Numbers: 162320-67-4 (Flufenzine) Role: AGR (Agricultural use), PRP (Properties), BIOL (Biological study), USES (Uses) (Flufenzine; use of surface-area parameters for agrochem. screening of herbicides and insecticides); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 57-39-6 (Metepa); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 70-43-9 (Barthrin); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 72-56-0 (Ethylan); 76-03-9 (TCA); 76-44-8 (Heptachlor); 78-57-9 (Menazon); 80-33-1 (Chlorfenson); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 93-65-2 (Mecoprop); 93-71-0 (CDAA); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 97-17-6 (Dichlofenthion); 101-42-8 (Fenuron); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 120-36-5 (Dichlorprop); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-75-5 (Malathion); 122-10-1 (Bomyl); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 126-22-7 (Butonate); 133-90-4 (Chloramben); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 150-68-5 (Monuron); 152-16-9 (Schradan); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 300-76-5 (Dibrom); 301-12-2 (Oxydemeton-methyl); 311-45-5 (Paraoxon); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 510-15-6 (Chlorobenzilate); 534-52-1 (DNOC); 545-55-1 (TEPA); 555-37-3 (Neburon); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 644-64-4 (Dimetilan); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0; 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7; 950-37-8 (Methidation); 957-51-7 (Diphenamid); 1031-47-6 (Triamiphos); 1071-83-6 (Glyphosate); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1172-63-0 (Jasmolin II); 1194-65-6 (Dichlobenil); 1420-07-1 (Dinoterb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1698-60-8 (Chloridazon); 1702-17-6 (Clopyralid); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-00-9 (Dicamba); 1918-11-2 (Terbucarb); 1918-16-7 (Propachlor); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-17-0 (Dienochlor); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2439-01-2 (Quinomethionate); 2463-84-5 (Dicapthon); 2497-07-6 (Oxydisulfoton); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2655-14-3 (XMC); 2655-19-8 (Butacarb); 2674-91-1 (Oxydeprofos); 2921-88-2 (Chlorpyriphos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3309-87-3 (DMCP); 3337-71-1 (Asulam); 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 3792-59-4 (EPBP); 3811-49-2 (Dioxabenzofos); 3813-05-6 (Benazolin); 3942-54-9 (CPMC); 4151-50-2 (Sulfluramid); 4824-78-6 (Bromophos-ethyl); 4849-32-5 (Karbutilate); 5598-13-0; 5827-05-4 (IPSP); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 10453-86-8 (Resmethrin); 11141-17-6 (Azadirachtin); 12407-86-2 (Trimethacarb); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13181-17-4 (Bromofenoxim); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15263-53-3 (Cartap); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17606-31-4 (Bensultap); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19044-88-3 (Oryzalin); 19937-59-8 (Metoxuron); 20354-26-1 (Methazole); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinfos); 22259-30-9 (Formetanate); 22781-23-3 (Bendiocarb); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 24934-91-6 (Chlormephos); 25057-89-0 (Bentazone); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25319-90-8 (MCPA-thioethyl); 25402-06-6 (Cinerin I); 26002-80-2 (Phenothrin); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29091-21-2 (Prodiamine); 29104-30-1 (Benzoximate); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 32861-85-1 (Chlomethoxyfen); 33089-61-1 (Amitraz); 33245-39-5 (Fluchloralin); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34622-58-7 (Orbencarb); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 35256-85-0 (Butam); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35597-43-4 (Bialaphos); 36335-67-8 (Butamifos); 36614-38-7 (Isothioate); 36756-79-3 (Tiocarbazil); 38260-54-7 (Etrimfos); 38727-55-8 (Diethatyl-ethyl); 39196-18-4 (Thiofanox); 39300-45-3 (Dinocap); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41295-28-7 (Methoxyphenone); 42509-80-8 (Isazophos); 42588-37-4 (Kinoprene); 42609-52-9 (Dymron); 42609-73-4 (Methyldymron); 50512-35-1; 50594-66-6 (Acifluorfen); 51218-45-2 (METOLACHLOR); 51218-49-6 (Pretilachlor); 51276-47-2 (Glufosinate); 51338-27-3 (Diclofop-methyl); 51487-69-5 (Cloethocarb); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52570-16-8 (Naproanilide); 52645-53-1 (Permethrin); 52756-25-9 (Flamprop-methyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 54593-83-8 (Chlorethoxyfos); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55335-06-3 (Triclopyr); 55512-33-9 (Pyridate); 55634-91-8 (Alloxydim); 58011-68-0 (Pyrazolate); 59669-26-0 (Thiodicarb); 59682-52-9 (Fosamine); 59756-60-4 (Fluridone); 61213-25-0 (Flurochloridone); 62850-32-2 (Fenothiocarb); 63782-90-1 (Flamprop-M-isopropyl); 63935-38-6 (Cycloprothrin); 64249-01-0 (Anilofos); 64628-44-0 (Triflumuron); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66441-23-4 (Fenoxaprop-ethyl); 66841-25-6 (Tralomethrin); 67129-08-2 (Metazachlor); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69806-40-2 (Haloxyfop-methyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74070-46-5 (Aclonifen); 74115-24-5 (Clofentezine); 76578-12-6 (Quizalofop); 77501-63-4 (Lactofen); 77501-90-7 (Fluoroglycofen-ethyl); 78587-05-0 (Hexythiazox); 79277-27-3 (Thifensulfuron methyl); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-01-5 (Chloproxyfen); 80844-07-1 (Etofenprox); 81335-77-5 (Imazethapyr); 81405-85-8 (Imazamethabenz-methyl); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83164-33-4 (Diflufenican); 85785-20-2 (Esprocarb); 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147838-04-8 (XR-100); 149877-41-8 (Bifenazate); 150824-47-8 (Nitenpyram); 153233-91-1 (Etoxazole); 160791-64-0 (Flubrocythrinate); 161050-58-4 (Methoxyfenozide); 168088-61-7 (Pyribenzoxim); 173584-44-6 (Indoxacarb) Role: AGR (Agricultural use), PRP (Properties), BIOL (Biological study), USES (Uses) (use of surface-area parameters for agrochem. screening of herbicides and insecticides)  
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Chem Codes: Chemical of Concern: DMB, FVL, FZS,DSP,PYZ,RSM Rejection Code: CHEM METHODS.  
  
Polar surface area, total surface area and percentage surface area have been calcd. from three-dimensional structures of 88 post-emergence herbicides, 93 pre-emergence herbicides and 237 insecticides. Preferred ranges of values of these parameters were identified. Since the compds. in the training sets are used on a wide variety of species and target sites with various application modes, the parameter ranges are necessarily broad. The utility of the surface-area parameter ranges in selection of compds. for agrochem. screening was compared with the use of ranges of the Lipinski Rule of 5 parameters: mol. mass, calcd. log P, no. of hydrogen-bond donors and no. of hydrogen-bond acceptors. The more computationally intensive surface-area parameters did not offer any obvious advantage over the Lipinski Rule of 5 parameters. [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
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CAS Registry Numbers: 162320-67-4 (Flufenzine) Role: AGR (Agricultural use), PRP (Properties), BIOL (Biological study), USES (Uses) (Flufenzine; use of surface-area parameters for agrochem. screening of herbicides and insecticides); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 57-39-6 (Metepa); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 70-43-9 (Barthrin); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 72-56-0 (Ethylan); 76-03-9 (TCA); 76-44-8 (Heptachlor); 78-57-9 (Menazon); 80-33-1 (Chlorfenson); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 93-65-2 (Mecoprop); 93-71-0 (CDAA); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 97-17-6 (Dichlofenthion); 101-42-8 (Fenuron); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 120-36-5 (Dichlorprop); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-75-5 (Malathion); 122-10-1 (Bomyl); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 126-22-7 (Butonate); 133-90-4 (Chloramben); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 150-68-5 (Monuron); 152-16-9 (Schradan); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 300-76-5 (Dibrom); 301-12-2 (Oxydemeton-methyl); 311-45-5 (Paraoxon); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 510-15-6 (Chlorobenzilate); 534-52-1 (DNOC); 545-55-1 (TEPA); 555-37-3 (Neburon); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 644-64-4 (Dimetilan); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0; 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7; 950-37-8 (Methidation); 957-51-7 (Diphenamid); 1031-47-6 (Triamiphos); 1071-83-6 (Glyphosate); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1172-63-0 (Jasmolin II); 1194-65-6 (Dichlobenil); 1420-07-1 (Dinoterb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1698-60-8 (Chloridazon); 1702-17-6 (Clopyralid); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-00-9 (Dicamba); 1918-11-2 (Terbucarb); 1918-16-7 (Propachlor); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-17-0 (Dienochlor); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2439-01-2 (Quinomethionate); 2463-84-5 (Dicapthon); 2497-07-6 (Oxydisulfoton); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2655-14-3 (XMC); 2655-19-8 (Butacarb); 2674-91-1 (Oxydeprofos); 2921-88-2 (Chlorpyriphos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3309-87-3 (DMCP); 3337-71-1 (Asulam); 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 3792-59-4 (EPBP); 3811-49-2 (Dioxabenzofos); 3813-05-6 (Benazolin); 3942-54-9 (CPMC); 4151-50-2 (Sulfluramid); 4824-78-6 (Bromophos-ethyl); 4849-32-5 (Karbutilate); 5598-13-0; 5827-05-4 (IPSP); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 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65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66441-23-4 (Fenoxaprop-ethyl); 66841-25-6 (Tralomethrin); 67129-08-2 (Metazachlor); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69806-40-2 (Haloxyfop-methyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74070-46-5 (Aclonifen); 74115-24-5 (Clofentezine); 76578-12-6 (Quizalofop); 77501-63-4 (Lactofen); 77501-90-7 (Fluoroglycofen-ethyl); 78587-05-0 (Hexythiazox); 79277-27-3 (Thifensulfuron methyl); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-01-5 (Chloproxyfen); 80844-07-1 (Etofenprox); 81335-77-5 (Imazethapyr); 81405-85-8 (Imazamethabenz-methyl); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83164-33-4 (Diflufenican); 85785-20-2 (Esprocarb); 85830-77-9 (Triazofenamide); 86209-51-0 (Primisulfuron-methyl); 86763-47-5 (Propisochlor); 87310-56-3 (Butenachlor); 87546-18-7 (Flumiclorac-pentyl); 87674-68-8 (Dimethenamid); 87757-18-4 (Isoxapyrifop); 87818-31-3 (Cinmethylin); 87820-88-0 (Tralkoxydim); 88402-43-1 (Chlorphthalim); 89784-60-1 (Pyraclofos); 90982-32-4 (Chlorimuron-ethyl); 94593-91-6 (Cinosulfuron); 95465-99-9 (Cadusafos); 95617-09-7 (Fenoxaprop); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimphos); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 96525-23-4 (Flurtamone); 97780-06-8; 97886-45-8 (Dithiopyr); 98886-44-3 (Fosthiazate); 99105-77-8 (Sulcotrione); 99129-21-2 (Clethodim); 100646-51-3; 101007-06-1 (Acrinathrin); 101200-48-0 (Tribenuron-methyl); 101205-02-1; 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 104040-78-0 (Flazasulfuron); 104098-48-8 (Imazapic); 104770-29-8 (NC-330); 105024-66-6 (Silafluofen); 107360-34-9 (NC-170); 107713-58-6 (Flufenprox); 109293-97-2 (Diflufenzopyr); 111479-05-1 (Propaquizafop); 111578-32-6 (Metobenzuron); 111872-58-3 (Halfenprox); 111991-09-4 (Nicosulfuron); 112143-82-5 (Triazamate); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 114311-32-9 (Imazamox); 114420-56-3 (Clodinafop); 117337-19-6 (Fluthiacet-methyl); 117718-60-2 (Thiazopyr); 119126-15-7 (Flupoxam); 119168-77-3 (Tebufenpyrad); 119738-06-6; 120068-37-3 (Fipronil); 120162-55-2 (Azimsulfuron); 122008-85-9 (Cyhalofop-butyl); 122453-73-0 (Chlorfenapyr); 122836-35-5 (Sulfentrazone); 122931-48-0 (RIMSULFURON); 123249-43-4 (Thidiazimin); 123312-89-0 (Pymetrozine); 125401-75-4 (Bispyribac); 126535-15-7 (Triflusulfuron-methyl); 128639-02-1 (Carfentrazone-ethyl); 129630-19-9 (Pyraflufen-ethyl); 131086-42-5 (Ethoxyfen-ethyl); 131929-63-0 (Spinosyn D); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138164-12-2 (Butroxydim); 138261-41-3 (Imidacloprid); 141776-32-1 (Sulfosulfuron); 142459-58-3 (Flufenacet); 144651-06-9 (Oxasulfuron); 144740-53-4 (Flupyrsulfuron-methyl); 147838-04-8 (XR-100); 149877-41-8 (Bifenazate); 150824-47-8 (Nitenpyram); 153233-91-1 (Etoxazole); 160791-64-0 (Flubrocythrinate); 161050-58-4 (Methoxyfenozide); 168088-61-7 (Pyribenzoxim); 173584-44-6 (Indoxacarb) Role: AGR (Agricultural use), PRP (Properties), BIOL (Biological study), USES (Uses) (use of surface-area parameters for agrochem. screening of herbicides and insecticides)  
Citations: 1) Hole, S; J Biomol Screening 2000, 5, 335  
Citations: 2) Herman, R; Rev Toxicol 1998, 2, 445  
Citations: 3) Walsh, J; J Biomol Screening 1998, 3, 175  
Citations: 4) Bhide, A; WO 9720209 1997  
Citations: 5) Tice, C; Pest Manag Sci 2001, 57, 3  
Citations: 6) Palm, K; Pharm Res 1997, 14, 568  
Citations: 7) Palm, K; J Med Chem 1998, 41, 5382  
Citations: 8) Winiwarter, S; J Med Chem 1998, 41, 4939  
Citations: 9) Van de Waterbeemd, H; J Drug Targeting 1998, 6, 151  
Citations: 10) Oprca, T; J Mol Graph Modelling 1999, 17, 261  
Citations: 11) Clark, D; J Pharm Sci 1999, 88, 807  
Citations: 12) Clark, D; J Pharm Sci 1999, 88, 815  
Citations: 13) Pagliara, A; J Pharm Pharmacol 1999, 51, 1339  
Citations: 14) Stenberg, P; Pharm Res 1999, 16, 1520  
Citations: 15) Osterberg, T; J Chem Inf Comput Sci 2000, 40, 1408  
Citations: 16) Egan, W; J Med Chem 2000, 43, 3867  
Citations: 17) Lipinski, C; Adv Drug Delivery Rev 1997, 23, 3  
Citations: 18) Shi, W; J Agric Food Chem 2001, 49, 124  
Citations: 19) Darwih, Y; J Planar Chromatog 1993, 6, 458  
Citations: 20) Baker, E; Pestic Sci 1992, 34, 167  
Citations: 21) Briggs, G; Pestic Sci 1982, 13, 495  
Citations: 22) Anon; Farm Chemicals Handbook 1997  
Citations: 23) Hopkins, W; Global Herbicide Directory 1st Edn 1994  
Citations: 24) Hopkins, W; Global Herbicide Directory 2nd Edn 1997  
Citations: 25) Bryant, R; Ag Chem New Compound Review 1999, 17  
Citations: 26) Ghose, A; J Comput Chem 1986, 7, 565  
Citations: 27) Molecular Simulations Inc; No publication given  
Citations: 28) Tripos Inc; No publication given  
Citations: 29) Durvasula, R; No publication given  
Citations: 30) Dalby, A; J Chem Inf Comput Sci 1992, 32, 244  
Citations: 31) Pearlman, R; Concord User's Manual  
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Citations: 33) Jorgensen, W; Bioorg Med Chem Lett 2000, 10, 1155  
Citations: 34) Green, C; Pest Manag Sci 2000, 56, 1043  
Citations: 35) Brudenell, A; Plant Growth Regul 1995, 16, 215  
Citations: 36) Simmons, K; J Agric Food Chem 1992, 40, 306  
Citations: 37) Moyer, J; Rev Weed Sci 1987, 3, 19  
Citations: 38) Reynolds, C; J Chem Inf Comput Sci 1998, 38, 305 surface/ area/ parameter/ herbicide/ insecticide/ screening

Timchalk, C., Poet, T. S., Hinman, M. N., Busby, A. L., and Kousba, A. A. (2005). Pharmacokinetic and Pharmacodynamic Interaction for a Binary Mixture of Chlorpyrifos and Diazinon in the Rat. *Toxicol.Appl.Pharmacol.* 205: 31-42.

EcoReference No.: 80327  
Chemical of Concern: CPY,DZ; Habitat: T; Effect Codes: BCM,CEL; Rejection Code: NO ENDPOINT(ALL CHEMS).

Tocanne, Jean-Francois, Cezanne, Laurence, Lopez, Andre, Piknova, Barbora, Schram, Vincent, Tournier, Jean-Francois, and Welby, M. (1994). Lipid domains and lipid/protein interactions in biological membranes. *Chemistry and Physics of Lipids* 73: 139-158.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In the fluid mosaic model of membranes, lipids are organized in the form of a bilayer supporting peripheral and integral proteins. This model considers the lipid bilayer as a two-dimensional fluid in which lipids and proteins are free to diffuse. As a direct consequence, both types of molecules would be expected to be randomly distributed within the membrane. In fact, evidences are accumulating to indicate the occurrence of both a transverse and lateral regionalization of membranes which can be described in terms of micro- and macrodomains, including the two leaflets of the lipid bilayer. The nature of the interactions responsible for the formation of domains, the way they develop and the time- and space-scale over which they exist represent today as many challenging problems in membranology. In this report, we will first consider some of the basic observations which point to the role of proteins in the transverse and lateral regionalization of membranes. Then, we will discuss some of the possible mechanisms which, in particular in terms of lipid/protein interactions, can explain lateral heterogenities in membranes and which have the merit of providing a thermodynamic support to the existence of lipid domains in membranes. Membranes/ Lipid microdomains and macrodomains/ Protein-lipid interactions/ Hydrophobic mismatch/ Lateral diffusion/ Bacteriorhodopsin

Tocanne, Jean-Francois, Dupou-Cezanne, Laurence, Lopez, Andre, and Tournier, Jean-Francois (1989). Lipid lateral diffusion and membrane organization. *FEBS Letters* 257: 10-16.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
It is shown that investigating the lateral motion of lipids in biological membranes can provide useful information on membrane lateral organization. After labeling membranes with extrinsic or intrinsic lipophilic fluorescent probes, fluorescence recovery after photobleaching experiments strongly suggests that specialized cells like spermatozoa, eggs and epithelia exhibit surface membrane regionalization or macrocompartmentation and that lateral microheterogeneities or lipid microdomains exist in the plasma membrane of many cellular systems.Phospholipid; Photobleaching; Lateral diffusion; Membrane organization; Macrodomain; Microdomain

Tomimori, S., Nagaya, Y., and Taniyama, T. (1994). Water Pollution Caused By Agricultural Chemicals And Fertilizers In The Drainage From Golf Links. 63: 442-451.  
Chem Codes: Chemical of Concern: SZ, CHLOR Rejection Code: SURVEY.  
  
biosis copyright: biol abs. an investigation of agricultural chemicals and chemical fertilizer used by golf links were carried out from june 1991 to may 1992. immediately after or during the rainfall, sampling for drainage was started at 6 points of 3 golf links. about 15 agricultural chemicals, nitrogen, phosphorus and potassium were analyzed. the following results were obtained. nine agricultural chemicals including 3 herbicides (propyzamide, simazine, napropamide), 4 bactericides (flutoluanil isoprothiolane, captan, tolclophos-methyl) and 2 insecticides (diazinon, fenitrothion) were detected. detectable frequency was different at the 3 golf links and the 6 sampling points. the highest levels of agricultural chemicals were detected in june, and high levels of flutoluanil, isoprothiolane and captan were detected. these concentrations were higher in september, and high levels of propyzamide and simazine were detected, and each maximum level was over 8 and 3 mugl-1. many concentrations were from 0.1 to 1.0 mugl-1. every component of the chemical fertilizer found in the drainage water from golf links were at high levels in comparison with rivers. changes in these concentrations were closely related to time of fertilizer application for lawn management. ecology/ environmental biology-limnology/ biochemical studies-general/ biochemical studies-minerals/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ soil science-fertility and applied studies (1970- )/ horticulture-flowers and ornamentals/ pest control, general/ pesticides/ herbicides

Tomokuni, K. and Hasegawa, T. (1985). Diazinon Concentrations and Blood Cholinesterase Activities in Rats Exposed to Diazinon. *Toxicol.Lett.* 25: 7-10.

EcoReference No.: 84762  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC,BCM; Rejection Code: NO ENDPOINT(DZ).

Tomokuni, K., Hasegawa, T., Hirai, Y., and Koga, N. (1985). The Tissue Distribution of Diazinon and the Inhibition of Blood Cholinesterase Activities in Rats and Mice Receiving a Single Intraperitoneal Dose of Diazinon. *Toxicology* 37: 91-98.

EcoReference No.: 86042  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,ACC; Rejection Code: NO ENDPOINT(DZ).

Tonkopii, V. D. and Zagrebin, A. O. (1999). Daphnia magna Cytochrome P-450 Related Enzymes as Biomarker of Organophosphates Exposure. *Toxicol.Lett.* Suppl.1: 64-65 (ABS No.P168).  
 Chem Codes: Chemical of Concern: PPB,BT,DLD,AND,PCB,DZ Rejection Code: IN VITRO.

Toor, H. S. and Kaur, K. ( 1974). Toxicity of Pesticides to the Fish, Cyprinus carpio communis Linn. *Indian J.Exp.Biol.* 12: 334-336 (Used 6722 As Reference).

EcoReference No.: 6299  
Chemical of Concern: CBL,DZ,PPHD,FNT; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Torchilin, Vladimir P., Omelyanenko, Vladimir G., Papisov, Mikhail I., Bogdanov, Jr. Alexei A., Trubetskoy, Vladimir S., Herron, James N., and Gentry, Christine A. (1994). Poly(ethylene glycol) on the liposome surface: on the mechanism of polymer-coated liposome longevity. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1195: 11-20.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The hypothetical model is built explaining the molecular mechanism of protective action of poly(ethylene glycol) on liposomes in vivo. The protective layer of the polymer on the liposome surface is considered as a statistical &lsquo;cloud&rsquo; of polymer possible conformations in solution. Computer simulation was used to demonstrate that relatively a small number of liposome-grafted molecules of hydrophilic and flexible polymer can create a dense protective conformational cloud over the liposome surface preventing opsonizing protein molecules from contacting liposome. A more rigid polymer fails to form this dense protective cloud, even when hydrophilic. Computer simulation was also used to reveal possible heterogeneity of reactive sites on a polymer-coated liposome surface, and to estimate the optimal polymer-to-lipid ratio for efficient liposome protection. Experiments have been performed with the quenching of liposome-associated fluorescent label (nitrobenzoxadiazole or fluorescein) with protein (rhodamine-ovalbumin or anti-fluorescein antibody) from solution. It was shown that poly(ethylene glycol) grafting to liposomes hinders protein interaction with the liposome surface, whereas liposome-grafted dextran (more rigid polymer) in similar quantities does not affect protein-liposome interaction. Highly-reactive and low-reactive populations of chemically identical reactive sites have been found on polymer-coated liposomes. Experimental data satisfactory confirm the suggested mechanism for the longevity of polymer-modified liposome. Long-circulating liposome/ Liposome/ Poly(ethylene glycol)/ Computer simulation/ Fluorescence quenching/ Anti-fluorescein antibody

Torii, Sigeru, Okumoto, Hiroshi, Sadakane, Masahiro, Hai, A. K. M. Abdul, and Tanaka, Hideo (1993). Carbonylative [2+2] cycloaddition for the construction of [beta]-lactam skeleton with palladium catalyst. *Tetrahedron Letters* 34: 6553-6556.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Carbonylation/ Palladium Catalyst/ [2+2] Cycloaddition/ [beta]-Lactam/ Stereoselective

TORRES CM, PICO, Y., MARIN, R., and MANES, J. (1997). Evaluation of organophosphorus pesticide residues in citrus fruits from the Valencian Community (Spain). *JOURNAL OF AOAC INTERNATIONAL; 80* 1122-1128.  
Chem Codes : Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Approximately 200 citrus samples from markets of the Valencian Community (Spain) were analyzed to establish their residue levels in 12 organophosphorus pesticide residues during the 1994-1995 campaign. The organophosphorus pesticides carbophenothion, chlorpyriphos, chlorfenvinphos, diazinon, ethion, fenitrothion, malathion, methidation, methylparathion, phosmet, quinalphos, and tetradifon were simultaneously extracted by matrix solidphase dispersion and determined by gas chromatography-mass spectrometry using selected ion monitoring mode. A total of 32.25% contained pesticide residues and 6.9% exceeded the European Union Maximum Residue Levels (MRLs). The pesticides found in the samples with residues above MRLs were carbophenothion, ethion, methidathion, and methyl parathion. Lower level residues of these and the other pesticides studied (except diazinon) were frequently found. The estimated daily intake of the 12 organophosphorus pesticide residues during the studied p Biochemistry/ Biophysics/ Food Technology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides

Tory, Monica C. and Rod Merrill, A. (2002). Determination of membrane protein topology by red-edge excitation shift analysis: application to the membrane-bound colicin E1 channel peptide. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1564: 435-448.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A new approach for the determination of the bilayer location of Trp residues in proteins has been applied to the study of the membrane topology of the channel-forming bacteriocin, colicin E1. This method, red-edge excitation shift (REES) analysis, was initially applied to the study of 12 single Trp-containing channel peptides of colicin E1 in the soluble state in aqueous medium. Notably, REES was observed for most of the channel peptides in aqueous solution upon low pH activation. The extent of REES was subsequently characterized using a model membrane system composed of the tripeptide, Lys-Trp-Lys, bound to dimyristoyl-sn-glycerol-3-phosphatidylserine liposomes. Subsequently, data accrued from the model peptide-lipid system was used to interpret information obtained on the channel peptides when bound to dioleoyl-sn-glycerol-3-phosphatidylcholine/dioleoyl-sn-glycerol-3-phosphatidylglycerol membrane vesicles. The single Trp mutant peptides were divided into three categories based on the change in the REES values observed for the Trp residues when the peptides were bound to liposomes as compared to the REES values measured for the soluble peptides. F-404W, F-413W, F-443W, F-484W, and W-495 peptides exhibited small and/or insignificant REES changes ([Delta]REES) whereas W-424, F-431W, and Y-507W channel peptides possessed modest REES changes (3 nm<=[Delta]REES<=7 nm). In contrast, wild-type, Y-367W, W-460, Y-478W, and I-499W channel peptides showed large [Delta]REES values upon membrane binding (7 nm<[Delta]REES<=12 nm). The REES data for the membrane-bound structure of the colicin E1 channel peptide proved consistent with previous data for the topology of the closed channel state, which lends further credence to the currently proposed channel model. In conclusion, the REES method provides another source of topological data for assignment of the bilayer location for Trp residues within membrane-associated proteins; however, it also requires careful interpretation of spectral data in combination with structural information on the proteins being investigated. Tryptophan fluorescence/ Membrane interaction/ Channel structure

Trappe, J. M., Molina, R., and Castellano, M. (1984). Reactions of Mycorrhizal Fungi and Mycorrhizae Formation to Pesticides . *Ann.Rev.Phytopathol.* 22: 331-359.  
Chem Codes: EcoReference No.: 72426  
Chemical of Concern: PNB,DZ,Captan,Cu,CTN Rejection Code: REVIEW.

Treistman, Steven N., Moynihan, Margaret M., and Wolf, David E. (1987). Influence of alcohols, temperature, and region on the mobility of lipids in neuronal membrane. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 898: 109-120.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Fluorescence recovery after photobleaching was used to examine lipid diffusibility in different regions of Aplysia neurons. Differences in diffusion of 1-acyl-2-(6-[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)]aminohexanoyl)phosphatidylcholine (NBD-C6-PC) in the cell body, axon hillock, and axon were not apparent. Lipid diffusibility during temperature variations and exposure to alcohols was also examined by photobleaching techniques. For these studies, all measurements were made on the cell body. Alcohols were found to be selective in their effects upon the diffusibility of lipid probes. Neither ethanol nor butanol affected the diffusibility of NBD-PC. However, at the same concentrations, both of these alcohols caused a significant increase in the diffusion coefficient (D) for rhodamine-phosphatidylethanolamine (Rho-PE). The diffusion coefficient for NBD-PC in the cell body plasma membrane did not increase with warming, between 4[deg]C and 25[deg]C. The fraction of lipid probe free to diffuse (per cent recovery; %R) however, increased as temperature increased, within this range. The nonconventional relationship between temperature and D was even more pronounced for Rho-PE. As temperature increased, D became smaller for this probe, concurrent with an increase in %R. These results suggest that immobile viscous lipid is recruited into a mobile fraction as temperature increases, resulting in the maintenance of constant diffusibility. The effects of temperature on D and %R, and the selective effects of alcohols on lipid diffusibility suggest that the membrane is heterogeneously organized, on a submicroscopic scale, into domains. The implications of this organization for nerve function and responses of nervous systems to temperature and anesthetics are discussed. Fluorescence/ Lipid/ Photobleaching/ Fluorescence photobleaching recovery/ Temperature/ Alchol/ (Aplysia)

Trevisan, M., Montepiani, C., Ragozza, L., Bartoletti, C., Ioannilli, E., and Del Re, A. A. M. (1993). Pesticides in rainfall and air in Italy. *Environmental Pollution* 80: 31-39.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
The presence of pesticide residues in rain, throughfall, stemflow and in ambient air in two Italian forests affected by the forest damage phenomenon were investigated. Pesticides measured were: alachlor, atrazine, carbaryl, 2,4-, diazinon, dichlobenil, fluazifop-butyl, MCPA, parathion, phorate and trifluralin. Rainwater samples were collected from May to October 1988 at Vallombrosa and Renon, air and atmospheric particulates were sampled during April-June 1989, only at Vallombrosa. A total of 146 samples of rainfall and 20 samples of ambient air were analysed and 49 out of 166 samples contained at least one active ingredient. Herbicides were more frequent than insecticides, and their concentrations were also higher (max 3[middle dot]44 [mu]g litre-1).

Tronsmo, A. (1989). Effect of Fungicides and Insecticides on Growth of Botrytis cinerea, Trichoderma viride and T. harzianum. *Norw.J.Agric.Sci.* 3: 151-156.

EcoReference No.: 75156  
Chemical of Concern: DMT,BMY,MZB,IPD,VCZ,TDF,MLN,BTN,Captan,Cu,DOP,TFR,AZ,DCF,DMT,FNTH,FNT,DZ,PRN,MCPP1; Habitat: T; Effect Codes: POP; Rejection Code: NO CONTROL(ALL CHEMS).

Tsezos, M. and Bell, J. P. (1989). Comparison of the biosorption and desorption of hazardous organic pollutants by live and dead biomass. *Water Research* 23: 561-568.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The adsorption and desorption of lindane, diazinon, pentachlorophenol and 2-chlorobiphenyl by living and dead cells of the fungus R. arrhizus and activated sludge was studied. A generalization concerning the relative magnitude of biosorptive uptake between live and dead biomass cannot be made using the experimental data. Uptakes by live and dead cells are similarly correlated to the octanol/water partition coefficient of the organic pollutants. The desorption of the organic pollutants is not always complete. A part of the observed biosorptive uptake can be attributed to the cell walls of the microbial biomass. biosorption/ adsorption/ organic/ pollutants/ activated sludge/ desorption/ fate

Tsuda, T., Aoki, S., Inoue, T., and Kojima, M. (1995). Accumulation of diazinon, fenthion and fenitrothion by killfish from mixtures of the three pesticides. *Toxicological and Environmental Chemistry [TOXICOL. ENVIRON. CHEM.]. Vol. 47, no. 3-4, pp. 251-255. 1995.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE, METABOLISM.  
  
ISSN: 0277-2248  
Descriptors: pesticides  
Descriptors: fish  
Descriptors: bioaccumulation  
Descriptors: water pollution effects  
Descriptors: aquatic life  
Descriptors: diazinon  
Descriptors: insecticides  
Descriptors: water pollution  
Descriptors: pollution effects  
Descriptors: Oryzias latipes  
Abstract: Differences in the accumulation of diazinon, fenthion and fenitrothion by killifish (Oryzias latipes) at three concentration levels of mixtures of the pesticides were studied. For diazinon and fenthion, the higher the concentration levels, the longer the time required to reach plateaus. The bioconcentration factors (BCF) had a tendency to increase with an increase in concentration level for all pesticides. One-way analysis of variance was carried out to detect significant differences in the BCF of each pesticide among the concentration levels. There were significant differences (p < 0.05 or p < 0.01) after 6-48 hr except diazinon at 6 hr and fenitrothion at 48 hr.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: SW 3030 Effects of pollution  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: Q5 01504 Effects on organisms  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts

Tsuda, T., Aoki, S., Inoue, T., and Kojima, M. (1995). Accumulation of Diazinon, Fenthion and Fenitrothion by Killifish from Mixtures of the Three Pesticides. *Toxicol.Environ.Chem.* 47: 251-255.  
Chem Codes: EcoReference No.: 16174  
Chemical of Concern: DZ Rejection Code: MIXTURE.

Tsuda, T., Aoki, S., Kojima, M., and Fujita, T. (1992). Pesticides in Water and Fish from Rivers Flowing into Lake Biwa (II). *Chemosphere* 24: 1523-1531.  
Chem Codes: EcoReference No.: 45856  
Chemical of Concern: DZ Rejection Code: NO DURATION/SURVEY.

Tsuda, T., Aoki, S., Kojima, M., and Fujita, T. (1992). Pesticides in water and fish from rivers flowing into Lake Biwa (II). *Chemosphere* 24: 1523-1531.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY, MIXTURE.  
  
Surveys of pesticides (diazinon, IBP, malathion and MEP) were performed for water and fish samples obtained from seven rivers flowing into Lake Biwa in 1990. The field data on accumulation of pesticides by pale chub ( ) and ayu sweetfish ( ) were compared with the laboratory experimental data on willow shiner ( ) and topmouth gudgeon ( ). The bioconcentration factors (BCF) of pesticides in the field could not be satisfactorily estimated from the experimental data. This is not only due to the difference of fish species but also the reason that the concentrations of these pesticides in the river water are changeable and those in the fish body do not reach plateaus instantly.

Tsuda, T., Aoki, S., Kojima, M., and Harada, H. (1991). Pesticides in water and fish from rivers flowing into Lake Biwa. *Toxicological and Environmental Chemistry [TOXICOL. ENVIRON. CHEM.]. Vol. 34, no. 1, pp. 39-55. 1991.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0277-2248  
Descriptors: water pollution  
Descriptors: pollution surveys  
Descriptors: bioaccumulation  
Descriptors: pesticides  
Descriptors: freshwater fish  
Descriptors: Pisces  
Descriptors: Zacco platypus  
Descriptors: Plecoglossus altivelis  
Descriptors: Gnathopogon caerulescens  
Descriptors: Pisces  
Abstract: Surveys of pesticides were performed for water and fish samples obtained from seven rivers flowing into Lake Biwa. The field data on accumulation and excretion of pesticides by pale chub (Zacco platypus ) and ayu sweetfish (Plecoglossus altivelis ) were compared with the laboratory experimental data on willow shiner (Gnathopogon caerulescens ) in our previous reports. The bioconcentration factors (BCF) of pesticides in the field could not be satisfactorily estimated from the experimental data due to the difference of fish species. However, the order of BCF calculated from the field data (CNP > oxadiazon > benthiocarb > diazinon > IBP > simetryne) was almost same to that for willow shiner (CNP > oxadiazon > diazinon > benthiocarb > IBP > simetryne). Further, it has become apparent from the field data that these pesticides are rapidly excreted from pale chub and ayu sweetfish after stopping their use. These results were consistent with the experimental data for willow shiner showing rapid excretion rates of these pesticides.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01504 Effects on organisms  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts; Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Tsuda, T., Inoue, T., Kojima, M., and Aoki, S. (1996). Pesticides in water and fish from rivers flowing into Lake Biwa. *Bulletin of Environmental Contamination and Toxicology. Vol. 57, no. 3, pp. 442-449. Sep 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0007-4861  
Descriptors: pesticides  
Descriptors: water pollution  
Descriptors: bioaccumulation  
Descriptors: Pisces  
Descriptors: freshwater fish  
Descriptors: agricultural pollution  
Descriptors: agricultural runoff  
Descriptors: fish  
Descriptors: Japan, Biwa L.  
Descriptors: water pollution sources  
Descriptors: Pisces  
Descriptors: Japan, Honshu, Shiga Prefect., Biwa L.  
Abstract: We have already reported various pesticide contamination of water and fish (pale chub, ayu sweetfish and dark chub) from rivers flowing into Lake Biwa from April in 1988 to March in 1992. In this report, the same surveys were more extensively performed for twenty one pesticides (salithion, diazinon, IBP, tolclofosmethyl, chlorpyriphos, fenthion, malathion, fenitrothion, isofenphos, phenthoate, prothiophos, propaphos, methidathion, butamifos, isoprothiolane, edifenphos, EPN, pyridaphenthion, phosmet, benthiocarb and simetryne) from April in 1992 to March in 1993, and for nine pesticides (fenobucarb, carbofuran, simazine, chlorothalonil, pretilachlor, isoprothiolane, flutolanil, benthiocarb and simetryne) from April in 1993 to March in 1994.  
Language: English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: X 24136 Environmental impact  
Classification: D 04802 Pollution characteristics and fate  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: Q5 01504 Effects on organisms  
Classification: SW 3020 Sources and fate of pollution  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Ecology Abstracts; Toxicology Abstracts

Tsuda, T., Kojima, M., Harada, H., Nakajima, A., and Aoki, S. (1997). Relationships of Bioconcentration Factors of Organophosphate Pesticides Among Species of Fish. *Comp.Biochem.Physiol.C* 116: 213-218.

EcoReference No.: 19012  
Chemical of Concern: CPY,DS,DZ,MDT,FNTH,FNT,IFP; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(ALL CHEMS).

TSUDA, T., KOJIMA, M., HARADA, H., NAKAJIMA, A., and AOKI, S. (1997). Relationships of bioconcentration factors of organophosphate pesticides among species of fish. *COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY C PHARMACOLOGY TOXICOLOGY & ENDOCRINOLOGY; 116* 213-218.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
BIOSIS COPYRIGHT: BIOL ABS. A study was made of correlations between fish species in a logarithm of bioconcentration factor (logBCF) of 15 organophosphate pesticides in guppy (Lebistes reticulatus), killifish (Oryzias latipes), goldfish (Carassius auratus), and white cloud mountain fish (Tanichthys albonubes). The correlation coefficient (gamma) between the fish species (0.9458-0.9937) was considerably higher than that (0.6208-0.7642) between a logarithm of noctanol-water partition coefficient (logPow) and logBCF for the same 11 pesticides. If an appropriate reference fish can be selected as test fish, estimation of BCF in various species of fish by the BCF in the reference fish will be more accurate than that by Pow, because the former estimation considers the ionic characteristics, metabolism, molecular weights, etc., which are the reason for the low correlation between logPow and logBCF. Biochemistry/ Poisoning/ Animals, Laboratory/ Fishes

Tsuji, S., Tonogai, Y., Ito, Y., and Kanoh, S. (1986). The Influence of Rearing Temperatures on the Toxicity of Various Environmental Pollutants for Killifish (Oryzias latipes). *J.Hyg.Chem.(Eisei Kagaku)* 32 : 46-53 (JPN) (ENG ABS).

EcoReference No.: 12497  
Chemical of Concern: Captan,CBL,DZ,HCCH,CuS,CuCl,CrAC, NaLS, CdCl, AgN, PL, BNZ, PbN, PbAc, FML, AND, 3CE, CF, MnCl, ZnCl2, DDT, FeCl3, CrO3, HgCl2, PRN, CTC,Se,Zn,C8OH; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Tsutsumi, Toshihiko, Tokumura, Akira, and Kitazawa, Shikifumi (1998). Undifferentiated HL-60 cells internalize an antitumor alkyl ether phospholipid more rapidly than resistant K562 cells. *Biochimica et Biophysica Acta (BBA) - Lipids and Lipid Metabolism* 1390: 73-84.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
In this study, we confirmed a previous finding that 1-O-octadecyl-2-O-methyl-rac-glycero-3-phosphocholine (methyl-PAF) expresses higher antineoplastic activity against the promyelocytic leukemia cell line HL-60, than against the erythroleukemic cell line K562, and intended to clarify the reason for this. Using an albumin back-exchange method, we measured the rates of binding and internalization of methyl-PAF by HL-60 and K562 cells. We found that methyl-PAF associated very rapidly and to similar extents with the two types of cells at low concentrations of extracellular bovine serum albumin, but that when bound to the cell surface, it was internalized into HL-60 cells faster than into K562 cells. The internalization of methyl-PAF by HL-60 cells was concentration-independent, intracellular ATP-independent and susceptible to thiol group-modifying reagents and cytochalasin B. Thus the inward transbilayer movement of methyl-PAF seems to occur by cytochalasin B-sensitive protein-mediated mechanism based on passive diffusion not requiring energy, in which SH-groups of protein play a critical role. We also found that the internalization of 1-hexadecanoyl-2-(4,4-difluoro-5,7-dimethyl-4-bora-3a,4a-diaza-s-indacene-3-pentanoyl)-sn-glycero-3-phosphocholine (Bodipy-C5-PC), whose structure resembles that of methyl-PAF, into HL-60 cells was faster than that into K562 cells. Using a combination of an albumin back-exchange method and observation by confocal laser scanning microscopy, we next examined the intracellular distribution of this fluorescent phospholipid probe after its internalization. Intracellular membranes, especially those peripheral to nuclei, were fluorescence-labeled in both HL-60 and K562 cells, but fluorescence of the nuclear membranes was weak, suggesting that this probe seems mainly to accumulate in intracellular granules, and may interact directly with several key enzymes for phospholipid metabolism, leading to cell injury. Because the difference between the internalization rates of methyl-PAF in HL-60 and K562 cells was correlated with their different susceptibilities to the cytotoxic effect of methyl-PAF, we suggest that the capacities for uptake of methyl-PAF and its accumulation in intracellular membranes are critical factor for its induction of apoptosis. Methyl-PAF (ET-18-OCH3)/ HL-60 cell/ K562 cell/ Phospholipid internalization/ Bodipy-C5-PC

Tu, C. M. (1991). Effect of Some Technical and Formulated Insecticides on Microbial Activities in Soil. *J.Environ.Sci.Health Part B* 26: 557-573.

EcoReference No.: 69689  
Chemical of Concern: Hg,CHD,ES,CPY,DZ,PRN,PMR,CYP,HgCl2,FNF,FNV; Habitat: T; Effect Codes: POP; Rejection Code: LITE EVAL CODED(CYP),OK(ALL CHEMS).

TU JC and ZHENG, J. (1993). COMPATIBILITY OF BIOCONTROL AGENTS WITH DCT. *MEDEDELINGEN FACULTEIT LANDBOUWKUNDIGE EN TOEGEPASTE BIOLOGISCHE WETENSCHAPPEN UNIVERSITEIT GENT; 58* 1359-1364 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE BACILLUS-SUBTILIS PSEUDOMONAS-FLUORESCENS GLIOCLADIUM-VIRENS RHIZOCTONIA-SOLANI FUSARIUM-SOLANI PYTHIUM-ULTIMUM PHASEOLUS-VULGARIS DIAZINON CAPTAN THIOPHANATE METHYL ROOT ROT SEED TREATMENT GROWTH PROLIFERATION REPRODUCTION MOBILITY BIOLOGICAL CONTROL INTEGRATED PEST MANAGEMENT Ecology/ Plants/ Biochemistry/ Movement/ Bacteria/Physiology/ Bacteria/Metabolism/ Plants/Anatomy & Histology/ Plants/Metabolism/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Growth & Development/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Anatomy & Histology/ Reproduction/ Vegetables/ Fungi/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Pseudomonadaceae/ Gram-Positive Endospore-Forming Bacteria/ Mitosporic Fungi/ Phycomycetes/ Legumes

TU JC and ZHENG, J. (1993). EFFECTS ON SOIL MOISTURE ON DCT EFFICACY AGAINST WHITE BEAN ROOT ROT COMPLEX. *MEDEDELINGEN FACULTEIT LANDBOUWKUNDIGE EN TOEGEPASTE BIOLOGISCHE WETENSCHAPPEN UNIVERSITEIT GENT; 58* 1469-1475.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NON-ENGLISH.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE PYTHIUM-ULTIMUM FUSARIUM-SOLANI RHIZOCTONIA-SOLANI DIAZINON CAPTAN THIOPHANATE METHYL FUNGICIDE SEED GERMINATION SEED ROT DAMPING OFF HYPOCOTYL INFECTION PHYTOTOXICITY SEED COAT FUNGAL GROWTH Biochemistry/ Poisoning/ Animals, Laboratory/ Plants/Anatomy & Histology/ Plants/Metabolism/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Growth & Development/ Biophysics/ Plants/Physiology/ Plants/Metabolism/ Plants/Anatomy & Histology/ Reproduction/ Soil/ Vegetables/ Fungi/ Plant Diseases/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Mitosporic Fungi/ Phycomycetes/ Legumes

Tuovinen, Kai, Paakkanen, Heikki, and Hanninen, Osmo (2000). Detection of pesticides from liquid matrices by ion mobility spectrometry. *Analytica Chimica Acta* 404: 7-17.  
Chem Codes: Chemical of Concern: ADC ,DMT Rejection Code: METHODS.  
  
The detection of different pesticide compounds from liquid matrices was achieved by aspiration ion mobility spectrometry. This technique is based on ion mobility which is proportional to the molecular weight and charge. The ion mobility spectrometer is able to measure mobility changes of product ions as well as mobility changes of reactant ions. In the ion mobility spectrometer used, it is possible to measure positive and negative ion clusters at the same time in six different electrodes. Each measuring electrode detects a different portion of the ion mobility distribution formed within the cell's radioactive source. The pattern recognition used is based on differences in the gas phase profiles of the different compounds. The results of this study reveal that the ion mobility spectrometer MGD-1 can also be used to measure pesticides even from liquid matrices. On the basis of projection calculation, the responses for 2-propanol (=&nbsp;background) and pesticide compounds were easily separated from each other. The greatest responses for pesticides were seen in the 2nd positive channel. Correspondingly, only minor background signals were measured in the 1st and 2nd positive channels. The detection limits of pesticides were at ng or [mu]g levels. The sensitivity of detection of the ion mobility spectrometer for different pesticides decreased in the order: diazinon, aldicarb, dimethoate and parathion. In comparison with the traditional ion mobility spectrometric technique, the main advantages of this aspiration technique are its fast response, high sensitivity, real time vapor monitoring, straightforward maintenance and low cost. In addition, the cell tolerates high chemical concentrations and still recovers quickly.

Tutudaki, M., Tsakalof, A. K., and Tsatsakis, A. M. (2003). Hair analysis used to assess chronic exposure to the organophosphate diazinon: a model study with rabbits. *Human & Experimental Toxicology [Hum. Exp. Toxicol.]. Vol. 22, no. 3, pp. 159-164. Mar 2003.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
ISSN: 0960-3271  
Descriptors: Hair  
Descriptors: Diazinon  
Descriptors: Pesticides (organophosphorus)  
Abstract: The main purpose of the present study was to determine whether hair analysis would be a suitable method to assess chronic exposure of rabbits to the pesticide diazinon. A controlled study was designed, in which white rabbits of the New Zealand variety were systemically exposed to two dosage levels (15 mg/kg per day and 8 mg/kg per day) of the pesticide, through their drinking water, for a period of 4 months. Hair samples from the back of the rabbits were removed before commencing the experiment and at the end of the dosing period. Parallel experiments with spiked hair were carried out in order to design a simple and efficient method of extraction of diazinon from hair. The hair was pulverized in a ball mill homogenizer, incubated in methanol at 37 degree C overnight, liquid-liquid extracted with ethyl acetate and measured by chromatography techniques (GC-NPD and GC-MS) for confirmation. The concentration of the diazinon in the hair of the exposed animals ranged from 0.11 to 0.26 ng/mg hair. It was concluded that there is a relationship between the administered dose and the detected pesticide concentration in hair. Finally, it seems that hair analysis may be used to investigate chronic exposure to the pesticide.  
DOI: 10.1191/0960327103ht334oa  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts

Tutudaki, Maria, Tsakalof, Andreas, and Tsatsakis, Aristidis M. (2003). Hair analysis: Evaluation of a simple method to assess chronic exposure of rats to the organophosphate diazinon. *Toxicology Letters* 144: s160-s161.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT, METHODS.

Tuzimski, Tomasz and Soczewinski, Edward (2002). Chemometric characterization of the RF values of pesticides in thin-layer chromatography on silica with mobile phases comprising a weakly polar diluent and a polar modifier. Part V. *Journal of Planar Chromatography--Modern TLC* 15: 164-168.  
Chem Codes: Chemical of Concern: DZM Rejection Code: METHODS.  
  
Relationships between Rf values and mobile phase compn. have been detd. for 20 pesticides. Chromatog. was performed on silica gel (and other adsorbents) with mobile phases comprising a weakly polar diluent (heptane) and a polar modifier (Et acetate, THF, or dioxane). The relationships obtained constitute a retention database. Group selectivity was compared by use of correlation between Rf coeffs., by analogy with two-dimensional TLC. The greatest spread of points, indicative of the highest selectivity, was obtained by use of nonaq. mobile phases on silica and by use of the aq. mobile phase methanol-water, 60 + 40 (vol./vol.) on water-wettable octadecylsilica (RP-18W). The most selective systems (normal- and reversed-phase) were chosen for sepn. of a mixt. of 9 pesticides; these were fully sepd. by two-dimensional development (2D TLC) on a TLC plate comprising coupled layers of octadecyl silica (reversed-phase, RP) and plain silica (normal-phase, NP). [on SciFinder (R)] Copyright: Copyright 2005 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2002:694908  
Chemical Abstracts Number: CAN 137:334217  
Section Code: 5-1  
Section Title: Agrochemical Bioregulators  
Document Type: Journal  
Language: written in English.  
Index Terms: Pesticides; TLC (Rf values of pesticides in TLC on silica with mobile phases comprising a weakly polar diluent and a polar modifier); Silica gel Role: ARU (Analytical role, unclassified), ANST (Analytical study) (TLC of pesticides on plates coated with); Pesticides (toxicity; Rf values of pesticides in TLC on silica with mobile phases comprising a weakly polar diluent and a polar modifier)  
CAS Registry Numbers: 309-00-2 (Aldrin); 333-41-5 (Diazinon); 533-74-4 (Dazomet); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1698-60-8 (Chloridazone); 2032-65-7 (Methiocarb); 2303-17-5 (Triallate); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 21087-64-9 (Metribuzin); 26225-79-6 (Ethofumesate); 55179-31-2 (Bitertanol); 60207-90-1 (Propiconazole); 66230-04-4 (Esfenvalerate); 82657-04-3 (Bifenthrin); 162354-96-3 (Iso-chloridazon) Role: ANT (Analyte), ANST (Analytical study) (Rf values of pesticides in TLC on silica with mobile phases comprising a weakly polar diluent and a polar modifier); 188959-04-8 ((RP-18W) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (TLC of pesticides on plates coated with); 142-82-5 ((Heptane) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (diluent in TLC of pesticides on silica); 109-99-9 (THF); 123-91-1 (Dioxane).); 141-78-6 ((Ethyl acetate) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (polar modifier in TLC of pesticides on silica)  
Citations: 1) Dzido, T; Planar Chromatography, A Retrospective View for the Third Millennium 2001, 68  
Citations: 2) Tuzimski, T; Thesis Dissertation Medical University to be published 2002  
Citations: 3) Tuzimski, T; Chromatographia in press 2002, 56  
Citations: 4) Tuzimski, T; J Chromatogr A 2002, 961, 277  
Citations: 5) Soczewinski, E; J Planar Chromatogr 1998, 11, 90  
Citations: 6) Soczewinski, E; J Planar Chromatogr 1999, 12, 186  
Citations: 7) Tuzimski, T; J Planar Chromatogr 2002, 15, 124 TLC/ pesticide

U.S.Environmental Protection Agency (1985). Appendix B - Response to Public Comments on "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses". *Fed.Regist.* 50: 30793-30796.  
Chem Codes: Chemical of Concern: Se,Zn,Ag,DZ,ATZ Rejection Code: NO TOX DATA.

U.S.Environmental Protection Agency (2005). Aquatic Life Ambient Water Quality Criteria: Diazinon. *EPA-822-R-05-006, Final Rep., U.S.EPA, Washington, D.C.* 78 p.  
Chem Codes: EcoReference No.: 84057  
Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

U.S.Environmental Protection Agency (1987). Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants. *EPA-440/4-87-005, National Technical Information Service, Springfield, VA*.  
Chem Codes: Chemical of Concern: ATZ,DZ,Se Rejection Code: NO TOX DATA.

U.S.Environmental Protection Agency (1986). Stream Design Flow for Steady-State Modeling. *In: Book VI-Design Conditions, In: Chapter 1, Technical Guidance Manual for Performing Waste Load Allocation, Office of Water, Washington, DC*.  
Chem Codes: Chemical of Concern: Se,Zn,Ag,DZ,ATZ Rejection Code: METHODS/MODELING/NO TOX DATA.

U.S.Environmental Protection Agency (1991). Technical Support Document for Water Quality-Based Toxics Control. *EPA-505/2-90-001, U.S.EPA, Washington, D.C.* 292 p. (U.S.NTIS PB91-127415).  
Chem Codes : EcoReference No.: 63020  
Chemical of Concern: TBT,Cr,As,CN,Cu,Ni,Cd,DZ,ATZ Rejection Code: REFS CHECKED/REVIEW.

U.S.Environmental Protection Agency (1994). Water Quality Standards Handbook 2nd Edition. *EPA-823-B94-005b*.  
Chem Codes: Chemical of Concern: Cu,Se,Cd,Pb,DZ,ATZ Rejection Code: NO TOX DATA.

U.S.Environmental Protection Agency (1983). Water Quality Standards Regulation. *Fed.Regist.* 48: 51400-51413.  
Chem Codes: EcoReference No.: 49024  
Chemical of Concern: TBT,CN,As,ACL,Cl,PCP,TXP,ACE,Al,NH,NYP,Cr,Ni,Se,Cd,Zn,Ag,Pb,DZ,ATZ Rejection Code: REVIEW.

Ueda, Kenzo, Gaughan, Loretta C., and Casida, John E. (1975). Metabolism of four resmethrin isomers by liver microsomes. *Pesticide Biochemistry and Physiology* 5: 280-294.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Microsomal esterases of mouse and rat liver readily cleave the trans- but not the cis-isomers of resmethrin (5-benzyl-3-furylmethyl chrysanthemate). The ester linkage also appears to undergo oxidative cleavage when esterase attack is minimal, i.e., with (+)-cis- and particularly (-)-cis-resmethrin in microsome-NADPH systems and with any of the isomers when NADPH is added to microsomes pretreated with TEPP. Metabolites retaining the ester linkage are detected in significant amounts only with (+)-cis-resmethrin in which case they are formed by oxidation at either the trans(E)- or cis(Z)-methyl group of the isobutenyl moiety with or without oxidation of the benzylfurylmethyl group. Metabolites of each acid moiety include chrysanthemic acid and up to six derivatives of this acid formed by oxidation at the trans(E)- or cis(Z)-methyl group yielding the corresponding alcohol, aldehyde, or acid, with chrysanthemate isomer and enzyme source variations in the preferred site of oxidation. The major identified metabolite of the alcohol moiety is either benzylfurylmethanol or the corresponding carboxylic acid depending on the enzyme system used. In the course of microsomal oxidation, a fragment from the alcohol but not the acid moiety of (+)-trans- and (+)-cis-resmethrin is strongly bound to microsomal components. These findings confirm in vivo studies on the isomeric variations in metabolism of the resmethrin components.

Uno, S., Shiraishi, H., Hatakeyama, S., and Otsuki, A. (1997). Uptake and Depuration Kinetics and BCFs of Several Pesticides in Three Species of Shellfish (Corbicula leana, Corbicula japonica, and Cipangopludina. *Aquat.Toxicol.* 39: 23-43.

EcoReference No.: 18399  
Chemical of Concern: TBC,DZ; Habitat: A; Effect Codes: ACC; Rejection Code: NO COC(DZ).

Uno, S., Shiraishi, H., Hatakeyama, S., Otsuki, A., and Koyama, J. (2001). Accumulative Characteristics of Pesticide Residues in Organs of Bivalves (Anodonta woodiana and Corbicula leana) Under Natural Conditions. *Arch.Environ.Contam.Toxicol.* 40: 35-47.

EcoReference No.: 65855  
Chemical of Concern: MLT,DZ,MLN,TBC,BTC,ODZ; Habitat: A; Effect Codes: ACC; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Uno, S., Shiraishi, H., Hatakeyama, S., Otsuki, A., and Koyama, J. (2001). Accumulative Characteristics of Pesticide Residues in Organs of Bivalves (Anodonta woodiana and Corbicula leana) Under Natural Conditions. *Arch.Environ.Contam.Toxicol.* 40: 35-47.

EcoReference No.: 65855  
Chemical of Concern: MLT,DZ,MLN,TBC,BTC,ODZ; Habitat: A; Effect Codes: ACC; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Vaid, S. and Mishra, I. M. (1997). Simultaneous Determination of Three Organophosphorus Pesticides by Reversed-Phase High Performance Liquid Chromatography in Fish Brain Homogenates. *Environ.Ecol.* 15: 717-719.

EcoReference No.: 18206  
Chemical of Concern: DZ,MLN; Habitat: A; Effect Codes: ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

Vaissayre, M. (1986). Chemical Control of the Mite Polyphagotarsonemus latus (Banks) in Cotton Fields. *Coton Fibres Trop.* 41: 38-43.

EcoReference No.: 71047  
Chemical of Concern: EN,DZ; Habitat: T; Rejection Code: TARGET(DZ).

Vaissayre, M. (1986). Lutte Chimique Contre l'Acarien Polyphagotarsonemus latus (Banks) en Culture Cotonniere. *Coton Fibres Trop.* 41: 31-38 (FRE).  
Chem Codes: Chemical of Concern: EN,DZ Rejection Code: PUBL AS.

Valdes, J. J., Eldefrawi, M. E., and Army Edgwood Research, Development and Engineering Cent., Aberdeen Proving Ground, MD (USA) (1993). Rapid detection of anticholinesterase pesticides.  
Chem Codes: Chemical of Concern: ADC Rejection Code: IN VITRO.  
  
A light addressable potentiometric sector (LAPS) was used to detect organophosphate and carbamate anticholinesterase (antiChEs), using eel acetylcholinesterase (AChE) as the biological sensing element. The biotinylated AChE was first pre-incubated with either an inhibitor or buffer alone, then captured on the biotinylated nitrocellulase membrane via streptavidin cross-linking, or the AChE was pre-immobilized on the capture membrane, then a sample containing the antiChE was filtered through the capture membrane. Hydrolysis of acetylcholine (ACh) by the captured AChE resulted in a strong potentiometric signal and the immobilized AChE retained its affinity for ACh and antiChEs. IC (sub 50) values for inhibition of captured AChE obtained by the LAPS agreed with those obtained by either a spectrophotometric method or a fiber-optic evanescent fluorosensor. Paraoxon and bendiocarb were detected at 10 nM, whereas higher concentrations required for monocrotophos, dicrotophos, dichlorvos, phosdrin, diazinon, tetraethylpyrophosphate, aldicarb, and methomyl. Important features of the LAPS for detection of antiChEs are speed (eight samples assayed simultaneously in minutes), precision, and reusability. pollutant identification. pesticides. membranes. pollutants Language: English  
Identifiers: biosensors  
Subfile: Water Resources Abstracts

VAN DE VEIRE M (1990). CHEMICAL CONTROL OF THE CECID HETEROPEZA-PYGMAEA IN THE CULTURE OF THE OYSTER MUSHROOM PLEUROTUS-OSTREATUS. *INTERNATIONAL SYMPOSIUM ON CROP PROTECTION. MEDED FAC LANDBOUWWET RIJKSUNIV GENT; 55* 681-684.  
Chem Codes: Chemical of Concern: BFT Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BIFENTHRIN TEFLUTHRIN CYROMAZINE DIFLUBENZURON BUPROFEZIN FLUFENOXURON TEFLUBENZURON DIAZINON ENDOSULGAN Congresses/ Biology/ Biochemistry/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Basidiomycota/ Diptera

Van de Vrie, M. (1967). The Effect of Some Pesticides on the Predatory Bugs Anthocoris nemorum L. and Orius spec. and on the Woolly Aphid Parasite Aphelinus mali Hald. *Entomophaga Mem.Hors Ser.* 3: 95-101.

EcoReference No.: 69418  
Chemical of Concern: PRN,ES,DZ; Habitat: T; Rejection Code: TARGET(DZ).

Van Der Geest, H. G., Greve, G. D., Boivin, M. E., Kraak, M. H. S., and Van Gestel, C. A. M. ( 2000). Mixture toxicity of copper and diazinon to larvae of the mayfly (Ephoron virgo) judging additivity at different effect levels. *Environmental toxicology and chemistry [environ. Toxicol. Chem.]. Vol. 19, no. 12, pp. 2900-2905. Dec 2000.*  
Chem Codes: Chemical of Concern: Cu Rejection Code: CHEM METHODS/MIXTURE.  
  
The toxic unit concept is commonly applied for determining the effects of a mixture of toxicants. Use of this concept is, however, limited to compounds with similarly shaped dose-response relationships. In the present study, a method is proposed to gain insight regarding the influence of differences in the shapes of dose-response relationships on the applicability of the concentration-addition model by judging additivity at different effect levels. To this purpose, two model toxicants with different modes of action and dose-response relationships were selected: copper, and diazinon. Using mortality of the mayfly (Ephoron virgo) as the endpoint, it was demonstrated that the two compounds act in a less-than-concentration-additive manner. Application of the proposed calculation method revealed that the less-than-concentration-addition effect was independent of the effect level on which the mixture was judged. Classification: Q5 01504 Effects on organisms  
Classification: X 24161 Acute exposure  
Classification: Z 05183 Toxicology & resistance  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: X 24131 Acute exposure  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Toxicology Abstracts; Entomology Abstracts; Pollution Abstracts

Van Der Geest, H. G., Stuijfzand, S. C., Kraak, M. H. S., and Admiraal, W. (1997). Impact of a diazinon calamity in 1996 on the aquatic macroinvertebrates in the River Meuse, The Netherlands. *Netherlands Journal of Aquatic Ecology [NETH. J. AQUAT. ECOL.]. Vol. 30, no. 4, pp. 327-330. May 1997.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: INCIDENT.  
  
ISSN: 1380-8427  
Descriptors: Insecticides  
Descriptors: Bioassays  
Descriptors: Pollution effects  
Descriptors: Toxicity  
Descriptors: Lethal limits  
Descriptors: Aquatic insects  
Descriptors: Macroinvertebrates  
Descriptors: Bioassay  
Descriptors: Mortality  
Descriptors: Aquatic Environment  
Descriptors: Chironomus riparius  
Descriptors: Hydropsyche angustipennis  
Descriptors: Invertebrata  
Descriptors: Netherlands, Meuse R.  
Abstract: A more or less continuous load of pesticides has been noted in the River Meuse in recent years. In April 1996, when high concentrations (up to ca. 1 mu g l super(-1)) of the insecticide diazinon were measured in the River Meuse at the Belgian-Dutch border, the maximum concentration for drinking water production was exceeded. This was alerted after activity changes of fish and daphnids in the biological monitoring systems (RIZA). These observations were compared with literature toxicity data of diazinon, in order to determine the ecological impact of this diazinon discharge on the aquatic macroinvertebrates. LC sub(50) values of several aquatic macroinvertebrate species were exceeded. In addition, a high mortality was observed in bioassays with the midge Chironomus riparius and the caddisfly Hydropsyche angustipennis. It is inferred that the species composition of the macrofauna community in the River Meuse is likely to be reduced by such an accident. Recolonization of the River Meuse by sensitive macrofauna species may therefore be prevented by incidental pesticide discharges.  
Language: English  
English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: Q5 01504 Effects on organisms  
Classification: SW 3030 Effects of pollution  
Classification: Z 05210 Aquatic entomology  
Classification: D 04803 Pollution effects  
Subfile: Ecology Abstracts; Entomology Abstracts; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

Van der Geest, H. G., Stuijfzand, S. C., Kraak, M. H. S., and Admiraal, W. (1997). Impact of a Diazinon Calamity in 1996 on the Aquatic Macroinvertebrates in the River Meuse, The Netherlands. *Neth.J.Aquat.Ecol.* 30: 327-330.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.

Van Erp, S., Booth, L., Gooneratne, R., and O'Halloran, K. (2002). Sublethal Responses of Wolf spiders (Lycosidae) to Organophosphorous Insecticides. *Environ.Toxicol.* 17: 449-456.

EcoReference No.: 82065  
Chemical of Concern: DZ,CPY; Habitat: T; Effect Codes: BCM,MOR; Rejection Code: TARGET(DZ).

VAN METRE PC and CALLENDER, E. (1996). Identifying water-quality trends in the Trinity River, Texas, USA, 1969-1992, using sediment cores from Lake Livingston. *ENVIRONMENTAL GEOLOGY; 28* 190-200.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. Chemical analyses were done on cores of bottom sediment from three locations in Lake Livingston, a reservoir on the Trinity River in east Texas to identify trends in water quality in the Trinity River using the chemical record preserved in bottom sediments trapped by the reservoir. Sediment cores spanned the period from 1969, when the reservoir was impounded, to 1992, when the cores were collected. Chemical concentrations in reservoir sediment samples were compared to concentrations for 14 strea River Basin and to reported concentrations for soils in the eastern United States and shale. These comparisons indicate that sediments deposited in Lake Livingston are representative of the environmental setting of Lake Livingston within the Trinity River Basin. Vertical changes in concentrations within sediment cores indicate temporal trends of decreasing concentrations of lead, sodium, barium, and total DDT (DDT plus its metabolites DDD and DDE) in the Trinity River. Possible i Biochemistry/ Minerals/ Air Pollution/ Soil Pollutants/ Water Pollution

Vanninen, I., Hokkanen, H., and Tyni-Juslin, J. (1999). Screening of field performance of entomopathogenic fungi and nematodes against cabbage root flies (Delia radicum L. and D. floralis (Fall.); Diptera, Anthomyiidae. *Acta Agriculturae Scandinavica - Section B Soil and Plant Science, 49 (3) pp. 167-183, 1999*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BIOLOGICAL TOXICANT.  
  
ISSN: 0906-4710  
Descriptors: Bacillus thuringiensis  
Descriptors: Beauveria bassiana  
Descriptors: Brassica spp.  
Descriptors: Finland  
Descriptors: Metarhizium anisopliae  
Descriptors: Paecilomyces farinosus  
Descriptors: Paecilomyces fumosoroseus  
Descriptors: Steinernema feltiae  
Descriptors: Tolypocladium sp.  
Descriptors: Vegetable crops  
Abstract: Finnish isolates of Beauveria bassiana (8 isolates), Metarhizium anisopliae (7), Tolypocladium sp. (2), Paecilomyces farinosus (2), P. fumosoroseus (1), Steinernema feltiae (3) and Bacillus thuringiensis ('Muscabac') were tested for efficacy against mixed populations of Delia radicum and D. floralis under field conditions in 1986-90. All pathogens were applied preventatively, the fungi as aqueous conidial or mycelial suspensions, dry conidia or dry mycelial powder. In only two of the nine experiments did B. bassiana or M. anisopliae give some control. In 1986, B. bassiana SF85-2 and Tolypocladium sp. SF85-4 (both at rate 1.2 x 10 superior 9 conidia plant - 1), and 'Muscabac' (25 g 1 superior - superior 1, 1 dl plant superior - superior 1) reduced the number of pupae by 80%, 60% and 50%, respectively, as compared with untreated and chemical (isophenphos) controls. In 1990, M. anisopliae SF86-39 at rate 1.6 x 10 superior 9 conidia plant superior - superior 1 and 1.5 x 10 superior 8 CFU plant superior - superior 1 and S. feltiae SFS-22 (35 000 plant superior - superior 1), increased the yield of cauliflower 2.2, 1.8, and 2.3- fold, respectively, as compared with the untreated control, but these yields were only 19%, 15% and 19% of those of the chemical (diazinon) control. Paecilomyces isolates were ineffective in the 1986 experiment in which they were included. Our results suggest that it is difficult to find efficient control agents among the fungal and nematode species tested for use as biopesticides against cabbage root flies, but that the potential of M. anisopliae against these pests deserves further study. (C) 1999 Scandinavian University Press.  
47 refs.  
Language: English  
English  
Publication Type: Journal  
Publication Type: Article  
Country of Publication: Norway  
Classification: 92.10.4.5 CROP SCIENCE: Crop Protection: Biological control  
Classification: 92.10.2.3 CROP SCIENCE: Agronomy and Horticulture: Root and tuber crops  
Subfile: Plant Science

Vasilevsky, Sergei F., Mshvidobadze, Elena V., Mamatyuk, Victor I., Romanenko, Galina V., and Elguero, Jose (2005). Unexpected results in the heterocyclization of 5-acetylenylpyrazole-4-carboxylic acid hydrazides under the influence of CuCl: formation of a diazepinone and dehydrodimerization into the corresponding bis(pyrazolo[4,3-d][1,2]diazepinone). *Tetrahedron Letters* 46: 4457-4459.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The simple reaction of cyclization of hydrazides of vic-acetylenylbenzoic and acetylenylpyrazole carboxylic acid can lead to four different compounds: five-membered N-aminolactams, six-membered N-aminolactams, six-membered diazinones and diazepinones, but only the first three have been described. In this paper we report the unexpected formation of a bis(pyrazolo[4,3-d][1,2]diazepinone, the structure of which has been established by X-ray crystallography. Pyrazolopyridines/ Cross-coupling/ Hetarylacetylenes/ Heterocyclization

Vaz, I. A. Jr, Lermen, T. T., Michelon, A., Ferreira, C. A. S., De Freitas, D. R. J., Termignoni, C., and Masuda, A. (2004). Effect of acaricides on the activity of a Boophilus microplus glutathione S-transferase. *Veterinary Parasitology [Vet. Parasitol.]. Vol. 119, no. 2-3, pp. 237-245. Jan 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
ISSN: 0304-4017  
Descriptors: Acaricides  
Descriptors: Enzymatic activity  
Descriptors: Toxicity testing  
Descriptors: Glutathione transferase  
Descriptors: Ixodidae  
Descriptors: Boophilus microplus  
Abstract: In the present study, we report the effect of several acaricides on the enzyme activity of a Boophilus microplus recombinant glutathione S- transferase (rGST). GST was expressed in Escherichia coli and was purified with glutathione (GSH) affinity column chromatography. The kinetic constants were determined by reacting GST with the substrates 1-chloro-2, 4-dinitrobenzene (CDNB) and glutathione. We report the effect of several acaricides on the enzyme activity of rGST. Some acaricides (ethion, amitraz, chlorpyrifos, DDT, cypermethrin, diazinon, ivermectin, deltamethrin and flumethrin) inhibited rGST. Contrarily, coumaphos had an activating effect. Although the accurate mechanisms of the B. microplus resistance to acaricides remain elusive, this work helps in understanding how acaricides can interact with GST.  
Publisher: Elsevier Science B.V., P.O. Box 211 Amsterdam 1000 AE Netherlands, [mailto:nlinfo-f@elsevier.nl], [URL:http://www.elsevier.nl/]  
DOI: 10.1016/j.vetpar.2003.11.004  
Language: English  
English  
Publication Type: Journal Article  
Classification: Z 05183 Toxicology & resistance  
Subfile: Entomology Abstracts

VENKATESWARLU, K. (1993). PESTICIDE INTERACTIONS WITH CYANOBACTERIA IN SOIL AND PURE CULTURE. *BOLLAG, J.-M. AND G. STOTZKY (ED.). SOIL BIOCHEMISTRY, VOL. 8. XI+418P. MARCEL DEKKER, INC.: NEW YORK, NEW YORK, USA; BASEL, SWITZERLAND. ISBN 0-8247-9044-8.; 0 (0). 1993. 137-179.*  
Chem Codes: Chemical of Concern: DZ   
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BLUE-GREEN ALGAE Biochemistry/ Bacteria/Cytology/ Microbiological Techniques/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil Microbiology/ Soil/ Herbicides/ Pest Control/ Pesticides/ Cyanobacteria

Verma, A. N., Sandhu, G. S., and Saramma, P. U. (1967). Relative Efficacy of Different Insecticides as Contact Poisons to the Adults of Singhara-d Beetle Galerucella-birmanica Coleoptera Chrysomellidae trapa-bispinosa-d Mevinphos Carbaryl Bidrin Nicotine Sulfate Parathion Diazinon Phosphamidon DDT Malathion te. *J.Res.Punjab Agric.Univ.* 4: 415-419.

EcoReference No.: 55198  
Chemical of Concern: CBL,DZ,MLN,NCTN; Habitat: T; Rejection Code: TARGET(MLN,DZ,NCTN).

Verrin, S. M., Begg, S. J., Ross, P. S., and Department of Fisheries and Oceans Canada, Sidney, BC (Canada) Inst. Ocean. Sci. (2004). Pesticide use in British Columbia and the Yukon: an assessment of types, applications and risks to aquatic biota.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
ISSN: 0706-6457  
Descriptors: Pesticides  
Descriptors: Bioaccumulation  
Descriptors: Environmental impact  
Descriptors: Canada, British Columbia  
Descriptors: Canada, Yukon Terr.  
Abstract: The Pacific Region (British Columbia and the Yukon) of Canada is characterized by a wide variety of biogeoclimatic zones, an extensive forestry sector, a diverse agricultural industry situated largely in the south, and high human population densities around the Fraser River estuary and the adjacent Georgia Basin. The many different land-based activities in British Columbia (BC) employ a range of pesticides and application methods. Pesticides used in the past have included persistent, bioaccumulative and toxic compounds, many of which have been eliminated from general use. The majority of current-use pesticides (CUP) registered for use in BC tend to have shorter half-lives, are generally non-bioaccumulative, and are, for the most part, less toxic than their predecessors. In this report 23 CUP are identified as being of potential concern in terms of the health of aquatic (freshwater and marine) ecosystems. These include 2,4-D, atrazine, carbaryl, captan, chlorothalonil, chlorpyrifos, copper chromated arsenic (CCA), creosote, diazinon, diuron, endosulfan, ethalfluralin, fenitrothion, glyphosate, malathion, 2-methyl-4-chlorophenoxyacetic acid (MCPA), pendimethalin, pentachlorophenol (PCP), quintozene, simazine, triclopyr, and trifluralin, as well the undisclosed surfactants used in biological insecticides such as Bacillus thuringiensis kurstaki.  
Language: English  
English; French  
Publication Type: Report  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Classification: Q5 01504 Effects on organisms  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Verschueren, K. (1983). Handbook of Environmental Data on Organic Chemical. *Handbook of Environmental Data on Organic Chemical, 2nd Edition, Van Nostrand Reinhold Co., New York, NY*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.

VERSTEEG DJ, STALMANS, M., DYER SD, and JANSSEN, C. (1997). Ceriodaphnia and Daphnia: A comparison of their sensitivity to xenobiotics and utility as a test species. *CHEMOSPHERE; 34* 869-892.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. A comparison between Ceriodaphnia sp. and other Cladoceran species including Daphnia magna and D. pulex was made in terms of their life history, geographical distribution, available acute and chronic toxicity test methods and their sensitivity to compounds. Standardized methods currently exist to conduct acute and chronic toxicity tests with C. dubia and this species has received considerable attention in North America. Rewons for this attention include the taxonomic closeness to D. magna, distribution throughout North America, relatively short duration of chronic reproductive toxicity tests (seven days), and Ceriodaphnia's sensitivity. Our review of the literature demonstrates the pandemic distribution of Ceriodaphnia (Europe, Asia, and North America included), the ecological importance of Ceriodaphnia species in freshwater plankton communities, and comparative acute and chronic sensitivity to a broad array of compounds and effluents. These attributes suggest that dat MH - ANIMALS Ecology/ Ecology/ Oceanography/ Fresh Water/ Biochemistry/ Poisoning/ Animals, Laboratory/ Crustacea

Verstraeten, Sandra V., Nogueira, Luciana V., Schreier, Shirley, and Oteiza, Patricia I. ( 1997). Effect of Trivalent Metal Ions on Phase Separation and Membrane Lipid Packing: Role in Lipid Peroxidation. *Archives of Biochemistry and Biophysics* 338: 121-127.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The capacity of Al3+-related cations (Sc3+, Ga3+, In3+, Be2+, Y3+, and La3+) to promote membrane rigidification and lateral phase separation was evaluated in liposomes containing zwitterionic (phosphatidylcholine, PC) and negatively charged (phosphatidylserine, PS) phospholipids. These effects were correlated with the capacity of the ions to stimulate Fe2+-supported lipid peroxidation. Al3+, Sc3+, Ga3+, In3+, Be2+, Y3+, and La3+(50-200 [mu]) increased the order parameter of the fluorescent probe 1,3-diphenylhexatriene incorporated in PC:PS membranes. In addition, the electron paramagnetic resonance spectra of spin-labeled fatty acids indicated a reduction in lipid motion induced by Sc3+, Y3+, and La3+. The effect was found to extend down to carbon 16 on the acyl chain. The ions (10-200 [mu]) were also able to induce lateral phase separation, as evaluated from the increase in fluorescence quenching of the probe 2-(6-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)dodecanoyl-1-hexadecanoyl-sn-glycero-3-phosphocholine. The ability of the ions to alter membrane lipid packing and induce lateral phase separation correlated in a positive manner (r2= 0.91 and 0.90, respectively) with their capacity to stimulate the production of Fe2+-initiated 2-thiobarbituric-reactive species, a measure of lipid peroxidation. These results show that Al3+-related metal ions cause membrane rigidification and phase separation, which could affect membrane-related processes. The results support the hypothesis that ions without redox capacity can stimulate Fe2+-initiated lipid peroxidation by increasing lipid packing and by promoting the formation of rigid clusters. Both processes will bring phospholipid acyl chains closer together, thus favoring the propagation step of lipid peroxidation. cation-membrane interaction/ phase separation/ lipid peroxidation/ membrane rigidification/ fluorescent probe/ spin label

Vighi, M. and Calamari, D. (1987). A Triparametric Equation to Describe QSARs for Heterogeneous Chemical Substances. *Chemosphere* 16: 1043-1051.  
Chem Codes: EcoReference No.: 67526  
Chemical of Concern: DZ Rejection Code: QSAR/REVIEW.

VILANOVA, E. and SOGORB MA (1999). The role of phosphotriesterases in the detoxication of organophosphorus compounds. *CRITICAL REVIEWS IN TOXICOLOGY; 29* 21-57.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM, REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW MAMMAL TOXICOLOGY ENZYMOLOGY PHOSPHOTRIESTERASES ORGANOPHOSPHORUS COMPOUNDS DETOXIFICATION SERUM LIVER ALBUMIN BLOOD AND LYMPHATICS DIGESTIVE SYSTEM Amino Acids/ Peptides/ Proteins/ Minerals/ Enzymes/Chemistry/ Digestive System/Physiology/ Digestive System/Metabolism/ Body Fluids/Chemistry/ Hematopoietic System/ Poisoning/ Animals, Laboratory/ Mammals

Vilkas, A. (1976). Acute Toxicity of Diazinon Technical to the Water Flea, Daphnia magna Straus. *U.S.EPA-OPP Registration Standard*.

EcoReference No.: 13007  
Chemical of Concern: DZ,DDT; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Villarosa, L., McCormick, M. J., Carpenter, P. D., and Marriott, P. J. (1994). Determination of Trace Levels of Diazinon and Propetamphos in Water and Sewage by Solid Phase Extraction. *Int.J.Environ.Anal.Chem.* 54: 93-103.  
Chem Codes: EcoReference No.: 45857  
Chemical of Concern: DZ Rejection Code: NO SPECIES/NO TOX DATA.

Vincens, M., Gong-Cheng, F., Toulhoat, C., Grimaldo-Moron, J. T., and Vidal, M. (1988). Synthese de nouveaux oxydes de tetraphosphines macrocycliques. *Tetrahedron Letters* 29: 6247-6248.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.

Virtue, W. A. and Clayton, J. W. (1997). Sheep Dip Chemicals and Water Pollution. *Sci.Total Environ.* 194/195: 207-217.  
Chem Codes: Chemical of Concern: DZ,PTP Rejection Code: SURVEY.

VIRTUE WA and CLAYTON JW (1997). Sheep dip chemicals and water pollution. *SCIENCE OF THE TOTAL ENVIRONMENT; 194-195* 207-217.  
Chem Codes : Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. The Tweed River Purification Board's objective of reducing the numbers and significance of water pollution incidents by a proactive approach based on persuasion and education is described. This has consisted of prioritising potential pollutant sources which have then been investigated in detail followed by discussion and agreement with dischargers as to remedial measures. The paper describes in detail the Board's investigation of pollution from the organophosphate (OP) sheep dips, Diazinon and Propetamphos, and their effects on surface waters throughout its area. Examination of historical incidents and a preliminary survey of sheep farms in the Ettrick Water catchment in 1989 confirmed the potential for serious pollution. Comparison of OP concentrations in the Ettrick with strategic sites throughout the catchment confirmed the widespread nature of the problem and led to visits to every sheep farmer in the Board's area in 1990 and 1991, when 795 dippers were investigated Ecology/ Fresh Water/ Biochemistry/ Animal Husbandry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Vittozzi, L. and De Angelis, G. (1991). A Critical Review of Comparative Acute Toxicity Data on Freshwater Fish. *Aquat.Toxicol.* 19: 167-204.  
Chem Codes: EcoReference No.: 45858  
Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

Vlyssides, Apostolos, Arapoglou, Dimitris, Mai, Sofia, and Barampouti, Elli Maria (2005). Electrochemical detoxification of four phosphorothioate obsolete pesticides stocks. *Chemosphere* 58: 439-447.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The phosphorothioate pesticides are widely used for crop production and fruit tree treatment, but their disposal causes serious environmental problems. Four commercial phosphorothioate pesticides (Demeton-S-methyl, Metamidophos, Fenthion and Diazinon) were treated by an electrolysis system using Ti/Pt as anode and stainless steel 304 as cathode. A number of experiments were run in a laboratory scale pilot plant and the results are presented. For Fenthion the achieved reduction was over 60%, while for Demeton-S-methyl, Metamidophos and Diazinon was more than 50%. Diazinon had the lowest energy demand. The COD/BOD5 ratio was improved considerably after electrolysis for all four pesticides examined. As a conclusion, electrochemical oxidation could be used as a pretreatment method of the pesticides detoxification. Pesticides/ Electrochemical oxidation/ Demeton-S-methyl/ Metamidophos/ Fenthion/ Diazinon

Vos, Jan P., Giudici, M. Luisa, van der Bijl, Petra, and Lopes-Cardozo, Matthijs (1996). Synthesis of sphingomyelin by oligodendrocytes--how and where?: Lipid Messengers in the Nervous System. *Journal of Lipid Mediators and Cell Signalling* 14: 313-319.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Sphingomyelin (SM) biosynthesis in cultured oligodendrocytes (OC) was evaluated: (i) with [14C] tracers (choline, ethanolamine, serine) to pinpoint the major metabolic routes; (ii) with fluorescent and truncated, radiolabeled ceramide analogs to determine the relative activities of SM-synthase in intra- and extra-Golgi compartments of OC. In contrast to a general contention in the literature that SM synthase is absent from the brain, our data show that (choline --> CDP-choline --> phosphatidylcholine (PC) --> SM) is the major anabolic route with only a minor contribution to PC via methylation of phosphatidylethanolamine (PE). SM synthase activity was found to be equally divided between intra- and extra-Golgi compartments of OC. Moreover, significant SM-synthase activity was recovered in purified myelin preparations. Our results shed new light on the possible involvement of sphingolipid-derived mediators in myelination. Sphingomyelin biosynthesis in the CNS/ Sphingomyelin synthase in myelin/ Fluorescent ceramide analogs/ Rat spinal cord oligodendrocytes

Vyas, N. B., Spann, J. W., Hulse, C. S., Torrez, M., Williams, B. I., and Leffel, R. (2004). Decomposed Gosling Feet Provide Evidence of Insecticide Exposure. *Environmental Monitoring and Assessment [Environ. Monit. Assess.]. Vol. 98, no. 1-3, pp. 351-361. Nov 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO SPECIES.  
  
ISSN: 0167-6369  
Descriptors: Insecticides  
Descriptors: Environmental monitoring  
Descriptors: Aquatic birds  
Descriptors: Pollution effects  
Descriptors: Diazinon  
Descriptors: Foot  
Descriptors: Turf  
Descriptors: Bioindicators  
Abstract: Canada goose goslings were exposed to turf sprayed with D . Z . N registered diazinon 50W application (2.24 kg a.i./ha). The control plot was subjected to a water application. One foot from each bird was placed outdoors for 7 d to decompose and the other foot was kept frozen. Diazinon residues were analyzed on both feet. Results showed that diazinon was detected from undecomposed and decomposed feet of the birds. Diazinon residues were below the level of detection (<0.01 ppm, a.i.) on the feet from the control goslings. Decomposed feet may be used for determining insecticide exposure when the traditional matrices are not available.  
Publisher: Kluwer Academic Publishers  
DOI: 10.1023/B:EMAS.0000038195.38438.be  
Language: English  
English  
Publication Type: Journal Article  
Classification: Q5 01504 Effects on organisms  
Classification: O 4020 Pollution - Organisms/Ecology/Toxicology  
Classification: X 24136 Environmental impact  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Pollution Abstracts; Oceanic Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Toxicology Abstracts

WADE HF, YORK AC, MOREY AE, PADMORE JM, and RUDO KM (1998). The impact of pesticide use on groundwater in North Carolina. *JOURNAL OF ENVIRONMENTAL QUALITY; 27* 1018-1026.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. A North Carolina study revealed that certain pesticides have impacted groundwater above health-based standards in vulnerable areas. Ninety-seven shallow, surficial aquifer-monitoring wells were sampled at least twice. Sites for the monitoring wells were chosen based on an evaluation with the Pesticide DRASTIC model and a known record of pesticide use. Where possible, areas of greater risk were intentionally selected. Twenty-three pesticides or pesticide degradates were detected in 26 of the 97 wells. Nine of the pesticides or degradates are no longer registered for use; two of these chemicals, dibromochloropropane and methylene chloride, were found in excess of health-based guidance levels (HBGL) or state groundwater quality standards (GWQS). Of the registered pesticides or their degradates, the herbicides dichlorprop and simazine and the insecticide isomers BHC-alpha and BHC-delta were in excess of HBGL. The herbicide atrazine was detected at 83% of its GWQS. The U.S. Biophysics/ Cybernetics/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil/ Herbicides/ Pest Control/ Pesticides

Wadhi, S. R. (1961). Tolerance of Peach Saplings to Insecticidal Applications. *Ind.J.Entomol.* 23: 137-148.

EcoReference No.: 71075  
Chemical of Concern: DDT,HCCH,PRN,EN,DZ,MLN; Habitat: T; Effect Codes: PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Walker, C. H. (1983). Pesticides and birds -- mechanisms of selective toxicity. *Agriculture, Ecosystems & Environment* 9: 211-226.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
On present evidence certain pesticides tend to be more acutely toxic to birds than to mammals. This trend is marked with carbamates, less marked with organophosphates. There is also some evidence that birds have a greater capacity for bioaccumulation of persistent pesticides such as dieldrin and DDE than do mammals of similar size.Consideration is given to biochemical and physiological contrasts between the two groups which may be connected with these differences. Small liver size, the maintenance of relatively high body temperatures, the direct movement of blood to the kidneys, the process of egg laying and the release of urine into the cloaca are all special features of birds which may affect selective toxicity.There is also evidence that birds are deficient in certain enzymes which aid the detoxication of pesticides. Birds tend to have very low levels of &lsquo;A&rsquo; esterase in comparison to mammals, and this may explain their high susceptibility to organophosphates such as pirimiphos-methyl and diazinon. Hepatic microsomal monooxygenase activity also tends to be low in birds and this may have far-reaching consequences. In some birds the relatively high susceptibility to carbamates and the tendency to bioaccumulate persistent organochlorine compounds may be due, at least in part, to a deficiency in this enzyme system.A case can be made for more detailed investigation of comparative detoxication mechanisms in birds and other vertebrates to aid the explanation and the prediction of patterns of selective toxicity.

WALL GR and PHILLIPS PJ (1998). Pesticides in the Hudson River Basin, 1994-96. *NORTHEASTERN GEOLOGY AND ENVIRONMENTAL SCIENCES; 20* 299-307.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The occurrence, distribution, and temporal of pesticide concentrations were studied in the Hudson River Basin during 1994-96. This article presents the results of three separate pesticide studies conducted as part of the U.S. Geological Survey (USGS) National Water Quality Assessment (NAWQA) program. Pesticides were found in all three studies, but rarely at concentrations exceeding any U.S. Environmental Protection Agency drinking-water standards. The highest concentrations were detected during and immediately after the first runoff following pesticide applications in the late spring early summer. The herbicides atrazine and metolachlor were the most commonly detected pesticides and were present in nearly every sample collected from streams draining agricultural areas; they also were detected in many streams draining areas with other land uses. Herbicides were most often detected, and had the highest concentrations, in samples from straining agricultural areas, whereas Ecology/ Fresh Water/ Air Pollution/ Soil Pollutants/ Water Pollution/ Plants/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides

Wall, W. J. J. and Marganian, V. M. (1971). Control of Culicoides melleus (Coq.) (Diptera: Ceratopogonidae) with Granular Organophosphorus Pesticides, and the Direct Effect on Other Fauna. *Mosq.News* 31: 209-214.

EcoReference No.: 4800  
Chemical of Concern: CPY,DZ,ABT,FNTH,MLN; Habitat: A; Effect Codes: POP; Rejection Code: NO ENDPOINT(DZ,CPY,ABT,FNTH,MLN).

Wall, W. J. Jr. and Marganian, V. M. (1973). Control of Salt Marsh Culicoides and Tabanus Larvae in Small Plots with Granular Organophosphorus Pesticides, and the Direct Effect on Other Fauna. *Mosq.News* 33: 88-93.

EcoReference No.: 60858  
Chemical of Concern: CPY,DZ,FNTH,ABT; Habitat: A; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

Waller, W. T., Acevedo, M. F., Morgan, E. L., Dickson, K. L., Kennedy, J. H., Ammann, L. P., Allen, H. J., and Keating, P. R. (1995). Biological and Chemical Testing in Storm Water. *Proc.of Storm Water DPDES Related Monitoring Needs, Eng.Found.Conf., Crested Butte, CO, Am.Soc.of Civil Eng., NY* 676 p.  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.

Walter, Anne, Suchy, Susan E., and Vinson, Phillip K. (1990). Solubility properties of the alkylmethylglucamide surfactants. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1029: 67-74.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The critical micelle concentration (CMC) and the ability to solubilize and form vesicles from phospholipids are important criteria for the selection of a surfactant for reconstitution protocols. The CMC and its temperature dependence were determined for an homologous series of alkylmethylglucamides (MEGA-8, MEGA-9, MEGA-10). Each detergent was added continuously from a concentrated solution to a saline buffer with the environment-sensitive fluorescent probe ANS, held in a thermojacketed cuvette; ANS fluorescence increases at the CMC. The CMCs at 25[deg]C were 51.3, 16.0 and 4.8 mM for MEGA-8, MEGA-9 and MEGA-10. The free energy change for transfer to a micellar environment per -CH2- was -740 cal/mol, similar to other alkyl series. The CMCs decreased slightly with increasing temperature (T = 5-40[deg]C) for MEGA-9 and MEGA-10 while that of MEGA-8 was virtually insensitive to temperature in this range. MEGA-9 solubilization of egg PC in aqueous solutions was determined as a function of [PC] and temperature. The lamellar-micellar phase boundaries were determined by simultaneous 90[deg] light scattering and the resonance energy transfer using the headgroup labeled lipid probes NBD-PE and Rho-PE. The [MEGA-9] at solubilization was linear with [PC]; the MEGA-9 to egg PC ratio in the structures at optical clarity was 2.3 while the monomeric [MEGA-9] was 14.3 mM or slightly lower than the CMC at 25[deg]C. Solubilization of egg PC by MEGA-9 was somewhat more temperature-dependent than the CMC of this detergent. Vesicles formed from MEGA-9 tended to be multilamellar. MEGA-9 is clearly different from octyl glucoside, despite its chemical similarity, in terms of its temperature sensitivity and vesicle forming characteristics. Nonionic surfactant/ Alkylmethylglucamide

Wan, H. B., Lan, W. G., Wong, M. K., and Mok, C. Y. (1994). Orthogonal Array Designs For The Optimization Of Liquid Chromatographic Analysis Of Pesticides. 289: 371-380.  
Chem Codes: Chemical of Concern: CHLOR,CLNB Rejection Code: CHEM METHOD.  
  
biosis copyright: biol abs. rrm research article asulan simazine isoprocarb fenobucarb methyldymron devrino isoprothiolane mepronil flutolanil diazinon thiobencarb aprodione terbutol isofenphos pencycuron butamifos prowl dursban balan dichlorvos thiram pyridaphenthion chloroneb pronamide chlorothalonil etridiazole bensulfite tolclofos isoxathion water sample analytical method ecology/ environmental biology-general/ methods/ ecology/ environmental biology-limnology/ biochemical methods-general/ biochemical studies-general/ biophysics-general biophysical techniques/ toxicology-environmental and industrial toxicology/ public health: environmental health-sewage disposal and sanitary measures/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides

WAN MT, SZETO, S., and PRICE, P. (1994). Organophosphorus insecticide residues in farm ditches of the Lower Fraser Valley of British Columbia. *JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH PART B PESTICIDES FOOD CONTAMINANTS AND AGRICULTURAL WASTES;* 29: 917-949.  
Chem Codes: Chemical of Concern: DMT Rejection Code: NO SPECIES.  
  
BIOSIS COPYRIGHT: BIOL ABS. Farm ditches flowing into three important rivers in the Lower Fraser Valley of British Columbia, Canada, were sampled periodically at seven locations from July to December in 1991, to determine the occurrence and levels of seven organophosphorus (OP) insecticides. Based on sales records for the year, the uses of OP insecticides in this area were as follows: malathion > diazinon > parathion > dimethoate > azinphos-methyl > fensulfothion, but no sales of chlorfenvinphos. Residues of parathion, diazinon, fensulfothion, dimethoate and chlorfenvinphos were detected at levels ranging from 1 - 7,785 mug/kg in cropped soils collected from areas adjacent to the sites for sampling ditch water and sediments. Malathion and azinphos-methyl were not detected in any of the substrates studied, demonstrating their rapid degradation in the environment. Diazinon and dimethoate were consistently found in ditch water at seven locations, with an average concentration of 0.07 m Animals/ Ecology/ Ecology/ Fresh Water/ Biochemistry/ Plants/Growth & Development/ Soil/ Soil/ Herbicides/ Pest Control/ Pesticides

WAN MT, SZETO, S., and PRICE, P. (1994). Organophosphorus insecticide residues in farm ditches of the Lower Fraser Valley of British Columbia. *JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH PART B PESTICIDES FOOD CONTAMINANTS AND AGRICULTURAL WASTES; 29* 917-949.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Farm ditches flowing into three important rivers in the Lower Fraser Valley of British Columbia, Canada, were sampled periodically at seven locations from July to December in 1991, to determine the occurrence and levels of seven organophosphorus (OP) insecticides. Based on sales records for the year, the uses of OP insecticides in this area were as follows: malathion > diazinon > parathion > dimethoate > azinphos-methyl > fensulfothion, but no sales of chlorfenvinphos. Residues of parathion, diazinon, fensulfothion, dimethoate and chlorfenvinphos were detected at levels ranging from 1 - 7,785 mug/kg in cropped soils collected from areas adjacent to the sites for sampling ditch water and sediments. Malathion and azinphos-methyl were not detected in any of the substrates studied, demonstrating their rapid degradation in the environment. Diazinon and dimethoate were consistently found in ditch water at seven locations, with an average concentration of 0.07 m Animals/ Ecology/ Ecology/ Fresh Water/ Biochemistry/ Plants/Growth & Development/ Soil/ Soil/ Herbicides/ Pest Control/ Pesticides

WANG C-K and LEE S-E (1997). Evaluation of granular activated carbon adsorber design criteria for removal of organics based on pilot and small-scale studies. *WATER SCIENCE AND TECHNOLOGY; 35* 227-234.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. The major objective of this research is to determine engineering GAC adsorber design criteria for removal of various organic contaminants found in the 3 drinking water sources in the Keum river basin. Dissolved Organic Carbon (DOC) and UV absorbance at 254 nm were chosen as parameters for overall organics level in raw and treated water. Removal of micropollutants including organophosphorus pesticides, MBAS, volatile organic chemicals (VOCs), phenol and NH3-N were also taken into consideration in bench and/or pilot studies. Treatment efficiencies for target contaminants in three different pilot plants with different raw water quality in the same Keum river basin were compared. Identification and decision of the treatment objectives were found to be important factors for determining design parameters such as GAC bed depth. Range of appropriate bed depth and reactivation frequency for different treatment levels were suggested based on pilot studies. Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Sanitation/ Sewage/ Air Pollution/ Soil Pollutants/ Water Pollution

Wang, Qiquan and Lemley, Ann T. (2002). Oxidation of diazinon by anodic Fenton treatment. *Water Research* 36: 3237-3244.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Anodic Fenton treatment (AFT) is a new technology that has several advantages over classic Fenton treatment and electrochemical Fenton treatment. The oxidation of diazinon by AFT using different electrolytes has been investigated. NaCl, KCl and Na2SO4 show similar effects on the extent and rate of oxidation, and the data can be fitted quite well by the AFT kinetics model. Use of NaNO3 as the electrolyte causes low-efficiency electrolysis and a subsequent low oxidation rate for diazinon. The NaCl concentration level in the anodic half-cell and the concentration ratio between the two half-cells is optimized at 0.04 M and 4:1 (cathodic/anodic), respectively. The activation energy of diazinon oxidation by anodic Fenton treatment is estimated to be 12.6+/-0.6 kJ mol-1, which is less than half of that for aqueous chlorine treatment. Diazoxon is the intermediary oxidation product. The oxidation of diazinon as a formulated product has also been investigated. Its dissipation kinetics can also be fitted quite well by the AFT model. Compared with the oxidation of pure diazinon, the oxidation rate of formulated diazinon is much lower, an indication that many formulation ingredients compete with diazinon for reaction with the hydroxyl radical. Fenton treatment/ Diazinon/ Oxidation/ Pesticide/ Anodic

Wang, Zhong-Xia, Chai, Zuo-Yun, and Li, Ye-Xin (2005). Reaction of aryl azides with tris(trimethylsilyl)silyllithium: Synthesis of tmeda or thf adducts of [Li{N(Ar)Si(SiMe3)3}] and 1,4-trimethylsilyl migration from oxygen to nitrogen. *Journal of Organometallic Chemistry* 690: 4252-4257.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Reaction of ArN3 (Ar = Ph, p-MeC6H4, 1-naphthyl) with [Li{Si(SiMe3)3}(thf)3] yielded lithium amides [Li{N(Ar)Si(SiMe3)3}L] (L = tmeda or (thf)2). Similar treatment of o-phenylene diazide with 2 equiv. of [Li{Si(SiMe3)3}(thf)3] formed dilithium diamide complex 4. Reaction between o-Me3SiOC6H4N3 and [Li{Si(SiMe3)3}(thf)3] afforded, via 1,4-trimethylsilyl migration from oxygen to nitrogen, [Li{OC6H4{N(SiMe3)Si(SiMe3)3}-2}]2 (5). The structures of complexes 3 and 5 have been determined by single crystal X-ray diffraction techniques. Tris(trimethylsilyl)silyllithium/ Aryl azides/ Reaction/ Lithium amides/ Trimethylsilyl migration

WARD MP and ARMSTRONG, R. TF (1998). Pesticide use and residues on Queensland wool. *AUSTRALIAN VETERINARY JOURNAL; 76* 739-742.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Objective: To determine practices for control of louse infestation and blowfly strike in Queensland sheep flocks that are associated with organophosphorous and synthetic pyrethroid residues on wool. Design: Information on residues was obtained from a survey of Queensland wool clips. Information on pesticide use was obtained from a trace-back postal survey. The association between pesticide use and residues was assessed using generalised linear models, controlling for potential confounding by flock location. Procedure: Between 1995 and 1997 Queensland wool clips were randomly sampled. Samples were tested for the presence and amount (mg per kg of greasy wool) of organophosphorous and synthetic pyrethroid pesticides. A questionnaire seeking information on flock characteristics and pesticide use was sent to the manager of each flock from which a wool sample was tested. Results: The median amount of OP and SP residue was 0.8 and 0.25 mg/kg, respectively, and 91 and 95% of wo Diagnosis/ Skin/ Animal Husbandry/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Artiodactyla

Ward, R. J., Palmer, M., Leonard, K., and Bhakdi, S. \*. (1994). Identification of a putative membrane-inserted segment in the alpha -toxin of Staphylococcus aureus. *Biochemistry (Washington) [BIOCHEMISTRY (WASH.)]. Vol. 33, no. 23, pp. 7477-7484. 1994.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
ISSN: 0006-2960  
Descriptors: segments  
Descriptors: identification  
Descriptors: cell membranes  
Descriptors: Staphylococcus aureus  
Abstract: To gain a fuller understanding of the regions of the Staphylococcus aureus alpha -toxin important in pore formation, we have used Foerster dipole-dipole energy transfer to demonstrate that a central glycine-rich region of alpha -toxin (the so-called "hinge" region) inserts deeply into the bilayer on association of toxin with liposomes. Mutant alpha -toxins with unique cysteine (C) residues at positions 69 and 130 were reacted with the C-specific flurophore acrylodan, which acted as an energy donor. The chosen acceptor was N-(7-nitrobenz-2-oxa-13-diazol-4-yl) 1,2-bis-(hexadecanoyl) sn-glycero-3-phos phoethanolamine (NBD-PE). Measurement of the degree of donor quenching with increasing NBD-PE in the inner bilayer leaflet enables the distance of closest approach between donor and acceptor to be estimated. For toxin labeled with acrylodan at position 130 (in the hinge region), this distance is approximately 5 angstrom, showing that the probe is close to the inner surface of the liposomes.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24171 Microbial  
Classification: A 01023 Others  
Subfile: Microbiology Abstracts A: Industrial & Applied Microbiology; Toxicology Abstracts

Wardlow, L. R., Ludlam, F. A. B., and Hammon, R. P. (1975). A Comparison of the Effectiveness of Insecticides Against Glasshouse Whitefly (Trialeurodes vaporariorum). *Ann.Appl.Biol.* 81: 433-435.

EcoReference No.: 71321  
Chemical of Concern: DDT,RSM,ES,HCCH,DZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(RSM,DZ).

Wasan, Ellen K., Harvie, Pierrot, Edwards, Katarina, Karlsson, Goran, and Bally, Marcel B. (1999). A multi-step lipid mixing assay to model structural changes in cationic lipoplexes used for in vitro transfection. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1461: 27-46 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Formation of liposome/polynucleotide complexes (lipoplexes) involves electrostatic interactions, which induce changes in liposome structure. The ability of these complexes to transfer DNA into cells is dependent on the physicochemical attributes of the complexes, therefore characterization of binding-induced changes in liposomes is critical for the development of lipid-based DNA delivery systems. To clarify the apparent lack of correlation between membrane fusion and in vitro transfection previously observed, we performed a multi-step lipid mixing assay to model the sequential steps involved in transfection. The roles of anion charge density, charge ratio and presence of salt on lipid mixing and liposome aggregation were investigated. The resonance-energy transfer method was used to monitor lipid mixing as cationic liposomes (DODAC/DOPE and DODAC/DOPC; 1:1 mole ratio) were combined with plasmid, oligonucleotides or Na2HPO4. Cryo-transmission electron microscopy was performed to assess morphology. As plasmid or oligonucleotide concentration increased, lipid mixing and aggregation increased, but with Na2HPO4 only aggregation occurred. NaCl (150 mM) reduced the extent of lipid mixing. Transfection studies suggest that the presence of salt during complexation had minimal effects on in vitro transfection. These data give new information about the effects of polynucleotide binding to cationic liposomes, illustrating the complicated nature of anion induced changes in liposome morphology and membrane behavior. Liposome/DNA complex/ Lipid mixing/ Aggregation/ Cryo-transmission electron microscopy/ Transfection/ Cationic liposome

WATANABE, H. (1992). SUPERHOMAI. *JPN PESTIC INF; 0* 10-11.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RICE CORN COTTON WHEAT THIOPHANATE METHYL THIRAM DIAZINON FOOD CROP PRODUCTION DISINFECTANT FUNGICIDE INSECTICIDE ENVIRONMENTAL PROTECTION ECONOMICS Biochemistry/ Disinfectants/ Disinfection/ Sterilization/ Cereals/ Plants/Growth & Development/ Soil/ Plants/Growth & Development/ Soil/ Textiles/ Plant Diseases/ Preventive Medicine/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Grasses/ Plants

Watanabe, H. and Grismer, M. E. (2001). Diazinon transport through inter-row vegetative filter strips: micro-ecosystem modeling. *Journal of Hydrology* 247: 183-199.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
The efficacy of inter-row vegetative filter strips (VFS) for controlling runoff of the commonly used organo-phosphate insecticide (diazinon) from dormant-sprayed orchards was investigated through development of physical (micro-ecosystem) models. The micro-ecosystem consisted of a pesticide sprayer, rainfall simulator and orchard floor model with and without VFS. Diazinon was sprayed at a rate of 2.8 kg/ha, 24 h prior to rainfall simulation. Rainfall, at an intensity of 50 mm/h and 44% of the natural rainfall energy, was simulated for 60 min. Experiments were conducted for 0, 50 and 100% VFS soil coverage. Diazinon concentrations in runoff, interflow and baseflow, and also in soil and vegetative samples were measured in order to quantify transport/adsorption processes.Total diazinon losses as a fraction of applied pesticide mass from the orchard floor following rainfall-runoff simulation were 8.6, 5.8 and 2.3%, respectively, for the 0, 50 and 100% VFS cover treatments. Diazinon runoff concentrations decreased with time during the rainfall simulation, but at a slower rate in the VFS treatments as compared to the bare soil treatment apparently due to washoff from the sod leaves. The principle mechanism of diazinon runoff control in VFS was diversion of runoff, the primary pesticide carrier, into interflow through the rootzone and mainly vertical infiltration (baseflow) such that the diazinon was trapped on the VFS surface and in its rootzone. In fact, 37 and 88% of the applied diazinon remained as residue in the VFS vegetative matter and rootzone for the 50 and 100% VFS treatments, respectively, following rainfall simulation. Results from the micro-ecosystem suggest that inter-row VFS should be effective in reducing diazinon runoff from dormant-sprayed orchards. These results are used to calibrate a field-applicable numerical model for development of pesticide runoff control strategies, or best management practices (BMP's). Vegetative filter strips/ Pesticides/ Runoff/ Orchards/ Water quality

Watanabe, Hirozumi and Grismer, Mark E. (2003). Numerical modeling of diazinon transport through inter-row vegetative filter strips. *Journal of Environmental Management* 69: 157-168.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
A numerical simulation model of pesticide runoff through vegetative filer strips (PRVFS) was developed as a tool for investigating the effects of pesticide transport mechanisms on VFS design in dormant-sprayed orchard. The PRVFS model was developed applying existing theories such as kinematic wave theory and mixing zone theory for pesticide transport in the bare soil area. For VFS area, the model performs flow routing by simple mass accounting in sequential segments and the pesticide mass balance by considering pesticide washoff and adsorption processes on the leaf, vegetative litter, root zone and soil. Model sensitivity analysis indicated that pesticide transfer from surface soil to overland flow and pesticide washoff from the VFS were important mechanisms affecting diazinon transport. The VFS cover ratio and rainfall intensity can be important design parameters for controlling diazinon runoff using inter-row VFS in orchard. The PRVFS model was validated using micro-ecosystem simulation of diazinon transport for 0, 50 and 100% VFS cover conditions. The PRVFS model is shown to be a beneficial tool for evaluating and analyzing possible best management practices for controlling offsite runoff of dormant-sprayed diazinon in orchards during the rainy season. Vegetative filter strips/ Modeling/ Pesticides/ Runoff/ Orchards/ Diazinon

WATANABE, T. (1998). DETERMINATION OF THE CONCENTRATION OF PESTICIDES IN ATMOSPHERE AT HIGH ALTITUDES AFTER AERIAL APPLICATION. *BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY; 60* 669-676.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE HIGH ALTITUDES PESTICIDES DDT PESTICIDE AERIAL PESTICIDE APPLICATION POLLUTION ATMOSPHERIC CONCENTRATIONS Climate/ Ecology/ Meteorological Factors/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

WATSON JE (1996). PESTICIDES AS A SOURCE OF POLLUTION. *PEPPER, I. L., C. P. GERBA AND M. L. BRUSSEAU (ED.). POLLUTION SCIENCE. XXIV+397P. ACADEMIC PRESS, INC.: SAN DIEGO, CALIFORNIA, USA; LONDON, ENGLAND, UK. ISBN 0-12-550660-0.; 0 (0). 1996. 253-266.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER POLLUTION PESTICIDES POLLUTANT INSECTICIDE RODENTICIDE HERBICIDE PLANT GROWTH REGULATOR FUNGICIDE DISINFECTANT Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Herbicides/ Pest Control/ Pesticides

Watterson, Andrew E. (1999). Regulating pesticides in the UK: a case study of risk management problems relating to the organophosphate diazinon. *Toxicology Letters* 107: 241-248.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Objectives: (1) To assess aspects of occupational and related environmental health risk assessment and risk management decisions of UK regulatory bodies on diazinon used in sheep dip; and (2) to benchmark those decisions against &lsquo;the public health precautionary approach&rsquo;. Methods: Analysis of diazinon health and safety data available within Government Departments, industry and from users in animal husbandry practice. Results: (1) Data on diazinon produced by the manufacturing companies for the UK pesticide regulatory agencies are not fully transparent; (2) UK regulatory health and safety processes assume accuracy of manufacturer&rsquo;s data and information provided on personal protective equipment (PPE) and application effectiveness; (3) data available reveal gaps and problems with diazinon toxicity, PPE and application methods; and (4) little published evidence shows that industry followed up the health of dippers after product registration or that government departments adopted a public health approach to regulation. Conclusions: Diazinon sheep dip illustrates the need for the application of a rigorous precautionary principle in both initial registration and later monitoring of chemicals. Organophosphates/ Diazinon/ Risk Management

Wauchope, R. D. (1978). The Pesticide Content of Surface Water Draining from Agricultural Fields - A Review. *J.Environ.Qual.* 7: 459-472.  
Chem Codes: EcoReference No.: 83831  
Chemical of Concern: DBN,DMB,ASAC,ACR,ATZ,DZ,AND,AMTL,CBL,CBF,CZE,24DXY,DDT,DLD,DU,ES,EN,FMU,FNF,HPT,LNR,MXC,PRN,MBZ,MLT,MSMA,PAQT,PRT,PCL,PMT,PCH,PPZ,SZ,TXP,TFN Rejection Code: NO SPECIES/REVIEW.

Wegner, S. J. and Campbell, L. J. (1991). Radionuclides, chemical constituents, and organic compounds in water from designated wells and springs from the southern boundary of the Idaho National Engineering Laboratory to the Hagerman area, Idaho, 1989.  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
Descriptors: Pollution surveys  
Descriptors: Water springs  
Descriptors: Groundwater pollution  
Descriptors: Water quality  
Descriptors: Pollution monitoring  
Descriptors: Radioactive contamination  
Descriptors: Organic compounds  
Descriptors: DDT  
Descriptors: USA, Idaho, Snake R.  
Abstract: The US Geological Survey and the Idaho Department of Water Resources, in response to a request from the US Department of Energy, have completed the initial phase of a long-term project to monitor the quality of water in the Snake River Plain aquifer from the southern boundary of the Idaho National Engineering Laboratory to the Hagerman area, Idaho. Fifty-five water samples were collected and analyzed for manmade pollutants and naturally occurring contaminants. The samples were collected from 26 irrigation wells, 13 domestic wells, 5 springs, 4 stock wells, 3 dairy wells, 2 observation wells, 1 commercial well, and 1 publicsupply well. Six quality assurance samples also were collected and analyzed. All water samples were analyzed for selected radionuclides, chemical constituents, and organic compounds. The maximum contaminant level established by the US Environmental Protection Agency for gross alpha-particle radioactivity was exceeded in one samples; the maximum contaminant level for mercury also was exceeded in one sample. Both sampling locations in which gross-alpha radioactivity and mercury concentrations were less than maximum contaminant levels. Concentrations of diazinon and malathion exceeded the reporting level in two water samples. One water sample and its quality assurance replicate contained reportable concentrations of DDT. Contract AC07-76ID01570 Sponsored by Department of Energy, Washington, DC (DBO).  
NTIS Order No.: DE92003277/GAR DOE/ID-22098.  
Other numbers: USGS-OFR-91-232  
Language: English  
English  
Publication Type: Report  
Environmental Regime: Freshwater  
Classification: Q5 01503 Characteristics, behavior and fate  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

Weisburger, E. K. (1982). Carcinogenicity Tests on Pesticides. *In: J.E.Chambers and J.D.Yarbrough (Eds.), Effects of Chronic Exposures to Pesticides on Animals Systems, Raven Press, NY* 165-176.

EcoReference No.: 69996  
Chemical of Concern: PNB,DDT,EN,HCCH,ES,DZ; Habitat: T; Effect Codes: PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Weiss, C. M. (1959). Response of Fish to Sub-lethal Exposures of Organic Phosphorus Insecticides. *Sewage Ind.Wastes* 31: 580-593.

EcoReference No.: 60203  
Chemical of Concern: PRN,DZ,MLN,DEM,AZ; Habitat: A; Effect Codes: BCM; Rejection Code: OK(PRN,MLN,DEM,AZ),NO ENDPOINT(DZ).

Weiss, C. M. (1959). Stream Pollution: Response of Fish to Sub-lethal Exposures of Organic Phosphorus Insecticides. *Sewage Ind.Wastes* 31: 580-593.

EcoReference No.: 8113  
Chemical of Concern: AZ,DZ,MLN,PRN,DEM; Habitat: A; Effect Codes: PHY,GRO; Rejection Code: NO ENDPOINT(ALL CHEMS).

Weiss, C. M. and Gakstatter, J. H. (1965). The Decay of Anticholinesterase Activity of Organic Phosphorus Insecticides on Storage in Water of Different pH. *In: Proc.2nd Int.Water Pollut.Res.Conf., August 1964, Tokyo Adv.Water Pollut.Res.* 1: 83-102.  
Chem Codes: Chemical of Concern: MP,PRN,FNTH,DZ,MLN,AZ,TCF,DDVP,DEM Rejection Code: IN VITRO.

Weiss, C. M. and Gakstatter, J. H. (1964). Detection of Pesticides in Water by Biochemical Assay. *J.Water Pollut.Control Fed.* 36 : 240-253.

EcoReference No.: 8115  
Chemical of Concern: AZ,DS,DZ,MLN,DEM,PRN; Habitat: A; Effect Codes: PHY; Rejection Code: NO CONTROL,ENDPOINT(ALL CHEMS).

Weller, C. P. and Sulman, F. G. (1970). Drug action on tail shock-induced vocalization in mice and its relevance to analgesia. *European Journal of Pharmacology* 9: 227-234.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
Mouse vocalization/ Tranquillizers/ Neural transections/ Narcotics/ Narcotic antagonists/ Relevance to analgesia Analgesia and related drugs were tested on both intact and neurally transected mice for inhibition of vocalization induced by repetitive tail shocks (mouse tail shock test: MTST). In intact mice, major narcotic and phenothiazine analgesics, e.g. morphine, methadone and methotrimeprazine, produced a marked dose-dependent inhibition; much higher doses of codeine and non-analgesic tranquilizers, e.g. chlorpromazine and hydroxyzine, were required to produce comparable effects. Narcotic-antagonist analgesics (nalorphine, cyclazocine, pentazocine) and the non-narcotic, non-analgesic, dextromethorphan, showed an early ceiling of the effect. Levallorphan, a non-analgesic narcotic antagonist, was inactive. Decortication and neutral transections, from the frontal pole to the pons, did not affect vocalization or the effect of drugs upon vocalization except for the strong narcotics whose potencies were reduced to about following transections caudal to the anterior commissure. It was concludedv that: (1) drug effectiveness in the MTST does not consistently parallel clinical analgesic efficacy; (2) vocalization in the MTST is integrated at low brain stem levels, its inhibition by drugs not necessarily requiring participation of higher neural levels. The relevance of the MTST to pain and analgesia is thus rendered questionable.

Werner, I., Deanovic, L. A., Connor, V., De Vlaming, V., Bailey, H. C., and Hinton, D. E. (2000). Insecticide-caused toxicity to Ceriodaphnia dubia (Cladocera) in the Sacramento-San Joaquin River Delta, California, USA. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 1, pp. 215-227. Jan 2000.*  
Chem Codes: CBF Rejection Code: SURVEY/EFFLUENT.  
  
In recent years, populations of resident aquatic species in California's Sacramento-San Joaquin Delta, USA, have declined appreciably in numbers. The cause of these declines is not known, but has been attributed to a number of factors including water diversions, loss of habitat, introduced exotic organisms, and toxic compounds. To detect and characterize the spatial extent, severity, frequency, and causes of potential toxicity caused by anthropogenic pollutants, a monitoring study was conducted over a period of two years (1993-1995). Sites were monitored on a monthly basis using the standardized U.S. Environmental Protection Agency freshwater toxicity test with the zooplankton species Ceriodaphnia dubia. Twenty-four sites were sampled in 1993 to 1994. During the 1994 to 1995 sampling season, the number of sampling sites was restricted to 20, with special emphasis placed on back sloughs, delta island agricultural drains, and main-stem river sites. Significant mortality or reproductive toxicity in C. dubia was detected in 9.8% of 400 water samples tested. Ecologically important back sloughs had the largest percentage of toxic samples. Of 71 and 103 samples collected from back sloughs during 1993 to 1994 and 1994 to 1995, respectively, 14.1% and 19.6% were toxic. To determine the causative chemical(s), toxicity identification evaluations (TIEs) were conducted on 23 toxic samples. These included eight follow-up samples taken to determine whether toxicity at the respective site persisted. Organophosphate (chlorpyrifos, diazinon, malathion) and carbamate (carbofuran, carbaryl) pesticides were identified as primary toxicants. Chlorpyrifos was present at toxic concentrations in 87% of samples tested by TIE. Analysis of data from the follow-up samples suggested that toxicity may have persisted over periods of several days to weeks. Freshwater pollution. Toxicants. Pollutant identification. Deltas. Toxicity testing. Zooplankton. Mortality. Reproduction. Water sampling. Insecticides. Ceriodaphnia dubia. USA, California, Sacramento-San Joaquin Delta. chlorpyrifos. Cladocera. Pesticides (carbamates). Pesticides (organophosphorus). Pollution effects. Pollution monitoring. Bioassays. Toxicity. USA, California, Sacramento-San Joaquin R. Delta. Monitoring. Water Pollution Effects. Population Dynamics. Biological Sampling. Data Interpretation. Stream Pollution. Ceriodaphnia dubia. USA, California, San Joaquin R. ISSN: 0730-7268  
Publisher: SETAC Press  
Language: English  
Subfile: Pollution Abstracts; Toxicology Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

Werner, I., Deanovic, L. A., Connor, V., De Vlaming, V., Bailey, H. C., and Hinton, D. E. (2000). Insecticide-caused toxicity to Ceriodaphnia dubia (Cladocera) in the Sacramento-San Joaquin River Delta, California, USA. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 19, no. 1, pp. 215-227. Jan 2000.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0730-7268  
Descriptors: Freshwater pollution  
Descriptors: Toxicants  
Descriptors: Pollutant identification  
Descriptors: Deltas  
Descriptors: Toxicity testing  
Descriptors: Zooplankton  
Descriptors: Mortality  
Descriptors: Reproduction  
Descriptors: Water sampling  
Descriptors: Insecticides  
Descriptors: Chlorpyrifos  
Descriptors: Pesticides (carbamates)  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Pollution effects  
Descriptors: Pollution monitoring  
Descriptors: Bioassays  
Descriptors: Toxicity  
Descriptors: Monitoring  
Descriptors: Water Pollution Effects  
Descriptors: Population Dynamics  
Descriptors: Biological Sampling  
Descriptors: Data Interpretation  
Descriptors: Stream Pollution  
Descriptors: Ceriodaphnia dubia  
Descriptors: USA, California, San Joaquin R.  
Abstract: In recent years, populations of resident aquatic species in California's Sacramento-San Joaquin Delta, USA, have declined appreciably in numbers. The cause of these declines is not known, but has been attributed to a number of factors including water diversions, loss of habitat, introduced exotic organisms, and toxic compounds. To detect and characterize the spatial extent, severity, frequency, and causes of potential toxicity caused by anthropogenic pollutants, a monitoring study was conducted over a period of two years (1993-1995). Sites were monitored on a monthly basis using the standardized U.S. Environmental Protection Agency freshwater toxicity test with the zooplankton species Ceriodaphnia dubia. Twenty-four sites were sampled in 1993 to 1994. During the 1994 to 1995 sampling season, the number of sampling sites was restricted to 20, with special emphasis placed on back sloughs, delta island agricultural drains, and main-stem river sites. Significant mortality or reproductive toxicity in C. dubia was detected in 9.8% of 400 water samples tested. Ecologically important back sloughs had the largest percentage of toxic samples. Of 71 and 103 samples collected from back sloughs during 1993 to 1994 and 1994 to 1995, respectively, 14.1% and 19.6% were toxic. To determine the causative chemical(s), toxicity identification evaluations (TIEs) were conducted on 23 toxic samples. These included eight follow-up samples taken to determine whether toxicity at the respective site persisted. Organophosphate (chlorpyrifos, diazinon, malathion) and carbamate (carbofuran, carbaryl) pesticides were identified as primary toxicants. Chlorpyrifos was present at toxic concentrations in 87% of samples tested by TIE. Analysis of data from the follow-up samples suggested that toxicity may have persisted over periods of several days to weeks.  
Annual review issue.  
Publisher: SETAC Press  
Language: English  
English  
Publication Type: Journal Article  
Publication Type: Review  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: X 24136 Environmental impact  
Classification: Q5 01504 Effects on organisms  
Classification: SW 3030 Effects of pollution  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Pollution Abstracts; Toxicology Abstracts

Werner, I., Deanovic, L. A., Connor, V., De Vlaming, V., Bailey, J. C., and Hinton, D. E. (2000). Insecticide-Caused Toxicity to Ceriodaphnia dubia (Cladocera) in the Sacramento-San Joaquin River Delta, California. *Environ.Toxicol.Chem.* 19 : 215-227.  
Chem Codes: Chemical of Concern: DZ,CPY,CBF Rejection Code: MIXTURE.

Werner, I., Deanovic, L. A., Hinton, D. E., Henderson, J. D., De Oliveira, G. H., Wilson, B. W., Krueger, W., Wallender, W. W., Oliver, M. N., and Zalom, F. G. ( Toxicity of Stormwater Runoff After Dormant Spray Application of Diazinon and Esfenvalerate (Asana registered ) in a French Prune Orchard, Glenn County, California, USA. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 68, no. 1, pp. 29-36. Jan 2002.*  
Chem Codes: Chemical of Concern: EFV Rejection Code: FATE.  
  
Organophosphate pesticides (OPs), in particular diazinon and chlorpyrifos, have frequently been detected in toxic concentrations in waterways draining agricultural and urban areas in California's Sacramento and San Joaquin River watersheds (US Geological Survey 1997). Toxicity has in part been linked to stormwater runoff of OP pesticides applied during the dormant season on stonefruit and almond orchards. State Water Quality Plans have now been implemented by regulatory agencies to prevent movement of OPs into surface water, and growers have reduced the application of OPs. Simultaneously, the use of so-called reduced-risk alternatives, such as pyrethroid insecticides and Bacillus thuringiensis bloom sprays, has increased dramatically. Best management practices (BMPs) are aimed at reducing off-site movement of pesticides into surface waters. Pyrethroid pesticides, among them the widely used esfenvalerate (Asana registered ) are considerably more hydrophobic (solubility in water: 0.4 mu g/L) than the relatively soluble OP pesticide diazinon (solubility in water: 40,000 mu g/L). Although runoff of pyrethroids is believed to be minimal thus reducing pesticide impact on surface waters, esfenvalerate has been shown to be toxic to fish at extremely low concentrations ( less than or equal to 1 ug/L), and potentially poses a significantly higher risk to these organisms than OP pesticides. In addition, its potential to bioaccumulate and bioconcentrate is high. A second recommended method for reducing toxic runoff from orchards is the use of different orchard floor cover crops. Cover crops are believed to enhance water infiltration. This study was performed to measure the effectiveness of these two BMPs in reducing the toxicity of stormwater runoff. Experiments were carried out in a French prune orchard at the Talbot - Vereschagin Ranch, Glenn County, California. USA, California, Glenn Cty./ Toxicity/ Storm Runoff/ Organophosphorus Pesticides/ Agricultural Runoff/ Agricultural Chemicals/ Cultivated Lands/ Orchards/ Fish/ Diazinon/ Organophosphates/ Pesticides/ Stormwater runoff/ Surface water/ Pyrethroids/ esfenvalerate/ Pesticides (organophosphorus)/ Storm water/ Runoff/ Pollution dispersion/ Pollution control/ Agricultural pollution/ USA, California, Glenn Cty./ USA, California/ best management practices/ Diazinon/ esfenvalerate/ orchards

Werner, I., Deanovic, L. A., Hinton, D. E., Henderson, J. D., De Oliveira, G. H., Wilson, B. W., Krueger, W., Wallender, W. W., Oliver, M. N., and Zalom, F. G. (2002). Toxicity of Stormwater Runoff After Dormant Spray Application of Diazinon and Esfenvalerate (Asana registered ) in a French Prune Orchard, Glenn County, California, USA. *Bulletin of Environmental Contamination and Toxicology [Bull. Environ. Contam. Toxicol.]. Vol. 68, no. 1, pp. 29-36. Jan 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0007-4861  
Descriptors: Toxicity  
Descriptors: Storm Runoff  
Descriptors: Organophosphorus Pesticides  
Descriptors: Agricultural Runoff  
Descriptors: Agricultural Chemicals  
Descriptors: Cultivated Lands  
Descriptors: Orchards  
Descriptors: Fish  
Descriptors: Diazinon  
Descriptors: Organophosphates  
Descriptors: Pesticides  
Descriptors: Stormwater runoff  
Descriptors: Surface water  
Descriptors: Pyrethroids  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Storm water  
Descriptors: Runoff  
Descriptors: Pollution dispersion  
Descriptors: Pollution control  
Descriptors: Agricultural pollution  
Descriptors: USA, California, Glenn Cty.  
Descriptors: USA, California  
Abstract: Organophosphate pesticides (OPs), in particular diazinon and chlorpyrifos, have frequently been detected in toxic concentrations in waterways draining agricultural and urban areas in California's Sacramento and San Joaquin River watersheds (US Geological Survey 1997). Toxicity has in part been linked to stormwater runoff of OP pesticides applied during the dormant season on stonefruit and almond orchards. State Water Quality Plans have now been implemented by regulatory agencies to prevent movement of OPs into surface water, and growers have reduced the application of OPs. Simultaneously, the use of so-called reduced-risk alternatives, such as pyrethroid insecticides and Bacillus thuringiensis bloom sprays, has increased dramatically. Best management practices (BMPs) are aimed at reducing off-site movement of pesticides into surface waters. Pyrethroid pesticides, among them the widely used esfenvalerate (Asana registered ) are considerably more hydrophobic (solubility in water: 0.4 mu g/L) than the relatively soluble OP pesticide diazinon (solubility in water: 40,000 mu g/L). Although runoff of pyrethroids is believed to be minimal thus reducing pesticide impact on surface waters, esfenvalerate has been shown to be toxic to fish at extremely low concentrations ( less than or equal to 1 ug/L), and potentially poses a significantly higher risk to these organisms than OP pesticides. In addition, its potential to bioaccumulate and bioconcentrate is high. A second recommended method for reducing toxic runoff from orchards is the use of different orchard floor cover crops. Cover crops are believed to enhance water infiltration. This study was performed to measure the effectiveness of these two BMPs in reducing the toxicity of stormwater runoff. Experiments were carried out in a French prune orchard at the Talbot - Vereschagin Ranch, Glenn County, California.  
Language: English  
Publication Type: Journal Article  
Environmental Regime: Freshwater  
Classification: SW 3030 Effects of pollution  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: X 24136 Environmental impact  
Classification: Q5 01522 Protective measures and control  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts; Toxicology Abstracts

Werner, I, Deanovic, L A, Hinton, D E, Henderson, J D, de Oliveira, G H, Wilson, B W, Krueger, W, Wallender, W W, Oliver, M N, and Zalom et, al. (2002). Toxicity of stormwater runoff after dormant spray application of diazinon and esfenvalerate (Asana) in a French prune orchard, Glenn county, California, USA. *Bulletin Of Environmental Contamination And Toxicology* 68: 29-36.  
Chem Codes: Chemical of Concern: EFV Rejection Code: FATE.  
  
[Journal Article; In English; United States]

Werner, I., Zalom, F. G., Oliver, M. N., Deanovic, L. A., Kimball, T. S., Henderson, J. D., Wilson, B. W., Krueger, W., and Wallender, W. W. (2004). Toxicity of storm-water runoff after dormant spray application in a French prune orchard, Glenn County, California, USA: Temporal patterns and the effect of ground covers. *Environmental Toxicology and Chemistry [Environ. Toxicol. Chem.]. Vol. 23, no. 11, pp. 2719-2726. Nov 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0730-7268  
Descriptors: Orchards  
Descriptors: Insecticides  
Descriptors: Bone morphogenetic proteins  
Descriptors: Surface water  
Descriptors: Vegetation  
Descriptors: Diazinon  
Descriptors: Pesticides  
Descriptors: Pyrethroids  
Descriptors: Cover crops  
Descriptors: Watersheds  
Descriptors: Hydrophobicity  
Descriptors: Acute toxicity  
Descriptors: Rainfall  
Descriptors: Water infiltration  
Descriptors: Rivers  
Descriptors: Organic matter  
Descriptors: organophosphates  
Descriptors: Agricultural Runoff  
Descriptors: Fish  
Descriptors: Toxicity  
Descriptors: Storm Runoff  
Descriptors: Invertebrates  
Descriptors: Capacity  
Descriptors: Larvae  
Descriptors: Infiltration  
Descriptors: Crustaceans  
Descriptors: Best Management Practices  
Descriptors: Ceriodaphnia dubia  
Descriptors: Pimephales promelas  
Descriptors: Simocephalus vetelus  
Descriptors: Chironomus riparius  
Descriptors: USA, California  
Abstract: Organophosphorous (OP) insecticides, especially diazinon, have been detected routinely in surface waters of the Sacramento and San Joaquin River watersheds, coincident with rainfall events following their application to dormant orchards during the winter months. Preventive best management practices (BMP) aim at reducing off-site movement of pesticides into surface waters. Two proposed BMPs are: The use of more hydrophobic pyrethroid insecticides believed to adsorb strongly to organic matter and soil and the use of various types of ground cover vegetation to increase the soil's capacity for water infiltration. To measure the effectiveness of these BMPs, storm water runoff was collected in a California prune orchard (Glenn County, CA, USA) during several rainstorms in the winter of 2001, after the organophosphate diazinon and the pyrethroid esfenvalerate were applied to different orchard sections. We tested and compared acute toxicity of orchard runoff from diazinon- and esfenvalerate-sprayed sections to two species of fish (Pimephales promelas, Onchorhynchus mykiss) and three aquatic invertebrates (Ceriodaphnia dubia, Simocephalus vetelus, Chironomus riparius), and determined the mitigating effect of three ground cover crops on toxicity and insecticide loading in diazinon-sprayed orchard rows. Runoff from the esfenvalerate-sprayed orchard section was less toxic to waterflea than runoff from the diazinon-sprayed section. However, runoff from the orchard section sprayed with esfenvalerate was highly toxic to fish larvae. Samples collected from both sections one month later were not toxic to fish, but remained highly toxic to invertebrates. The ground cover crops reduced total pesticide loading in runoff by approximately 50%. No differences were found between the types of vegetation used as ground covers.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: SW 3030 Effects of pollution  
Classification: AQ 00008 Effects of Pollution  
Classification: Z 05183 Toxicology & resistance  
Classification: P 2000 FRESHWATER POLLUTION  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: Entomology Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Toxicology Abstracts; Aqualine Abstracts; Water Resources Abstracts; Environmental Engineering Abstracts

Werner, Ingeborg, Zalom, Frank G, Oliver, Michael N, Deanovic, Linda A, Kimball, Tom S, Henderson, John D, Wilson, Barry W, Krueger, William, and Wallender, Wes W (2004). Toxicity of storm-water runoff after dormant spray application in a french prune orchard, Glenn County, California, USA: temporal patterns and the effect of ground covers. *Environmental Toxicology And Chemistry / SETAC* 23: 2719-2726.  
Chem Codes: Chemical of Concern: EFV Rejection Code: FATE, MIXTURE.  
  
Organophosphorous (OP) insecticides, especially diazinon, have been detected routinely in surface waters of the Sacramento and San Joaquin River watersheds, coincident with rainfall events following their application to dormant orchards during the winter months. Preventive best management practices (BMP) aim at reducing off-site movement of pesticides into surface waters. Two proposed BMPs are: The use of more hydrophobic pyrethroid insecticides believed to adsorb strongly to organic matter and soil and the use of various types of ground cover vegetation to increase the soil's capacity for water infiltration. To measure the effectiveness of these BMPs, storm water runoff was collected in a California prune orchard (Glenn County, CA, USA) during several rainstorms in the winter of 2001, after the organophosphate diazinon and the pyrethroid esfenvalerate were applied to different orchard sections. We tested and compared acute toxicity of orchard runoff from diazinon- and esfenvalerate-sprayed sections to two species of fish (Pimephales promelas, Onchorhynchus mykiss) and three aquatic invertebrates (Ceriodaphnia dubia, Simocephalus vetelus, Chironomus riparius), and determined the mitigating effect of three ground cover crops on toxicity and insecticide loading in diazinon-sprayed orchard rows. Runoff from the esfenvalerate-sprayed orchard section was less toxic to waterflea than runoff from the diazinon-sprayed section. However, runoff from the orchard section sprayed with esfenvalerate was highly toxic to fish larvae. Samples collected from both sections one month later were not toxic to fish, but remained highly toxic to invertebrates. The ground cover crops reduced total pesticide loading in runoff by approximately 50%. No differences were found between the types of vegetation used as ground covers. [Journal Article; In English; United States]

White, Brandy J. and Harmon, H. James (2005). Optical solid-state detection of organophosphates using organophosphorus hydrolase: Selected Papers from the Eighth World Congress on Biosensors, Part II. *Biosensors and Bioelectronics* 20: 1977-1983.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have developed a sensor surface for optical detection of organophosphates based on reversible inhibition of organophosphorus hydrolase (OPH) by copper complexed meso-tri(4-sulfonato phenyl) mono(4-carboxy phenyl) porphyrin (CuC1TPP). OPH immobilized onto glass microscope slides retains catalytic activity for more than 232 days. CuC1TPP is a reversible, competitive inhibitor of OPH, binding at the active site of the immobilized enzyme. The absorbance spectrum of the porphyrin-enzyme complex is measured via planar waveguide evanescent wave absorbance spectroscopy using a blue LED as a light source and an Ocean Optics USB2000 as the spectrophotometer. The characteristics of the absorbance spectrum of CuC1TPP are specific and different when the porphyrin is bound to the enzyme or is bound non-specifically to the surface of the slide. Addition of a substrate of OPH such as one of the organophosphates paraoxon, coumaphos, diazinon, or malathion displaces the porphyrin from the enzyme resulting in reduced absorbance intensity at 412 nm. Absorbance changes at 412 nm show log-linear dependence on substrate concentration. Paraoxon concentrations between 7 parts per trillion (ppt) and 14 parts per million (ppm) were investigated and a 3:1 S/N detection limit of 7 ppt was determined. Concentrations of 700 ppt to 40 ppm were investigated for diazinon, malathion, and coumaphos with detection limits of 800 ppt, 1 part per billion, and 250 ppt, respectively. This optical technique does not require the addition of reagents or solutions other than the sample and absorbance spectra can be collected in less than 6 s. Porphyrin/ Organophosphate hydrolase/ Competitive inhibitor/ Absorbance spectroscopy/ Planar waveguide

White, Brandy J., Legako, J. Andrew, and Harmon, H. James (2003). Extended lifetime of reagentless detector for multiple inhibitors of acetylcholinesterase: Selected papers from the Seventh World Congress on Biosensors Kyoto, Japan 15-17 May 2002. *Biosensors and Bioelectronics* 18: 729-734.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Competitive inhibitors of acetylcholinesterase (AChE) are detected using an evanescent wave technique to monitor changes in the absorbance spectrum of an AChE-monosulfonate tetraphenyl porphyrin (TPPS1) complex immobilized on the surface of a glass slide. In this technique, porphyrin is displaced from the AChE active site by the inhibitor. The loss in absorbance intensity of the characteristic absorbance peak for the AChE-TPPS1 complex at 446 nm is linearly dependent on the log of the inhibitor concentration. This technique yields detection limits at 3:1 S/N of 37 ppt for eserine, 50 ppt for galanthamine, 100 ppt for scopolamine, 250 ppt for tetracaine, 45 ppt for diazinon, and 83 ppb for Triton X-100. When stored under vacuum, the enzymatic lifetime of the immobilized AChE surface is greater than 73 days while the responsive lifetime of the immobilized AChE-TPPS1 surface is currently 49 days. Acetylcholinesterase/ Porphyrin/ Optical sensor/ Biosensor/ Evanescent wave/ Acetylcholinesterase inhibitor

WHITE PF (1995). BIOLOGICAL CONTROL OF MUSHROOM PESTS AN EVALUATION. *ELLIOTT, T. J. (ED.). MUSHROOM SCIENCE, VOL. 14. 1-2. SCIENCE AND CULTIVATION OF EDIBLE FUNGI, VOLS. 1 AND 2; 14TH INTERNATIONAL CONGRESS, OXFORD, ENGLAND, UK, SEPTEMBER 17-22, 1995. XXIV+472P.(VOL. 1); XI+501P.(VOL. 2) A. A. BALKEMA: ROTTERDAM, NETHERLANDS; BROOKFIELD, VERMONT, USA. ISBN 90-5410-570-4(SET); ISBN 90-5410-571-2(VOL. 1); ISBN 90-5410-572-0(VOL. 2).; 14 (1-2). 1995. 475-484.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING POSTER PREDATORS PARASITES PATHOGENS PHEROMONES KAIROMONES REPELLENTS ANTI-FEEDANTS GENETIC CONTROL INSECT CONTROL PRODUCT AVAILABILITY INDUSTRY PROSPECTS Congresses/ Biology/ Genetics/ Cytogenetics/ Animals/Genetics/ Behavior, Animal/ Animal Communication/ Behavior/ Ecology/ Animals/ Ecology/ Biochemistry/ Nutrition/ Nutritional Status/ Endocrine Glands/ Microbiological Techniques/ Vegetables/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Plants/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Animal/ Disease/ Insects/Parasitology/ Basidiomycota/ Insects

Whitehead, A. G. and Turner, S. J. (1998). Management and Regulatory Control Strategies for Potato Cyst Nematodes (Globodera rostochiensis and Globodera pallida). *In: R.J.Marks and B.B.Brodie (Eds.), Potato Cyst Nematodes: Biology, Distribution and Control, Cab Int., Wallingford, England* 135-152.  
Chem Codes: EcoReference No.: 76547  
Chemical of Concern: NaN3,MB,ASCN,DZ Rejection Code: REVIEW.

Whitmore, D. H. Jr. and Hodges, D. H. Jr. (1978). In Vitro Pesticide Inhibition of Muscle Esterases of the Mosquitofish, Gambusia affinis. *Comp.Biochem.Physiol.C* 59: 145-149.  
Chem Codes: EcoReference No.: 85460  
Chemical of Concern: DZ Rejection Code: IN VITRO.

Whitney, W. K. (1967). Laboratory Tests with Dursban and Other Insecticides in Soil. *J.Econ.Entomol.* 60: 68-74.

EcoReference No.: 69734  
Chemical of Concern: DZ; Habitat: T; Rejection Code: TARGET(DZ).

WHO (1985). SPECIFICATIONS FOR PESTICIDES USED IN PUBLIC HEALTH INSECTICIDES MOLLUSCICIDES REPELLENTS METHODS SIXTH EDITION. *WHO. SPECIFICATIONS FOR PESTICIDES USED IN PUBLIC HEALTH: INSECTICIDES, MOLLUSCICIDES, REPELLENTS, METHODS, SIXTH EDITION. 384P. WHO: GENEVA, SWITZERLAND. ILLUS. PAPER. ISBN 92-4-156084-3.; 0 (0). 1985 (RECD. 1986). 384P.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK FAO VECTOR CONTROL DDT BHC TRIFENMORPH METHOXYCHLOR PYRETHRUM DIAZINON MALATHION TRICHLORFON FENTHION DICHLORVOS FENITROTHION PROPOXUR TEMEPHOS BROMOPHOS CHLORPYRIFOS JODFENPHOS BENDIOCARB DELTAMETHRIN NICLOSAMIDE TECHNICAL N N DIETHYL-M-TOLUAMIDE Legislation/ Organization and Administration/ Biology/ Animals, Wild/ Conservation of Natural Resources/ Ecology/ Biochemistry/ Poisoning/ Animals, Laboratory/ Disease Vectors/ Disinfection/ Pest Control/ Pesticides/ Disease Vectors/ Herbicides/ Pest Control/ Pesticides/ Animals/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Animals, Laboratory/ Animals, Wild/ Parasitic Diseases/Veterinary/ Arachnida/ Disease Vectors/ Entomology/ Sanitation

Whyatt, R. M., Camann, D. E., Kinney, P. L., Reyes, A., Ramirez, J., Dietrich, J., Diaz, D., Holmes, D., and Perera, F. P. ( Residential Pesticide Use during Pregnancy among a Cohort of Urban Minority Women. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 110, no. 5, pp. 507-514. May 2002.*  
Chem Codes: Chemical of Concern: PPB Rejection Code: HUMAN HEALTH.  
  
Residential pesticide use is widespread in the United States. However, data are limited specific to use among minority populations. Nor are data available on the extent of pesticide exposure resulting from residential use during pregnancy. We have gathered questionnaire data on pesticide use in the home during pregnancy from 316 African-American and Dominican women residing in northern Manhattan and the South Bronx. Additionally, 72 women underwent personal air monitoring for 48 hr during their third trimester of pregnancy to determine exposure levels to 21 pesticides (19 insecticides and 2 fungicides). Of the women questioned, 266 of 314 (85%) reported that pest control measures were used in the home during pregnancy; 111 of 314 (35%) reported that their homes were sprayed by an exterminator, and of those, 45% said the spraying was done more than once per month. Most ( greater than or equal to 90%) of the pesticide was used for cockroach control. Use of pest control measures increased significantly with the level of housing disrepair reported. Of the women monitored, all (100%) had detectable levels of three insecticides: the organophosphates diazinon (range, 2.0-6,010 ng/m super(3)) and chlorpyrifos (range, 0.7-193 ng/m super(3)) and the carbamate propoxur (range, 3.8-1,380 ng/m super(3)), as well as the fungicide o-phenylphenol (range, 5.7-743 ng/m super(3)). We also frequently detected the following four insecticides (47-83% of samples) but at lower concentrations: the pyrethroid trans-permethrin, piperonyl butoxide (an indicator of exposure to pyrethrins), and the organochlorines 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane and chlordane. Thirty percent of the women had detectable levels of all eight pesticides. Exposures were generally higher among African Americans than among Dominicans. We detected other pesticides in less than or equal to 10% of samples. Results show widespread prenatal pesticide use among minority women in this cohort. Diazinon exposures for some women may have exceeded health-based levels, and our findings support recent federal action to phase out residential use of this insecticide. Fungicides/ Insecticides/ Pregnancy/ Pesticides/ Residential areas/ Urban areas/ Ethnic groups/ Socioeconomics/ Socio-economic aspects Classification: P 6000 TOXICOLOGY AND HEALTH; H 5000 Pesticides; X 24133 Metabolism

Whyatt, R. M., Camann, D. E., Kinney, P. L., Reyes, A., Ramirez, J., Dietrich, J., Diaz, D., Holmes, D., and Perera, F. P. (2002). Residential Pesticide Use during Pregnancy among a Cohort of Urban Minority Women. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 110, no. 5, pp. 507-514. May 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0091-6765  
Descriptors: Fungicides  
Descriptors: Insecticides  
Descriptors: Pregnancy  
Descriptors: Pesticides  
Descriptors: Residential areas  
Descriptors: Urban areas  
Descriptors: Ethnic groups  
Descriptors: Socioeconomics  
Descriptors: Socio-economic aspects  
Abstract: Residential pesticide use is widespread in the United States. However, data are limited specific to use among minority populations. Nor are data available on the extent of pesticide exposure resulting from residential use during pregnancy. We have gathered questionnaire data on pesticide use in the home during pregnancy from 316 African-American and Dominican women residing in northern Manhattan and the South Bronx. Additionally, 72 women underwent personal air monitoring for 48 hr during their third trimester of pregnancy to determine exposure levels to 21 pesticides (19 insecticides and 2 fungicides). Of the women questioned, 266 of 314 (85%) reported that pest control measures were used in the home during pregnancy; 111 of 314 (35%) reported that their homes were sprayed by an exterminator, and of those, 45% said the spraying was done more than once per month. Most ( greater than or equal to 90%) of the pesticide was used for cockroach control. Use of pest control measures increased significantly with the level of housing disrepair reported. Of the women monitored, all (100%) had detectable levels of three insecticides: the organophosphates diazinon (range, 2.0-6,010 ng/m super(3)) and chlorpyrifos (range, 0.7-193 ng/m super(3)) and the carbamate propoxur (range, 3.8-1,380 ng/m super(3)), as well as the fungicide o-phenylphenol (range, 5.7-743 ng/m super(3)). We also frequently detected the following four insecticides (47-83% of samples) but at lower concentrations: the pyrethroid trans-permethrin, piperonyl butoxide (an indicator of exposure to pyrethrins), and the organochlorines 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane and chlordane. Thirty percent of the women had detectable levels of all eight pesticides. Exposures were generally higher among African Americans than among Dominicans. We detected other pesticides in less than or equal to 10% of samples. Results show widespread prenatal pesticide use among minority women in this cohort. Diazinon exposures for some women may have exceeded health-based levels, and our findings support recent federal action to phase out residential use of this insecticide.  
Language: English  
English  
Publication Type: Journal Article  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H 5000 Pesticides  
Classification: X 24133 Metabolism  
Subfile: Toxicology Abstracts; Health & Safety Science Abstracts; Pollution Abstracts

Whyatt, R. M., Rauh, V., Barr, D. B., Camann, D. E., Andrews, H. F., Garfinkel, R., Hoepner, L. A., Diaz, D., Dietrich, J., Reyes, A., Tang, D., Kinney, P. L., and Perera, F. P. (2004). Prenatal Insecticide Exposures and Birth Weight and Length among an Urban Minority Cohort. *Environmental Health Perspectives [Environ. Health Perspect.]. Vol. 112, no. 10, pp. 1125-1132. Jul 2004.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
ISSN: 0091-6765  
Descriptors: Pesticides  
Descriptors: Insecticides  
Descriptors: Birth weight  
Descriptors: Pregnancy  
Descriptors: Prenatal experience  
Descriptors: Diazinon  
Descriptors: Chlorpyrifos  
Descriptors: Urban populations  
Descriptors: Fetuses  
Descriptors: Organophosphates  
Descriptors: Urban areas  
Descriptors: USA, New York  
Abstract: We reported previously that insecticide exposures were widespread among minority women in New York City during pregnancy and that levels of the organophosphate chlorpyrifos in umbilical cord plasma were inversely associated with birth weight and length. Here we expand analyses to include additional insecticides (the organophosphate diazinon and the carbamate propoxur), a larger sample size (n = 314 mother-newborn pairs), and insecticide measurements in maternal personal air during pregnancy as well as in umbilical cord plasma at delivery. Controlling for potential confounders, we found no association between maternal personal air insecticide levels and birth weight, length, or head circumference. For each log unit increase in cord plasma chlorpyrifos levels, birth weight decreased by 42.6 g [95% confidence interval (CI), -81.8 to -3.8, p = 0.03] and birth length decreased by 0.24 cm (95% CI, -0.47 to -0.01, p = 0.04). Combined measures of (In)cord plasma chlorpyrifos and diazinon (adjusted for relative potency) were also inversely associated with birth weight and length (p < 0.05). Birth weight averaged 186.3 g less (95% CI, -375.2 to -45.5) among newborns with the highest compared with lowest 26% of exposure levels (p = 0.01). Further, the associations between birth weight and length and cord plasma chlorpyrifos and diazinon were highly significant (p less than or equal to 0.007) among newborns born before the 2000-2001 U.S. Environmental Protection Agency's regulatory actions to phase out residential use of these insecticides. Among newborns born after January 2001, exposure levels were substantially lower, and no association with fetal growth was apparent (p > 0.8). The propoxur metabolite 2-isopropoxyphenol in cord plasma was inversely associated with birth length, a finding of borderline significance (p = 0.05) after controlling for chlorpyrifos and diazinon. Results indicate that prenatal chlorpyrifos exposures have impaired fetal growth among this minority cohort and that diazinon exposures may have contributed to the effects. Findings support recent regulatory action to phase out residential uses of the insecticides.  
DOI: 10.1289/ehp.6641  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Classification: M1 110 Population-Environment Relations  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: H 5000 Pesticides  
Subfile: Health & Safety Science Abstracts; Pollution Abstracts; Toxicology Abstracts; Human Population

Wilkinson, F. C. (1979). Dermatophilosis of Sheep Association with Dipping and Effects on Production. *Aust.Vet.J.* 55: 74-76.  
Chem Codes: Chemical of Concern: As,DZ Rejection Code: NO CONC.

Wilkinson, F. C. (1980). The Uptake of Dipping Fluid and Persistence of Diazinon on Shower-Dipped Sheep. *Aust.Vet.J.* 56: 561-562.

EcoReference No.: 39812  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Rejection Code: NO CONTROL(DZ).

Williams, G. H., Glotfelty, D. E., and Glenn, S. (1986). PESTICIDE WASHOUT IN RAIN. *191st American Chemical Society National Meeting, New York, N.y., Usa, Apr. 13-18, 1986. Abstr Pap Am Chem Soc* 191 : No Pagination.  
Chem Codes: Chemical of Concern: SZ Rejection Code: FATE.  
  
ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT AQUIFER CONTAMINATION BELTSVILLE MARYLAND USA ALACHLOR METACHLOR ATRAZINE SIMAZINE DIAZINON MALATHION BHC HEXACHLOROBENZENE LINDANE CHLORDANE TOXAPHENE  
KEYWORDS: General Biology-Symposia  
KEYWORDS: Ecology  
KEYWORDS: Ecology  
KEYWORDS: Biochemical Methods-General  
KEYWORDS: Biochemical Studies-General  
KEYWORDS: Toxicology-Environmental and Industrial Toxicology  
KEYWORDS: Public Health: Environmental Health-Air  
KEYWORDS: Agronomy-Weed Control  
KEYWORDS: Pest Control  
KEYWORDS: Economic Entomology-Chemical and Physical Control

Willson, Michele, Sanchez, Michel, and Labarre, Jean-Francois (1987). The gem-tetraziridinocyclotriphosphazene diazide, N3P3Az4(N3)2, a synthon to monophosphazenylmonoazido derivatives of biological interest. *Inorganica Chimica Acta* 136: 53-59.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
This contribution reports on the synthesis of the gem-tetraziridinodiazidocyclotriphosphazene which is a suitable synthon for the synthesis of monophosphazenylmonoazidocyclotriphosphazenes of biological interest.

Wilschut, Jan, Scholma, Janny, Bental, Michal, Hoekstra, Dick, and Nir, Shlomo (1985). Ca2+-induced fusion of phosphatidylserine vesicles: mass action kinetic analysis of membrane lipid mixing and aqueous contents mixing. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 821: 45-55.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
We have investigated the initial kinetics of Ca2+-induced aggregation and fusion of phosphatidylserine large unilamellar vesicles at 3, 5 and 10 mM Ca2+ and 15, 25 and 35[deg]C, utilizing the Tb/dipicolinate (Tb/DPA) assay for mixing of aqueous vesicle contents and a resonance energy transfer (RET) assay for mixing of bilayer lipids. Separate rate constants for vesicle aggregation as well as deaggregation and for the fusion reaction itself were determined by analysis of the data in terms of a mass action kinetic model. At 15[deg]C the aggregation rate constants for either assay are the same, indicating that at this temperature all vesicle aggregation events that result in lipid mixing lead to mixing of aqueous contents as well. By contrast, at 35[deg]C the RET aggregation rate constants are higher than the Tb/DPA aggregation rate constants, indicating a significant frequency of reversible vesicle aggregation events that do result in mixing of bilayer lipids, but not in mixing of aqueous vesicle contents. In any conditions, the RET fusion rate constants are considerably higher than the Tb/DPA fusion rate constants, demonstrating the higher tendency of the vesicles, once aggregated, to mix lipids than to mix aqueous contents. This possibly reflects the formation of an intermediate fusion structure. With increasing Ca2+ concentrations the RET and the Tb/DPA fusion rate constants increase in parallel with the respective aggregation rate constants. This suggests that fusion susceptibility is conferred on the vesicles during the process of vesicle aggregation and not solely as a result of the interaction of Ca2+ with isolated vesicles. Aggregation of the vesicles in the presence of Mg2+ produces neither mixing of aqueous vesicle contents nor mixing of bilayer lipids. Membrane fusion/ Phospholipid vesicle/ Liposome/ Phosphatidylserine/ Ca2+

Wilson, Irwin B. and Cohen, Max (1953). The essentiality of acetylcholinesterase in conduction. *Biochimica et Biophysica Acta* 11: 147-156.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A method is described for assaying cholinesterase in an intract crab nerve using acetycholine and dimethylaminoethyl acetate (DMAEA) as substrates. This technique makes possible a new evaluation of the relationship between enzyme activity of nerve fibers and their ability to conduct impulses. It is shown that acethylcholine assays only a portion of the total enzyme, called in this paper external enzyme. DMAEA being a tertiary amine is able to penetrate barriers relatively impermeable to acethylcholine and other quarternary ammonium salts, and to reach extra enzyme called internal enzyme. There is probably about 3 times as much internal as external enzyme.The powerful enzyme inhibitors, prostigmine, tetraethyl pyrophosphate, and decamethonium nearly completely inhibit the external enzyme. DMAEA hydrolysis is inhibited only 50%, the unhibited portion being attributed to internal enzyme. These inhibitors do not produce conduction block. In striking contrast, those enzyme inhibitors which block conduction, such as DFP and eserine, inhibit both internal and external eznyme. It is shown that conduction is blocked by DFP when the total enzyme inhibition reaches about 80%. Complete enzyme inhibition can be obtained, but conduction could not be observed when the hydrolytic activity fell below about 20% (one case 14%). It has not been possible to obtain conduction in the absence of easily measured amounts of enzyme.Under large dosages of X-ray irradiation, but where conduction was not impaired, the internal enzyme activity increased although external enzyme activity declined. This was interpreted as caused by an increased permeability to DMAEA resulting from X-ray exposure.

Wilson, Irwin B. and Ginsburg, Sara (1959). Reactivation of alkylphosphate inhibited acetylcholinesterase by bis quaternary derivatives of 2-PAM and 4-PAM. *Biochemical Pharmacology* 1: 200-206.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Symmetrical and unsymmetrical bis-quaternary derivatives of 2-PAM and 4-PAM were synthesized and studied as reactivators in vitro of acetylcholinesterase inhibited by TEPP and DFP. Certain of the 2-PAM-derivatives and all of the 4-PAM-derivatives were far superior to the parent compound in the sense of producing reactivations at lower concentrations. Despite the fact that 2-PAM is much more active than 4-PAM, the bis-quaternary derivatives of the latter were considerably more active in regard to DFP inhibition, but only slightly more active in regard to TEPP inhibition.The best compound with regard to DFP inhibition was the unsymmetrical bisquaternary salt of 4-PAM and pyridine with a pentamethylene linking chain.In general, the addition of extra binding features in these series produced better reactivators.

Wilson, Irwin B. and Sondheimer, Fred (1957). A specific antidote against lethal alkyl phosphate intoxication. V. Antidotal properties. *Archives of Biochemistry and Biophysics* 69: 468-474.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO COC.  
  
The results of this paper can be summarized by saying that PAM is a very effective antidote in TEPP and sarin poisoning. The success of the antidote is caused by reactivation of the inhibited acetylcholinesterase--the chemical lesion is repaired.Against tabun PAM is much less effective but is still of considerable value. In this case the action depends on limiting the extent of the chemical lesion through reaction directly with free tabun.Practical cases of parathion poisoning properly come under the heading of paraoxon poisoning. Pure parathion is of very low toxicity and had therefore to be used in very large doses. PAM was effective, but for reasons that are discussed, it was not fully evaluated.

Wilson, L., Martin, P. A., Elliott, J. E., Mineau, P., and Cheng, K. M. (2001). Exposure of California Quail to Organophosphorus Insecticides in Apple Orchards in the Okanagan Valley, British Columbia. *Ecotoxicology* 10: 79-90.  
Chem Codes: Chemical of Concern: DZ,AZ,MYC Rejection Code: MIXTURE.

Winberg, S., Bjerselius, R., Baatrup, E., and Doving, K. B. (1992). The Effect of Cu (II) on the Electro-Olfactogram (EOG) of the Atlantic Salmon (Salmo salar L) in Artificial Freshwater of Varying Inorganic Carbon Concentrations. *Ecotoxicol.Environ.Saf.* 24: 167-178.

EcoReference No.: 5980  
Chemical of Concern: CuCl,DZ; Habitat: A; Effect Codes: PHY; Rejection Code: NO ENDPOINT(CuCl),NO COC(DZ).

Winterlin, W., Seiber, J. N., Craigmill, A., Baier, T., Woodrow, J., and Walker, G. (1989). Degradation of Pesticide Waste Taken from a Highly Contaminated Soil Evaporation Pit in California. *Arch.Environ.Contam.Toxicol.* 18: 734-747.  
Chem Codes: Chemical of Concern: MLT,ATZ,CPY,DZ,DU,MLN,MP,PRN,TRB,TBC,TFN Rejection Code: NO SPECIES.

WITTER, B., FRANCKE, W., FRANKE, S., KNAUTH H-D, and MIEHLICH, G. (1998). Distribution and mobility of organic micropollutants in River Elbe flood plains. *CHEMOSPHERE; 37* 63-78.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. Supercritical Fluid Extraction (SFE) methods have been developed to investigate the levels of chlorinated hydrocarbons (CHCs), polycyclic aromatic hydrocarbons (PAHs) and nitrogen- or phosphorus-containing pesticides (N-pesticides) in soils at river Elbe wetlands. Remarkably high concentrations of CHCs and PAHs were found and a mobilization of contaminants seems probable at one location. Ecology/ Fresh Water/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution

Wolcott, Robert M. and Neal, Robert A. (1972). Effect of structure on the rate of the mixed function oxidase catalyzed metabolism of a series of parathion analogs. *Toxicology and Applied Pharmacology* 22: 676-683.  
Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Various concentrations of a series of phenyl substituted diethyl phosphorothionates were incubated with rabbit liver microsomes and the rates of formation of the corresponding phenyl substituted diethyl phosphates and of diethyl phosphorothioic acid were determined. From these data the Km and Vmax values for the formation of these mixed function oxidase catalyzed metabolites were calculated. A plot was made of the log of the Vmax values for the formation of the phenyl substituted phosphates or diethylphosphorothioic acid against the Hammett [sigma] constants for the substituents on the phenyl ring of the various phenyl substituted diethyl phosphorothionates. These plots indicated that there was no linear relationship between the rates of formation of these metabolites and the electron withdrawing or donating properties of the substituted phenyl groups. A statistical comparison of the Km and Vmax values for the formation of the phenyl substituted diethyl phosphates and diethyl phosphorothioic acid from the corresponding phenyl substituted diethyl phosphorothionates reveals some differences. These differences are discussed.

Wolf, D. D., Buss, G. R., and Pienkowski, R. L. (1976). Growth and Physiological Response of Alfalfa to Diazinon and Methoxychlor Insecticides. *Crop Sci.* 16: 190-192 .

EcoReference No.: 41569  
Chemical of Concern: DZ,MXC,CBF; Habitat: T; Effect Codes: GRO; Rejection Code: NO ENDPOINT(DZ).

Wolthuis, O. L. and Vanwersch, R. A. P. (1984). Behavioral Changes in the Rat After Low Doses of Cholinesterase Inhibitors. *Fundam.Appl.Toxicol.* 4: S195-S208.

EcoReference No.: 84368  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BEH; Rejection Code: NO CONTROL(DZ).

Wong, P. K. and Chang, L. (1988). The Effects of 2,4-D Herbicide and Organophosphorus Insecticides on Growth, Photosynthesis, and Chlorophyll a Synthesis of Chlamydomonas reinhardtii (mt+). *Environ.Pollut.* 55: 179-189.

EcoReference No.: 13243  
Chemical of Concern: 24DXY,DMT,DZ,MLN,FNT; Habitat: A; Effect Codes: PHY,GRO,BCM; Rejection Code: NO ENDPOINT(ALL CHEMS).

Wood, B. and Stark, J. D. (2002). Acute Toxicity of Drainage Ditch Water from a Washington State Cranberry-Growing Region to Daphnia pulex in Laboratory Bioassays. *Ecotoxicology and Environmental Safety [Ecotoxicol. Environ. Saf.]. Vol. 53, no. 2, pp. 273-280. Oct 2002.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: EFFLUENT.  
  
ISSN: 0147-6513  
Descriptors: Water pollution  
Descriptors: Insecticides  
Descriptors: Pesticides (organophosphorus)  
Descriptors: Toxicity testing  
Descriptors: Laboratory testing  
Descriptors: Bioassays  
Descriptors: Organophosphorus compounds  
Descriptors: Pesticides  
Descriptors: Bogs  
Descriptors: Water sampling  
Descriptors: Agrochemicals  
Descriptors: Toxicity tests  
Descriptors: Phosphate (Organic)  
Descriptors: Crustaceans (Cladocera)  
Descriptors: Sampling  
Descriptors: Agricultural chemicals  
Descriptors: Drainage Ditches  
Descriptors: Laboratories  
Descriptors: Mortality  
Descriptors: Bioassay  
Descriptors: Testing Procedures  
Descriptors: Toxicity  
Descriptors: Acute Toxicity  
Descriptors: Diazinon  
Descriptors: Daphnia  
Descriptors: Cranberries  
Descriptors: Mortality causes  
Descriptors: Freshwater crustaceans  
Descriptors: Indicator species  
Descriptors: Chemical analysis  
Descriptors: Bioaccumulation  
Descriptors: Pollution indicators  
Descriptors: Daphnia pulex  
Descriptors: USA, Washington  
Descriptors: USA, Washington, Grayland  
Abstract: High concentrations of organophosphorous insecticides resulting from cranberry bog applications were detected in the Grayland Drainage Ditch (GDD) system in Grayland, Washington State, during the 1994-1996 Washington State Department of Ecology Pesticide Monitoring Program. This drainage ditch system drains cranberry bogs and enters the Pacific Ocean via the North Cove and Supon Inlet. Concerns about the impact of these pesticides on human and environmental health led to this investigation of the potential impact on an indicator species, Daphnia pulex. To determine the toxic effects of multiple pesticides entering the GDD, standardized laboratory toxicity tests with D. pulex were conducted concurrently with the Washington State Department of Ecology pesticide sampling. Concentrations of three insecticides, diazinon, chlorpyrifos, and azinphos- methyl, were the highest ever detected in state waters. The GDD water was found to cause acute toxicity in 33- of the laboratory bioassays conducted. Regression analysis, however, detected a poor correlation between total insecticide detected and percentage mortality of D. pulex at the two drainage ditch sites studied, Grays Harbor County site and the Pacific County site. However, the relationship between mortality of D. pulex and detected concentrations of diazinon and chlorpyrifos were significant. Sampling schedules for chemical analysis and bioassay testing appear to be the primary reason that statistical analysis failed to correlate mortality with detected OP pesticide concentrations. Grab samples used in toxicity testing may over- or underestimate actual concentrations of contaminants present in the system being studied.  
Publisher: Elsevier Science (USA)  
DOI: 10.1006/eesa.2002.2210  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24131 Acute exposure  
Classification: P 6000 TOXICOLOGY AND HEALTH  
Classification: AQ 00008 Effects of Pollution  
Classification: SW 3030 Effects of pollution  
Classification: Q5 01504 Effects on organisms  
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation  
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Toxicology Abstracts; Water Resources Abstracts; Aqualine Abstracts; Pollution Abstracts

WOOD SJ and OSBORNE RH (1991). Is sulfotep a proctolin receptor antagonist? *PESTIC SCI; 32* 485-491.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. Proctolin-induced, dose-dependent (10-8 - 2istocerca gregaria was antagonised non-competitively by sulfotep (2aused restoration of the proctolin dose-response curve to its control value. Neostigmine (10-5 M) caused non-competitive inhibition of proctolin-induced tissue contraction. Increasing the dose of neostigmine to 10-4 M restored the proctolin response to control values. Sulfotep (10-5 M) and neostigmine (10-4 M) caused inhibition of acetylcholinesterase (AChE) activity in tissue homogenates obtained from guts pretreated with either drug for 20 min. The stimulatory effect of sulfotep (5octolin-induced gut contraction was abolished by pretreatment of tissues with atropine (10-6 M). Under these conditions, 50-5 M sulfotep caused further antagonism of the action of proctolin. The results suggest that sulfotep is a proctolin receptor antagonist in the locust foregut. However, higher concentrations inhibit tissue AChE activity, thereby allowing endogenous acetylcholine Biochemistry/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Insects/Physiology/ Physiology, Comparative/ Pathology/ Orthoptera

WOODWARD KN (1992). USES AND REGULATION OF VETERINARY DRUGS INTRODUCTION. *HUTSON, D. H., ET AL. (ED.). ACS SYMPOSIUM SERIES, 503. XENOBIOTICS AND FOOD-PRODUCING ANIMALS: METABOLISM AND RESIDUES; 202ND NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, NEW YORK, NEW YORK, USA, AUGUST 25-30, 1991. XII+255P. AMERICAN CHEMICAL SOCIETY: WASHINGTON, DC, USA. ISBN 0-8412-2472-2.; 0 (0). 1992. 2-16.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM TOXICOLOGY FOOD SAFETY Congresses/ Biology/ Biochemistry/ Metabolism/ Pharmacology/ Pharmaceutical Preparations/Metabolism/ Food Additives/Poisoning/ Food Additives/Toxicity/ Food Contamination/ Food Poisoning/ Food Preservatives/Poisoning/ Food Preservatives/Toxicity/ Animal Husbandry/ Veterinary Medicine/ Animals

World Health Organization (1998). Diazinon. *Int.Prog.on Chem.Saf., W.H.O., Geneva, Switzerland* 140 p.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.

WORTHING CR (1991). THE PESTICIDE MANUAL A WORLD COMPENDIUM 9TH EDITION. *WORTHING, C. R. (ED.). THE PESTICIDE MANUAL: A WORLD COMPENDIUM, 9TH EDITION. XLVII+1141P. BRITISH CROP PROTECTION COUNCIL: FARNHAM, ENGLAND, UK. ILLUS. ISBN 0-948404-42-6.; 0 (0). 1991. XLVII+1141P.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK INSECT PEST WEED MOLECULAR STRUCTURE NOMENCLATURE TOXICOLOGY BIOLOGICAL CONTROL CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER Biology/Classification/ Terminology/ Biochemistry/ Biophysics/ Macromolecular Systems/ Molecular Biology/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Plants/ Insects

Wright, C. G., Leidy, R. B., and Dupree, H. E. (1982). Diazinon and Chlorpyrifos in the Air of Moving and Stationary Pest Control Vehicles. *Bulletin of Environmental Contamination and Toxicology [BULL. ENVIRON. CONTAM. TOXICOL.]. Vol. 28, no. 1, pp. 119-121. 1982.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
ISSN: 0007-4861  
Descriptors: air  
Descriptors: pest control  
Descriptors: motor vehicles  
Abstract: Pest control firms often use pickup trucks as service vehicles on pest control routes. Pesticides are transported in the pickups, both as concentrated and dilutions. Insecticide levels in the ambient air of cabs of moving pickups have been studied. The amount of inseticide present in the air of cabs of stationary pickups being used as pest control service vehicles has not been reported; therefore, a study was initiated to determine the amount of diazinon and chlorpyrifos in the cabs of stationary pickups. Additional air samples, taken while the same pickups were moving, provided data for comparison of insecticide levels in individual pickups when moving and stationary.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24136 Environmental impact  
Subfile: Toxicology Abstracts

Wright, C. G., Leidy, R. B., and Dupree, H. E. Jr (1989). Acephate present in food-serving areas of buildings after baseboard spraying. *Bulletin of Environmental Contamination and Toxicology. Vol. 43, no. 5, pp. 713-716. 1989.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0007-4861  
Descriptors: contamination  
Descriptors: insecticides  
Descriptors: residues  
Descriptors: food contamination  
Descriptors: buildings  
Abstract: Insecticide labels for residual insecticides usually specify a spot (max 0.19 m super(2)), general surface, and/or crack and crevice application when used in food-service dining facilities for German cockroach control. Acephate and other insecticides have been detected in the ambient air of structures following their application using spot and/or crack and crevice application techniques. Acephate, diazinon and chlorpyrifos have been found on nearby surfaces following their application as a pinstream spray into cracks and crevices or directed at the cracks and crevices. We were interested in determining insecticide levels on baseboards following their direct application and the quantities which moved to non-target sites. The study discussed hereafter determined these levels.  
Language: English  
Publication Type: Journal Article  
Classification: X 24120 Food, additives & contaminants  
Classification: H SE5.20 INSECTICIDES  
Classification: X 24136 Environmental impact  
Subfile: Health & Safety Science Abstracts; Toxicology Abstracts

Wright, C. G., Leidy, R. B., and Dupree, H. E Jr (1996). Insecticide Residues In The Ambient Air Of Commercial Pest Control Buildings 1993. 56: 21-28.  
Chem Codes: Chemical of Concern: RSM, CHLOR Rejection Code: HUMAN HEALTH.  
  
biosis copyright: biol abs. rrm research article acephate bendiocarb chlorpyrifos cypermethrin diazinon dichlorvos malathion permethrin propoxur resmethrin organophosphates environmental contamination ecology/ environmental biology-bioclimatology and biometeorology/ biochemical studies-general/ biophysics-molecular properties and macromolecules/ toxicology-environmental and industrial toxicology/ public health: environmental health-air, water and soil pollution/ pest control, general/ pesticides/ herbicides

WRIGHT DJ and VERKERK, R. HJ (1995). Integration of chemical and biological control systems for arthropods: Evaluation in a multitrophic context. *PESTICIDE SCIENCE; 44* 207-218.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW, METHODS.  
  
BIOSIS COPYRIGHT: BIOL ABS. The methods used to evaluate and categorise the effects of pesticides on beneficial arthropods are reviewed, including the potential significance of indirect, 'sub-lethal' activity and the importance of bioavailability of pesticides under semi-field or field conditions. Interspecific and intraspecific differences in the susceptibility of natural enemies (parasitoids and predators) to pesticides are considered, including the use of resistant strains in Integrated Pest Management (IPM) systems. The potential impact of pesticide resistance in the target pest on its natural enemies is also discussed. The need to assess the influence of the host plant/cultivar on the efficacy of pesticides for use in integrated control programmes (ditrophic effects) and of the possible effects of such chemicals on host plant/cultivar-pest-parasitoid systems (tritrophic effects) are then described with specific reference to the diamondback moth and key endolarval parasitoids. Finally, the pot Biochemistry/ Poisoning/ Animals, Laboratory/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Pest Control, Biological/ Arachnida/ Entomology/Economics/ Pest Control/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides/ Animal/ Disease/ Insects/Parasitology/ Lepidoptera

Wu, H. X., EVREUX-GROS, C., and Descotes, J. (1996). Diazinon Toxicokinetics, Tissue Distribution and Anticholinesterase Activity in the Rat. *Biomed.Environ.Sci.* 9: 359-369.

EcoReference No.: 84916  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Rejection Code: NO ENDPOINT(DZ).

Wu, H. X., Evreux-Gros, C. l., and Descotes, J. (1996). Influence of cimetidine on the toxicity and toxicokinetics of diazinon in the rat. *Human & Experimental Toxicology [HUM. EXP. TOXICOL.]. Vol. 15, no. 5, pp. 391-395. 1996.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: MIXTURE.  
  
ISSN: 0144-5952  
Descriptors: brain  
Descriptors: enzymatic activity  
Abstract: The influence of cimetidine on diazinon toxicity and toxicokinetics was investigated in male Wistar rats. The acute toxicity of diazinon, as well as brain acetylcholinesterase and carboxylesterase inhibition, were potentiated by pretreating rats with cimetidine (80 mg kg super(-1), ip) 1 and 24 h prior to diazinon application (50 mg kg super(-1), i.p.). Comparison of toxicokinetic parameters between control and cimetidine-treated animals, showed a significant decrease in diazinon total body clearance and a marked increase in the area under the plasma concentration-time curve following cimetidine. These results indicate that a major cause of the potentiation of diazinon may be related to the increase in the amount of diazinon in the systemic circulation as well as in the brain.  
Language: English  
English  
Publication Type: Journal Article  
Classification: X 24131 Acute exposure  
Classification: N3 11104 Mammals (except primates)  
Subfile: CSA Neurosciences Abstracts; Toxicology Abstracts

Wu, J. G., Luan, T. G., Lan, C. Y., Lo, W. H., and Chan, G. Y. S. ( Efficacy evaluation of low-concentration of ozonated water in removal of residual diazinon, parathion, methyl-parathion and cypermethrin on vegetable. *Journal of Food Engineering* In Press, Corrected Proof.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The present study investigated the degradation of four pesticides by low-concentration of dissolved ozone in order to establish the effect of operational parameters. The results indicated that dissolved ozone (initial concentration of 1.4 mg/l) was effective to oxidize 60-99% of 0.1 mg/l aqueous diazinon, parathion, methyl-parathion and cypermethrin shortly within 30 min. The feasibilities of applying low dissolved levels of ozone in water (1.4-2.0 mg/l) to remove the target pesticides residing on vegetable surface (Brassica rapa) were studied. Ozonated water was mostly effective in cypermethrin removal (>60%). The efficacy highly depended on the dissolved ozone levels. Higher temperature enhanced the efficacy in pesticide removal; however, the solubility of ozone in water is inversely proportional to temperature. The maximal efficacy for diazinon removal was detected to be at 15-20 [deg]C. Major limitation factors for residual pesticide removal are temperature, concentration of ozone gas applied and concentration of dissolved ozone established. Pesticide/ Ozonated water/ Vegetable/ Diazinon/ Parathion/ Methyl-parathion/ Cypermethrin

Wu, Jiguo, Luan, Tiangang, Lan, Chongyu, Hung Lo, Thomas Wai, and Chan, Gilbert Yuk Sing ( Removal of residual pesticides on vegetable using ozonated water. *Food Control* In Press, Corrected Proof.  
 Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
Degradation of the four pesticides by dissolved ozone was investigated in order to establish the effect of operational parameters: methyl-parathion, parathion, diazinon and cypermethrin. They were commonly used as broad-spectrum insecticides in pest control, and high residual levels had been detected in vegetables. In the present study, the effectiveness in pesticide oxidation in aqueous solution using low level of dissolved ozone was determined using solid-phase micro-extraction (SPME) and GC-MS. Dissolved ozone (1.4 mg/l) was effective to oxidize 60-99% of methyl-parathion, cypermethrin, parathion and diazinon in aqueous solution in 30 min and the degradation was mostly completed in the first 5 min. Trace amounts and unstable paraoxon and diazoxon were tentatively identified as primary ozonation byproducts of parathion and diazinon. The feasibilities of using low level of dissolved ozone (1.4-2.0 mg/l) for removal of the four pesticides residue on vegetable surface (Brassica rapa) were also tested. Ozone was mostly effective in cypermethrin removal (>60%). The removal efficiency of pesticides highly depended on the dissolved ozone levels and temperature. The present study validated that ozonation is a safe and promising process for the removal of the tested pesticides from aqueous solution and vegetable surface under domestic conditions. Ozonated water/ Pesticides/ Vegetable

Yamada, Atsuko, Shoji, Tetsuo, Tahara, Hideki, Emoto, Masanori, and Nishizawa, Yoshiki (2001). Effect of insulin resistance on serum paraoxonase activity in a nondiabetic population. *Metabolism* 50: 805-811.  
Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
Paraoxonase is a high-density lipoprotein (HDL)-bound esterase that hydrolyzes various organophosphorus compounds and protects low-density lipoprotein (LDL) against accumulation of lipid peroxides. Paraoxonase activity is strongly affected by the polymorphism of the paraoxonase gene (PON1) at position 192. In addition, the enzyme activity shows a great variation within each genotype, although the underlying mechanism is unknown. Because paraoxonase activity is decreased in subjects with type 2 diabetes mellitus who have insulin resistance, we investigated the association between paraoxonase activity and insulin resistance in a nondiabetic population. The subjects were 237 healthy Japanese adults with fasting plasma glucose less than 7.0 mmol/L. Paraoxonase activity was measured using paraoxon as a routine substrate. Insulin resistance was assessed by homeostasis model assessment index (HOMA index). Paraoxonase activity was affected by HDL level. To reduce the effect of HDL on paraoxonase, paraoxonase activity/HDL ratio was used. When the subjects were divided into tertiles by HOMA index, the subjects with higher HOMA values had higher paraoxonase/HDL ratios, although the 3 groups were comparable in age, gender and the PON1 genotype distribution. Paraoxonase/HDL ratio showed significant positive correlations not only with HOMA index, but also with body mass index, waist-to-hip ratio (WHR), whereas it correlated inversely with age at borderline significance. Multiple regression analysis indicated that the association between HOMA index and paraoxonase/HDL ratio was significant and independent of PON1 genotype, age, and adipocity. The positive association between HOMA index and HDL-corrected enzyme activity was again significant when the enzyme activity was measured with diazoxon as an alternative substrate. These results suggest that insulin resistance or hyperinsulinemia is a factor contributing to the intragenotype variability of paraoxonase activity in a population without overt hyperglycemia.

Yamagiwa, Noriyuki, Abiko, Yumi, Sugita, Mari, Tian, Jun, Matsunaga, Shigeki, and Shibasaki, Masakatsu (2006). Catalytic asymmetric cyano-phosphorylation of aldehydes using a YLi3tris(binaphthoxide) complex (YLB): Asymmetric Catalysis. *Tetrahedron: Asymmetry* 17: 566-573.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
A highly enantioselective cyano-phosphorylation of aldehydes catalyzed by a YLi3tris(binaphthoxide) complex YLB 1 is described. The slow addition of diethyl cyanophosphonate 4 to aldehydes 5 in the presence of YLB 1 (10 mol %), H2O (30 mol %), tris(2,6-dimethoxyphenyl)phosphine oxide 3a (10 mol %), and BuLi (10 mol %) afforded cyanohydrin O-phosphates 6 in up to 98% yield and 97% ee. Mechanistic studies revealed that the addition of cyanide to aldehydes is irreversible and determines the enantioselectivity. The reaction mechanism is also discussed in detail.

Yamamoto, Kagetoshi, Matsue, Yuji, Hara, Osamu, and Murata, Ichiro (1982). The chemistry of phenalenium systems XXXIII. The Dibenzo[de;thi]naphthacenyl dication and the dianon. *Tetrahedron Letters* 23: 877-880.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The dibenzo[de;hi]naphthacenyl dication () and dianion () have been generated from a mixture of the corresponding precursor hydrocarbons. The pmr spectra of and indicated that the positive and the negative charges were found to be fully delocalized over the molecules, respectively, consistent with the C2v-symmetry structures. The pmr chemical shifts of correlate well with the Huckel charge densities.

Yanai, Hikaru and Taguchi, Takeo (2005). Indium(III) triflate catalyzed tandem azidation/1,3-dipolar cycloaddition reaction of [omega],[omega]-dialkoxyalkyne derivatives with trimethylsilyl azide. *Tetrahedron Letters* 46: 8639-8643.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The azidation reaction of dialkyl acetal derivatives with trimethylsilyl azide (TMSN3) was efficiently catalyzed by 1-5 mol % of In(OTf)3. The major product differed depending on the substrate structure and molar ratio of TMSN3, that is, aliphatic acetals provided [alpha]-azido ether derivatives, while aromatic acetal (benzaldehyde dimethyl acetal) provided gem-diazide, respectively. Furthermore, novel tandem azidation/1,3-dipolar cycloaddition reaction using alkynyl acetal derivatives gave bicyclic triazolo-heterocyclic compounds, recognized as chemically modified aza-sugar analogues, in high yields under mild conditions. Indium(III) triflate/ Azidation/ 1,3-Dipolar cycloaddition/ Tandem reaction/ Triazolo-heterocyclic compounds

Yang, Li, Zhao, Yu-hua, Zhang, Bing-xin, Yang, Ching-Hong, and Zhang, Xin (2005). Isolation and characterization of a chlorpyrifos and 3,5,6-trichloro-2-pyridinol degrading bacterium. *FEMS Microbiology Letters* 251: 67-73.  
Chem Codes: Chemical of Concern: DZ Rejection Code: BACTERIA.  
  
A bacterium, isolated from contaminated soils around a chemical factory and named strain DSP3 was capable of biodegrading both chlorpyrifos and 3,5,6-trichloro-2-pyridinol. Based on the results of phenotypic features, phylogenetic similarity of 16S rRNA gene sequences, DNA G + C content, and DNA homology between strain DSP3 and reference strains, strain DSP3 was identified as Alcaligenes faecalis. Chlorpyrifos was utilized as the sole source of carbon and phosphorus by strain DSP3. We examined the role of strain DSP3 in the degradation of chlorpyrifos and 3,5,6-trichloro-2-pyridinol under different culture conditions. Parathion and diazinon could also be degraded by strain DSP3 when provided as the sole sources of carbon and phosphorus. An addition of strain DSP3 (108 cells g-1) to soil with chlorpyrifos (100 mg kg-1) resulted in a higher degradation rate than the one obtained from non-inoculated soils. Different degradation rates of chlorpyrifos in six types of treated soils suggested that soils used for cabbage growing in combination with inoculation of strain DSP3 showed enhanced microbial degradation of chlorpyrifos. Chlorpyrifos degrading bacterium/ 3,5,6-Trichloro-2-pyridinol degrading/ Rhizosphere/ Alcaligenes faecalis

Yang, Raymond S. H., Dauterman, Walter C., and Hodgson, Ernest (1969). Enzymatic degradation of diazinon by rat liver microsomes. *Life Sciences* 8: 667-672.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METABOLISM.  
  
A method was developed to study the metabolism of diazinon by rat liver preparations. Preliminary results showed that diazinon is rapidly degraded into diethyl phosphorothioic and diethyl phosphoric acids by a rat liver microsomal enzyme system requiring NADPH and oxygen. These findings and the inhibition by carbon monoxide strongly suggest the involvement of cytochrome P450, the carbon monoxide binding pigment. The enzyme system is found to be more active in Tris buffer than in phosphate buffer. Oxidative degradation appears to be the major route of metabolism of diazinon.

Yang, T. and Zhang, F. (1989). Acute Toxicity of 7 Pesticides on 2 Species of Common Leeches. *China Environ.Sci.(Zhongguo Huanjing Kexue)* 9: 51-55 (CHI) (ENG ABS).

EcoReference No.: 3234  
Chemical of Concern: CuS,NaPCP,DZ,HCCH,MLN,DDVP; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

YASOSHIMA, M. and MASUDA, Y. (1986). EFFECT OF CARBON DISULFIDE ON THE ANTICHOLINESTERASE ACTION OF SEVERAL ORGANOPHOSPHORUS INSECTICIDES IN MICE. *TOXICOL LETT (AMST);* 32: 179-184.  
Chem Codes: Chemical of Concern: DMT Rejection Code: IN VITRO.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM LIVER DIMETHOATE DIAZINON PARATHION PHENOBARBITAL PRETREATMENT Biochemistry/ Metabolism/ Digestive System/ Digestive System Diseases/Pathology/ Digestive System/Pathology/ Pharmaceutical Preparations/Metabolism/ Poisoning/ Animals, Laboratory/ In Vitro/ Tissue Culture/ Herbicides/ Pest Control/ Pesticides/ Muridae

Yasuno, M., Hirakoso, S., Sasa, M., and Uchida, M. (1965). Inactivation of Some Organophosphorous Insecticides by Bacteria in Polluted Water. *Jpn.J.Exp.Med.* 35: 545-563.

EcoReference No.: 15271  
Chemical of Concern: DZ; Habitat: A; Rejection Code: NO COC(DZ).

Yasuno, M. and Kerdpibule, V. (1967). Susceptibility of Larvae of Culex pipiens fatigans to Organophosphorous Insecticides in Thailand. *Jpn.J.Exp.Med.* 37: 559-562 .

EcoReference No.: 17127  
Chemical of Concern: DZ,MLN,DDVP,FNTH; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Yasutomi, K. and Takahashi, M. (1987). Insecticidal resistance of Culex tritaeniorhynchus (Diptera: Culicidae) in Japan: A country-wide survey of resistance to insecticides. *Journal of Medical Entomology [J. MED. ENTOMOL.]. Vol. 24, no. 6, pp. 604-608. 1987.*  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.  
  
ISSN: 0022-2585  
Descriptors: pesticide resistance  
Descriptors: geographical variations  
Descriptors: Culicidae  
Descriptors: Japan  
Abstract: Sixteen samples of Culex tritaeniorhynchus Giles collected in 14 prefectures in Japan in 1984 were assessed for resistance to insecticides. All of the samples were highly resistant to organophosphorus (OP) and carbamate insecticides, but none was resistant to a pyrethroid (permethrin). Resistance levels for each of the OP's and carbamates were similar among samples except for diazinon and temephos. Considerable variation in LC sub(50)'s of temephos may have resulted from exposure to other OP's used for crop protection because temephos has not been used in ricefields in Japan.  
Language: English  
English  
Publication Type: Journal Article  
Classification: Z 05219 Population genetics  
Classification: Z 05206 Medical & veterinary entomology  
Classification: Z 05183 Toxicology & resistance  
Subfile: Entomology Abstracts

Yasutomi, K. and Takahashi, M. (1987). Insecticidal Resistance of Culex tritaeniorhynchus (Diptera: Culicidae) in Japan: A Country-Wide Survey of Resistance to Insecticides. *J Med Entomol* 24: 604-608 .  
Chem Codes: Chemical of Concern: DZ Rejection Code: SURVEY.

YENIGUN, O. and SOHTORIK, D. (1995). Calculations with the level II fugacity model for selected organophosphorus insecticides. *WATER AIR AND SOIL POLLUTION; 84* 175-185.  
Chem Codes: Chemical of Concern: DZ Rejection Code: MODELING.  
  
BIOSIS COPYRIGHT: BIOL ABS. The environmental equilibrium distributions and levels of persistency of 20 selected organophosphorus insecticides have been determined using Mackay's Level II Fugacity Model. The model comprised air, water, biota, soil, suspended solids and sediment compartments. Available physicochemical and kinetic data for the insecticides have been compiled. Results suggest that some of the insecticides have tendencies to occur at high concentrations in biota and may be environmentally persistent. Mathematics/ Statistics/ Biology/ Ecology/ Climate/ Ecology/ Meteorological Factors/ Ecology/ Oceanography/ Fresh Water/ Biophysics/ Cybernetics/ Air Pollution/ Soil Pollutants/ Water Pollution/ Soil

Yielding, L. W., Graves, D. E., Brown, B. R., and Yielding, K. L. (1979). Covalent binding of ethidium azide analogs to DNA : Competition by ethidium bromide. *Biochemical and Biophysical Research Communications* 87: 424-432.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The photoreactive analogs of ethidium bromide (ethidium mono- and diazide) have been developed as drug probes to determine the actual molecular details of ethidium bromide interactions with DNA. In an effort to demonstrate that the analogs in fact mimic the parent ethidium, competition experiments were designed using 3H thymidine-labeled DNA in intact TA1538, which is reverted by the azide analogs. 14C-labeled ethidium azide analogs were used in combination with the non-labeled ethidium bromide. The results presented here demonstrate that the parent ethidium competes with the azide analogs as a DNA intercalating drug using CsCl density gradient ultracentrifugation.

Yielding, Lerena W., Brown, Brenda R., Graves, David E., and Lemone Yielding, K. (1979). Ethidium bromide enhancement of frameshift mutagenesis caused by photoactivatable ethidium analogs. *Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis* 63: 225-232.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Ethidium azide analogs (3-amino-8-azido-ethidium monoazide and ethidium diazide) have been developed as photosensitive probes in order to analyze directly the reversible in vivo interactions of ethidum bromide. Our preliminary observation [11], relating the mutagenic potential of the monoazide analog of ethidium, have been extended and refined, using the highly purified ethidium azide analogs [5].A number of physical-chemical studies indicate that the monoazide analog interaction with nucleic acids, prior to photolysis, resembles remarkably the interaction of the parent ethidium (unpublished). It was anticipated, therefore, that competition by ethidium for the ethidium monoazide mutagenic sites in Salmonella TA1538 would be observed when these drugs were used in combination. Previous results in fact showed a decreased production of frameshift mutants when ethidium bromide was added to the ethidium monoazide in the Ames assay [11]. However, more extensive investigations, reported here, have shown that this apparent competition was the result of neglecting the toxic effects of ethidium monoazide and its enhanced toxicity in the presence of ethidium bromide. Conversely, an enhancement of the azide mutagenesis and toxicity for both the mono- and diazide analogs was seen when ethidium bromide was used in combination with these analogs.

Yokoyama, Masataka, Matsushita, Michio, Hirano, Sachiko, and Togo, Hideo (1993). Synthesis of 6-oxa-1,5-pentamethylenetetrazoles (sugar tetrazoles). *Tetrahedron Letters* 34: 5097-5100.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Some sugar tetrazoles have been synthesized by the photolysis or the thermolysis of -glucopyranosylidene diazide of -galactopyranosylidene diazide. The reaction mechanism is discussed.

Yokoyama, T., Saka, H., Fujita, S., and Nishiuchi, Y. (1988). Sensitivity of Japanese Eel, Anguilla japonica, to 68 Kinds of Agricultural Chemicals. *Bull.Agric.Chem.Insp.Stn.* 28: 26-33 (JPN) (ENG ABS).

EcoReference No.: 8570  
Chemical of Concern: ACP,Captan,CBL,CTN,DMT,DS,DZ,FO,HXZ,MDT,MLN,MOM,PPG,PSM,TET,CYP,FVL,PMR,TFR,Cu,CuS,PCP,IZP,MCPP1; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN.

Yon, Jei-Oh, Nakamura, Hidemitsu, Ohta, Akinori, and Takagi, Masamichi (1998). Incorporation of extracellular phospholipids and their effect on the growth and lipid metabolism of the Saccharomyces cerevisiae cho1/pss mutant. *Biochimica et Biophysica Acta (BBA) - Lipids and Lipid Metabolism* 1394: 23-32.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The cho1/pss mutant of Saccharomyces cerevisiae, which is auxotrophic for choline or ethanolamine because of the deficiency in phosphatidylserine synthesis, grew in the presence of 0.05 mM phosphatidylcholine (PC) with octanoic acids (diC8PC) or decanoic acids (diC10PC), but not in the presence of PC with longer acyl residues. It did not grow in the presence of the soluble hydrolytic products of PC, phosphorylcholine or glycerophosphorylcholine, at comparable concentrations. Addition of 10 mM hemicholinium-3, a choline transport inhibitor, or disruption of the CTR gene, which encodes a choline transporter, inhibited the growth of the cho1/pss mutant in the presence of choline, but not in the presence of 0.1 mM diC8PC. Under diC8PC-supported growth conditions, octanoic acid was barely detectable in the cellular phospholipid fraction, but was recovered in the culture medium as the free acid, and the phosphatidylethanolamine (PE) content was low in comparison to the choline-supported conditions. These results suggest that PCs with short acyl residues were taken up by the cho1/pss mutant and remodeled as they were used, and that PCs with short acyl residues do not inhibit conversion of PE to PC. The current results provide a new direction in the analysis of intracellular phospholipid movement and metabolism in yeast. CHO1/ Phospholipid uptake/ Phosphatidylcholine/ Octanoic acid/ (Saccharomyces cerevisiae)

Yoo, J. K., Lee, S. W., Ahn, Y. J., Nagata, T., and Shono, T. (2002). Altered Acetylcholinesterase as a Resistance Mechanism in the Brown Planthopper (Homoptera: Delphacidae), Nilaparvata lugens Stal. *Appl.Entomol.Zool.* 37: 37-41.

EcoReference No.: 81967  
Chemical of Concern: CBF,DZ; Habitat: T; Effect Codes: BCM,MOR; Rejection Code: TARGET(DZ).

Yoshioka, Y., Mizuno, T., Ose, Y., and Sato, T. (1986). The Estimation for Toxicity of Chemicals on Fish by Physico-chemical Properties. *Chemosphere* 15: 195-203 (OECDG).

EcoReference No.: 6600  
Chemical of Concern: NYP,DZ; Habitat: A; Effect Codes: MOR; Rejection Code: NO REVIEW.

Young, Ku, Chang, Jay-Lin, Shen, Yung-Shuen, and Lin, Shi-Yow (1998). Decomposition of diazinon in aqueous solution by ozonation. *Water Research* 32: 1957-1963.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
ozonation/ diazinon/ organic phosphates

YOUNOS TM and WEIGMANN DL (1988). PESTICIDES A CONTINUING DILEMMA. *J WATER POLLUT CONTROL FED; 60* 1199-1205.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REVIEW.  
  
BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW HERBICIDE INSECTICIDE FUNGICIDE ENVIRONMENTAL POLLUTANT REGULATION FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT Legislation/ Organization and Administration/ Biology/ Ecology/ Biochemistry/ Air Pollution/ Soil Pollutants/ Water Pollution/ Grasses/Growth & Development/ Soil/ Herbicides/ Pest Control/ Pesticides/ Arachnida/ Entomology/Economics/ Insecticides/ Pest Control/ Pesticides

Yu, Jya-Jyun (2002). Removal of organophosphate pesticides from wastewater by supercritical carbon dioxide extraction.  *Water Research* 36: 1095-1101.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Organophosphate pesticides including fenitrothion chlorpyrifos, diazinon, methamidophos, edifenphos, mevinphos, fenthion, and acephate present in agro-wastewater can be effectively removed by supercritical carbon dioxide (SC-CO2) extraction. Near quantitative removal of the pesticides from the aqueous solution can be achieved by SC-CO2 at 90[deg]C and 325 atm for 20 min of static extraction followed by 40 min of dynamic extraction. The extracted pesticides were collected in a small amount of Fenton's solution. The pesticides in Fenton's solution were degraded completely within an hour after the collection. A combination of SC-CO2 extraction and subsequent degradation by Fenton's reagent may provide an alternative water purification strategy for treating organophosphate pesticides in agro-wastewater. Organophosphate pesticides/ SC-CO2/ Extraction/ Degradation/ Fenton's reagent

Yu, S. J. (1991). Insecticide Resistance in the Fall Armyworm, Spodoptera frugiperda (J. E. Smith). *Pestic.Biochem.Physiol.* 39: 84-91.

EcoReference No.: 73599  
Chemical of Concern: MOM,PMR,CYP,CYT,BFT,TMT,FVL,DZ,CPY,MP,CBL,TDC,DDVP,SPS,TLM,MLN,FNV; Habitat: T; Effect Codes: MOR; Rejection Code: OK TARGET(MLN,FVL,CYP,DZ),TARGET(BFT).

Yu, S. J. (1988). Selectivity of Insecticides to the Spined Soldier Bug (Heteroptera: Pentatomidae) and Its Lepidopterous Prey. *J.Econ.Entomol.* 81: 119-122.

EcoReference No.: 68973  
Chemical of Concern: CPY,DZ; Habitat: T; Rejection Code: TARGET(DZ).

YUEH L-Y and HENSLEY DL (1990). PESTICIDE INFLUENCE ON NITROGEN FIXATION AND NODULATION BY SOYBEAN AND LIMA BEAN. *87TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR HORTICULTURAL SCIENCE, TUCSON, ARIZONA, USA, NOVEMBER 4-8, 1990. HORTSCIENCE; 25 (9). 1990. 1145. AB - BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT GLYCINE-MAX PHASEOLUS-LUNATUS RHIZOBIUM PLANT BACTERIA MICROORGANISM DIAZINON TRIFLURALIN CROP INDUSTRY AGRICULTURE*.  
Chem Codes: Chemical of Concern: DZ Rejection Code: ABSTRACT.  
  
Congresses/ Biology/ Biochemistry/ Metabolism/ Bacteria/Physiology/ Bacteria/Metabolism/ Soil Microbiology/ Biophysics/ Plants/Metabolism/ Oils/ Plants/Growth & Development/ Soil/ Vegetables/ Environmental Pollution/ Plant Diseases/ Weather/ Herbicides/ Pest Control/ Pesticides/ Rhizobiaceae/ Legumes

Zago, M. Paola and Oteiza, Patricia I. (2001). The antioxidant properties of zinc: interactions with iron and antioxidants. *Free Radical Biology and Medicine* 31: 266-274.  
Chem Codes: Chemical of Concern: DZ Rejection Code: NO TOX DATA.  
  
Potential mechanisms underlying zinc&rsquo;s capacity to protect membranes from lipid oxidation were examined in liposomes. Using lipid oxidation initiators with different chemical and physical properties (transition metals, lipid- or water-soluble azo compounds, ultraviolet radiation c (UVc), superoxide radical anion (O2--), and peroxynitrite (ONOO-) we observed that zinc only prevented copper (Cu2+)- and iron (Fe2+)-initiated lipid oxidation. In the presence of Fe2+, the antioxidant action of zinc depended directly on the negative charge density of the membrane bilayer. An inverse correlation (r2: 0.96) was observed between the capacity of zinc to prevent iron binding to the membrane and the inhibitory effect of zinc on Fe2+-initiated lipid oxidation. The interaction of zinc with the bilayer did not affect physical properties of the membrane, including rigidification and lateral phase separation known to increase lipid oxidation rates. The interactions between zinc and the lipid- ([alpha]-tocopherol) and water- (epicatechin) soluble antioxidants were studied. The inhibition of Fe2+-induced lipid oxidation by either [alpha]-tocopherol or epicatechin was increased by the simultaneous addition of zinc. The combined actions of [alpha]-tocopherol (0.01 mol%), epicatechin (0.5 [mu]M) and zinc (5-50 [mu]M) almost completely prevented Fe2+ (25 [mu]M)-initiated lipid oxidation. These results show that zinc can protect membranes from iron-initiated lipid oxidation by occupying negatively charged sites with potential iron binding capacity. In addition, the synergistic actions of zinc with lipid and water-soluble antioxidants to prevent lipid oxidation, suggests that zinc is a pivotal component of the antioxidant defense network that protects membranes from oxidation. Zinc/ Free radicals/ Lipid oxidation/ Epicatechin/ [alpha]-Tocopherol/ Antioxidants

Zaroogian, G., Heltshe, J. F., and Johnson, M. (1985). Estimation of Toxicity to Marine Species with Structure-Activity Models Developed to Estimate Toxicity to Freshwater Fish. *Aquat.Toxicol.* 6: 251-270.  
Chem Codes: Chemical of Concern: DZ Rejection Code: REFS CHECKED/REVIEW.

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Chem Codes: Chemical of Concern: DZ Rejection Code: HUMAN HEALTH.  
  
A fluorescent substrate 12-(N-methyl-N(7-nitro-2-oxa-1,3-diazol-4-yl) aminododecanoyl sphingosyl [beta]--galactoside (&lsquo;NBD galactocerebroside&rsquo;) was synthesized and used for the detection of galactocerebrosidase activity. The enzyme determinations using this substrate were found to be extremely sensitive yielding unambiguous results. This substrate was used for the prenatal diagnosis of a fetus affected with Krabbe disease; the diagnosis was later confirmed in the aborted fetus. Krabbe disease/ Galactocerebrosidase/ Prenatal diagnosis

Zellmer, S., Cevc, G., and Risse, P. (1994). Temperature- and pH-controlled fusion between complex lipid membranes. Examples with the diacylphosphatidylcholine/fatty acid mixed liposomes. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1196: 101-113.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
The fusion capability of complex lipid bilayers and its pH as well as temperature sensitivity have been studied by optical and spectroscopic means. The aggregation and fusion efficiency of such lipid membranes can be optimized by controlling the phase characteristics of the individual membrane components. For a practically relevant illustration, the stoichiometric 1:2 (mol/mol) mixtures of phosphatidylcholines and fatty acids are used. Perhaps the most interesting liposomes of this kind, which are made of dipalmitoylphosphatidylcholine/elaidic acid (DPPC/ELA-COOH (1:2)), undergo a chain-melting phase transition between 42[deg]C and 48[deg]C, depending on the bulk pH value. The highest chain-melting phase transition temperatures are measured with the fully protonated fatty acids at pH - mixed vesicles decreases. The fusion efficacy of the PC/FA(-) mixed liposomes at pH >= pK(FA) [approximate] 7.5 is practically negligible. This is largely due to the increased interbilayer repulsion and to the relatively high water-solubility of the deprotonated fatty acid molecules at high pH. While the pH-variability chiefly affects the efficacy of the intermembrane aggregation, the vesicle fusion itself is more sensitive to temperature variations. It is most likely that the temperature dependence of the intramembrane defect density is chiefly responsible for this. Optimal conditions for the fusion between DPPC/ELA-COOH (1:2) mixed vesicles are thus 3.5 T >= 41.5[deg]C = Tm(DPPC) (defect density and fusion maximum). Under such conditions the average size of PC/FA (1:2) mixed vesicles in a 1 mM suspension increases by a factor of 10 over a period of 10 min. Interbilayer fusion can also be catalyzed by the mechanically induced local membrane defects. Freshly made liposomes thus always fuse more avidly than aged vesicles. This permits estimates of the kinetics of membrane defects annihilation based on the measured temporal dependence of the maximum fusion-rate. From such studies, a quasi-exponential decay on the time scale of 1.2 h is found for the thermolabile fusogenic DPPC/ELA-COOH liposomes. Lipid vesicle/ Phase behavior/ Membrane fusion/ Phosphatidylcholine/ Fatty acid/ Drug carrier/ Mixed bilayer

Zenkevich, I. G., Ostroukhova, O. K., and Dolzhenko, V. I (2002). Optimum analytical parameters for the chromatographic characterization of pesticides. *Journal of Analytical Chemistry (Translation of Zhurnal Analiticheskoi Khimii)* 57: 35-39.  
Chem Codes: Chemical of Concern: TCZ Rejection Code: CHEM METHODS.  
  
Correlation coeffs. were established for various combinations of anal. parameters for a series of 20 most widely used pesticides. These parameters included gas-chromatog. retention indexes (RIs) on std. nonpolar polydimethylsiloxane stationary phases, RIs in reversed-phase HPLC, data on out-of-column phase equil. (distribution consts. Kp in heterophase solvent systems), UV-spectroscopic characteristics, and the most important mass-spectrometric characteristics. A combination of RIs with the relative absorbance Arel = A(254)/A(220) and distribution consts. in the hexane-acetonitrile system were the most informative for the HPLC identification of compds. from this class. [on SciFinder (R)] chromatog/ parameter/ pesticide Copyright: Copyright 2004 ACS on SciFinder (R))  
Database: CAPLUS  
Accession Number: AN 2002:115371  
Chemical Abstracts Number: CAN 136:274698  
Section Code: 5-1  
Section Title: Agrochemical Bioregulators  
CA Section Cross-References: 80  
Document Type: Journal  
Language: written in English.  
Index Terms: Gas chromatography; Pesticides; Reversed phase HPLC (optimum anal. parameters for the chromatog. characterization of pesticides)  
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methylparathion); 333-41-5 (Diazinon); 2921-88-2 (Chlorpyriphos); 21087-64-9 (Metribuzin); 23103-98-2 (Pirimicarb); 34256-82-1 (Acetochlor); 43121-43-3 (Triadimefon); 52315-07-8 (BetaCypermethrin); 52918-63-5 (Deltamethrin); 60207-90-1 (Propiconazole); 66230-04-4 (Esfenvalerate); 67747-09-5 (Prochloraz); 82657-04-3 (Bifenthrin); 83657-24-3 (Diniconazole); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole) Role: ANT (Analyte), ANST (Analytical study) (optimum anal. parameters for the chromatog. characterization of pesticides)

ZHANG, Q. and PEHKONEN SO (1999). Oxidation of diazinon by aqueous chlorine: Kinetics, mechanisms, and product studies. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY; 47* 1760-1766.  
Chem Codes: Chemical of Concern: DZ Rejection Code: FATE.  
  
BIOSIS COPYRIGHT: BIOL ABS. The oxidation kinetics and mechanisms of diazinon, an organophosphorus pesticide, by aqueous chlorine were studied under different conditions. The oxidation is of first order with respect to both diazinon and chlorine. The oxidation rate is found to increase with decreasing pH. The second-order rate constants at pH 9.5, 10.0, 10.5, and 11.0 are determined to be 1.6, 0.64, 0.43, and 0.32 M-1 s-1, respectively. Based on the rate constants at different temperatures, the activation energy is calcula that oxidation by aqueous chlorine can significantly affect the fate of diazinon in the environment. Biochemistry/ Herbicides/ Pest Control/ Pesticides

Zhang, Ye, Garzon-Rodriguez, William, Manning, Mark C., and Anchordoquy, Thomas J. (2003). The use of fluorescence resonance energy transfer to monitor dynamic changes of lipid-DNA interactions during lipoplex formation. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1614: 182-192.  
Chem Codes: Chemical of Concern: DZ Rejection Code: METHODS.  
  
Fluorescence resonance energy transfer (FRET) was used to monitor interactions between Cy3-labeled plasmid DNA and NBD-labeled cationic liposomes. FRET data show that binding of cationic liposomes to DNA occurs immediately upon mixing (within 1 min), but FRET efficiencies do not stabilize for 1-5 h. The time allowed for complex formation has effects on in vitro luciferase transfection efficiencies of DOPE-based lipoplexes; i.e., lipoplexes prepared with a 1-h incubation have much higher transfection efficiencies than samples with 1-min or 5-h incubations. The molar charge ratio of DOTAP to negatively charged phosphates in the DNA (DOTAP+/DNA-) also affected the interaction between liposomes and plasmid DNA, and interactions stabilized more rapidly at higher charge ratios. Lipoplexes formulated with DOPE were more resistant to high ionic strength than complexes formulated with cholesterol. Taken together, our data demonstrate that lipid-DNA interactions and in vitro transfection efficiencies are strongly affected by the time allowed for complex formation. This effect is especially evident in DOPE-based lipoplexes, and suggests that the time allowed for lipoplex formation is a parameter that should be carefully controlled in future studies. Gene delivery/ Nonviral vector/ Stability/ Fluorescence resonance energy transfer

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Chemical of Concern: MOM,PMR,CYP,FNV,DZ,BDC,AMZ,IMC,PPB; Habitat: T; Effect Codes: MOR; Rejection Code: OK(MOM),NO MIXTURE(PPB),TARGET(CYP,DZ).

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The membrane-fusion activities of amphiphilic peptides of H-(Leu-Aib-Lys-Aib-Aib-Lys-Aib)n-Ala-N(C18H37)2) (n = 1, P7D) and N = 3, P21D) immobilized on liposome were investigated. P7D, which takes a random conformation, induced fusion of DPPC SUV, but p7D immobilized on the DPPC SUV did not show the fusion activity. On the other hand, P21D showed a high activity of membrane fusion either in the free peptide or in the immobilized state. CF-Leakage experiments,revealed that the peptides caused a transient perturbation of the membrane structure on binding to the membrane. A lasting and steady perturbation was also caused by P21D embedded in the membrane, which was indicated by Eu3+ permeation through the membrane. This type of membrane perturbation was very slight in the case of P7D embedded in the membrane. A conclusion was reached that the different activities in the membrane fusion are based on the transient perturbation in the membrane at the peptide binding to the membrane surface as well as the steady perturbation caused by the peptide embedded in the membrane. Membrane fusion/ Amphiphilic peptide/ [alpha]-Helix/ Membrane perturbation/ Peptide/lipid conjugate

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Chemical of Concern: DZ; Habitat: T; Effect Codes: MOR,POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

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Chem Codes: Chemical of Concern: DZ Rejection Code: IN VITRO.  
  
Evaluation of glucose uptake ability in cells plays a fundamental role in diabetes mellitus research. In this study, we describe a sensitive and non-radioactive assay for direct and rapid measuring glucose uptake in single, living cells. The assay is based on direct incubation of mammalian cells with a fluorescent d-glucose analog 2-[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) amino]-2-deoxy-d-glucose (2-NBDG) followed by flow cytometric detection of fluorescence produced by the cells. A series of experiments were conducted to define optimal conditions for this assay. By this technique, it was found that insulin lost its physiological effects on cells in vitro meanwhile some other anti-diabetic drugs facilitated the cell glucose uptake rates with mechanisms which likely to be different from those of insulin or those that were generally accepted of each drug. Our findings show that this technology has potential for applications in both medicine and research. Diabetes/ 2-NBDG/ Glucose uptake

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Chemical of Concern: 24D,24DXY,ACAC,ACP,AKTMD,BDF,BFT,BML,BNL,BUT,CBL,CF,CPC,CPY,CTC,CTN,Captan,DEG,DM,DMB,DQTBr,DZ,ETHN,FMA,GYP,IMC,IZP,LCYT,MLN,MXC,MZB,PHTH,PMR,PPB,PRO,RTN,TFN,TFR,TLM,TMT,TOL,TPE,Ziram Code: REVIEW.

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Chemical of Concern: CLNB,DZ,EFX,FNT,FTL,MLN,PYX; Habitat: A; Effect Codes: MOR,POP; Code: NO CONC (FTL,PYX), NO DURATION (FTL,PYX), NO REVIEW (CLNB,DZ,EFX,FNT,MLN).

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Chemical of Concern: 24D,24DC,24DXY,ACT,ADC,ATZ,AZX,CBD,CBF,CBL,CPY,CYD,CYP,DCA,DZ,EFV,EPRN,ES,FNTH,FNV,FNZ,FYC,GCYH,HCCH,IDC,IMC,IPD,LCYT,MLN,MOM,PCP,PIRM,PL,PMR,PPCP,PRN,TAP,TFY; Habitat: A; Effect Codes: MOR; Code: NO EFED CHEM (24DC,ACT,CYD,EPRN,FNTH,HCCH,IDC,PL,PPCP,PRN,TAP,TFY), NO PUBL AS (24D,24DXY,ACT,ATZ,AZX,CBD,CBL,CPY,CYD,CYP,DCA,DZ,EFV,EPRN,ES,FNTH,FNV,FNZ,FYC,GCYH,HCCH,IDC,IPD,LCYT,MOM,PCP,PIRM,PL,PMR,PPCP,PRN,TAP,TFY), OK (ADC,CBF,IMC,MLN).

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Chemical of Concern: ADC,AND,AZ,CBF,CBL,CMPH,CPY,DDT,DDVP,DEM,DLD,DMT,DS,DZ,EN,EPRN,HCCH,HPT,MP,MVP,PPCP,PRN,PRT,PSM,TCF,TMP,TXP; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ADC,AZ,CBF,CBL,CMPH,CPY,DDVP,DMT,DS,DZ,MP,MVP,PRT,PSM,TCF,TMP), NO EFED CHEM (AND,DDT,DEM,DLD,EN,EPRN,HCCH,HPT,PPCP,PRN,TXP), TARGET (CBF,CBL,CMPH,CPY,DDVP,DMT,DS,MP,MVP,PRT,PSM,TCF,TMP).

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Chemical of Concern: BMY,CBL,CYP,Captan,CuOH,DINO,DM,DMT,DZ,ETN,FNV,FRM,Folpet,MLN,MZB,OTQ,PMR,SFR,TCF,TPM,Zineb; Habitat: T; Effect Codes: POP,REP; Code: NO EFED CHEM (DINO,ETN,OTQ,TPM,Zineb), NO ENDPOINT (CBL,CYP,CuOH,DM,DMT,DZ,FNV,Folpet,MLN,PMR,SFR,TCF), TARGET (BMY,Captan,CuOH,FRM,Folpet,MZB,SFR).

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EcoReference No.: 99760  
Chemical of Concern: CBL,DDT,DLD,DS,DZ,EN,HCCH,HPT,MLN,MP,OXD,PPCP,PPHD,TXP; Habitat: T; Effect Codes: ACC; Code: NO CONTROL (CBL,DZ), NO EFED CHEM (DDT,DLD,EN,HCCH,HPT,PPCP,PPHD,TXP), NO ENDPOINT (CBL,DZ), NO SURVEY (DS,MLN,MP,OXD).

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Chemical of Concern: ACE,Cd,Cu,DZ,NH3; Habitat: A; Effect Codes: GRO,REP; Code: NO CONTROL (ACE,Cu,DZ,NH3), NO EFED CHEM (Cd), NO ENDPOINT (Cu,NH3).

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Chemical of Concern: ACP,BDC,CBL,CPY,DZ,EP,FNT,IMC,IZF,MTM,TBO; Habitat: T; Effect Codes: MOR; Code: NO EFED CHEM (BDC,IZF), NO ENDPOINT (ACP,CBL,CPY,DZ,EP,FNT,IMC,MTM,TBO), TARGET (CBL,DZ,EP,FNT,IMC,TBO).

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Chemical of Concern: ACP,AMZ,BFT,CPY,CPYM,CYH,CYP,DDVP,DM,DMT,DZ,EPRN,FNT,FPP,FYT,MDT,PRN,THO,TPZ; Habitat: T; Effect Codes: MOR; Code: EFFICACY (BFT,CYH,FPP), NO EFED CHEM (EPRN,FYT,PRN,THO,TPZ), NO ENDPOINT (ACP,CPY,CPYM,CYP,DDVP,DM,DZ,FNT), NO MIXTURE (DMT,MDT), OK (AMZ).

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EcoReference No.: 153769  
Chemical of Concern: AND,CBL,CHD,DDT,DLD,DZ,EN,EPRN,ES,HCCH,HPT,MLN,PPCP,PRN,PYN,TXP; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CBL,DZ,ES,MLN), NO EFED CHEM (AND,CHD,DDT,DLD,EN,EPRN,HCCH,HPT,PPCP,PRN,PYN,TXP), TARGET (CBL,DZ,MLN).

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EcoReference No.: 110802  
Chemical of Concern: CBL,CHD,CPP,Captan,DDT,DEM,DMT,DZ,EN,EPRN,ES,HCCH,MLN,PPCP,PRN,TXP; Habitat: T; Effect Codes: GRO,MOR; Code: NO EFED CHEM (CHD,DDT,DEM,EN,EPRN,HCCH,PPCP,PRN,TXP), NO REVIEW (CBL,CPP,Captan,DZ,ES,MLN), OK (DMT).

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Chemical of Concern: ACP,DZ,IMC,TMX; Habitat: T; Effect Codes: POP; Code: NO EFED CHEM (TMX), NO ENDPOINT (DZ), OK (ACP), TARGET (DZ,IMC).

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Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Code: NO CONTROL (DZ).

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EcoReference No.: 117927  
Chemical of Concern: CBX,CPY,DZ,EPRN,ES,ETN,FNF,MOM,MTM,PIM,PRN; Habitat: T; Effect Codes: ACC; Code: NO EFED CHEM (EPRN,ETN,FNF,PRN), NO ENDPOINT (CBX,CPY,DZ,ES,MOM,MTM,PIM).

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EcoReference No.: 114909  
Chemical of Concern: CPY,CYP,DCF,DDT,DM,DZ,EPRN,FNT,FNTH,FNV,FPN,MDT,MLN,MOM,PRN,TLM; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CPY,CYP,DCF,DM,DZ,FNT,FNV,MDT,MLN,MOM,TLM), NO EFED CHEM (DDT,EPRN,FNTH,FPN,PRN), TARGET (CPY,CYP,DCF,DM,FNT,FNV,MDT,MLN,MOM,TLM).

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EcoReference No.: 120280  
Chemical of Concern: ACR,ATZ,DEATZ,DU,DZ,LNR,PPZ,TBZ; Habitat: A; Effect Codes: ACC,CEL,REP; Code: NO ENDPOINT (ACR,ATZ,DEATZ,DU,DZ,LNR,PPZ,TBZ), NO MIXTURE (DEATZ), NO SURVEY (ACR,ATZ,LNR,PPZ,TBZ).

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EcoReference No.: 7429  
Chemical of Concern: ATZ,CBL,DZ,MXC; Habitat: A; Effect Codes: POP; Code: NO EFED CHEM (MXC), NO ENDPOINT (ATZ,CBL,DZ).

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EcoReference No.: 60703  
Chemical of Concern: ATZ,CBL,DZ,MXC; Habitat: A; Effect Codes: ACC; Code: NO CONTROL (ATZ,CBL,DZ), NO EFED CHEM (MXC), NO ENDPOINT (ATZ,CBL,DZ).

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EcoReference No.: 114522  
Chemical of Concern: CMPH,CPY,DMT,DZ,ETN,FNV,MLN,PIRM,PMR,TCF,TVP; Habitat: T; Effect Codes: MOR,POP; Code: NO CONTROL (CPY,DMT,DZ,FNV,MLN,PIRM,PMR,TCF), NO EFED CHEM (ETN), NO ENDPOINT (TVP), TARGET (CMPH,CPY,DMT,FNV,MLN,PIRM,PMR,TCF,TVP).

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EcoReference No.: 104950  
Chemical of Concern: AZM,CPY,DZ,MLO,PIRM; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (AZM), NO ENDPOINT (PIRM), NO IN VITRO (CPY,DZ,MLO).

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EcoReference No.: 106250  
Chemical of Concern: AMZ,CMPH,CYP,DM,DZ,PMR; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (AMZ,CMPH,CYP,DM,DZ,PMR), TARGET (AMZ,CMPH,CYP,DM,PMR).

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EcoReference No.: 153772  
Chemical of Concern: CBL,CPY,DDT,DDVP,DZ,FNT,HCCH,MLN,PPCP,PPX,PYN,TMP,TVP; Habitat: T; Effect Codes: BEH,MOR; Code: NO CONTROL (CBL,CPY,DDVP,DZ,FNT,PPX,TMP,TVP), NO EFED CHEM (DDT,HCCH,PPCP,PYN), TARGET (CBL,DDVP,DZ,FNT,MLN,PPX,TMP,TVP).

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EcoReference No.: 153771  
Chemical of Concern: DDVP,DZ,FNT,MLN; Habitat: T; Effect Codes: MOR,REP; Code: NO CONTROL (DZ,FNT,MLN), TARGET (DDVP,DZ,FNT,MLN) .

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EcoReference No.: 103151  
Chemical of Concern: CBF,CPY,CPYM,DDVP,DZ,MP,MPO,PPX; Habitat: T; Effect Codes: BCM; Code: LITE EVAL CODED (DDVP), NO IN VITRO (CBF,CPY,CPYM,DZ,MP,MPO), OK (PPX).

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EcoReference No.: 113738  
Chemical of Concern: ACP,ATN,BDC,CPY,DZ,FNV,MLN,PPX; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ACP,ATN,CPY,DZ,FNV,MLN,PPX), NO EFED CHEM (BDC), TARGET (ACP,ATN,CPY,FNV,MLN,PPX).

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Chemical of Concern: ACP,ATN,BDC,CPY,CYF,DZ,EFV,FNV,MLN,PMR,PPX,PTR,PYN; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ACP,ATN,CPY,CYF,DZ,EFV,FNV,MLN,PMR,PPX), NO EFED CHEM (BDC,PYN), TARGET (ACP,ATN,CPY,EFV,FNV,MLN,PMR,PPX).

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Chemical of Concern: CBF,DCF,DS,DZ,EPRN,PHSL,PPG,PRN,PRT; Habitat: T; Effect Codes: POP; Code: NO EFED CHEM (EPRN,PHSL,PRN), NO ENDPOINT (CBF,DCF,DS,DZ,PPG,PRT), TARGET (CBF,DCF,DS,PPG,PRT).

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EcoReference No.: 111916  
Chemical of Concern: DZ,ES,HOX,IRG,THM,Ziram; Habitat: A; Effect Codes: BCM,GRO,PHY,POP; Code: NO ENDPOINT (DZ,ES,HOX,IRG,THM,Ziram).

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Chemical of Concern: AZ,DZ,EPRN,MLN,PRN,PRT; Habitat: A; Effect Codes: BCM,MOR; Code: NO CONTROL (AZ,DZ,MLN,PRT), NO EFED CHEM (EPRN,PRN), NO ENDPOINT (AZ,DZ,MLN,PRT).

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EcoReference No.: 45307  
Chemical of Concern: AZ,CPY,DDVP,DMT,DZ,EPRN,MLN,MP,Naled,PPHD,PRN,PRT; Habitat: A; Effect Codes: BCM,MOR; Code: NO CONC (DDVP,DMT,DZ,MLN,MP,Naled), NO CONTROL (AZ,CPY,DDVP,DMT,DZ,MLN,MP,Naled,PRT), NO EFED CHEM (EPRN,PPHD,PRN), NO ENDPOINT (AZ,CPY,DDVP,DMT,DZ,MLN,MP,Naled,PRT).

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EcoReference No.: 114298  
Chemical of Concern: BP,BT,CBL,DDVP,DZ,MCPA,PPN; Habitat: T; Effect Codes: GRO; Code: NO EFED CHEM (BP,MCPA), NO MIXTURE (BT,CBL,DDVP,DZ,PPN).

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EcoReference No.: 40670  
Chemical of Concern: AND,DDT,DLD,DMT,DZ,EPRN,HCCH,MLN,MVP,PPCP,PRN; Habitat: T; Effect Codes: PHY; Code: NO CONTROL (DMT,DZ,MLN,MVP), NO EFED CHEM (AND,DDT,DLD,EPRN,HCCH,PPCP,PRN), NO ENDPOINT (DMT,DZ,MLN,MVP).

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EcoReference No.: 35123  
Chemical of Concern: AND,BRSM,CBL,CHD,CYP,DCF,DDT,DDVP,DEM,DM,DMT,DZ,EFV,EN,EPRN,ES,FNT,FNV,HCCH,HPT,MLN,MP,MXC,PIRM,PMR,PPCP,PRN,PYN,TVP; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (BRSM,CBL,CYP,DCF,DDVP,DM,DMT,DZ,EFV,ES,FNT,FNV,MLN,MP,PIRM,PMR,TVP), NO EFED CHEM (AND,CHD,DDT,DEM,EN,EPRN,HCCH,HPT,MXC,PPCP,PRN,PYN), NO ENDPOINT (BRSM,CBL,CYP,DCF,DDVP,DM,DMT,DZ,ES,FNT,FNV,MLN,MP,PIRM,PMR,TVP).

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EcoReference No.: 118509  
Chemical of Concern: CBL,DDVP,DZ,EPRN,ES,FNT,FNTH,HCCH,MLN,MP,PHSL,PPCP,PPHD,PRN; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CBL,DDVP,DZ,ES,FNT,MLN,MP), NO EFED CHEM (EPRN,FNTH,HCCH,PHSL,PPCP,PPHD,PRN).

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EcoReference No.: 151408  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,CEL; Code: NO EXP TYPE (DZ).

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EcoReference No.: 114521  
Chemical of Concern: AMZ,AsTO,CBL,CMPH,CPY,DZ,HCCH,MLN,PMR,PPCP,PSM,TVP,TXP; Habitat: T; Effect Codes: REP; Code: NO CONTROL (AMZ,CBL,CMPH,CPY,DZ,MLN,PMR,PSM,TVP), NO EFED CHEM (AsTO,HCCH,PPCP,TXP), TARGET (AMZ,CBL,CMPH,CPY,MLN,PMR,PSM,TVP).

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EcoReference No.: 114991  
Chemical of Concern: CBF,CPY,DZ,FNTH,HCCH,MLN,MXC,PPCP,PSM,TCF,TXP; Habitat: T; Effect Codes: MOR,POP; Code: NO CONTROL (CBF,CPY,DZ,MLN,PSM,TCF), NO EFED CHEM (FNTH,HCCH,MXC,PPCP,TXP), NO ENDPOINT (CBF,DZ,MLN,PSM,TCF), TARGET (CBF,CPY,MLN,PSM,TCF).

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EcoReference No.: 113241  
Chemical of Concern: CBL,CMPH,CPY,DZ,ETN,FNTH,PPX,PSM; Habitat: T; Effect Codes: POP; Code: NO EFED CHEM (ETN,FNTH), NO ENDPOINT (CBL,CMPH,CPY,DZ,PPX,PSM), TARGET (CBL,CMPH,CPY,PPX,PSM).

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Chemical of Concern: DMT,DZ,FNT,FNTH; Habitat: T; Effect Codes: GRO,REP; Code: NO EFED CHEM (FNTH), NO ENDPOINT (DMT,DZ,FNT), TARGET (DMT,DZ,FNT).

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EcoReference No.: 41207  
Chemical of Concern: CBL,DZ; Habitat: T; Effect Codes: PHY; Code: NO CONTROL (CBL,DZ), NO ENDPOINT (CBL,DZ).

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Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Code: NO EXP TYPE (DZ).

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Chemical of Concern: AZ,CPY,DZ,MBCP,MOM,MTAS,NH3,PNB; Habitat: T; Effect Codes: PHY,POP; Code: EFFICACY (MBCP), NO MIXTURE (AZ,CPY,DZ,MOM), OK (MTAS,NH3,PNB).

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EcoReference No.: 13491  
Chemical of Concern: DLD,DZ,EPRN,HCCH,MLN,PPCP,PRN,TXP; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (DZ,MLN), NO EFED CHEM (DLD,EPRN,HCCH,PPCP,PRN,TXP).

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EcoReference No.: 114535  
Chemical of Concern: 24D,24DC,24DP,24DXY,2CP,4NP,ANT,BMY,BNZ,BPH,BPZ,CBD,CBL,CPY,DCF,DCNA,DMB,DMT,DPP1,DU,DZ,FMU,FNTH,HFR,HTX,ILL,MDT,MLN,MLX,PCP,PIM,PL,PPG,TBA,TPR; Habitat: A; Effect Codes: ACC,MOR; Code: NO CONTROL (24D,24DP,24DXY,ANT,BMY,BPH,CBD,CBL,CPY,DCF,DCNA,DMB,DMT,DPP1,DU,DZ,HFR,HTX,MDT,MLN,MLX,PCP,PIM,PPG,TPR), NO EFED CHEM (24DC,2CP,4NP,BNZ,BPZ,FMU,FNTH,ILL,PL,TBA).

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EcoReference No.: 111847  
Chemical of Concern: AZX,CYF,CYP,CYPM,DF,DM,DZ,FVL,MLN,OXF,PDM,PIM,PZM,TEZ; Habitat: T; Effect Codes: ACC; Code: NO ENDPOINT (AZX,CYF,CYP,DM,DZ,FVL,MLN,OXF,PDM,PIM,PZM,TEZ).

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EcoReference No.: 74540  
Chemical of Concern: CBF,CBL,CYR,DDT,DZ,FMP,FTT,MLN,PPM,PQT; Habitat: A; Effect Codes: BEH,MOR; Code: LITE EVAL CODED (CBF,CYR,FMP,FTT,PPM), NO EFED CHEM (DDT), NO REVIEW (CBL,DZ,MLN,PQT).

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Chemical of Concern: CPY,DMT,DZ,MAL,PMR; Habitat: T; Effect Codes: GRO,POP; Code: NO ENDPOINT (MAL), NO MIXTURE (CPY,DMT,DZ,PMR).

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EcoReference No.: 101014  
Chemical of Concern: CPY,CPYO,DZ,TBF; Habitat: T; Effect Codes: ACC; Code: NO ENDPOINT (TBF), NO EXP TYPE (CPY,CPYO,DZ,TBF), NO IN VITRO (CPY,CPYO,DZ).

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EcoReference No.: 153584  
Chemical of Concern: DZ,FXT,PPCP; Habitat: A; Effect Codes: BCM,BEH; Code: NO EFED CHEM (FXT,PPCP), NO PUBL AS (DZ).

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EcoReference No.: 49479  
Chemical of Concern: BMY,CBL,Captan,DCF,DZ,ES,MLN,MXC,MZB; Habitat: T; Effect Codes: GRO,PHY,REP; Code: NO EFED CHEM (MXC), NO ENDPOINT (BMY,CBL,Captan,DCF,DZ,ES,MLN,MZB).

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EcoReference No.: 49478  
Chemical of Concern: ACP,CBF,CBL,DZ,EPRN,ES,ETN,FNF,MOM,PRN,TCF,TVP; Habitat: T; Effect Codes: GRO,REP; Code: NO EFED CHEM (EPRN,ETN,FNF,PRN), NO ENDPOINT (ACP,CBF,CBL,DZ,ES,MOM,TCF,TVP).

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EcoReference No.: 40581  
Chemical of Concern: AND,CBF,CPY,DZ,FNTH,MCB,MOM,PRT; Habitat: T; Effect Codes: REP; Code: NO CONTROL (CBF,CPY,DZ,MCB,MOM,PRT), NO EFED CHEM (AND,FNTH), NO ENDPOINT (CBF,CPY,DZ,MCB,MOM,PRT).

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EcoReference No.: 121289  
Chemical of Concern: CYP,DZ,FAUF,FNV,FVL,FYT,PMR; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CYP,DZ,FNV,FVL,PMR), NO EFED CHEM (FYT), TARGET (CYP,DZ,FNV,FVL).

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Chemical of Concern: CPY,Cu,DZ,Mg,NH3,Ni,PPB,Zn; Habitat: A; Effect Codes: GRO; Code: NO EFED CHEM (Mg,Ni), NO ENDPOINT (NH3,PPB), NO MIXTURE (CPY,Cu,DZ,Zn).

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EcoReference No.: 103953  
Chemical of Concern: ACP,CHX,CTZ,DCF,DIE,DMT,DZ,ES,FVL,MDT,MTM,OTQ,PMR,PPG; Habitat: T; Effect Codes: BEH,MOR,PHY; Code: NO EFED CHEM (CHX,DIE,OTQ), NO ENDPOINT (ACP,CTZ,DCF,DMT,DZ,ES,FVL,MDT,MTM,PMR,PPG).

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Chemical of Concern: DMT,DZ,FNT,MP; Habitat: T; Effect Codes: CEL,MOR,REP; Code: NO ENDPOINT (DMT,DZ,FNT,MP).

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EcoReference No.: 104865  
Chemical of Concern: AZ,DMT,DZ,EPRN,ES,MP,PHSL,PMR,PRN,PSM; Habitat: T; Effect Codes: MOR,POP; Code: NO CONTROL (AZ,DMT,DZ,MP,PMR), NO EFED CHEM (EPRN,PHSL,PRN), TARGET (DMT,ES,MP,PMR,PSM).

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EcoReference No.: 103901  
Chemical of Concern: AZ,DZ,FNT,MDT,PHSL,PMR,PPB,PSM,TVP; Habitat: T; Effect Codes: ACC,MOR; Code: NO CONTROL (AZ,DZ,FNT,MDT,PMR,PPB,PSM,TVP), NO EFED CHEM (PHSL).

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EcoReference No.: 104072  
Chemical of Concern: Captan,DZ,HCCH,PPCP,PRT; Habitat: T; Effect Codes: GRO,POP; Code: CROP (PRT), NO EFED CHEM (HCCH,PPCP), NO MIXTURE (Captan,DZ).

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EcoReference No.: 15717  
Chemical of Concern: CuS,DZ,HgCl2; Habitat: A; Effect Codes: PHY; Code: NO CONTROL (CuS), NO EFED CHEM (HgCl2), NO ENDPOINT (CuS,DZ).

Harris, C. R. and Gore, F. (1970). Laboratory Tests on the Contact Toxicity of Some Insecticides to Adults of the Cabbage Flea Beetle, Phyllotreta cruciferae. *J. Econ. Entomol.* 63: 1025-1026.

EcoReference No.: 113242  
Chemical of Concern: AND,CBL,CPY,DMT,DS,DZ,END,EPRN,ES,HCCH,MLN,MOM,Naled,PPCP,PRN,PSM,TVPM; Habitat: T; Effect Codes: MOR; Code: NO EFED CHEM (AND,EPRN,HCCH,PPCP,PRN), NO ENDPOINT (CBL,CPY,DMT,DS,DZ,ES,MOM,Naled,PSM,TVPM), TARGET (CBL,CPY,DMT,DS,ES,MLN,MOM,Naled,PSM,TVPM).

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EcoReference No.: 113409  
Chemical of Concern: AND,AZ,CBF,CBL,CHD,CPY,DDT,DLD,DS,DZ,ES,FNF,HPT,MDT,MOM,MVP,MXC,OML,PKN,PRT,PSM,TBO,TVP; Habitat: T; Effect Codes: MOR; Code: NO EFED CHEM (AND,CHD,DDT,DLD,FNF,HPT,MXC), NO ENDPOINT (CBF,CBL,CPY,DS,DZ,MOM,MVP,OML,PSM,TVP), TARGET (AZ,CBF,CBL,CPY,DS,ES,MDT,MOM,MVP,OML,PRT,PSM,TBO,TVP).

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EcoReference No.: 44231  
Chemical of Concern: ACP,CBF,CBL,CPY,CPYM,DCTP,DMT,DZ,FNF,FNT,HCCH,MOM,MTM,MXC,Naled,PIRE,PIRM,PMR,PPCP,PPX,PSM,TCF,TVP; Habitat: T; Effect Codes: MOR,PHY,POP; Code: NO CONTROL (ACP,CBF,CBL,CPY,CPYM,DCTP,DMT,DZ,FNT,MOM,MTM,Naled,PIRE,PIRM,PMR,PPX,PSM,TCF,TVP), NO EFED CHEM (FNF,HCCH,MXC,PPCP).

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EcoReference No.: 121464  
Chemical of Concern: CPY,DM,DZ,ES,FNV,FYT,PMR; Habitat: T; Effect Codes: POP; Code: NO EFED CHEM (FYT), NO ENDPOINT (CPY,DM,DZ,ES,FNV,PMR), TARGET (CPY,DM,ES,FNV,PMR).

Hirakoso, S. (1968). Inactivation of Some Insecticides by Bacteria in Mosquito Breeding Polluted Water. *Jpn. J. Exp. Med.* 38: 327-334.

EcoReference No.: 62777  
Chemical of Concern: DDVP,DZ,FNT,MP; Habitat: A; Effect Codes: POP; Code: NO CONTROL (DDVP,DZ,FNT,MP), NO ENDPOINT (DDVP,DZ,FNT,MP).

Hochman, H. (1970). Tailoring a Wood Treatment for the Marine Environment. *Proc.Am.Wood-Preserv.Assoc.* 66: 38-42.

EcoReference No.: 118145  
Chemical of Concern: AgN,CHD,CST,CuAC,CuCl,DCB,DLD,DZ,EN,HPT,HgCl2,TBTO,TXP; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (AgN,CST,CuCl,DCB,DZ,TBTO), NO EFED CHEM (CHD,CuAC,DLD,EN,HPT,HgCl2,TXP), NO ENDPOINT (AgN,CST,CuCl,DCB,DZ,TBTO).

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EcoReference No.: 153538  
Chemical of Concern: IMC,SFT; Habitat: T; Effect Codes: POP; Code: NO CONC (SFT), TARGET (IMC,SFT).

Holwerda, B. C. and Morton, R. A. (1983). The In Vitro Degradation of (14C)Malathion by Enzymatic Extracts from Resistant and Susceptible Strains of Drosophila melanogaster. *Pestic. Biochem. Physiol.* 20: 151-160.

EcoReference No.: 106065  
Chemical of Concern: CBL,DZ,EPRN,MLN,PRN,TBF; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CBL,DZ,MLN,TBF), NO EFED CHEM (EPRN,PRN), TARGET (CBL,MLN).

Hsieh, D. P. H. (1973). Inhibition of Aflatoxin Biosynthesis of Dichlorvos. *J. Agric. Food Chem.* 21: 468-470.

EcoReference No.: 104857  
Chemical of Concern: ATZ,AZ,DDVP,DZ,EPRN,ETN,MLN,MVP,PRN; Habitat: T; Effect Codes: BCM,GRO; Code: NO EFED CHEM (EPRN,ETN,PRN), NO ENDPOINT (ATZ,AZ,DDVP,DZ,MLN,MVP).

Hull, L. A. and Biddinger, D. J. (1993). Apple, Airblast Evaluation of Insecticides, 1992. *Insectic. Acaric. Tests* 18: 36-41 (32A).

EcoReference No.: 150467  
Chemical of Concern: ALSV,DMT,DZ,FTTCl,FYC,MOIL,MOM,MP,PSM,TUZ; Habitat: T; Effect Codes: POP; Code: NO MIXTURE (DMT,DZ,FTTCl,FYC,MOM,PSM,TUZ), TARGET (ALSV,DMT,DZ,FTTCl,FYC,MOIL,MOM,MP,PSM,TUZ).

Huque, H. (1974). The Fate of Diazinon Applied to Rice Plants. *FAO/IAEA-PL-512/6* 29-32.

EcoReference No.: 152078  
Chemical of Concern: DZ; Habitat: A; Effect Codes: ACC; Code: NO CONTROL (DZ), NO ENDPOINT (DZ).

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EcoReference No.: 153753  
Chemical of Concern: DZ,FVL; Habitat: T; Effect Codes: ACC,MOR; Code: NO CONTROL (DZ,FVL), NO ENDPOINT (DZ,FVL).

Isa, A. L., Awadallah, W. H., Tantawy, A. M., and Bishara, M. A. (1970). On the Chemical Control of the Rice Stem Borer (Lepidoptera: Crambidae). *Bull. Entomol. Soc. Egypt* 4: 117-125.

EcoReference No.: 50503  
Chemical of Concern: AZ,CBL,CPY,DDT,DZ,ES,FNT,HCCH,MLN,MP,PHSL,PPCP,TCF; Habitat: T; Effect Codes: POP; Code: NO EFED CHEM (DDT,HCCH,PHSL,PPCP), NO ENDPOINT (AZ,CBL,CPY,DZ,ES,FNT,MLN,MP,TCF).

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EcoReference No.: 103799  
Chemical of Concern: ADC,AZ,CBL,DZ,EPRN,FNT,MLN,MOM,PPX,PRN; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (EPRN,PRN), NO ENDPOINT (ADC,AZ,CBL,DZ,FNT,MLN,MOM,PPX), NO EXP TYPE (ADC,AZ,CBL,DZ,FNT,MLN,MOM,PPX).

Jamnback, H. and Frempong-Boadu, J. (1966). Testing Blackfly Larvicides in the Laboratory and in Streams. *Bull. W. H. O.* 34: 405-421.

EcoReference No.: 2837  
Chemical of Concern: ATN,CBL,CPY,DDT,DDVP,DEET,DMT,DTM,DZ,FNT,FNTH,MDT,MXC,Naled,PPX,PSM,TMP,TVP; Habitat: A; Effect Codes: BEH,POP; Code: NO EFED CHEM (DDT,DEET,DTM,FNTH,MXC), NO ENDPOINT (ATN,CBL,CPY,DDVP,DMT,DZ,FNT,MDT,Naled,PPX,PSM,TMP,TVP).

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EcoReference No.: 116109  
Chemical of Concern: CPYO,DZ,MLO; Habitat: T; Effect Codes: BCM; Code: NO ENDPOINT (CPYO,DZ,MLO).

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Chemical of Concern: CuS,DZ; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (CuS,DZ).

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EcoReference No.: 110501  
Chemical of Concern: DFZ,DZ; Habitat: T; Effect Codes: POP; Code: NO ENDPOINT (DFZ,DZ).

Johnson, M. K. (1969). A Phosphorylation Site in Brain and the Delayed Neurotoxic Effect of Some Organophosphorus Compounds. *Biochem. J. (Lond.)* 111: 487-495.

EcoReference No.: 151324  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,BEH; Code: NO ENDPOINT (DZ), NO EXP TYPE (DZ).

Jones, K. H., Sanderson, D. M., and Noakes, D. N. (1968). Acute Toxicity Data for Pesticides (1968). *World Rev. Pest Control* 7: 135-143.

EcoReference No.: 70074  
Chemical of Concern: 24DXY,ABT,ACL,ADC,AMTL,AMTR,AND,ASM,ATN,ATZ,AZ,BFL,BMC,BMN,BS,BTY,CBL,CCA,CHD,CMPH,CPP,CPY,CQTC,CTHM,Captan,Cu,CuFRA,DBN,DCB,DCNA,DCPA,DDD,DDT,DDVP,DEM,DINO,DLD,DMB,DMT,DOD,DPP,DQTBr,DS,DU,DZ,DZM,EDT,EN,EP,EPRN,EPTC,ES,ETN,FLAC,FMU,FNF,FNT,FNTH,Folpet,HCCH,HPT,LNR,MCB,MCPA,MCPB,MCPP1,MDT,MLH,MLN,MLT,MRX,MTM,MVP,MXC,Maneb,NPM,Naled,PCH,PCL,PCP,PEB,PHMD,PHSL,PMT,PPCP,PPHD,PPN,PPX,PPZ,PQT,PRN,PRO,PRT,PYN,PYZ,Pb,RTN,SFT,SID,SZ,TCF,TFN,THM,TRB,TRL,TXP,VNT,Zineb; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (24DXY,ACL,ADC,AMTL,ASM,ATN,ATZ,AZ,BFL,BMC,BS,BTY,CBL,CMPH,CPP,CPY,CQTC,Captan,Cu,CuFRA,DBN,DCB,DCNA,DCPA,DDVP,DMB,DMT,DOD,DQTBr,DS,DU,DZ,DZM,EP,EPTC,ES,FNT,Folpet,LNR,MCB,MCPB,MCPP1,MDT,MLH,MLN,MLT,MTM,MVP,Maneb,Naled,PCH,PCP,PHMD,PMT,PPN,PPX,PPZ,PQT,PRO,PRT,PYZ,RTN,SFT,SID,SZ,TCF,TFN,THM,TRB), NO EFED CHEM (AMTR,AND,BMN,CCA,CHD,DDT,DEM,DINO,DLD,EDT,EN,EPRN,ETN,FLAC,FMU,FNF,FNTH,HCCH,HPT,MCPA,MRX,MXC,NPM,PCL,PEB,PHSL,PPCP,PPHD,PRN,PYN,Pb,TRL,TXP,VNT,Zineb).

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EcoReference No.: 108237  
Chemical of Concern: CN,Cd,Cr,CuS,DZ,FNT,K2Cr2O7,PCP,PL,ZnS; Habitat: A; Effect Codes: PHY; Code: NO CONTROL (CN,Cr,CuS,DZ,FNT,PCP,ZnS), NO EFED CHEM (Cd,K2Cr2O7,PL).

Kabir, S. M. H. and Rahman, A. K. M. M. (1971). Field Tests of Insecticides Against the Eggplant Pest Complex. *J. Econ. Entomol.* 64: 758-759.

EcoReference No.: 115073  
Chemical of Concern: DDVP,DZ,PSM; Habitat: T; Effect Codes: PHY,POP; Code: NO ENDPOINT (DDVP,DZ,PSM).

Kamm, J. A. and Every, R. W. (1969). Insecticides for Control of Sphenophorus venatus confluens, Rhopalosiphum padi, and Rhipidothrips brunneus in Orchardgrass. *J. Econ. Entomol.* 62: 950-951.

EcoReference No.: 113762  
Chemical of Concern: DS,DZ,PPX; Habitat: T; Effect Codes: GRO,POP; Code: NO ENDPOINT (DS,DZ,PPX).

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EcoReference No.: 114323  
Chemical of Concern: ACP,BDC,CBF,CBL,CPY,DDVP,DMT,DZ,EP,FNF,FNV,MDT,MLN,PPX; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ACP,DMT,DZ,FNV), NO EFED CHEM (BDC,FNF), NO EFFECT (CBF,CBL,DDVP,EP,MDT,MLN,PPX), TARGET (ACP,CBF,CBL,CPY,DDVP,DMT,EP,FNV,MDT,MLN,PPX).

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EcoReference No.: 121468  
Chemical of Concern: ACP,CBF,CYP,DDVP,DM,DZ,EPRN,FNV,MDT,MOM,MTM,MVP,Naled,PFF,PIRM,PMR,PRN; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ACP,CBF,CYP,DDVP,DM,DZ,FNV,MDT,MOM,MTM,MVP,Naled,PFF,PIRM,PMR), NO EFED CHEM (EPRN,PRN), TARGET (ACP,CBF,CYP,DDVP,DM,FNV,MDT,MOM,MTM,MVP,Naled,PFF,PIRM,PMR).

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EcoReference No.: 44279  
Chemical of Concern: CPY,DMT,DZ,FNT,MP; Habitat: T; Effect Codes: CEL; Code: NO CONTROL (CPY,DMT,DZ,FNT,MP), NO ENDPOINT (CPY,DMT,DZ,FNT,MP).

Kaur, P. and Grover, I. S. (1985). Cytological Effects on Some Organophosphorus Pesticides I. Mitotic Effects. *Cytologia* 50: 187-197.

EcoReference No.: 44281  
Chemical of Concern: CPY,DMT,DZ,FNT,MP; Habitat: T; Effect Codes: CEL; Code: NO ENDPOINT (CPY,DMT,DZ,FNT,MP).

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EcoReference No.: 103718  
Chemical of Concern: CPY,DZ,MLN; Habitat: T; Effect Codes: CEL,GRO; Code: NO ENDPOINT (CPY,DZ,MLN), NO EXP TYPE (CPY,DZ,MLN).

Kimbrough, R. D. and Gains, T. B. (1968). Effect of Organic Phosphorus Compounds and Alkylating Agents on the Rat Fetus. *Arch. Environ. Health* 16: 805-808.

EcoReference No.: 110722  
Chemical of Concern: DDVP,DZ,EPRN,MLN,PRN; Habitat: T; Effect Codes: GRO,MOR,PHY,REP; Code: NO EFED CHEM (EPRN,PRN), NO EXP TYPE (DDVP,DZ,MLN).

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EcoReference No.: 37504  
Chemical of Concern: DCTP,DZ; Habitat: T; Effect Codes: ACC,BCM,GRO; Code: NO ENDPOINT (DCTP,DZ), NO EXP TYPE (DCTP,DZ).

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EcoReference No.: 104347  
Chemical of Concern: DDVP,DZ,FNT; Habitat: A; Effect Codes: ACC,BCM,MOR; Code: NO CONTROL (DDVP,DZ,FNT).

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EcoReference No.: 121112  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC; Code: NO ENDPOINT (DZ).

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EcoReference No.: 114293  
Chemical of Concern: CBF,CBL,CPY,DZ,MLN,MOL; Habitat: A; Effect Codes: BCM,MOR; Code: NO ENDPOINT (CBF,CBL,CPY,DZ,MLN,MOL).

Leland, J. E., Mullins, D. E., and Berry, D. F. (2003). The Fate of 14C-Diazinon in Compost, Compost-Amended Soil, and Uptake by Earthworms. *J. Environ. Sci. Health Part B: Pestic. Food Contam. Agric. Wastes* 38: 697-712.

EcoReference No.: 120292  
Chemical of Concern: DZ; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (DZ).

Lichtenstein, E. P., Liang, T. T., and Anderegg, B. N. (1973). Synergism of Insecticides by Herbicides.  *Science* 181: 847-849.

EcoReference No.: 2939  
Chemical of Concern: 24D,24DXY,ATZ,CBF,DDT,DLD,DZ,EPRN,FNF,PRN,PRT,PTSN,PTSO,SZ; Habitat: AT; Effect Codes: MOR; Code: LITE EVAL CODED (24D,24DXY,ATZ,SZ), NO EFED CHEM (DDT,DLD,EPRN,FNF,PRN), NO ENDPOINT (CBF,DZ,PRT,PTSN,PTSO).

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EcoReference No.: 107446  
Chemical of Concern: AND,AZ,DDVP,DLD,DZ,EPRN,FNF,PRN; Habitat: T; Effect Codes: MOR; Code: NO EFED CHEM (AND,DLD,EPRN,FNF,PRN), NO ENDPOINT (AZ,DDVP,DZ), TARGET (DDVP).

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EcoReference No.: 100602  
Chemical of Concern: CPY,DLD,DZ,FNF,TBO; Habitat: T; Effect Codes: MOR; Code: LITE EVAL CODED (CPY), NO EFED CHEM (DLD,FNF), NO ENDPOINT (DZ,TBO), TARGET (TBO).

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EcoReference No.: 113742  
Chemical of Concern: CBL,CYP,DDT,DDVP,DM,DZ,FNV,MLN,MOM,MP,PMR,PPX; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CBL,CYP,DDVP,DM,DZ,FNV,MLN,MOM,MP,PMR,PPX), NO EFED CHEM (DDT), TARGET (CBL,CYP,DDVP,DM,FNV,MLN,MOM,MP,PMR,PPX).

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Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC,BCM; Code: NO CONTROL (DZ), NO ENDPOINT (DZ).

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EcoReference No.: 121142  
Chemical of Concern: CBL,DCF,DDVP,DMT,DZ,FNV,LCYT,MLN,MOM; Habitat: T; Effect Codes: BEH,GRO,MOR; Code: NO SURVEY (DCF,DDVP,DZ,FNV,LCYT,MOM), TARGET (CBL,DCF,DDVP,DMT,FNV,LCYT,MLN,MOM).

Matin, M. A., Agarwal, R., and Mirza, M. A. (1988). Distribution of pp'DDT in Certain Brain Regions of Rats Treated with Diazinon. *Arh. Hig. Rada Toksikol.* 39: 365-369 .

EcoReference No.: 104617  
Chemical of Concern: DZ; Habitat: T; Effect Codes: ACC,BCM; Code: NO EXP TYPE (DZ).

Mayer, F. L. Jr. (1987). Acute Toxicity Handbook of Chemicals to Estuarine Organisms. *EPA 600/8-87-017, U.S.EPA, Gulf Breeze, FL* 274 p.

EcoReference No.: 3947  
Chemical of Concern: 24D,24DC,24DXY,24DXYBEE,ACD,ACL,ACP,ADC,ALSV,AMTR,AND,ANZ,ATM,ATZ,AZ,AgN,AsTO,BMC,BS,CAP,CBF,CBL,CCA,CHD,CMPH,CPY,CST,CTN,CYP,Captan,CdCl,DBN,DCF,DCPA,DCTP,DDE,DDT,DDVP,DEM,DFZ,DLD,DMB,DMT,DQTBr,DS,DSMA,DU,DZ,EDT,EN,EP,EPRN,EPTC,ES,ETN,FBM,FMP,FNF,FNT,FNTH,HCB,HCCH,HCCP,HMN,HPT,HgCl2,K2Cr2O7,MCB,MDT,MLN,MLT,MP,MRX,MTAS,MVP,MXC,Maneb,NTP,NaHCT,NaLS,NaPCP,Naled,PCP,PEB,PHTH,PL,PMR,PMT,PPCP,PPHD,PPX,PQT,PRN,PRO,PRT,PSM,RTN,SFR,SZ,TBC,TBF,TBTO,TCF,TDC,TEG,TFN,TMP,TPTH,TRL,VNT,Zineb,Ziram,ZnS; Habitat: A; Effect Codes: GRO,MOR,PHY,POP; Code: NO CONTROL (24D,24DXY,24DXYBEE,ACL,ACP,ADC,ALSV,ATM,ATZ,AZ,AgN,BMC,BS,CAP,CBF,CBL,CMPH,CPY,CST,CTN,CYP,Captan,DBN,DCF,DCPA,DCTP,DDVP,DFZ,DMB,DMT,DQTBr,DS,DU,DZ,EP,EPTC,ES,FMP,FNT,MCB,MDT,MLN,MLT,MP,MTAS,MVP,Maneb,NaPCP,Naled,PCP,PMR,PMT,PPX,PQT,PRO,PRT,PSM,RTN,SFR,SZ,TBC,TBF,TBTO,TCF,TDC,TFN,TMP,Ziram,ZnS), NO EFED CHEM (24DC,ACD,AMTR,AND,ANZ,AsTO,CCA,CHD,CdCl,DDE,DDT,DEM,DLD,DSMA,EDT,EN,EPRN,ETN,FBM,FNF,FNTH,HCB,HCCH,HCCP,HMN,HPT,HgCl2,K2Cr2O7,MRX,MXC,NTP,NaHCT,NaLS,PEB,PHTH,PL,PPCP,PPHD,PRN,TEG,TPTH,TRL,VNT,Zineb).

McClanahan, R. J. (1981). Effectiveness of Insecticides Against the Mexican Bean Beetle. *J. Econ. Entomol.* 74: 163-164.

EcoReference No.: 113754  
Chemical of Concern: ACP,AZ,CBF,CBL,CYP,DM,DMT,DZ,EPRN,ES,FNV,MLN,MOM,PFF,PHSL,PMR,PRN,PSM,RTN; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ACP,AZ,CBF,CBL,CYP,DM,DMT,DZ,ES,FNV,MLN,MOM,PFF,PMR,PSM,RTN), NO EFED CHEM (EPRN,PHSL,PRN), TARGET (ACP,CBF,CBL,CYP,DM,DMT,ES,FNV,MLN,MOM,PFF,PMR,PSM,RTN).

McLeod, D. G. R., Harris, C. R., and Driscoll, G. R. (1969). Genetics of Cyclodiene Insecticide Resistance in the Seed-Corn Maggot. *J. Econ. Entomol.* 62: 427-432.

EcoReference No.: 113760  
Chemical of Concern: AND,DDT,DZ; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (DZ), NO EFED CHEM (AND,DDT).

Mdegela, R. H., Mosha, R. D., Sandvik, M., and Skaare, J. U. (2010). Assessment of Acetylcholinesterase Activity in Clarias gariepinus as a Biomarker of Organophosphate and Carbamate Exposure. *Ecotoxicology* 19: 855-863.

EcoReference No.: 153577  
Chemical of Concern: CBL,DMT,DZ,FNT,PFF,PIRM; Habitat: A; Effect Codes: BCM; Code: NO IN VITRO (DMT,DZ,FNT,PFF,PIRM), OK (CBL).

Miller, C. and Skoog, F. ( 1953). Chemical Control of Bud Formation in Tobacco Stem Segments. *Am. J. Bot.* 40: 768-773.

EcoReference No.: 42395  
Chemical of Concern: DZ,IAA; Habitat: T; Effect Codes: GRO,POP; Code: NO CONTROL (DZ,IAA), NO ENDPOINT (DZ,IAA).

Miller, R. J., Li, A. Y., Tijerina, M., Davey, R. B., and George, J. E. (2008). Differential Response to Diazinon and Coumaphos in a Strain of Boophilus microplus (Acari: Ixodidae) Collected in Mexico. *J. Med. Entomol.* 45: 905-911.

EcoReference No.: 119627  
Chemical of Concern: DZ,PPB; Habitat: T; Effect Codes: BCM,MOR; Code: NO CONTROL (DZ), NO MIXTURE (PPB).

Moon, C. K., Yun, Y. P., and Lee, S. H. (1986). Effects of Some Organophosphate Pesticides on the Murine Immune System Following Subchronic Exposure (II). *Arch. Pharm. Res. (Seoul)* 9: 183-187.

EcoReference No.: 104300  
Chemical of Concern: DZ,FNT,FNTH; Habitat: T; Effect Codes: CEL,PHY; Code: NO EFED CHEM (FNTH), NO EXP TYPE (DZ,FNT).

Mostafa, A. A. and Allam, K. A. M. (2001). Studies on the Present Status of Insecticides Resistance on Mosquitoes Using the Diagnostic Dosages in El-Fayium Governorate, a Spot Area of Malaria in Egypt. *J. Egypt. Soc. Parasitol.* 31: 177-186.

EcoReference No.: 100283  
Chemical of Concern: CYP,DM,DZ,FNT,FNTH,MLN,PMR,PPX,TMP; Habitat: AT; Effect Codes: MOR; Code: NO CONTROL (CYP,DM,DZ,FNT,MLN,PMR,PPX,TMP), NO EFED CHEM (FNTH).

Mulla, M. S. (1963). Persistence of Mosquito Larvicides in Water. *Mosq. News* 23: 234-237 .

EcoReference No.: 2677  
Chemical of Concern: DZ,EPRN,FNTH,MLN,MP,PRN; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (DZ,MLN,MP), NO EFED CHEM (EPRN,FNTH,PRN), NO ENDPOINT (MLN,MP).

Nadaroglu, H. and Demir, N. (2009). In Vivo Effects of Chlorpyrifos and Parathion-Methyl on Some Oxidative Enzyme Activities in Chickpea, Bean, Wheat, Nettle and Parsley Leaves. *Fresenius Environ. Bull.* 18: 647-652.

EcoReference No.: 153608  
Chemical of Concern: DZ,MP; Habitat: T; Effect Codes: BCM; Code: NO ENDPOINT (DZ,MP).

Nagia, D. K., Kumar, S., and Saini, M. L. (1990). Relative Toxicity of Some Important Insecticides to Bihar Hairy Caterpillar, Spilosoma obliqua (Walker) (Arctiidae: Lepidoptera). *J. Entomol. Res.* 14: 60-62.

EcoReference No.: 153338  
Chemical of Concern: ACP,CYP,DM,DZ,ES,FNV,FPP,FVL,MP; Habitat: T; Effect Codes: MOR; Code: NO ENDPOINT (ACP,DZ), OK (ES,FNV), TARGET (CYP,DM,DZ,FPP,FVL,MP).

Neel, P. L. and Reinert, J. A. (1976). Phytotoxicity Evaluations of Ten Insecticides on Twenty-Three Species of Ornamental Plants Under Slat Shed Conditions. *Proc. Fla. Hortic. Soc.* 88: 586-590.

EcoReference No.: 25306  
Chemical of Concern: CBF,CBL,CPY,DZ,FTT,OXD,TCF; Habitat: T; Effect Codes: PHY; Code: NO ENDPOINT (CBF,CBL,CPY,DZ,FTT,TCF), NO MIXTURE (OXD).

Nishiuchi, Y. and Asano, K. (1979). Toxicity of Agricultural Chemicals to Some Freshwater Organisms - LIX. *Suisan Zoshoku* 27: 48-55(JPN) (ENG TRANSL).

EcoReference No.: 6954  
Chemical of Concern: ACP,ACR,AMZ,AND,ATZ,As,BCuS,BFL,BMC,BMY,BT,BTC,CAP,CHD,CPP,CPY,CPYM,CTN,CZE,Captan,Cu,CuCl,CuOH,CuOX,CuS,DCB,DCF,DDT,DDVP,DLD,DMT,DQT,DQTBr,DU,DZ,EPTC,FML,FNTH,Folpet,HCCH,HPT,HYX,LNR,LQN,MAL,MCPBNa,MDT,MITC,MLN,MOM,Maneb,NaClO,NaPCP,Ni,ODZ,PCL,PCP,PEB,PHMD,PHSL,PMT,PNB,PPCP,PPG,PPN,PPX,PPZ,PQT,PSM,QOC,RTN,SFR,SMS,STRP,TBA,TBC,TCF,TDC,TFN,TPM,TPTH,TVP,TVPM,Ziram,Zn; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (ACP,ACR,AMZ,ATZ,As,BCuS,BFL,BMC,BMY,BT,CAP,CPP,CPY,CPYM,CTN,Captan,Cu,CuCl,CuOH,CuOX,CuS,DCB,DCF,DDVP,DMT,DQT,DQTBr,DU,DZ,EPTC,Folpet,LNR,LQN,MAL,MDT,MITC,MLN,MOM,Maneb,NaPCP,PCP,PHMD,PMT,PNB,PPG,PPN,PPX,PPZ,PQT,PSM,QOC,RTN,SFR,SMS,STRP,TBC,TCF,TDC,TFN,TVP,TVPM,Ziram,Zn), NO EFED CHEM (AND,BTC,CHD,CZE,DDT,DLD,FML,FNTH,HCCH,HPT,HYX,MCPBNa,NaClO,Ni,ODZ,PCL,PEB,PHSL,PPCP,TBA,TPM,TPTH), NO ENDPOINT (ACP,ACR,AMZ,ATZ,As,BCuS,BFL,BMC,BMY,BT,CAP,CPP,CPY,CPYM,CTN,Captan,CuCl,CuOH,CuOX,CuS,DCB,DCF,DDVP,DMT,DQT,DU,DZ,EPTC,Folpet,LNR,LQN,MAL,MDT,MITC,MLN,MOM,Maneb,NaPCP,PHMD,PMT,PNB,PPG,PPN,PPX,PPZ,PQT,PSM,QOC,RTN,SFR,SMS,TBC,TCF,TFN,TVP,Ziram).

O'Kelley, J. C. and Deason, T. R. (1976). Degradation of Pesticides by Algae. *EPA-600/3-76-022, U.S.EPA, Athens, GA* 41 p. (NTIS/PB-251933).

EcoReference No.: 7876  
Chemical of Concern: 24DXYBEE,AND,ATZ,CBL,Captan,DLD,DZ,EN,HPT,MLN,MXC,TXP; Habitat: A; Effect Codes: ACC,POP; Code: NO EFED CHEM (AND,DLD,EN,HPT,MXC,TXP), NO ENDPOINT (24DXYBEE,ATZ,CBL,Captan,DZ,MLN).

O'Neill, D. K. and Hebden, S. P. (1966). Investigation of Sheep Dips. Part I - Mixtures of Lime Sulphur and Organic Phosphorus Compounds. *Aust. Vet. J.* 42: 207-213 .

EcoReference No.: 104226  
Chemical of Concern: CMPH,CaPS,DZ; Habitat: T; Effect Codes: ACC,MOR; Code: NO ENDPOINT (CMPH,CaPS,DZ).

Osbrink, W. L. A., Rust, M. K., and Reierson, D. A. (1986). Distribution and Control of Cat Fleas in Homes in Southern California (Siphonaptera: Pulicidae). *J. Econ. Entomol.* 79: 135-140.

EcoReference No.: 113367  
Chemical of Concern: BDC,DZ,FYC,MGK264,MTPN,PPB,PTP,PYN,TMT; Habitat: T; Effect Codes: MOR,POP,REP; Code: NO CONTROL (DZ,FYC,MGK264,PPB,PTP,TMT), NO EFED CHEM (BDC,MTPN,PYN), NO MIXTURE (FYC,PPB,TMT), TARGET (FYC,PTP).

Perez-Carreon, J. I., Dargent, C., Merhi, M., Fattel-Fazenda, S., Arce-Popoca, E., Villa-Trevino, S., and Rouimi, P. (2009). Tumor Promoting and Co-Carcinogenic Effects in Medium-Term Rat Hepatocarcinogenesis are not Modified by Co-Administration of 12 Pesticides in Mixture at Acceptable Daily Intake. *Food Chem. Toxicol.* 47: 540-546.

EcoReference No.: 150839  
Chemical of Concern: ACR,ATZ,CBF,CPY,DCF,DZ,ES,IPD,MZB,Maneb,RTN; Habitat: T; Effect Codes: BCM,CEL,GRO; Code: NO MIXTURE (ACR,ATZ,CBF,CPY,DCF,DZ,ES,IPD,MZB,Maneb,RTN).

Peters, D. C., Wood, E. A. Jr., and Starks, K. J. (1975). Insecticide Resistance in Selections of the Greenbug. *J. Econ. Entomol.* 68: 339-340.

EcoReference No.: 113878  
Chemical of Concern: CBF,CPY,DMT,DS,DZ,EPRN,MDT,MP,PRN; Habitat: T; Effect Codes: MOR; Code: NO EFED CHEM (EPRN,PRN), NO ENDPOINT (DZ), TARGET (CBF,CPY,DMT,DS,MDT,MP).

Pewnim, T. and Seifert, J. (1993). Structural Requirements for Altering the L-Tryptophan Metabolism in Mice by Organophosphorous and Methylcarbamate Insecticides. *Eur. J. Pharmacol. Environ. Toxicol. Pharmacol. Sect.* 248: 237-241.

EcoReference No.: 101024  
Chemical of Concern: CPYM,DCTP,DZ,EPRN,MLN,MP,PFF,PIRM,PRN,TCF; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (EPRN,PRN), NO EXP TYPE (CPYM,DCTP,DZ,MLN,MP,PFF,PIRM,TCF).

Plapp, F. W. Jr. (1976). Chlordimeform as a Synergist for Insecticides Against the Tobacco Budworm. *J. Econ. Entomol.* 69: 91-92.

EcoReference No.: 114517  
Chemical of Concern: ACP,CBL,CPY,CPYM,DFZ,DMT,DZ,FNT,MLN,MOM,MP,PSM,PYN,TCF,TMT,TXP; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ACP,CBL,CPY,CPYM,DFZ,DMT,DZ,FNT,MLN,MOM,MP,PSM,TCF,TMT), NO EFED CHEM (PYN,TXP), TARGET (ACP,CBL,CPY,CPYM,DFZ,DMT,FNT,MLN,MOM,MP,PSM,TCF).

Plapp, F. W. Jr. and Casida, J. E. (1969). Genetic Control of House Fly NADPH-Dependent Oxidases: Relation to Insecticide Chemical Metabolism and Resistance. *J. Econ. Entomol.* 62: 1174-1179.

EcoReference No.: 113767  
Chemical of Concern: AND,ATN,DDT,DZ,FNT,MLN,PPX,PSM; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ATN,DZ,FNT,MLN,PPX,PSM), NO EFED CHEM (AND,DDT), TARGET (ATN,FNT,MLN,PPX,PSM).

Pradhan, S., Jotwani, M. G., and Sarup, P. (1959). Bioassay of Insecticides Effect of Some Important Insecticides on Coccinella septempunctata Linn, (Coccinellidae: Coleoptera), a Predator of Mustard Aphid (Lipaphis erysimi Kalt.). *Indian Oilseeds J.* 3: 121-124.

EcoReference No.: 59616  
Chemical of Concern: DEM,DZ,EPRN,MLN,PRN; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (DZ,MLN), NO EFED CHEM (DEM,EPRN,PRN), TARGET (MLN).

Pradhan, S., Jotwani, M. G., and Sarup, P. (1959). Bioassay of Insecticides. Relative Toxicity of some Important Insecticides to the Larvae of Athalia proxima Klug (Tenthredinidae, Hymenoptera), a Pest of Mustard. *Indian Oilseeds J.* 3: 166-168.

EcoReference No.: 59617  
Chemical of Concern: CHD,DDT,DLD,DZ,EN,HCCH,MLN,PPCP,TXP; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (DZ,MLN), NO EFED CHEM (CHD,DDT,DLD,EN,HCCH,PPCP,TXP), TARGET (MLN).

Pree, D. J., Archibald, D. E., and Cole, K. J. (1990). Insecticide Resistance in Spotted Tentiform Leafminer (Lepidoptera: Gracillariidae): Mechanisms and Management. *J. Econ. Entomol.* 83: 678-685.

EcoReference No.: 113749  
Chemical of Concern: ACP,AZ,CBL,DMT,DZ,MLN,MOM,MP,MTM,MVP,PMR,PPB,PSM,TBF,TVP; Habitat: T; Effect Codes: BCM,MOR; Code: NO CONTROL (ACP,CBL,DMT,DZ,MLN,MOM,MP,MTM,MVP,PMR,PSM,TVP), NO MIXTURE (PPB,TBF), TARGET (ACP,AZ,CBL,DMT,MLN,MOM,MP,MTM,MVP,PMR,PSM,TVP).

Quistad, G. B., Klintenberg, R., Caboni, P., Liang, S. N., and Casida, J. E. (2006). Monoacylglycerol Lipase Inhibition by Organophosphorus Compounds Leads to Elevation of Brain 2-Arachidonoylglycerol and the Associated Hypomotility in Mice. *Toxicol. Appl. Pharmacol.* 211: 78-83.

EcoReference No.: 93529  
Chemical of Concern: CPY,CPYO,DDVP,DZ,EPRN,PFF,PRN,TBF; Habitat: T; Effect Codes: BCM,PHY; Code: NO EFED CHEM (EPRN,PRN), NO ENDPOINT (CPY,PFF,TBF), NO EXP TYPE (CPY,CPYO,DDVP,DZ,PFF,TBF).

Rammell, C. G. and Bentley, G. R. (1989). Decay Rates of Organophosphate Residues in the Fleeces of Sheep Dipped for Flystrike Control. *N. Z. J. Agric. Res.* 32: 213-218.

EcoReference No.: 101119  
Chemical of Concern: CMPH,DZ,PTP; Habitat: T; Effect Codes: ACC; Code: NO CONTROL (CMPH,DZ,PTP).

Rammell, C. G., Bentley, G. R., and Heath, A. C. G. (1988). Organophosphate Residues in the Wool of Sheep Dipped for Flystrike Control. *N. Z. J. Agric. Res.* 31: 151-154.

EcoReference No.: 101118  
Chemical of Concern: CMPH,DZ,PTP; Habitat: T; Effect Codes: ACC; Code: NO CONTROL (CMPH,DZ,PTP).

Ramsdale, C. D., Herath, P. R. J., and Davidson, G. (1980). Recent Developments of Insecticide Resistance in Some Turkish Anophelines. *J. Trop. Med. Hyg.* 83: 11-19.

EcoReference No.: 103945  
Chemical of Concern: CBL,DMT,DZ,EPRN,FNT,FNTH,MLN,PIRM,PPX,PRN,TMP; Habitat: AT; Effect Codes: BEH,MOR; Code: NO EFED CHEM (EPRN,FNTH,PRN), NO ENDPOINT (CBL,DMT,DZ,FNT,MLN,PIRM,PPX,TMP).

Rao, C. S., Rao, N. V., and Razvi, S. A. (1985). Chemical Control as Ecological Basis in Rice Pest Management. *Pesticides* 19: 20-23.

EcoReference No.: 109033  
Chemical of Concern: CBF,CPY,DZ,EFV,EP,MTM,PRT; Habitat: T; Effect Codes: GRO,POP; Code: NO ENDPOINT (CBF,CPY,DZ,EFV,EP,MTM,PRT).

Read, D. C. (1969). Persistence of Some Newer Insecticides in Mineral Soils Measured by Bioassay. *J. Econ. Entomol.* 62: 1338-1342.

EcoReference No.: 113758  
Chemical of Concern: CBF,DZ,PRT; Habitat: T; Effect Codes: MOR; Code: NO ENDPOINT (CBF,DZ,PRT), TARGET (CBF,PRT).

Roegge, C. S., Timofeeva, O. A., Seidler, F. J., Slotkin, T. A., and Levin, E. D. (2008). Developmental Diazinon Neurotoxicity in Rats: Later Effects on Emotional Response. *Brain Res. Bull.* 75: 166-172.

EcoReference No.: 108324  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BEH,GRO; Code: NO EXP TYPE (DZ).

Ronis, M. J. J. and Badger, T. M. (1995). Toxic Interactions Between Fungicides that Inhibit Ergosterol Biosynthesis and Phosphorothioate Insecticides in the Male Rat and Bobwhite Quail (Colinus virginianus). *Toxicol. Appl. Pharmacol.* 130: 221-228.

EcoReference No.: 84997  
Chemical of Concern: DZ,EPRN,MLN,PCZ,PPCP,PRN,VCZ; Habitat: T; Effect Codes: BCM,GRO; Code: LITE EVAL CODED (MLN,PCZ,PPCP,VCZ), NO EFED CHEM (EPRN,KTZ,PPCP,PRN), NO MIXTURE (DZ).

Rovesti, L. and Deseo, K. V. (1991). Compatibility of Pesticides with the Entomopathogenic Nematode, Heterorhabditis heliothidis. *Nematologica* 37: 113-116.

EcoReference No.: 102311  
Chemical of Concern: ACP,CBF,DZ,GYP,LNR,MOM,PPHD,PQT,TBO,TFN; Habitat: T; Effect Codes: PHY,POP; Code: NO EFED CHEM (PPHD), NO ENDPOINT (ACP,CBF,DZ,GYP,LNR,MOM,PQT,TBO,TFN).

Sapieha-Waszkiewicz, A., Marjanska-Cichon, B., and Mietkiewski, R. (2003). The Effect of Pesticides Used in Apple Orchards on Entomopathogenic Fungi In Vitro. *Electron.J.Pol.Agric.Univ.* 6: 21 p.

EcoReference No.: 118797  
Chemical of Concern: DZ,GYP,MCPANa,PHSL,PRB; Habitat: T; Effect Codes: GRO,REP; Code: NO EFED CHEM (MCPANa,PHSL), NO ENDPOINT (DZ,GYP,PRB).

Sarabia, L., Maurer, I., and Bustos-Obregon, E. (2009). Melatonin Prevents Damage Elicited by the Organophosphorous Pesticide Diazinon on Mouse Sperm DNA. *Ecotoxicol. Environ. Saf.* 72: 663-668.

EcoReference No.: 153570  
Chemical of Concern: DZ; Habitat: T; Effect Codes: CEL; Code: NO EXP TYPE (DZ).

Sarabia, L., Maurer, I., and Bustos-Obregon, E. (2009). Melatonin Prevents Damage Elicited by the Organophosphorous Pesticide Diazinon on the Mouse Testis. *Ecotoxicol. Environ. Saf.* 72: 938-942.

EcoReference No.: 119210  
Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,MOR; Code: NO EXP TYPE (DZ).

Sethunathan, N. and MacRae, I. C. (1969). Some Effects of Diazinon on the Microflora of Submerged Soils.  *Plant Soil* 30: 109-112.

EcoReference No.: 65628  
Chemical of Concern: DZ; Habitat: A; Effect Codes: POP; Code: NO ENDPOINT (DZ).

Seume, F. W. and O'Brien, R. D. (1960). Potentiation of the Toxicity to Insects and Mice of Phosphorothionates Containing Carboxyester and Carboxyamide Groups. *Toxicol. Appl. Pharmacol.* 2: 495, 503 (doi: DOI: 10.1016/0041-008X(60)90016-8).

EcoReference No.: 117765  
Chemical of Concern: DMT,DZ,MLN,MP,TCF; Habitat: T; Effect Codes: MOR; Code: NO EXP TYPE (DMT,DZ,MLN,MP,TCF).

Sharifpour, I., Pourgholam, R., Soltani, M., Hassan, M. D., Akbari, S., and Nouri, A. (2006). Light and Electron Microscope Studies of Grass Carp (Ctenopharyngodon idella) Organs Following Exposure to Various Sublethal Concentrations of Diazinon. *Iran. J. Fish. Sci.* 5: 111-136.

EcoReference No.: 120884  
Chemical of Concern: DZ; Habitat: A; Effect Codes: CEL; Code: NO ENDPOINT (DZ).

Sharma, V. I., Ahirwar, R., and Singh, R. P. (2008). Effect of Diazinon on Basic Proteins in Stomach and Intestine of Channa punctatus. *Flora Fauna* 14: 93-95.

EcoReference No.: 121149  
Chemical of Concern: DZ; Habitat: A; Effect Codes: BCM; Code: NO ENDPOINT (DZ).

Sheppard, D. C. and Joyce, J. A. (1992). High Levels of Pyrethroid Resistance in Horn Flies (Diptera: Muscidae) Selected with Cyhalothrin. *J. Econ. Entomol.* 85: 1587-1593.

EcoReference No.: 113377  
Chemical of Concern: CYH,CYP,DZ,FNV,LCYT,PMR,PPB; Habitat: T; Effect Codes: MOR,POP; Code: NO CONTROL (CYH,CYP,DZ,FNV,LCYT,PMR), NO MIXTURE (PPB), TARGET (CYP,FNV,LCYT,PMR).

Siltanen, H. and Rosenberg, C. (1976). Investigations on Pesticide Residues, 1975. *In: Publs.of the State Inst.of Agric.Chem., Helsinki, Finland, State Inst.of Agric.Chem.* 11: 63 p.

EcoReference No.: 112140  
Chemical of Concern: ATZ,AZ,BMN,BMY,CBD,CQTC,CZE,DCF,DFQ,DINO,DMZ,DQT,DZ,EFS,EPH,ES,ETU,GYP,LNR,MCPA,MEM,MTZ,MXC,MZB,Maneb,Naled,PCH,PHMD,PMT,TBA,TCF,TFN,TFR,TPE,TYF; Habitat: T; Effect Codes: ACC; Code: NO CONTROL (ATZ,AZ,BMY,CBD,CQTC,DCF,DFQ,DMZ,DQT,DZ,EPH,ES,ETU,GYP,LNR,MEM,MZB,Maneb,Naled,PCH,PHMD,PMT,TCF,TFN,TFR), NO EFED CHEM (BMN,CZE,DINO,EFS,MCPA,MTZ,MXC,TBA,TPE,TYF), NO ENDPOINT (ATZ,AZ,BMY,CBD,CQTC,DCF,DFQ,DMZ,DQT,DZ,EPH,ES,ETU,GYP,LNR,MEM,MZB,Maneb,Naled,PCH,PHMD,PMT,TCF,TFN,TFR).

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EcoReference No.: 101974  
Chemical of Concern: DZ,HCCH,IMC,PPCP; Habitat: T; Effect Codes: POP; Code: NO EFED CHEM (HCCH,PPCP), NO ENDPOINT (DZ,IMC).

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Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Code: NO EXP TYPE (DZ).

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Chemical of Concern: CPY,DZ; Habitat: T; Effect Codes: CEL; Code: NO EXP TYPE (CPY,DZ).

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Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM; Code: NO EXP TYPE (DZ).

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EcoReference No.: 153582  
Chemical of Concern: DZ,EPRN,PRN; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (EPRN,PRN), NO EXP TYPE (DZ).

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EcoReference No.: 153535  
Chemical of Concern: DFC,DZ,TAP; Habitat: T; Effect Codes: ACC,MOR; Code: NO EFED CHEM (DFC,TAP), NO ENDPOINT (DZ).

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EcoReference No.: 103375  
Chemical of Concern: DZ,TCF; Habitat: T; Effect Codes: CEL,MOR,PHY; Code: NO ENDPOINT (DZ,TCF), NO EXP TYPE (DZ,TCF).

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EcoReference No.: 104478  
Chemical of Concern: CBF,CBL,DZ,EP,ES; Habitat: T; Effect Codes: POP; Code: CROP (DZ), EFFICACY (CBF,EP,ES), TARGET (CBL).

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Chemical of Concern: DZ,IMC; Habitat: T; Effect Codes: GRO,MOR; Code: NO CONTROL (DZ,IMC).

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EcoReference No.: 40952  
Chemical of Concern: AND,Captan,DLD,DZ,HCCH,HPT,MLN,PPCP,TXP; Habitat: T; Effect Codes: BCM,GRO,MOR,REP; Code: NO EFED CHEM (AND,DLD,HCCH,HPT,PPCP,TXP), NO ENDPOINT (Captan,DZ,MLN).

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EcoReference No.: 42741  
Chemical of Concern: AZ,CBL,DZ,NAD; Habitat: T; Effect Codes: REP; Code: NO CONTROL (AZ,DZ), NO EFED CHEM (NAD), OK (CBL).

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EcoReference No.: 4056  
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EcoReference No.: 112517  
Chemical of Concern: CHT,CPY,DZ,FNT; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (CHT,CPY,DZ,FNT), NO ENDPOINT (CHT,CPY,DZ,FNT), TARGET (CHT,CPY,FNT).

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EcoReference No.: 153751  
Chemical of Concern: DDT,DZ,HCCH,PPCP; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (DDT,HCCH,PPCP), NO ENDPOINT (DZ), TARGET (DZ).

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EcoReference No.: 38931  
Chemical of Concern: ATN,CBL,CMD,CPY,DDT,DLD,DMB,DS,DZ,EN,HCCH,OXD,PIM,PPCP,RSM; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ATN,CBL,CPY,DMB,DS,DZ,OXD,PIM,RSM), NO EFED CHEM (DDT,DLD,EN,HCCH,PPCP).

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EcoReference No.: 35461  
Chemical of Concern: ATN,AZ,BMY,BRSM,CBL,CHD,CPY,Captan,DCF,DCTP,DDT,DFZ,DLD,DM,DMB,DMT,DS,DZ,DZM,EN,ES,FNF,FNT,HCCH,MCPA,MCPP1,MLN,MVP,OML,OMT,OTQ,OXD,PIM,PIRE,PIRM,PMR,PPCP,PQT,PRT,RSM,RTN,TDF,TFN,TYF; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ATN,AZ,BMY,BRSM,CBL,CPY,Captan,DCF,DCTP,DFZ,DM,DMB,DMT,DS,DZ,DZM,ES,FNT,MCPP1,MLN,MVP,OML,OMT,OXD,PIM,PIRE,PIRM,PMR,PQT,PRT,RSM,RTN,TDF,TFN), NO EFED CHEM (CHD,DDT,DLD,EN,FNF,HCCH,MCPA,OTQ,PPCP,TYF), NO ENDPOINT (ATN,AZ,BMY,BRSM,CBL,CPY,Captan,DCF,DCTP,DFZ,DM,DMB,DMT,DS,DZ,DZM,ES,FNT,MCPP1,MLN,MVP,OML,OMT,OXD,PIM,PIRE,PIRM,PMR,PQT,PRT,RSM,RTN,TDF,TFN).

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EcoReference No.: 5197  
Chemical of Concern: CBL,CYP,DZ,MXC,PMR; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (CBL,CYP,DZ,PMR), NO EFED CHEM (MXC), NO ENDPOINT (CBL,CYP,DZ,PMR).

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EcoReference No.: 153549  
Chemical of Concern: DZ,MOM; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (DZ,MOM), NO ENDPOINT (DZ,MOM), TARGET (DZ,MOM).

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EcoReference No.: 114907  
Chemical of Concern: ADC,AND,CBL,CHD,CMPH,DDT,DDVP,DEM,DMT,DS,DZ,EN,EPRN,ES,ETN,FNTH,HCCH,HPT,MLN,MP,MPO,MVP,MXC,Naled,PCTP,PPCP,PPHD,PRN,PRT,PSM,TCF,TVP,TXP; Habitat: T; Effect Codes: MOR; Code: NO CONTROL (ADC,CBL,CMPH,DDVP,DMT,DS,DZ,ES,MLN,MP,MPO,MVP,Naled,PRT,PSM,TCF,TVP), NO EFED CHEM (AND,CHD,DDT,DEM,EN,EPRN,ETN,FNTH,HCCH,HPT,MXC,PPCP,PPHD,PRN,TXP), TARGET (CBL,CMPH,DDVP,DMT,DS,ES,MLN,MP,MVP,Naled,PRT,PSM,TCF,TVP).

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EcoReference No.: 100994  
Chemical of Concern: CBL,DZ,FNT,FNTH,MLN,PMR,PPX,TMP; Habitat: A; Effect Codes: BCM,MOR; Code: NO CONTROL (CBL,DZ,FNT,MLN,PMR,PPX,TMP), NO EFED CHEM (FNTH).

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EcoReference No.: 89206  
Chemical of Concern: 24DXY,ACF,ACFM,ACP,ACR,AMZ,AND,ANL,ANZ,ASM,ATZ,BDC,BMY,BPH,BSF,BTN,CBD,CBF,CBL,CHD,CPP,CPY,CPYM,CTN,CYF,CYH,CYP,Captan,DBN,DCF,DDT,DDVP,DFPM,DFZ,DLD,DM,DMT,DS,DU,DZ,DZM,EFX,EN,EPRN,ES,ETN,EXQ,FMP,FNT,FNTH,FNV,FNZ,FRM,FTL,FVL,FYT,FZFB,Folpet,GYP,HCCH,HPT,IFP,ILL,IMC,IPD,LNR,MBZ,MCB,MCPA,MDT,MLN,MLT,MLX,MOM,MP,MTL,MTM,MXC,OML,OXF,PAQT,PCP,PCZ,PDM,PFF,PHMD,PHSL,PIM,PIRM,PMR,PMT,PPCP,PPN,PRN,PRO,PRT,PSM,PYN,PZM,SXD,SZ,TBAH,TBC,TBO,TCF,TCM,TDF,TFN,TFR,TFT,TFZ,THM,TLM,TPM,TVMP,TVP,VCZ; Habitat: T; Effect Codes: BCM,CEL; Code: NO EFED CHEM (ACF,ACFM,AND,ANL,ANZ,BDC,BTN,CHD,DDT,DFPM,DLD,EN,EPRN,ETN,EXQ,FNTH,FYT,FZFB,HCCH,HPT,IFP,ILL,MCPA,MXC,PHSL,PPCP,PRN,PYN,TBAH,TCM,TFT,TPM), NO EXP TYPE (24DXY,ACP,ACR,AMZ,ASM,ATZ,BMY,BPH,BSF,CBD,CBF,CBL,CPP,CPY,CPYM,CTN,CYF,CYH,CYP,Captan,DBN,DCF,DDVP,DFZ,DM,DMT,DS,DU,DZ,DZM,EFX,ES,FMP,FNT,FNV,FNZ,FRM,FTL,FVL,Folpet,GYP,IMC,IPD,LNR,MBZ,MCB,MDT,MLN,MLT,MLX,MOM,MP,MTL,MTM,OML,OXF,PAQT,PCP,PCZ,PDM,PFF,PHMD,PIM,PIRM,PMR,PMT,PPCP,PPN,PRO,PRT,PSM,PZM,SXD,SZ,TBC,TBO,TCF,TDF,TFN,TFR,TFZ,THM,TLM,TVP,VCZ), NO IN VITRO (24DXY,ACP,ACR,AMZ,ASM,ATZ,BMY,BPH,BSF,CBD,CBF,CBL,CPP,CPY,CPYM,CTN,CYF,CYH,CYP,Captan,DBN,DCF,DDVP,DFZ,DM,DMT,DS,DU,DZ,DZM,EFX,ES,FMP,FNT,FNV,FNZ,FRM,FTL,FVL,Folpet,GYP,IMC,IPD,LNR,MBZ,MCB,MDT,MLN,MLT,MLX,MOM,MP,MTL,MTM,OML,OXF,PAQT,PCP,PCZ,PDM,PFF,PHMD,PIM,PIRM,PMR,PMT,PPCP,PPN,PRO,PRT,PSM,PZM,SXD,SZ,TBC,TBO,TCF,TDF,TFN,TFR,TFZ,THM,TLM,TVP,VCZ).

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EcoReference No.: 12241  
Chemical of Concern: CPYM,DDVP,DZ,FNT,FNTH,MLN; Habitat: A; Effect Codes: MOR; Code: NO CONTROL (CPYM,DDVP,DZ,FNT,MLN), NO EFED CHEM (FNTH).

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EcoReference No.: 108901  
Chemical of Concern: AZM,CPYO,DZ,MLN,PIRM; Habitat: T; Effect Codes: ACC,BCM; Code: LITE EVAL CODED (MLN,PIRM), NO EFED CHEM (AZM), NO IN VITRO (CPYO,DZ).

Thakur, A. K. and Hameed, S. F. (1980). Harvest Residues of Some Organophosphorous Insecticides on Apple. *Indian J. Agric. Sci.* 50: 778-780.

EcoReference No.: 107332  
Chemical of Concern: DZ,FNT,MLN,MP,PHSL; Habitat: T; Effect Codes: ACC; Code: NO CONTROL (DZ,FNT,MLN,MP), NO EFED CHEM (PHSL), NO ENDPOINT (DZ,FNT,MLN,MP).

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EcoReference No.: 101625  
Chemical of Concern: 24DC,AN,BNZ,CPY,CdN,DCA,DZ,IMC,MnCl,NBZ,NiCl,PL,PbN,TAP,ZnN; Habitat: A; Effect Codes: PHY; Code: NO CONTROL (CPY,DCA,DZ,IMC), NO EFED CHEM (24DC,AN,BNZ,CdN,MnCl,NBZ,NiCl,PL,PbN,TAP,ZnN).

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EcoReference No.: 103944  
Chemical of Concern: DDVP,DZ,EPRN,FNT,MPO,PRN; Habitat: T; Effect Codes: ACC,BCM; Code: NO EFED CHEM (EPRN,PRN), NO ENDPOINT (DDVP,DZ,FNT,MPO), NO EXP TYPE (DDVP,DZ,FNT,MPO).

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EcoReference No.: 107308  
Chemical of Concern: DDVP,DZ,EPRN,FNT,MP,PRN; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (EPRN,PRN), NO ENDPOINT (DDVP,DZ,FNT,MP), NO EXP TYPE (DDVP,DZ,FNT,MP).

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Chemical of Concern: DZ; Habitat: T; Effect Codes: BCM,GRO; Code: NO EXP TYPE (DZ).

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EcoReference No.: 18399  
Chemical of Concern: DZ,MLN,TBC; Habitat: A; Effect Codes: ACC; Code: NO CONTROL (DZ,MLN,TBC), NO ENDPOINT (DZ,MLN,TBC).

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Chemical of Concern: CBL,CPY,DZ,ES,MDT,PMR; Habitat: T; Effect Codes: POP; Code: NO MIXTURE (CPY,DZ,ES,MDT,PMR), TARGET (CBL,CPY,ES,MDT,PMR).

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EcoReference No.: 100903  
Chemical of Concern: AZ,DZ,MLN,PFF,PIRM,TMP; Habitat: T; Effect Codes: BCM,GRO,MOR; Code: NO ENDPOINT (AZ,DZ,MLN,PFF,PIRM,TMP).

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EcoReference No.: 93106  
Chemical of Concern: ABM,ACYP,ALSV,CPY,CYH,DZ,EFV,FPP,HFR,PPB,TBF; Habitat: T; Effect Codes: ACC,MOR; Code: LITE EVAL CODED (ABM,ALSV,HFR,PPB,TBF), NO EFED CHEM (ACYP), NO MIXTURE (CPY,CYH,DZ,EFV,FPP), TARGET (CYH,DZ,EFV,FPP).

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Chemical of Concern: CBL,DCTP,DDT,DZ,EN,MP,PSM,TXP; Habitat: T; Effect Codes: GRO; Code: NO EFED CHEM (DDT,EN,TXP), NO ENDPOINT (CBL,DCTP,DZ,MP,PSM).

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EcoReference No.: 120050  
Chemical of Concern: ACP,CYF,CYP,DZ,LCYT; Habitat: T; Effect Codes: POP; Code: NO CONTROL (ACP,CYF,CYP,DZ,LCYT), NO ENDPOINT (ACP,CYF,CYP,DZ,LCYT).

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EcoReference No.: 86597  
Chemical of Concern: CBF,CPY,DZ,MOL,PPB; Habitat: A; Effect Codes: MOR; Code: NO MIXTURE (CBF,DZ), OK (CPY,MOL,PPB).

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EcoReference No.: 119530  
Chemical of Concern: BFT,CPY,CYF,CYP,DM,DZ,PMR,PPB; Habitat: A; Effect Codes: MOR; Code: NO MIXTURE (CPY,CYF,CYP,DM,DZ,PMR,PPB), OK (BFT).

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EcoReference No.: 99604  
Chemical of Concern: BFT,CPYO,CaCl2,CdCl,CuCl,DZ,FeCl,FeCl3,Halides,HgCl2,KCl,NaCl,NiCl,PMR,ZnCl2; Habitat: A; Effect Codes: MOR; Code: LITE EVAL CODED (BFT,PMR), NO EFED CHEM (CdCl,FeCl,FeCl3,HgCl2,KCl,NiCl), NO IN VITRO (CaCl2,CuCl,DZ,Halides,NaCl,ZnCl2), OK (CPYO).

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EcoReference No.: 41569  
Chemical of Concern: CBF,DZ,MXC; Habitat: T; Effect Codes: CEL,GRO; Code: NO EFED CHEM (MXC), NO ENDPOINT (DZ), NO MIXTURE (MXC), OK (CBF).

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EcoReference No.: 114908  
Chemical of Concern: ADC,AZ,CBF,CPY,DCTP,DDVP,DEM,DMT,DS,DZ,FNF,FRN,MLN,MP,MVP,Naled,PPHD,PRT; Habitat: T; Effect Codes: MOR,POP; Code: NO EFED CHEM (DEM,FNF,FRN,PPHD), NO ENDPOINT (ADC,AZ,CBF,CPY,DCTP,DDVP,DMT,DS,DZ,MLN,MP,MVP,Naled,PRT), TARGET (CBF,CPY,DCTP,DDVP,DMT,DS,MLN,MP,MVP,Naled,PRT).

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EcoReference No.: 113376  
Chemical of Concern: AZ,CBF,CBL,DZ,FNF,MDT,MLN,MXC,PSM; Habitat: T; Effect Codes: MOR,POP; Code: NO CONTROL (AZ,CBF,CBL,DZ,MDT,PSM), NO EFED CHEM (FNF,MXC), NO MIXTURE (MLN), TARGET (CBF,CBL,MDT,MLN,PSM).

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EcoReference No.: 105160  
Chemical of Concern: CoCl,DZ,EPRN,FNT,PRN; Habitat: T; Effect Codes: BCM; Code: NO EFED CHEM (CoCl,EPRN,PRN), NO ENDPOINT (FNT), NO EXP TYPE (DZ,FNT), NO IN VITRO (DZ).

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Keywords: FATE  
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Rec #: 1550  
Keywords: ADDENDUM  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: EFFLUENT  
Notes: Chemical of Concern: DZ

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Keywords: SURVEY  
Call Number: NO SURVEY (CPY,DZ)  
Notes: Chemical of Concern: CPY,DZ

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 31170  
Keywords: MODELING,REFS CHECKED  
Call Number: NO MODELING (12DPA,13DPE,ADC,AMSV,ASCN,AZ,CMPH,CQTC,CTN,CaCY,Captan,DCB,DCF,DDVP,DLMEN,DMT,DMZ,DPDP,DZ,EGL,FUR,MBTZ,MEL,MLN,MLO,MP,OXTH,PCP,PNB,PPB,PPCP,PPCP2011,RLIM,RTN,SFL,TTC,TTCH,TVP,Ziram), NO REFS CHECKED (12DPA,13DPE,ADC,AMSV,ASCN,AZ,CMPH,CQTC,CTN,CaCY,Captan,DCB,DCF,DDVP,DLMEN,DMT,DMZ,DPDP,DZ,EGL,FUR,MBTZ,MEL,MLN,MLO,MP,OXTH,PCP,PNB,PPB,PPCP,PPCP2011,RLIM,RTN,SFL,TTC,TTCH,TVP,Ziram)  
Notes: Chemical of Concern: 12DPA,13DPE,24DC,3CE,4CE,ADC,AMSV,AN,AND,ANZ,ASCN,AZ,BNZ,BPA,CHD,CMPH,CQTC,CTN,CaCY,Captan,DCB,DCF,DDT,DDVP,DHD,DLD,DLMEN,DMT,DMZ,DPDP,DXN,DZ,EAC,EDB,EGL,EN,EPRN,FMU,FNTH,FUR,HCCH,HPT,ISO,MBTZ,MEL,MLN,MLO,MP,MXC,OXTH,PBDE,PCL,PCP,PHTH,PL,PNB,PPB,PPCP,PPCP2011,PPHD,PRN,RLIM,RTN,SFL,TCDD,TOL,TPTH,TTC,TTCH,TVP,TXP,Ziram

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Rec #: 4480  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 3310  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 31990  
Keywords: IN VITRO  
Call Number: NO IN VITRO (CBF,CBL,CPY,DDVP,DZ,TEPP,TMP)  
Notes: Chemical of Concern: CBF,CBL,CPY,DDVP,DZ,TMP

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31180  
Keywords: MODELING,REFS CHECKED  
Call Number: NO MODELING (4AP,CBF,CPY,DCTP,DZ,MCB,PPX,STCH,TMP), NO REFS CHECKED (4AP,CBF,CPY,DCTP,DZ,MCB,PPX,STCH,TMP)  
Notes: Chemical of Concern: 4AP,CBF,CPY,DCTP,DZ,EN,EPRN,FNTH,MCB,PPHD,PPX,PRN,STCH,TMP

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Rec #: 4520  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 140  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 4530  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31650  
Keywords: MIXTURE  
Call Number: NO MIXTURE (ATZ,AZ,BMC,CPY,DCT,DDVP,DEATZ,DIATZ,DMT,DS,DU,DZ,EFV,EP,FMP,HXZ,MDT,MLN,MP,NFZ,PFF,PMR,PMT,PRO,PRT,SZ,TBF)  
Notes: Chemical of Concern: ATZ,AZ,BMC,CPY,DCT,DDVP,DEATZ,DIATZ,DMT,DS,DU,DZ,EFV,EP,FMP,FNF,HXZ,MBZ,MDT,MLN,MP,NFZ,PFF,PMR,PMT,PRO,PRT,SZ,TBF

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Rec #: 2400  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 4540  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 2290  
Keywords: REVIEW  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 3290  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 4660  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 1170  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31190  
Keywords: MODELING,REFS CHECKED  
Call Number: NO MODELING (24D,24DXY,ADC,BMY,CBF,CBL,CMPH,CPY,CPYM,DCB,DCF,DCNA,DMT,DU,DZ,ES2,FNPP,LNR,MCPB,MCPP1,MDT,MLN,MLNR,MLT,MOM,MP,OML,PCBZ,PIRM,PMT,PPX,PRO,PSM,SZ,TBZ,TCF), NO REFS CHECKED (24D,24DXY,ADC,BMY,CBF,CBL,CMPH,CPY,CPYM,DCB,DCF,DCNA,DMT,DU,DZ,ES2,FNPP,LNR,MCPB,MCPP1,MDT,MLN,MLNR,MLT,MOM,MP,OML,PCBZ,PIRM,PMT,PPX,PRO,PSM,SZ,TBZ,TCF)  
Notes: Chemical of Concern: 24D,24DXY,ADC,AMTR,BMY,CBF,CBL,CMPH,CPY,CPYM,CZE,DCB,DCF,DCNA,DMT,DU,DZ,ES2,FMU,FNPP,FNTH,LNR,MCPA,MCPB,MCPP1,MDT,MLN,MLNR,MLT,MOM,MP,OML,PCBZ,PEB,PHSL,PIM,PIRM,PMT,PPX,PRO,PSM,SZ,TBZ,TCF,TCM

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Rec #: 4690  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 4700  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 4710  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 4720  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31730  
Keywords: MIXTURE  
Call Number: NO MIXTURE (24D,24DXY,ATZ,AZ,CPY,CYP,DEATZ,DMB,DZ,ES1,ES2,ESS,HXZ,LNR,MCPP1,MTM,PDM,PMR,SZ)  
Notes: Chemical of Concern: 24D,24DXY,ATZ,AZ,CPY,CYP,DEATZ,DMB,DZ,ES1,ES2,ESS,HXZ,LNR,MCPA,MCPP1,MTM,PDM,PMR,SZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 2030  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 31550  
Keywords: MIXTURE  
Call Number: NO MIXTURE (ALSV,AZ,BMY,CAP,CBL,Captan,DMT,DOD,DZ,FBOX,FNV,MDT,MEM,MOIL,PMR,PSM)  
Notes: EcoReference No.: 35908  
Chemical of Concern: ALSV,AZ,BMY,CAP,CBL,CHX,Captan,DMT,DOD,DZ,ETN,FBM,FBOX,FNV,MDT,MEM,MOIL,PHSL,PMR,PSM,TPE

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Rec #: 9870  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 31520  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (24D,24DXY,ATZ,CBD,CBF,CBL,CPY,CYP,DZ,ES,GYP,LCYT,MLN,MOM,MP,MZB,PQT), NO REVIEW (24D,24DXY,ATZ,CBD,CBF,CBL,CPY,CYP,DZ,ES,GYP,LCYT,MLN,MOM,MP,MZB,PQT)  
Notes: Chemical of Concern: 24D,24DXY,ATZ,CBD,CBF,CBL,CPY,CYP,DZ,ES,GYP,LCYT,MLN,MOM,MP,MZB,PQT

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Rec #: 31300  
Keywords: ABSTRACT  
Call Number: NO ABSTRACT (CBF,DZ)  
Notes: Chemical of Concern: CBF,DZ

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Rec #: 31310  
Keywords: NOT PURSUING,ABSTRACT  
Call Number: NO ABSTRACT (DZ)  
Notes: Chemical of Concern: DZ

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Rec #: 31970  
Keywords: ABSTRACT  
Call Number: NO ABSTRACT (24D,24DXY,ATZ,CBL,DZ)  
Notes: Chemical of Concern: 24D,24DXY,ATZ,CBL,DZ,MXC

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Rec #: 900  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: NO CONC  
Call Number: NO CONC (AZ,DZ,MLN,PRT)  
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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Call Number: NO REVIEW (CPY,CPYO,DZ)  
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Keywords: IN VITRO  
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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,ATZ,AZ,CBF,CBL,CPY,Conazoles,DDVP,DM,DMDP,DMT,DQTBr,DU,DZ,EFV,ES,FNT,FNV,GYP,HXZ,MLN,MLT,MP,MYC,MZB,Maneb,Naled,OML,PMR,PPX,PQT,PRT,PSM,RTN,TFN,TMP,TPR), NO REVIEW (ACP,ATZ,AZ,CBF,CBL,CPY,Conazoles,DDVP,DM,DMDP,DMT,DQTBr,DU,DZ,EFV,ES,FNT,FNV,GYP,HXZ,MLN,MLT,MP,MYC,MZB,Maneb,Naled,OML,PMR,PPX,PQT,PRT,PSM,RTN,TFN,TMP,TPR)  
Notes: Chemical of Concern: ACP,ATZ,AZ,CBF,CBL,CPY,DBN,DDVP,DM,DMDP,DMT,DQTBr,DU,DZ,EFV,EPRN,ES,FNT,FNTH,FNV,GYP,HXZ,MCPA,MLN,MLT,MP,MSMA,MYC,MZB,Maneb,Naled,OML,PIM,PMR,PPX,PQT,PRN,PRT,PSM,RTN,TBT,TFN,TMP,TPR,TRL

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Rec #: 31950  
Keywords: FATE  
Call Number: NO FATE (AZ,CMPH,CPY,CPYM,Cr,Cr element,Cu,DDVP,DMT,DS,DZ,EP,ES,ESS,MLN,MP,MVP,PIRM,PRT,Zn,Zn element)  
Notes: Chemical of Concern: AND,AZ,Al,CMPH,CPY,CPYM,Cr,Cr element,Cu,DDE,DDVP,DLD,DMT,DS,DZ,EN,EP,ES,ESS,ETN,FNF,HCCH,HPT,MLN,MP,MVP,MXC,PBDE,PHSL,PIRM,PPCP,PRT,Zn,Zn element

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Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1300  
Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Rec #: 31860  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ATZ,BFT,CPY,Conazoles,DCA,DCF,DZ,ESS,FRM,FYC,OXT,PCP,PCZ,PPCP,PPCP2011,STRP,SZ,TBF,TDF,TFR,TTC,VCZ), NO REVIEW (ATZ,BFT,CPY,Conazoles,DCA,DCF,DZ,ESS,FRM,FYC,OXT,PCP,PCZ,PPCP,PPCP2011,STRP,SZ,TBF,TDF,TFR,TTC,VCZ)  
Notes: Chemical of Concern: 24DC,ACY,ATZ,BFT,BPA,CHD,CPY,DBNPA,DCA,DCF,DES,DHD,DZ,EED,EPRN,ESS,FRM,FXT,FYC,HDP,IBP,KTZ,MRX,OXT,PCP,PCZ,PHTH,PPCP,PPCP2011,PRN,PYX,SRL,STRP,SZ,TBF,TDF,TFR,TTC,VCZ

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Rec #: 31450  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (BRSM,CYR,DFM,DFZ,DMT,DZ,FNT,FPN,MOM,TVP), NO REVIEW (BRSM,CYR,DFM,DFZ,DMT,DZ,FNT,FPN,MOM,TVP)  
Notes: Chemical of Concern: AZM,BRSM,CYR,DDT,DFM,DFZ,DMT,DZ,FNT,FPN,HCCH,MOM,PPCP,PYN,TMX,TVP

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 31770  
Keywords: MIXTURE  
Call Number: NO MIXTURE (BFT,CPMR,CPY,CYF,CYP,DM,DZ,EFV,FPN,FPP,LCYT,TPMR)  
Notes: Chemical of Concern: BFT,CPMR,CPY,CYF,CYP,DM,DZ,EFV,FPN,FPP,LCYT,TPMR

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Rec #: 31580  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ATZ,As,CPY,DZ,PMR,VCZ), NO REVIEW (ATZ,As,CPY,DZ,PMR,VCZ)  
Notes: Chemical of Concern: ATZ,As,BPA,CPY,DDE,DDT,DES,DMBA,DXN,DZ,EPRN,HCCH,MXC,PCB,PMR,PPCP,PRN,TBT,TCC,TCDD,VCZ

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Rec #: 150  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31750  
Keywords: SEDIMENT CONC  
Call Number: NO SEDIMENT CONC (DCF,DZ,FPP,MP,OXF,PPG)  
Notes: Chemical of Concern: ABM,DCF,DZ,FPP,IDC,MP,OXF,PPG,PRC

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Rec #: 5360  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 1830  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 31320  
Keywords: MODELING  
Call Number: NO MODELING (DZ)  
Notes: Chemical of Concern: Cd,DZ

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Rec #: 5460  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 5470  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1800  
Keywords: EFFLUENT  
Notes: Chemical of Concern: DZ

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Keywords: EFFLUENT  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 31620  
Keywords: FATE  
Call Number: NO FATE (ACAC,BPH,BZO,CAC,CRA,CRV,DZ,EGL,FLU,IND,NAPH,NCTN,NONA,PAHs,PCP,PHE,PRO,SCA,SZ,TML)  
Notes: Chemical of Concern: 2CP,4CE,4NP,ACAC,AN,ATP,BNZ,BPH,BZO,C6OH,CAC,CRA,CRV,DDA,DPA,DZ,EGL,FLU,IND,LIN,NAPH,NBZ,NCTN,NONA,OPHP,PCP,PHE,PHTH,PL,PPCP,PPCP2011,PRO,PTA,SCA,SZ,TERP,TML,TOL,VNL

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 2010  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 2660  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 5600  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31490  
Keywords: MODELING  
Call Number: NO MODELING (24D,24DP,24DXY,ANT,BMY,BPH,CBD,CBL,CPY,DCF,DCNA,DMB,DMT,DPP1,DU,DZ,HFR,HTX,MDT,MLN,MLX,PAHs,PCP,PPG,TPR)  
Notes: EcoReference No.: 114535  
Chemical of Concern: 24D,24DC,24DP,24DXY,2CP,4NP,ANT,BMY,BNZ,BPH,BPZ,CBD,CBL,CPY,DCF,DCNA,DMB,DMT,DPP1,DU,DZ,FMU,FNTH,HFR,HTX,ILL,MDT,MLN,MLX,PAHs,PCP,PIM,PL,PPG,TBA,TPR

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 31810  
Keywords: CHEM METHODS  
Call Number: NO CHEM METHODS (ACP,DDVP,DZ,FNT,FOSNH,FST,GFS,GYP,MLN,PFF,TCF)  
Notes: Chemical of Concern: ACP,DDVP,DZ,FNF,FNT,FOSNH,FST,GFS,GYP,MLN,PFF,TCF

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Rec #: 1360  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 31790  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31140  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31920  
Keywords: MODELING,REFS CHECKED  
Call Number: NO MODELING (ACR,ATZ,AZ,CBD,CBF,CBL,Cu,DM,DU,DZ,ES,MLN,MP,PMR), NO REFS CHECKED (ACR,ATZ,AZ,CBD,CBF,CBL,Cu,DM,DU,DZ,ES,MLN,MP,PMR)  
Notes: Chemical of Concern: ACR,ATZ,CBD,CBF,CBL,Cu,DDT,DLD,DM,DU,DZ,EN,EPRN,ES,HCCH,MLN,MP,NH4,NO3,PMR,PPCP,PRN

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Rec #: 31610  
Keywords: NO DURATION  
Call Number: NO DURATION (AZX,CPY,CPYM,CYF,CYP,Conazoles,DM,DZ,GCYH,MLN,OXF,PDM,PIRM,PRB,PZM,TAUF,TDF)  
Notes: Chemical of Concern: AZX,BPZ,CPY,CPYM,CYD,CYF,CYP,CYPM,DF,DM,DZ,FDX,GCYH,KRSM,MLN,OXF,PDM,PHSL,PIM,PIRM,PRB,PYX,PZM,TAUF,TCM,TDF,TDM,TEZ,TYF

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Keywords: MODELING  
Notes: Chemical of Concern: DZ

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 5740  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 470  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 31980  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ATN,BRSM,DDVP,DZ,FNT,MLN,PPB,SMT,TMT), NO REVIEW (ATN,BRSM,DDVP,DZ,FNT,MLN,PPB,SMT,TMT)  
Notes: Chemical of Concern: ATN,BRSM,DDT,DDVP,DZ,FNT,MLN,PPB,SMT,TMT

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Keywords: CHEM METHODS  
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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
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Keywords: FATE  
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Rec #: 31330  
Keywords: NO SOURCE  
Call Number: NO SOURCE (DZ,ES)  
Notes: Chemical of Concern: DZ,ES

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: BIOLOGICAL TOXICANT  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Rec #: 31960  
Keywords: NO DURATION,SURVEY  
Call Number: NO DURATION (24DP,ACE,ANT,ATZ,Ag,As,BMC,CBL,CHR,CLNB,CPMR,Conazoles,Cr,Cr element,Cu,DCA,DCB,DFPA,DLMEN,DZ,ES1,FA,FLU,FPN,HXZ,IGS,IND,LQN,MLN,MLX,MYC,NAPH,PAHs,PCP,PCRE,PDM,PHE,PMT,PNB,PRO,PYR,RLIM,SFR,SZ,TET,TFN,TPMR,Zn,Zn element), NO SURVEY (24DP,ACE,ANT,ATZ,Ag,As,BMC,CBL,CHR,CLNB,CPMR,Conazoles,Cr,Cr element,Cu,DCA,DCB,DFPA,DLMEN,DZ,ES1,FA,FLU,FPN,HXZ,IGS,IND,LQN,MLN,MLX,MYC,NAPH,PAHs,PCP,PCRE,PDM,PHE,PMT,PNB,PRO,PYR,RLIM,SFR,SZ,TET,TFN,TPMR,Zn,Zn element)  
Notes: Chemical of Concern: 1Major ions,24DC,24DP,2CP,4CE,4NP,ACE,AND,ANT,ATZ,Ag,Al,As,BAP,BFL,BMC,BPA,BZD,CBL,CHR,CLNB,CPMR,Cr,Cr element,Cu,DCA,DCB,DDE,DDT,DEET,DFPA,DLD,DLMEN,DTM,DZ,ES1,FA,FLU,FPN,HCB,HCCH,HCCP,HPT,HXZ,IGS,IND,ISO,LQN,MLN,MLX,MRX,MSC,MXC,MYC,Mg ion,NAPH,NBZ,NPH,PAHs,PBDE,PCB,PCP,PCRE,PDM,PHE,PHTH,PL,PMT,PNB,PPCP,PRO,PYR,RLIM,SFR,SZ,TEC,TET,TFN,TPMR,TXP,Zn,Zn element

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Rec #: 2880  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1480  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 740  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 5940  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 1370  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 720  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 6070  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 6110  
Keywords: REVIEW  
Notes: Chemical of Concern: DZ

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Rec #: 31200  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,CBL,CPY,CPYM,DDVP,DMT,DZ,FNT,FNV,MDT,MLN,MOM,PFF,PIRM,SMT,TCF), NO REVIEW (ACP,CBL,CPY,CPYM,DDVP,DMT,DZ,FNT,FNV,MDT,MLN,MOM,PFF,PIRM,SMT,TCF)  
Notes: Chemical of Concern: ACP,CBL,CPY,CPYM,DDVP,DMT,DZ,FNT,FNV,MDT,MLN,MOM,PFF,PIRM,SMT,TCF

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Rec #: 6130  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 6160  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 6170  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1600  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 2280  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 6240  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 1930  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 1450  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 1790  
Keywords: NO EFFECT  
Notes: Chemical of Concern: DZ

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Rec #: 6260  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 31670  
Keywords: NO CONC  
Call Number: NO CONC (AgN,BPH,CST,Cu,CuCl,CuNP,CuOX,DZ,TBTO)  
Notes: EcoReference No.: 118145  
Chemical of Concern: AgN,BPH,CHD,CST,Cu,CuAC,CuCl,CuNP,CuOX,DLD,DZ,EN,HCCH,HPT,HgCl2,PPCP,TBTO,TXP

171. Hogmire, H. W. and Winfield, T. Novartis Products Evaluation, 1997. SOIL; 1998; 23, 4-7 (6A).   
Rec #: 31740  
Keywords: MIXTURE  
Call Number: NO MIXTURE (ALSV,AZ,DZ,EFV,FYC,IMC,MDT,TUZ)  
Notes: Chemical of Concern: ALSV,AZ,DZ,EFV,FYC,IMC,MDT,TUZ

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Rec #: 3130  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 1880  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 6320  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 31210  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (AZ,CBL,DZ,FNV,MOM,PMR,PSM), NO REVIEW (AZ,CBL,DZ,FNV,MOM,PMR,PSM)  
Notes: Chemical of Concern: AZ,CBL,DZ,FNV,MOM,PMR,PSM

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Rec #: 830  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 1650  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

178. Ikeura, H.; Hamasaki, S., and Tamaki, M. Effects of ozone microbubble treatment on removal of residual pesticides and quality of persimmon leaves. 2013; 138, 366-371.   
Rec #: 6350  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

179. Ikeura, H.; Kobayashi, F., and Tamaki, M. Ozone Microbubble Treatment at Various Water Temperatures for the Removal of Residual Pesticides with Negligible Effects on the Physical Properties of Lettuce and Cherry Tomatoes. 2013; 78, T350-T355.   
Rec #: 6360  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 6380  
Keywords: MIXTURE  
Notes: Chemical of Concern: DZ

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Rec #: 1390  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 6390  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 1560  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 6410  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31690  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (AZ,DZ), NO REVIEW (AZ,DZ)  
Notes: Chemical of Concern: AZ,CHD,DZ,EN,PPCP

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Keywords: EFFLUENT  
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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: REVIEW  
Notes: Chemical of Concern: DZ

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Keywords: INCIDENT  
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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 6510  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31760  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,AMZ,CBF,CBL,CPY,DDVP,DMT,DZ,ES,FNT,MDT,MLN,MP,PRT), NO REVIEW (ACP,AMZ,CBF,CBL,CPY,DDVP,DMT,DZ,ES,FNT,MDT,MLN,MP,PRT)  
Notes: Chemical of Concern: ACP,AMZ,AND,CBF,CBL,CPY,DDE,DDT,DDVP,DMT,DXN,DZ,ES,FNT,FNTH,MDT,MLN,MP,PRT,TCDD

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Keywords: FATE  
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Rec #: 31220  
Keywords: NO SPECIES  
Call Number: NO SPECIES (As,BMY,CTN,DZ,FNT,KSM,MLT,PNB,PPN,PPX,PQT,TBC,THM)  
Notes: Chemical of Concern: As,BMY,BTC,CTN,DZ,FNT,FNTH,HYX,KSM,MLT,PNB,PPN,PPX,PQT,TBC,THM

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Rec #: 31430  
Keywords: MIXTURE  
Call Number: NO MIXTURE (CBL,DZ,MLN)  
Notes: EcoReference No.: 90692  
Chemical of Concern: AND,CBL,CHD,DDT,DLD,DZ,EPRN,MLN,MXC,PRN,TXP

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Rec #: 31570  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (24D,24DXY,AZ,As,CPY,DQT,DQTBr,DZ,MLN,SZ), NO REVIEW (24D,24DXY,AZ,As,CPY,DQT,DQTBr,DZ,MLN,SZ)  
Notes: Chemical of Concern: 24D,24DXY,AZ,As,AsO4Na,CHD,CPY,DDT,DLD,DQT,DQTBr,DZ,EDT,EPRN,HCCH,HPT,MLN,MXC,PPCP,PRN,SZ

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Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
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Keywords: YEAST  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Rec #: 31890  
Keywords: NO DURATION  
Call Number: NO DURATION (BMY,CAP,CTN,Captan,CuOX,DZ,Folpet,Maneb,SFR,THM,Ziram)  
Notes: Chemical of Concern: BMY,CAP,CTN,Captan,CuOX,DZ,Folpet,Maneb,SFR,THM,TPE,TPM,Zineb,Ziram

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Rec #: 31680  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (CPY,DCTP,DDVP,DZ,FNT,MLN,MP,MTM,MVP,TCF), NO REVIEW (CPY,DCTP,DDVP,DZ,FNT,MLN,MP,MTM,MVP,TCF)  
Notes: Chemical of Concern: CPY,DCTP,DDVP,DEM,DZ,EPRN,ETN,FNT,FNTH,MLN,MP,MTM,MVP,PPHD,PRN,TCF

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: REVIEW  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Rec #: 6600  
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Rec #: 31850  
Keywords: FOOD  
Notes: Chemical of Concern: CTN,DZ

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Keywords: HUMAN HEALTH  
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Rec #: 31530  
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Call Number: NON-ENGLISH (Captan,DZ,THM)  
Notes: Chemical of Concern: AND,Captan,DZ,THM

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Keywords: MODELING  
Call Number: NO MODELING (DZ)  
Notes: Chemical of Concern: DZ

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Rec #: 31780  
Keywords: NO CONC,NO DURATION  
Call Number: NO CONC (DZ,MLN), NO DURATION (DZ,MLN)  
Notes: Chemical of Concern: DDT,DZ,MLN

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Keywords: FATE  
Call Number: NO FATE (DZ)  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Rec #: 750  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 2070  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Keywords: ABSTRACT  
Call Number: NO ABSTRACT (DZ)  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 31350  
Keywords: ABSTRACT  
Call Number: NO ABSTRACT (TEPP)  
Notes: Chemical of Concern: DZ

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Rec #: 6920  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31660  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (24D,24DXY,ATZ,CBF,DZ,SZ), NO REVIEW (24D,24DXY,ATZ,CBF,DZ,SZ)  
Notes: Chemical of Concern: 24D,24DXY,ATZ,CBF,DDT,DZ,EPRN,PRN,SZ

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Rec #: 31540  
Keywords: MIXTURE  
Call Number: NO MIXTURE (DZ,FNT,MLN,PRT)  
Notes: Chemical of Concern: DZ,FNT,MLN,PRT

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 2950  
Keywords: SEDIMENT CONC  
Notes: Chemical of Concern: DZ

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Rec #: 31230  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,AZ,BFT,CBL,CPY,CYF,CYP,DCTP,DM,DMT,DZ,EFV,ES,FNT,FNV,FPP,FVL,LCYT,MDT,MLN,MOM,MTM,MVP,TCF,TLM), NO REVIEW (ACP,AZ,BFT,CBL,CPY,CYF,CYP,DCTP,DM,DMT,DZ,EFV,ES,FNT,FNV,FPP,FVL,LCYT,MDT,MLN,MOM,MTM,MVP,TCF,TLM)  
Notes: Chemical of Concern: ACP,AZ,BFT,CBL,CPY,CYF,CYP,DCTP,DEM,DM,DMT,DZ,EFV,EPRN,ES,ETN,FNT,FNV,FPP,FVL,HCCH,LCYT,MDT,MLN,MOM,MTM,MVP,PHSL,PIM,PPCP,PPHD,PRN,TCF,TLM

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Notes: Chemical of Concern: DZ

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Rec #: 31560  
Keywords: FATE  
Call Number: NO FATE (CPY,DZ)  
Notes: Chemical of Concern: CPY,DZ

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Rec #: 7040  
Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Rec #: 31360  
Keywords: NOT PURSUING,ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 32000  
Keywords: NO EFFECT  
Call Number: NO EFFECT (CPY,DZ)  
Notes: Chemical of Concern: CPY,DZ

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Rec #: 1400  
Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 7060  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 540  
Keywords: YEAST  
Notes: Chemical of Concern: DZ

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Rec #: 31700  
Keywords: NO DURATION  
Call Number: NO DURATION (CBL,CMPH,CPY,DCTP,DZ,PSM)  
Notes: EcoReference No.: 72642  
Chemical of Concern: CBL,CMPH,CPY,DCTP,DZ,ETN,PSM

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Rec #: 31600  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACL,ATZ,AZ,CBL,Captan,Cr,Cr element,Cu,DZ,ES,MLN,TFN,Zn,Zn element), NO REVIEW (ACL,ATZ,AZ,CBL,Captan,Cr,Cr element,Cu,DZ,ES,MLN,TFN,Zn,Zn element)  
Notes: Chemical of Concern: ABSA,ACL,ATZ,AZ,CBL,Captan,Cr,Cu,DZ,EN,ES,HCCH,HPT,MLN,PCB,PPCP,TFN,TXP,Zn

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 7100  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 7110  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 410  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 360  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 7220  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 7230  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 1220  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Rec #: 2800  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 7320  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 3050  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 3330  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 3340  
Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Rec #: 1590  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 31510  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (As,CBF,CPY,Cr,Cr element,DZ), NO REVIEW (As,CBF,CPY,Cr,Cr element,DZ)  
Notes: Chemical of Concern: As,CBF,CPY,Cr,DXN,DZ,MRX,PCB,TCDD,TXP

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Rec #: 31240  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,CBL,CPY,DDVP,DM,DZ,FNT,FNV,LCYT,MLN,PIRM,PPX), NO REVIEW (ACP,CBL,CPY,DDVP,DM,DZ,FNT,FNV,LCYT,MLN,PIRM,PPX)  
Notes: Chemical of Concern: ACP,ACYP,BDC,CBL,CPY,DDVP,DLD,DM,DZ,FNT,FNV,LCYT,MLN,PIRM,PPX

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Rec #: 31380  
Keywords: NO SOURCE  
Call Number: NO SOURCE (DZ)  
Notes: Chemical of Concern: DZ

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Rec #: 3440  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 320  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 7490  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 1780  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 9640  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

290. Otake, T.; Yarita, T.; Aoyagi, Y.; Kuroda, Y.; Numata, M.; Iwata, H.; Mizukoshi, K.; Nakamura, M.; Watai, M.; Mitsuda, H.; Fujikawa, T., and Ota, H. Development of Green Onion and Cabbage Certified Reference Materials for Quantification of Organophosphorus and Pyrethroid Pesticides. SOIL; 2011; 59, (16): 8568-8574.   
Rec #: 32060  
Keywords: METHODS  
Call Number: NO METHODS (CPY,CYP,DZ,EFX,FNT,PMR)  
Notes: Chemical of Concern: CPY,CYP,DZ,EFX,FNT,PMR

291. Otake, Takamitsu; Yarita, Takashi; Aoyagi, Yoshie; Kuroda, Youko; Numata, Masahiko; Iwata, Hitoshi; Watai, Masatoshi; Mitsuda, Hitoshi; Fujikawa, Takashi, and Ota, Hidekazu. Development of apple certified reference material for quantification of organophosphorus and pyrethroid pesticides. 2013 Jun 1-; 138, (2Çô3): 1243-1249.   
Rec #: 1540  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 2130  
Keywords: FATE  
Notes: Chemical of Concern: DZ

293. Otieno, Peter O; Schramm, Karl-Werner; Pfister, Gerd; Lalah, Joseph O; Ojwach, Stephen O; Virani, Munir, and Otieno, Peter O. Spatial Distribution and Temporal Trend in Concentration of Carbofuran, Diazinon and Chlorpyrifos Ethyl Residues in Sediment and Water in Lake Naivasha, Kenya. 2012 Apr; 88, (4 ): 526-532.   
Rec #: 2530  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 7560  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1010  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 2990  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 4250  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31250  
Keywords: CHEM METHODS  
Call Number: NO CHEM METHODS (BFT,CPY,CYF,CYH,CYP,DCF,DM,DMT,DZ,ES,FNV,FPP,FVL,MP,MTM,PFF,PIRM,PMR)  
Notes: Chemical of Concern: AND,BFT,CPY,CYF,CYH,CYP,DCF,DDT,DLD,DM,DMT,DZ,ES,FNV,FPP,FVL,FYT,HCCH,HPT,MP,MTM,PFF,PIRM,PMR,PPCP

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Rec #: 9400  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 7610  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

301. Pauli, B. D. and Money, S. Ecotoxicology of Pesticides in Reptiles. 2000: 269-324.   
Rec #: 31840  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (24D,24DXY,AZ,AlP,BDF,BML,CBNDS,CLC,CPC,CYP,CaCN,DCF,DM,DPC,DZ,ES,FNV,KNO3,MB,MLN,MOM,MP,MgP,NAPH,NaCN,NaNO3,PAHs,PLL,PMR,PPCP,RTN,SFF,SFR,SMT,STCH,TBC,TCF,WFN,ZnP), NO REVIEW (24D,24DXY,AZ,AlP,BDF,BML,CBNDS,CLC,CPC,CYP,CaCN,DCF,DM,DPC,DZ,ES,FNV,KNO3,MB,MLN,MOM,MP,MgP,NAPH,NaCN,NaNO3,PAHs,PLL,PMR,PPCP,RTN,SFF,SFR,SMT,STCH,TBC,TCF,WFN,ZnP)  
Notes: Chemical of Concern: 24D,24DXY,AND,AZ,AlP,BDF,BML,CBNDS,CHD,CLC,CPC,CYP,CaCN,DCF,DDE,DDT,DLD,DM,DPC,DZ,EN,EPRN,ES,FML,FNV,HCCH,HPT,KNO3,MB,MBZ,MLN,MOM,MP,MRX,MgP,NAPH,NaCN,NaFA,NaNO3,PLL,PMR,PPCP,PPHD,PRN,RTN,SFF,SFR,SMT,STCH,TBA,TBC,TCF,TXP,WFN,ZnP

302. Pauli, B. D.; Perrault, J. A., and Money, S. L. RATL: A Database of Reptile and Amphibian Toxicology Literature. 2000: 494 p.   
Rec #: 31640  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (1Major ions,24D,24DXY,ACL,ACP,ADC,ANT,ATN,ATZ,AZ,Ag,AgN,As,BDF,BRA,BTY,CBD,CBF,CBL,CMPH,CN,CPY,CTN,CYF,CYH,CYP,CaCl2,Conazoles,Cr,Cr element,Cu,CuS,DCTP,DDVP,DFZ,DM,DMB,DMT,DS,DU,DZ,EFV,EP,ES,ETHN,FMP,FNT,FNV,FPP,GYP,Halides,IMC,IODN,LNR,MCB,MDT,MLN,MLO,MLT,MLX,MOM,MP,MTL,MTPN,MVP,MYC,MZB,Maneb,NAPH,NCTN,NH3,NHN,NaBr,NaNO3,Naled,OML,OMT,PAHs,PAQT,PCP,PHE,PPB,PPCP,PPN,PPX,PQT,PRT,PSM,PTP,PYPG,PYR,RTN,SAC,SCA,SFL,SFT,SMT,SRT,STCH,TBC,TBO,THM,TMP,TMT,TPR,VCZ,WFN,ZnS), NO REVIEW (1Major ions,24D,24DXY,ACL,ACP,ADC,ANT,ATN,ATZ,AZ,Ag,AgN,As,BDF,BRA,BTY,CBD,CBF,CBL,CMPH,CN,CPY,CTN,CYF,CYH,CYP,CaCl2,Conazoles,Cr,Cr element,Cu,CuS,DCTP,DDVP,DFZ,DM,DMB,DMT,DS,DU,DZ,EFV,EP,ES,ETHN,FMP,FNT,FNV,FPP,GYP,Halides,IMC,IODN,LNR,MCB,MDT,MLN,MLO,MLT,MLX,MOM,MP,MTL,MTPN,MVP,MYC,MZB,Maneb,NAPH,NCTN,NH3,NHN,NaBr,NaNO3,Naled,OML,OMT,PAHs,PAQT,PCP,PHE,PPB,PPCP,PPN,PPX,PQT,PRT,PSM,PTP,PYPG,PYR,RTN,SAC,SCA,SFL,SFT,SMT,SRT,STCH,TBC,TBO,THM,TMP,TMT,TPR,VCZ,WFN,ZnS)  
Notes: Chemical of Concern: 1Major ions,24D,24DXY,3CE,ACL,ACP,ACY,ADC,AMTL,AN,AND,ANT,ANZ,ATN,ATP,ATZ,AZ,Ag,AgN,Al,As,BC,BDC,BDF,BNZ,BPZ,BRA,BTY,CBD,CBF,CBL,CF,CHD,CMPH,CN,CPY,CTC,CTN,CYF,CYH,CYP,CZE,CaCl2,CdCl,CdN,CdS,CoCl,Cr,Cu,CuS,DBN,DCTP,DDT,DDVP,DEM,DFZ,DINO,DLD,DLF,DM,DMB,DMT,DS,DU,DXN,DZ,EDB,EDT,EFV,EGY,EN,EP,EPRN,ES,ETHN,ETN,FBM,FMP,FNT,FNV,FPP,FTH,GIB,GYP,HCCH,HPT,Halides,HgCl2,IFP,IMC,IODN,K2Cr2O7,K2CrO4,LNR,MBZ,MCB,MCPA,MDT,MLN,MLO,MLT,MLX,MOM,MP,MRX,MTB,MTL,MTPN,MVP,MXC,MYC,MZB,Maneb,Mg ion,NAPH,NBZ,NCTN,NH3,NHN,NHP,NRM,NaBr,NaNO3,Nabam,Naled,OML,OMT,PAHs,PAQT,PCH,PCL,PCP,PHE,PHSL,PL,PPB,PPCP,PPCP2011,PPHD,PPN,PPX,PQT,PRN,PRT,PSM,PTP,PVL,PYN,PYPG,PYR,Pa,PbAC,PbN,REM,RTN,SA,SAC,SBA,SCA,SFL,SFT,SMT,SRT,STCH,TBA,TBC,TBO,TBT,TCDD,TEG,THM,TMP,TMT,TOL,TPM,TPR,TXP,Tc,Ti,Urea,VCZ,WFN,Zineb,ZnS

303. Peach, D. A. H.; Huber, J. T., and Fitzpatrick, S. M. Hymenopterous Parasitoids of Cranberry Tipworm (Diptera: Cecidomyiidae) in British Columbia, Canada. [Fitzpatrick, SM] Agr & Agri Food Canada, Pacific Agrifood Res Ctr, Agassiz, BC V0M 1A0, Canada [Huber, JT] Nat Resources Canada, Eastern Cereals & Oilseeds Res Ctr, Ottawa, ON K1A 0C6, Canada [Peach, DAH] Simon Fraser Univ, Fac Environm, Burnaby, BC V5A 1S6, Canada//: 2012; 144, 487-490.   
Rec #: 32120  
Keywords: NO CONC  
Call Number: NO CONC (DZ)  
Notes: Chemical of Concern: DZ

304. Pfeuffer, R. J. South Florida Water Management District ambient pesticide monitoring network: 1992 to 2007. 2011; 182, 485-508.   
Rec #: 7680  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 32130  
Keywords: MIXTURE,SEDIMENT CONC  
Call Number: NO MIXTURE (BFT,CPY,CYF,CYH,CYP,DCF,DCPA,DDVP,DMT,DZ,EFV,FNV,FPP,FVL,MLN,PMR), NO SEDIMENT CONC (BFT,CPY,CYF,CYH,CYP,DCF,DCPA,DDVP,DMT,DZ,EFV,FNV,FPP,FVL,MLN,PMR)  
Notes: Chemical of Concern: BFT,CPY,CYF,CYH,CYP,DCF,DCPA,DDT,DDVP,DLD,DMT,DZ,EFV,FNV,FPP,FVL,MLN,PMR,TXP

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Rec #: 32040  
Keywords: MODELING,REFS CHECKED  
Call Number: NO MODELING (CPY,DZ,MDT), NO REFS CHECKED (CPY,DZ,MDT)  
Notes: Chemical of Concern: CPY,DZ,MDT

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Rec #: 32080  
Keywords: IN VITRO  
Call Number: NO IN VITRO (DZ)  
Notes: Chemical of Concern: DZ

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Rec #: 7740  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 160  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 7770  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 2380  
Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
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Rec #: 1890  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 2160  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 2170  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31470  
Keywords: FATE  
Call Number: NO FATE (ATZ,DZ)  
Notes: Chemical of Concern: ATZ,DZ,PCH

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Notes: Chemical of Concern: DZ

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Rec #: 32140  
Keywords: MIXTURE  
Call Number: NO MIXTURE (24D,24DXY,CBL,DMB,DZ,MCPP2)  
Notes: Chemical of Concern: 24D,24DXY,CBL,DMB,DZ,MCPP2

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Keywords: FATE  
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Rec #: 31260  
Keywords: REVIEW  
Call Number: NO REVIEW (As,CBL,DZ,FNV,MLN,PIRM,PPX)  
Notes: Chemical of Concern: AND,As,CBL,CHX,DDT,DLD,DZ,FNV,MLN,PIRM,PPX

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 31800  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31870  
Keywords: MIXTURE  
Call Number: NO MIXTURE (1Major ions,ATZ,CLNB,CPY,CTN,CaCl2,DDVP,DS,DZ,ES1,ES2,FNT,FTL,Halides,MLN,MLO,MLT,MP,NaNO3,PDM,PNB,PZM,SA2Na,SZ,TBC,TFN)  
Notes: Chemical of Concern: ATZ,BTC,CLNB,CPY,CTN,CaCl2,DDVP,DS,DZ,EPRN,ES1,ES2,FNT,FNTH,FTL,HCCH,Halides,KCl,MLN,MLO,MLT,MP,MgSO4,NPP,NaNO3,ODZ,PDM,PNB,PPCP,PRN,PZM,SA2Na,SZ,TBC,TCM,TFN

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Rec #: 190  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 7990  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 8000  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Rec #: 8030  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31500  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (CBNDS,CaCN,DZ,FNV,MB,MOM,SMT,STCH,TMT), NO REVIEW (CBNDS,CaCN,DZ,FNV,MB,MOM,SMT,STCH,TMT)  
Notes: Chemical of Concern: AND,CBNDS,CHD,CaCN,DDT,DLD,DZ,FML,FNV,HPT,MB,MOM,SMT,STCH,TMT,TXP

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Rec #: 8040  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
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Keywords: FATE  
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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 1510  
Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Rec #: 32150  
Keywords: NO CONC  
Call Number: NO CONC (DZ,EFX,MLN,MOM,PMR)  
Notes: Chemical of Concern: CTD,DZ,EFX,EMMB,MLN,MOM,PMR

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Rec #: 31400  
Keywords: NOT PURSUING,IN VITRO  
Call Number: NO IN VITRO (DZ)  
Notes: Chemical of Concern: DZ

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Keywords: NOT PURSUING,IN VITRO  
Call Number: NO IN VITRO (DZ)  
Notes: Chemical of Concern: DZ

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Rec #: 1290  
Keywords: ABSTRACT, HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 2230  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 920  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31410  
Keywords: NO SOURCE  
Notes: Chemical of Concern: DZ

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Rec #: 8210  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 1940  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 32010  
Keywords: HUMAN HEALTH  
Call Number: NO HUMAN HEALTH (CPY,DZ)  
Notes: Chemical of Concern: CPY,DZ,EPRN,PRN

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Rec #: 2000  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 8300  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 2410  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31440  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (24D,24DXY,ACR,ATZ,CBF,CBL,CPY,CTN,DCF,DCPA,DZ,ES,ES1,ES2,HXZ,MEM,MLN,MTL,MTPN,Maneb,PPZ,RTN,SZ,TFN,THM,Ziram), NO REVIEW (24D,24DXY,ACR,ATZ,CBF,CBL,CPY,CTN,DCF,DCPA,DZ,ES,ES1,ES2,HXZ,MEM,MLN,MTL,MTPN,Maneb,PPZ,RTN,SZ,TFN,THM,Ziram)  
Notes: Chemical of Concern: 24D,24DXY,ACR,ATZ,BDC,CBF,CBL,CHD,CPY,CTN,CZE,DCF,DCPA,DDT,DLD,DZ,ES,ES1,ES2,HCCH,HPT,HXZ,MEM,MLN,MRX,MTL,MTPN,MXC,Maneb,PCB,PCL,PPCP,PPZ,PYN,RTN,SZ,TFN,THM,TXP,Zineb,Ziram

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Rec #: 31270  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,ACR,ATZ,BMY,BRA3,CLP,CPY,CTN,Captan,Conazoles,DCF,DMT,DZ,EFV,EP,EPTC,FNV,FSF,GYP,LCF,LQN,MLN,MLX,MTL,MZB,OXF,PMT,PSM,SFR,SMM,SXD,TDF,TFN,THM,Zn,Zn element), NO REVIEW (ACP,ACR,ATZ,BMY,BRA3,CLP,CPY,CTN,Captan,Conazoles,DCF,DMT,DZ,EFV,EP,EPTC,FNV,FSF,GYP,LCF,LQN,MLN,MLX,MTL,MZB,OXF,PMT,PSM,SFR,SMM,SXD,TDF,TFN,THM,Zn,Zn element)  
Notes: Chemical of Concern: ACP,ACR,ATZ,BMY,BORON,BRA3,CLP,CPY,CTN,Captan,DCF,DMT,DZ,EFV,EP,EPTC,FBM,FNV,FSF,GYP,HMN,LCF,LQN,MLN,MLX,MTL,MZB,NPP,ODZ,OXF,PMT,PSM,SFR,SMM,SXD,TDF,TFN,THM,TPM,Zn

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Rec #: 990  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 8380  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 8400  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 1720  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1090  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31940  
Keywords: FOOD  
Notes: Chemical of Concern: DZ

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Rec #: 9510  
Keywords: NON-ENGLISH  
Notes: Chemical of Concern: DZ

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Rec #: 9990  
Keywords: NON-ENGLISH  
Notes: Chemical of Concern: DZ

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Rec #: 31720  
Keywords: NON-ENGLISH  
Notes: Chemical of Concern: CPYM,DDVP,DZ,FNT,FNTH,MLN

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Rec #: 31630  
Keywords: REVIEW  
Call Number: NO REVIEW (ADC,AZ,BMY,CBL,CYP,Captan,DCF,DFZ,DM,DMT,DS,DZ,ES,FNT,FNV,FTT,FVL,MLN,MOM,MP,MTM,MVP,OXD,PFF,PMR,PQT,TBO,TCF,TEPP,TLM)  
Notes: EcoReference No.: 54800  
Chemical of Concern: ADC,AZ,BMY,CBL,CHX,CYP,Captan,DCF,DDT,DEM,DFZ,DM,DMT,DS,DZ,EPRN,ES,FNT,FNV,FTT,FVL,HCCH,HDP,MLN,MOM,MP,MTM,MVP,OXD,PFF,PHSL,PIM,PMR,PPCP,PQT,PRN,RYA,TBO,TCF,TEPP,TLM

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Rec #: 610  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 2970  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: IN VITRO  
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Keywords: ABSTRACT  
Notes: Chemical of Concern: DZ

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Rec #: 2040  
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Notes: Chemical of Concern: DZ

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Rec #: 8510  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 32100  
Keywords: FATE  
Call Number: NO FATE (DZ)  
Notes: Chemical of Concern: DZ

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Rec #: 31880  
Keywords: METHODS,REFS CHECKED  
Call Number: NO METHODS (24DXY,ACR,ADC,AMZ,APAC,AZ,AZX,BAD,BCDMH,BDF,BDL,BFT,BMC,BML,BNS,BS,C10OH,CAP,CBD,CBF,CBL,CBX,CLNB,CMPH,CMZ,CPC,CPP,CPYM,CTAC,CTN,CXL,CYF,Captan,Conazoles,DCDMH,DCDT,DCNA,DCTP,DDAC,DFT,DFZ,DMB,DMZ,DPC,DTEA,DZ,EFX,EP,EPH,ES,FAR,FDE,FMP,FMX,FNPE,FNT,FNZ,FOSNH,FPD,FPP,FRM,FTS,FYC,Folpet,GFSNH,GYP,HFR,HFZ,HMAE,HXZ,IGS,IMC,INDBA,IPPA,IRG,KO,LCYT,MB,MCB,MDT,MFZ,MITC,MLH,MLN,MOM,MP,MTL,MTPN,NAPH,NER,NONA,Naled,OBPA,OTN,OXD,OXZD,OYZ,PAHs,PBZ,PCP,PCZ,PDM,PFF,PFOS,PIRM,PLL,PMT,PNB,PPA,PPB,PPCP,PPCP2011,PPN,PPX,PRB,PRO,PSM,RTN,SFA,SFZ,STCH,SXD,SZ,TBC,TBO,TBTF,TBZ,TCMTB,TDC,TET,TFR,TLM,TMT,TNMETH,TVP,VCZ,WFN), NO REFS CHECKED (24DXY,ACR,ADC,AMZ,APAC,AZ,AZX,BAD,BCDMH,BDF,BDL,BFT,BMC,BML,BNS,BS,C10OH,CAP,CBD,CBF,CBL,CBX,CLNB,CMPH,CMZ,CPC,CPP,CPYM,CTAC,CTN,CXL,CYF,Captan,Conazoles,DCDMH,DCDT,DCNA,DCTP,DDAC,DFT,DFZ,DMB,DMZ,DPC,DTEA,DZ,EFX,EP,EPH,ES,FAR,FDE,FMP,FMX,FNPE,FNT,FNZ,FOSNH,FPD,FPP,FRM,FTS,FYC,Folpet,GFSNH,GYP,HFR,HFZ,HMAE,HXZ,IGS,IMC,INDBA,IPPA,IRG,KO,LCYT,MB,MCB,MDT,MFZ,MITC,MLH,MLN,MOM,MP,MTL,MTPN,NAPH,NER,NONA,Naled,OBPA,OTN,OXD,OXZD,OYZ,PAHs,PBZ,PCP,PCZ,PDM,PFF,PFOS,PIRM,PLL,PMT,PNB,PPA,PPB,PPCP,PPCP2011,PPN,PPX,PRB,PRO,PSM,RTN,SFA,SFZ,STCH,SXD,SZ,TBC,TBO,TBTF,TBZ,TCMTB,TDC,TET,TFR,TLM,TMT,TNMETH,TVP,VCZ,WFN)  
Notes: Chemical of Concern: 24DB,24DIO,24DXY,ABZM,ACO,ACR,ADC,AMTR,AMZ,ANZ,APAC,ASM,AZ,AZX,BAD,BCDMH,BCP,BDC,BDF,BDL,BFT,BFZ,BMC,BML,BMNO,BNP,BNS,BS,C10OH,CAP,CBD,CBF,CBL,CBX,CHDA,CHX,CLNB,CMPH,CMX,CMZ,CPC,CPP,CPYM,CPZ,CSF,CTAC,CTN,CXL,CYC,CYD,CYF,CZE,Captan,DBN,DBNPA,DCDMH,DCNA,DCTP,DDAC,DDT,DEET,DFC,DFFNa,DFPM,DFQM,DFT,DFZ,DIC,DIE,DMB,DMM,DMZ,DPA,DPC,DTEA,DTM,DTP,DZ,EDT,EFL,EFX,EP,EPH,ES,ETN,EXQ,FAR,FDE,FDX,FMP,FMU,FMX,FNB,FNF,FNPE,FNT,FNTH,FNZ,FOSNH,FPD,FPP,FRM,FTS,FYC,Folpet,GFSNH,GYP,HFR,HFZ,HMAE,HMN,HOS,HXZ,HYX,IFP,IGS,ILL,IMBM,IMC,IMQ,INDBA,IPN,IPPA,IRG,KO,KRSM,LCYT,MB,MBZ,MCB,MDT,MFZ,MGK264,MITC,MLH,MLN,MND,MNK,MOM,MP,MSCL,MTL,MTPN,NAPH,NER,NONA,NPM,NPP,NTP,NaFA,Naled,OBPA,ODL,ODZ,OTN,OTQ,OXD,OXZD,OYZ,PAHs,PBZ,PCH,PCL,PCP,PCZ,PDM,PEB,PFF,PFOS,PIM,PIRM,PLL,PMT,PMZ,PNB,PPA,PPB,PPCP,PPCP2011,PPHD,PPN,PPR,PPX,PRB,PRC,PRO,PSM,PYD,PYX,RIM,RTN,SFA,SFZ,STAR,STCH,SXD,SZ,TBA,TBC,TBO,TBTF,TBZ,TCMTB,TDC,TDZ,TET,TEZ,TFR,TFT,TFX,TLM,TMT,TPM,TPTH,TRB,TVP,TZA,TZL,VCZ,WFN

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Rec #: 8560  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 8570  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1440  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 2900  
Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
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Rec #: 31280  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (DZ,EFX,FNV,MLN,MOM,PMR), NO REVIEW (DZ,EFX,FNV,MLN,MOM,PMR)  
Notes: Chemical of Concern: DZ,EFX,FNV,MLN,MOM,PMR

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 31820  
Keywords: IN VITRO  
Call Number: NO IN VITRO (CBF,CBL,CPY,DZ)  
Notes: Chemical of Concern: CBF,CBL,CPY,DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 1810  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 8770  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31420  
Keywords: NO SOURCE  
Call Number: NO SOURCE (DZ,MTAS)  
Notes: Chemical of Concern: DZ,MTAS

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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Rec #: 8800  
Keywords: YEAST  
Notes: Chemical of Concern: DZ

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Rec #: 890  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 8830  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
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Rec #: 8910  
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Notes: Chemical of Concern: DZ

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Keywords: BACTERIA  
Notes: Chemical of Concern: DZ

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Rec #: 1680  
Keywords: HUMAN HEALTH  
Notes: Chemical of Concern: DZ

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Rec #: 31710  
Keywords: FATE  
Call Number: NO FATE (24DXY,ACR,ATZ,AsAC,CBF,CBL,DMB,DU,DZ,ES,LNR,MLT,PAQT,PMT,PPZ,PRT,SZ,TFN)  
Notes: Chemical of Concern: 24DXY,ACR,AMTL,AND,ATZ,AsAC,CBF,CBL,CZE,DBN,DDT,DLD,DMB,DU,DZ,EN,EPRN,ES,FMU,FNF,HPT,LNR,MBZ,MLT,MSMA,MXC,PAQT,PCH,PCL,PMT,PPZ,PRN,PRT,SZ,TFN,TXP

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Rec #: 31480  
Keywords: REVIEW  
Call Number: NO REVIEW (12DPA,24D,24DXY,ACR,ANT,ATZ,AZ,AsAC,BT,CPP,DPDP,DZ,PAHs,PMT,PPN)  
Notes: EcoReference No.: 70824  
Chemical of Concern: 12DPA,24D,24DXY,ACO,ACR,AMTL,AND,ANT,ATZ,AZ,AsAC,BAP,BFL,BT,BTC,BTL,CCA,CHD,CPP,CSF,CYC,CZE,DBN,DDT,DEM,DLD,DPDP,DZ,EDB,FMU,PAHs,PHTH,PMT,PPN

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 910  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Rec #: 31460  
Keywords: SEDIMENT CONC  
Call Number: NO SEDIMENT CONC (BFT,CYF,CYP,DM,DZ,PMR,PPB)  
Notes: Chemical of Concern: BFT,CYF,CYP,DM,DZ,PMR,PPB

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Rec #: 1520  
Keywords: SEDIMENT CONC  
Notes: Chemical of Concern: DZ

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Rec #: 8970  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 31930  
Keywords: METHODS  
Call Number: NO METHODS (24D,24DXY,ACL,ATZ,As,CBNDS,CPY,CYP,Cr,Cr element,CuS,DMB,DQTBr,DZ,ETHN,GYP,MB,MCPP1,MOL,MTAS,MTL,NAPH,PAHs,PCP,PMR,PPCP,PPZ,PQT,RTN,SFF,SZ,THM,WFN,Ziram,Zn,Zn element)  
Notes: Chemical of Concern: 24D,24DXY,3CE,ACL,AN,ATZ,As,BAP,BNZ,BZD,CBNDS,CF,CPY,CTC,CYP,CZE,Cr,CuS,DMB,DQTBr,DZ,EGY,ETHN,ETO,FBM,FML,GYP,IPA,MB,MCPP1,MOL,MTAS,MTL,NAPH,NBZ,PAHs,PCP,PL,PMR,PPCP,PPZ,PQT,PYN,RTN,SFF,SZ,THM,TOL,VYL,WFN,Ziram,Zn

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Rec #: 8990  
Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Rec #: 31910  
Keywords: REFS CHECKED,REVIEW  
Call Number: NO REFS CHECKED (ACP,ADC,BOR,BRA3,CBL,CMPH,CPY,DDVP,DMT,DS,DZ,FPN,IMC,MLN,MOM,MTPN,PFOS,PPX,PRT,PSM,SFA,TBO,TCF,TMP,TVP), NO REVIEW (ACP,ADC,BOR,BRA3,CBL,CMPH,CPY,DDVP,DMT,DS,DZ,FPN,IMC,MLN,MOM,MTPN,PFOS,PPX,PRT,PSM,SFA,TBO,TCF,TMP,TVP)  
Notes: Chemical of Concern: ACP,ADC,BOR,BRA3,CBL,CMPH,CPY,DDVP,DMT,DS,DZ,EPRN,FNTH,FPN,HMN,IDC,IMC,LUF,MLN,MOM,MTPN,PFOS,PPX,PRN,PRT,PSM,PYX,SFA,SS,TBO,TCF,TMP,TVP

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Rec #: 550  
Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
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Keywords: NO TOXICANT  
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Keywords: REVIEW  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Keywords: FATE  
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Keywords: ABSTRACT  
Call Number: NO ABSTRACT (CPY,DZ)  
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Keywords: NO DURATION  
Call Number: NO DURATION (DZ)  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Notes: Chemical of Concern: DZ

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Keywords: NO TOXICANT  
Notes: Chemical of Concern: DZ

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Keywords: HUMAN HEALTH  
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Keywords: CHEM METHODS  
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Keywords: IN VITRO   
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Keywords: FATE  
Notes: Chemical of Concern: DZ

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Keywords: IN VITRO  
Notes: Chemical of Concern: DZ

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Keywords: CHEM METHODS  
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Rec #: 9360  
Keywords: CHEM METHODS  
Notes: Chemical of Concern: DZ

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Rec #: 1580  
Keywords: SURVEY  
Notes: Chemical of Concern: DZ

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Rec #: 410  
Call Number: NO ENDPOINT (DZ,PSM,TCF)  
Notes: EcoReference No.: 99770  
Chemical of Concern: DDT,DLD,DZ,HgCl2,PPHD,PSM,PbAC,TCF

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Call Number: NO ENDPOINT (CMPH,DDVP,DZ,PSM,TCF)  
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Chemical of Concern: CMPH,DDVP,DZ,PPHD,PSM,TCF

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Rec #: 770  
Call Number: NO ENDPOINT (DZ,PMR)  
Notes: EcoReference No.: 100128  
Chemical of Concern: DEET,DTM,DZ,PMR

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Rec #: 820  
Call Number: LITE EVAL CODED (MP), NO ENDPOINT (DZ,MP)  
Notes: EcoReference No.: 85502  
Chemical of Concern: DZ,MP

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Rec #: 1810  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 160940  
Chemical of Concern: CdCl,DZ

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Rec #: 1560  
Call Number: NO ENDPOINT (13DPE,ACR,CAP,CBL,CLNB,Captan,DCNA,DCPA,DMT,DOD,DPDP,DU,DZ,EP,EPTC,MOM,Maneb,PNB,PQT,TFN,THM), NO MIXTURE (Zn,Zn element), TARGET2012 (13DPE,BMY,CAP,CLNB,CTN,Captan,DCNA,DOD,DPDP,IPD,Maneb,PNB,THM,VCZ,Zn,Zn element)  
Notes: EcoReference No.: 70656  
Chemical of Concern: 13DPE,ACR,ANZ,BMY,CAP,CBL,CHD,CLNB,CTN,Captan,DCNA,DCPA,DMT,DOD,DPDP,DU,DZ,EP,EPTC,ETN,FBM,IPD,MOM,Maneb,NPM,PNB,PQT,TBA,TFN,THM,TPM,TZL,VCZ,Zineb,Zn,Zn element

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Call Number: NO CONTROL (DZ)  
Notes: EcoReference No.: 88597  
Chemical of Concern: DZ

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Call Number: NO CONTROL (CBF,CBL,CPY,DZ,MLN,NCTN,PMR,PPX), NO ENDPOINT (CBF,CBL,CPY,DZ,MLN,NCTN,PMR,PPX)  
Notes: EcoReference No.: 111365  
Chemical of Concern: CBF,CBL,CPY,DDT,DLD,DZ,EPRN,HCCH,MLN,NCTN,PMR,PPCP,PPX,PRN

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Call Number: LITE EVAL CODED (24D,24DXY,24DXYBEE,ACL,ATZ,BOR,CAP,CMPH,CuOX,DQTBr,DZM,FUR,MCPP1,MEM,MLH,NaDPA,NaDSS,NaPCP,PQT,PYZ,SZ,TBTO,TFN), NO CONTROL (24D,24DXY,24DXYBEE,ACL,BOR,BRA,CAP,CuOX,DIOSSNa,DQTBr,DZ,FUR,MCPP1,MEM,MLH,MTAS,NaDPA,NaDSS,NaPCP,PQT,PYZ,SZ,TBTO,TFN)  
Notes: EcoReference No.: 542  
Chemical of Concern: 24D,24DXY,24DXYBEE,ACHY,ACL,AMTL,ATZ,BHAP,BOR,BORON,BRA,BSN881,CAP,CMPH,CPA,CuOX,DBN,DDT,DINO,DIOSSNa,DQTBr,DZ,DZM,FUR,MCPP1,MEM,MLH,MTAS,NaClO,NaDPA,NaDSS,NaPCP,PCLK,PL,PQT,PYZ,SZ,TBTO,TFN,TRL

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Rec #: 1230  
Call Number: NO FATE (CLNB,DZ,EFX,FNT,FTL,MLN)  
Notes: EcoReference No.: 120733  
Chemical of Concern: CLNB,DZ,EFX,FNT,FTL,MLN,PYX

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Rec #: 1770  
Call Number: LITE EVAL CODED (ADC,CBF,CBL,CPY,MLN,PCP), NO CONC (DZ), NO PUBL AS (IMC)  
Notes: EcoReference No.: 160013  
Chemical of Concern: 24DC,ADC,CBF,CBL,CPY,DZ,EAC,IMC,MLN,PCP

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Rec #: 1700  
Call Number: LITE EVAL CODED (ADC,CBF,IMC,MLN), NO REVIEW (24D,24DXY,ATZ,AZX,CBD,CBL,CPY,CYP,DCA,DZ,EFV,ES,FNV,FNZ,FYC,GCYH,IPD,LCYT,MOM,PCP,PIRM,PMR)  
Notes: EcoReference No.: 153561  
Chemical of Concern: 24D,24DC,24DXY,ACT,ADC,ATZ,AZX,CBD,CBF,CBL,CPY,CYD,CYP,DCA,DZ,EAC,EFV,EPRN,ES,FNTH,FNV,FNZ,FYC,GCYH,HCCH,IDC,IMC,IPD,LCYT,MLN,MOM,PCP,PIRM,PL,PMR,PPCP,PRN,TAP,TFY

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Rec #: 1840  
Call Number: NO CONTROL (BRSM,CPY,CPYM,DDVP,DZ,FNT,MLN,MOM,MP,MVP,Naled,PIRM,PMR,PPB,SMT), TARGET2012 (BRSM,DDVP,FNT,MLN,MP,MVP,Naled,PIRM)  
Notes: EcoReference No.: 159310  
Chemical of Concern: BRSM,CPY,CPYM,DDT,DDVP,DLD,DZ,EN,EPRN,FNT,MLN,MOM,MP,MVP,Naled,PIRM,PMR,PPB,PRN,SMT

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Rec #: 920  
Call Number: NO CONTROL (ACP,DZ,MOM,MP,MTM,PMR,SMT), TARGET2012 (ACP,MOM,MP,MTM,PMR,SMT)  
Notes: EcoReference No.: 47178  
Chemical of Concern: ACP,DDT,DLD,DZ,HCCH,MOM,MP,MPR,MTM,PIM,PLM,PMR,PPCP,SMT

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Rec #: 1520  
Call Number: NO CONTROL (DDVP,DZ,FNT,MLN,PIRM,PPB,TBF), NO MIXTURE (PPB,TBF), TARGET2012 (DDVP,FNT,MLN,PIRM)  
Notes: EcoReference No.: 93264  
Chemical of Concern: DDVP,DZ,FNT,MLN,PIRM,PPB,TBF

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Rec #: 480  
Call Number: LITE EVAL CODED (KSP), NO MIXTURE (CBL,DZ,MLN)  
Notes: EcoReference No.: 106195  
Chemical of Concern: CBL,DZ,KSP,MLN

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Rec #: 100  
Call Number: NO ENDPOINT (AZ,DMT,DZ,Naled,OML), NO MIXTURE (AZ,DZ,Naled), TARGET2012 (AZ,DMT,Naled,OML)  
Notes: EcoReference No.: 91550  
Chemical of Concern: AZ,DMT,DZ,Naled,OML

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Rec #: 140  
Call Number: NO CONTROL (ACP,AMZ,AZ,CPY,CPYM,DM,DMT,DZ,LCYT), NO ENDPOINT (ACP,ALSV,AMZ,AZ,CPY,CPYM,CYP,DM,DMT,DZ,LCYT), TARGET2012 (ACP,ALSV,AMZ,AZ,BFT,CPY,CPYM,CYH,CYP,DM,DMT,FPP,LCYT)  
Notes: EcoReference No.: 109832  
Chemical of Concern: ACP,ALSV,AMZ,AZ,BFT,CPY,CPYM,CYH,CYP,DM,DMT,DZ,EPRN,FPP,FYT,LCYT,PRN,THO

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Rec #: 1380  
Call Number: NO CONTROL (As,DZ)  
Notes: EcoReference No.: 68713  
Chemical of Concern: As,DLD,DZ

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Rec #: 150  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 120797  
Chemical of Concern: DZ

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Rec #: 560  
Call Number: NO CONTROL (CPY,CYP,DCF,DM,DZ,FNT,FNV,FPN,MDT,MLN,MOM,TLM), TARGET2012 (CPY,CYP,DCF,DM,FNT,FNV,FPN,MDT,MLN,MOM,TLM)  
Notes: EcoReference No.: 114909  
Chemical of Concern: CPY,CYP,DCF,DDT,DM,DZ,EPRN,FNT,FNTH,FNV,FPN,MDT,MLN,MOM,PRN,TLM

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Rec #: 1590  
Call Number: NO CONTROL (Ag,CBL,Cr,Cr element,DHB,DZ,ES,MLN,SFZ,TCF)  
Notes: EcoReference No.: 58990  
Chemical of Concern: AN,AND,Ag,CBL,Cr,Cr element,DDT,DEM,DHB,DLD,DZ,EN,EPRN,ES,HCCH,HPT,MLN,PPCP,PRN,SFZ,TCF,TXP

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Rec #: 810  
Call Number: NO CONTROL (DZ,LCYT,PMR), TARGET2012 (LCYT,PMR)  
Notes: EcoReference No.: 72912  
Chemical of Concern: DZ,LCYT,PMR

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Rec #: 1210  
Call Number: NO CONTROL (CMPH,CPY,DMT,DZ,FNV,MLN,PIRM,PMR,TCF), NO ENDPOINT (TVP), TARGET2012 (CMPH,CPY,DMT,FNV,MLN,PIRM,PMR,TCF,TVP)  
Notes: EcoReference No.: 114522  
Chemical of Concern: CMPH,CPY,DMT,DZ,ETN,FNV,MLN,PIRM,PMR,TCF,TVP

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Rec #: 590  
Call Number: NO ENDPOINT (CPYO,DZ,MLO,PIRM), NO IN VITRO (CPYO,DZ,MLO)  
Notes: EcoReference No.: 104950  
Chemical of Concern: AZM,CPYO,DZ,MLO,PIRM

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Rec #: 1500  
Call Number: NO CONTROL (AMZ,CMPH,CYP,DM,DZ,PMR)  
Notes: EcoReference No.: 106250  
Chemical of Concern: AMZ,CMPH,CYP,DM,DZ,PMR

27. Cetin, A. K.; Gur, N., and Firat, Z. Growth Rate of Scenedesmus acutus in Laboratory Cultures Exposed to Diazinon. POP. akadricetin@gmail.com//Department of Biology, Science Faculty, Firat University, Elazig, Turkey http://www.academicjournals.org/AJB/PDF/pdf2011/11Jul/Cetin%20et%2 0al.pdf//: AQUA; 2011; 10, (34): 6540-6543.   
Rec #: 1730  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 156021  
Chemical of Concern: DZ

28. Ceyhun, S. B.; Senturk, M.; Erdogan, O., and Kufrevioglu, O. I. In Vitro and in Vivo Effects of Some Pesticides on Carbonic Anhydrase Enzyme from Rainbow Trout (Oncorhynchus mykiss) Gills. BCM. Atatuerk University, Hinis Vocational Training School, 25600 Erzurum, Turkey//: AQUA; 2010; 97, (3): 177-181.   
Rec #: 1780  
Call Number: LITE EVAL CODED (DM), NO IN VITRO (CYP,DZ,PPX)  
Notes: EcoReference No.: 157478  
Chemical of Concern: CYP,DM,DZ,PPX

29. Chadha, D. B.; Perti, S. L., and Dixit, R. S. Effect of Temperature and Humidity on the Susceptibility of Insects to Insecticides. MORENV; 1964: 28-32.   
Rec #: 700  
Call Number: NO CONTROL (DZ,MLN), TARGET2012 (MLN)  
Notes: EcoReference No.: 39918  
Chemical of Concern: DDT,DLD,DZ,HCCH,MLN,PPCP

30. Chalfant, R. B.; Bondari, K.; Sumner, H. R., and Hall, M. R. Reduction of Wireworm (Coleoptera: Elateridae) Damage in Sweet Potato with Insecticides Applied by Chemigation. POPENV,MIXTURE; 1993; 86, (1): 123-130.   
Rec #: 1720  
Call Number: LITE EVAL CODED (CPY), NO MIXTURE (DZ,EP)  
Notes: EcoReference No.: 153580  
Chemical of Concern: CPY,DZ,EP,FNF

31. Chalfant, R. B.; Hall, M. R.; Johnson, A. W.; Seal, D. R., and Bondari, K. Effects of Application Methods, Timing, and Rates of Insecticides and Nematicides on Yield and Control of Wireworms (Coleoptera: Elateridae) and Nematodes (Tylenchida: Heteroderidae) that Affect Sweet Potato. MOR,POPSOIL,ENV,MIXTURE; 1992; 85, (3): 878-887.   
Rec #: 720  
Call Number: NO DURATION (CPY,DZ,EP), NO MIXTURE (CPY,DZ), OK (ADC,FMP)  
Notes: EcoReference No.: 85644  
Chemical of Concern: ADC,CPY,DZ,EP,EPRN,FMP,FNF,PRN

32. Chen, J. S. and Sun, C. N. Resistance of Diamondback Moth (Lepidoptera: Plutellidae) to a Combination of Fenvalerate and Piperonyl Butoxide. MORENV,MIXTURE; 1986; 79, (1): 22-30.   
Rec #: 1370  
Call Number: NO CONTROL (ACP,CBF,CBL,CYP,DM,DZ,FNV,MOM,MTM,PFF,PMR), NO MIXTURE (TBF), OK (PPB), PESTS (ACP,FNV,MOM,MTM,PMR), TARGET2012 (CBF,CBL,CYP,DM,MVP,PFF)  
Notes: EcoReference No.: 93271  
Chemical of Concern: ACP,CBF,CBL,CYP,DM,DZ,FNV,MGK264,MOM,MTM,MVP,PFF,PMR,PPB,TBF

33. Chhabra, M. B.; Kumar, R., and Kumar, B. B. Acaricidal Control of Mange in Rabbits. POPENV; 1993; 17, (3/4): 154-156.   
Rec #: 170  
Call Number: NO ENDPOINT (CMPH,DM,DZ,FNV), TARGET2012 (CMPH,DM,FNV)  
Notes: EcoReference No.: 92610  
Chemical of Concern: CMPH,DM,DZ,FNV

34. Cho, J. H.; Jeong, S. H., and Yun, H. I. Changes of Urinary and Blood Porphyrin Profiles by Exposure to PCBs, Lead or Diazinon in Rats. BCM. National Veterinary Research and Quarantine Service, 480, Anyang, 430-016 Korea//: ORAL; 2003; 45, (4): 193-198.   
Rec #: 370  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 76671  
Chemical of Concern: DZ,PCB,PbAC

35. Civen, M. and Brown, C. B. The Effect of Organophosphate Insecticides on Adrenal Corticosterone Formation. BCMENV,INJECT,MIXTURE; 1974; 4, (3): 254-259.   
Rec #: 1570  
Call Number: LITE EVAL CODED (DDVP), NO IN VITRO (DZ), NO MIXTURE (DZ,PPB)  
Notes: EcoReference No.: 85650  
Chemical of Concern: DDVP,DZ,PPB,PYN

36. Cochran, D. G. Monitoring for Insecticide Resistance in Field-Collected Strains of the German Cockroach (Dictyoptera: Blattellidae). MORENV; 1989; 82, (2): 336-341.   
Rec #: 1090  
Call Number: NO CONTROL (ACP,ATN,CPY,CYF,DZ,FNV,MLN,PMR,PPX,SMT), TARGET2012 (ACP,ATN,CPY,CYF,FNV,MLN,PMR,PPX,SMT)  
Notes: EcoReference No.: 113738  
Chemical of Concern: ACP,ATN,BDC,CPY,CYF,DZ,FNV,MLN,PMR,PPX,PYN,SMT

37. Coosemans, J. Control of Algae in Hydroponic Systems. GRO,POPSOIL,AQUA,ENV; 1995; 382, 263-268.   
Rec #: 470  
Call Number: NO ENDPOINT (Conazoles,DZ,ES,HOX,IRG,PCZ,PPCP,PPCP2011,THM,Ziram)  
Notes: EcoReference No.: 111916  
Chemical of Concern: DZ,ES,HOX,IRG,PCZ,PPCP,PPCP2011,THM,Ziram

38. Cope, O. B. Effects of Pesticides on Fish and Wildlife: 1964 Research Findings of the Fish and Wildlife Service. ACC,BCM,CEL,GRO,MOR,PHY,POP,REPAQUA,ENV,INJECT,ORAL,Unspecified; 1965: 77 p.   
Rec #: 730  
Call Number: LITE EVAL CODED (ADC,AMSV,ARM,ATN,BS,BTY,CBL,CuCl,CuS,DBAC,DDVP,DMT,DQT,DU,FNT,MCB,MLN,MLT,MVP,Naled,PAQT,RTN,SZ,TCF,TFN,TMP), NO CONTROL (ADC,AMSV,ARM,ATN,BS,BTY,CBL,CuCl,CuS,DBAC,DDVP,DMT,DU,DZ,FNT,MCB,MLT,MVP,Naled,PAQT,RTN,SZ,TCF,TFN,TMP), NO ENDPOINT (DQT,MLN)  
Notes: EcoReference No.: 2871  
Chemical of Concern: 24DB,24DXY,ADC,AMSV,AND,ARM,ATN,AsO3Na,BS,BTY,CBL,CHD,CuCl,CuS,DBAC,DBN,DDT,DDVP,DLD,DMT,DQT,DU,DZ,EN,EPRN,FNF,FNT,FNTH,HCCH,HPT,MCB,MLN,MLT,MRX,MVP,MXC,Naled,PAQT,PPCP,PRN,RTN,SZ,TCF,TFN,TMP,TXP,VNT

39. Croft, B. A. and Nelson, E. E. Toxicity of Apple Orchard Pesticides to Michigan Populations of Amblyseius fallacis. POPENV; 1972; 1, (5): 576-579.   
Rec #: 1640  
Call Number: NO CONTROL (AZ,BMY,CBL,Captan,DMT,DOD,DZ,ES,MDT,PPG,PSM,TVP), TARGET2012 (AZ,CBL,DMT,ES,MDT,PPG,PSM,TVP)  
Notes: EcoReference No.: 114422  
Chemical of Concern: AZ,BMY,CBL,CHX,Captan,DEM,DMT,DOD,DZ,ES,HPSL,MDT,OTQ,PHSL,PPG,PPHD,PSM,TVP

40. Croft, B. A. and Stewart, P. G. Toxicity of One Carbamate and Six Organophosphorus Insecticides to O-P Resistant Strains of Typhlodromus occidentalis and Amblyseius fallacis. MORENV; 1973; 2, (3): 486-488.   
Rec #: 1660  
Call Number: NO CONTROL (AZ,CBL,DZ,PSM,TEPP,TVP), TARGET2012 (AZ,CBL,PSM,TEPP,TVP)  
Notes: EcoReference No.: 108717  
Chemical of Concern: AZ,CBL,DZ,PHSL,PSM,TEPP,TEPP,TVP

41. Deichmann, W. B. Protection Against the Acute Effects of Certain Pesticides by Pretreatment with Aldrin, Dieldrin and DDT. BCM,MORMIXTURE,ORAL; 1970: 121-123.   
Rec #: 1330  
Call Number: NO CONTROL (DZ,MLN)  
Notes: EcoReference No.: 73109  
Chemical of Concern: AND,CHD,DDT,DLD,DZ,EPRN,MLN,PRN,TXP

42. Dennis, E. B. and Edwards, C. A. Phytotoxicity of Insecticides and Acaricides. I. Foliage Sprays. PHYSOIL,ENV; 1961; 10, 54-60.   
Rec #: 2070  
Call Number: NO ENDPOINT (DCF,DMT,DZ,MLN,MVP,TEPP)  
Notes: EcoReference No.: 40670  
Chemical of Concern: AND,DCF,DDT,DLD,DMT,DZ,EPRN,FLAC,HCCH,MLN,MVP,PPCP,PRN,TEPP

43. ---. Phytotoxicity of Insecticides and Acaricides. II. Flowers and Ornamentals. PHYSOIL,ENV; 1963; 12, 27-36.   
Rec #: 1290  
Call Number: NO CONTROL (ALSV,DCF,DMT,DZ,MLN,NCTN,TEPP), NO ENDPOINT (ALSV,DCF,DMT,DZ,MLN,NCTN,TEPP)  
Notes: EcoReference No.: 40669  
Chemical of Concern: ALSV,AND,DCF,DDT,DLD,DMT,DZ,EPRN,ETN,FLAC,HCCH,MLN,NCTN,PPCP,PPHD,PRN,PYN,TEPP

44. Dunley, J. E.; Messing, R. H., and Croft, B. A. Levels and Genetics of Organophosphate Resistance in Italian and Oregon Biotypes of Amblyseius andersoni (Acari: Phytoseiidae). MORTOP; 1991; 84, (3): 750-755.   
Rec #: 1020  
Call Number: NO ENDPOINT (DZ,ES,FNV), TARGET2012 (AZ,CBL,ES,FNV,MLN)  
Notes: EcoReference No.: 91024  
Chemical of Concern: AZ,CBL,DZ,ES,FNV,MLN,PHSL

45. Duysen, E. G.; Cashman, J. R.; Schopfer, L. M.; Nachon, F.; Masson, P., and Lockridge, O. Differential Sensitivity of Plasma Carboxylesterase-Null Mice to Parathion, Chlorpyrifos and Chlorpyrifos Oxon, but not to Diazinon, Dichlorvos, Diisopropylfluorophosphate, Cresyl Saligenin Phosphate, Cyclosarin Thiocholine, Tabun Thiocholine, and Carbofuran. BCM,BEH,PHY. [Duysen, EG; Schopfer, LM; Masson, P; Lockridge, O] Univ Nebraska Med Ctr, Eppley Inst, Omaha, NE 68198 USA [Cashman, JR] Human BioMol Res Inst, San Diego, CA 92121 USA [Nachon, F; Masson, P] Inst Rech Biomed Armees, Dept Toxicol, F-38702 La Tronche, France//: INJECT,TOP; 2012; 195, (3): 189-198.   
Rec #: 1800  
Call Number: NO ENDPOINT (CBF,CPY,DDVP,DZ,TCP)  
Notes: EcoReference No.: 159326  
Chemical of Concern: CBF,CPY,DDVP,DZ,EPRN,PRN,TCP

46. Edwards, C. A. and Thompson, A. R. Some Effects of Insecticides on Predatory Beetles. POPENV; 1975; 80, 132-135.   
Rec #: 1460  
Call Number: NO ENDPOINT (DS,DZ,PRT)  
Notes: EcoReference No.: 67196  
Chemical of Concern: DS,DZ,EPRN,FNF,PRN,PRT

47. Edwards, C. A.; Thompson, A. R., and Lofty, J. R. Changes in Soil Invertebrate Populations Caused by Some Organophosphorus Insecticides. POPENV; 1967: 48-55.   
Rec #: 360  
Call Number: NO ENDPOINT (DS,DZ,PRT)  
Notes: EcoReference No.: 48888  
Chemical of Concern: DS,DZ,EPRN,PRN,PRT

48. El-Refai, A. and Mowafy, M. M. Propanil Hydrolysis: Inhibition in Rice Plants by Diazinon and Carbaryl Translocated from the Soil. ACC,POPSOIL,ENV,MIXTURE; 1973; 56, (5): 1178-1182.   
Rec #: 1320  
Call Number: NO ENDPOINT (CBL,DZ,PPN), NO MIXTURE (DZ,PPN)  
Notes: EcoReference No.: 25479  
Chemical of Concern: CBL,DZ,NHSO4,PPN

49. Elad, Y.; Katan, J., and Chet, I. Physical, Biological, and Chemical Control Integrated for Soilborne Diseases in Potatoes. PHY,POPSOIL,ENV; 1980; 70, (5): 418-422.   
Rec #: 1280  
Call Number: EFFICACY (MBCP,PNB), NO MIXTURE (AZ,CPY,DZ,MOM), OK (NH3), TARGET2012 (MTAS)  
Notes: EcoReference No.: 72271  
Chemical of Concern: AZ,CPY,DZ,MBCP,MOM,MTAS,NH3,PNB

50. Elder, R. J. Oncopera brachyphylla Turner and Oncopera mitocera (Turner) Insecticide Control Trials 1964-1966. POP. 17195//: ENV; 1974; 31, (3): 279-284.   
Rec #: 1180  
Call Number: NO ENDPOINT (CBL,DCTP,DZ,TCF)  
Notes: EcoReference No.: 56018  
Chemical of Concern: CBL,DCTP,DDT,DLD,DZ,EPRN,HPT,PRN,TCF

51. Endo, S.; Kazano, H., and Masuda, T. Insecticide Susceptibility of the Rice Leafroller Larvae, Cnaphalocrocis medinalis Guenee (Lepidoptera: Pyralidae). MORENV; 1987; 22, (2): 145-152.   
Rec #: 940  
Call Number: NO CONTROL (ACP,CPYM,DZ,FNT,TVP), PESTS (ACP,CPYM), TARGET2012 (FNT,TVP)  
Notes: EcoReference No.: 63854  
Chemical of Concern: ACP,CPYM,DZ,FNT,TVP

52. Ennik, G. C. and Hofman, T. B. Response of Pasture Grass to Thionazin and Other Pesticides. POPSOIL,ENV,MIXTURE; 1977: 41 p.   
Rec #: 1410  
Call Number: NO ENDPOINT (ADC,BMY,CAP,CBF,CBL,CQTC,DMT,DZ,EPH,FMP,MLN,MOM,OML,PRT,TBO,TMP)  
Notes: EcoReference No.: 107086  
Chemical of Concern: ADC,BMY,CAP,CBF,CBL,CQTC,DMT,DZ,EPH,EPRN,FMP,MLN,MOM,OML,PRN,PRT,TBO,TMP

53. Eto, M.; Seifert, J.; Engel, J. L., and Casida, J. E. Organophosphorus and Methylcarbamate Teratogens: Structural Requirements for Inducing Embryonic Abnormalities in Chickens and Kynurenine Formamidase Inhibition in Mouse Liver. BCM,GROINJECT; 1980; 54, (1): 20-30.   
Rec #: 1200  
Call Number: NO ENDPOINT (CBL,DCTP,DZ,PIRE,PIRM), NO EXP TYPE (CBL,DCTP,DZ,PIRE,PIRM)  
Notes: EcoReference No.: 77201  
Chemical of Concern: CBL,DCTP,DZ,PIRE,PIRM

54. Fleming, W. J. Recovery of Brain and Plasma Cholinesterase Activities in Ducklings Exposed to Organophosphorus Pesticides. BCM,MORORAL; 1981; 10, 215-229.   
Rec #: 1350  
Call Number: LITE EVAL CODED (DCTP), NO ENDPOINT (DZ)  
Notes: EcoReference No.: 36627  
Chemical of Concern: DCTP,DZ,FNTH

55. Frank, R.; Braun, H. E.; Ripley, B. D., and Pitblado, R. Residues of Nine Insecticides and Two Fungicides in Raw and Processed Tomatoes. ACC. Agric. Lab. Services Branch, Ontario Ministry Agric. Food, Univ. Guelph, Guelph, Ontario N1G 2W1////: SOIL,ENV; 1991; 54, (1): 41-46.   
Rec #: 20  
Call Number: NO CONTROL (ACP,AZ,CAP,CBL,CTN,DMT,DZ,ES,MLN,PMR), NO ENDPOINT (ACP,AZ,CAP,CBL,CTN,DMT,DZ,ES,MLN,PMR), TARGET2012 (CBL)  
Notes: EcoReference No.: 156439  
Chemical of Concern: ACP,AZ,CAP,CBL,CTN,DEM,DMT,DZ,ES,MLN,PMR

56. Fujioka, K. and Casida, J. E. Glutathione S-Transferase Conjugation of Organophosphorus Pesticides Yields S-Phospho-, S-Aryl-, and S-Alkylglutathione Derivatives. BCMINJECT; 2007; 20, (8): 1211-1217.   
Rec #: 760  
Call Number: NO CONTROL (CPY,CPYO,DZ,TBF), NO ENDPOINT (CPY,CPYO,DZ,TBF), NO EXP TYPE (CPY,CPYO,DZ,TBF)  
Notes: EcoReference No.: 101014  
Chemical of Concern: CPY,CPYO,DZ,TBF

57. Gaines, T. B. Acute Toxicity of Pesticides. MORORAL,TOP; 1969; 14, (3): 515-534.   
Rec #: 230  
Call Number: NO CONTROL (ADC,AMSV,AZ,CBL,CMPH,CPY,DCF,DCTP,DDVP,DMT,DPC,DS,DZ,ES,FNT,KCN,MLN,MP,MVP,Naled,OXD,PCP,PPB,PPCP,PPG,PPX,PQT,PRT,PSM,TBF,TCF,TEPP,THM,TMP,TVP,WFN)  
Notes: EcoReference No.: 36729  
Chemical of Concern: ADC,AMSV,AND,AZ,CBL,CHD,CMPH,CPY,DCF,DCTP,DDE,DDT,DDVP,DEM,DLD,DMT,DPC,DS,DZ,EN,EPRN,ES,FNT,FNTH,HCCH,HPT,KCN,MLN,MP,MRX,MVP,Naled,OTQ,OXD,PCP,PPB,PPCP,PPG,PPHD,PPX,PQT,PRN,PRT,PSM,PVL,TBF,TCF,TEPP,THM,TMMC,TMP,TVP,TXP,WFN,Zineb

58. Gautam, R. K.; Gautam, K., and Tejeshwarilal. Effects of Pesticides on Gastro Intestinal Nucleic Acids in Channa punctatus. CELAQUA; 2002; 12, (1): 57-60.   
Rec #: 740  
Call Number: NO ENDPOINT (DZ,ES)  
Notes: EcoReference No.: 85642  
Chemical of Concern: DZ,ES

59. Gentile, A. G.; Vaughan, A. W., and Pfeiffer, D. G. Cucumber Pollen Germination and Tube Elongation Inhibited or Reduced by Pesticides and Adjuvants. GRO,PHY,REPSOIL,ENV; 1978; 7, (5): 689-691.   
Rec #: 540  
Call Number: NO ENDPOINT (BMY,CBL,Captan,DCF,DZ,ES,MLN,PPB), TARGET2012 (CBL)  
Notes: EcoReference No.: 49479  
Chemical of Concern: BMY,CBL,Captan,DCF,DZ,ES,MLN,MXC,PPB

60. Gentile, A. G.; Vaughan, A. W.; Richman, S. M., and Eaton, A. T. Corn Pollen Germination and Tube Elongation Inhibited or Reduced by Commercial and Experimental Formulations of Pesticides and Adjuvants. GRO,POPSOIL,ENV; 1973; 2, (2): 473-476.   
Rec #: 530  
Call Number: NO ENDPOINT (ACP,CBF,CBL,DZ,ES,MOM,TCF,TVP), TARGET2012 (CBL)  
Notes: EcoReference No.: 49478  
Chemical of Concern: ACP,CBF,CBL,DZ,EPRN,ES,ETN,FNF,MOM,PRN,TCF,TVP

61. George, D. A.; Butler, L. I.; Maitlen, J. C.; Rusk, H. W., and Walker, K. C. Insecticide Residues on Forage Crops. ACCSOIL,ENV; 1967: 18 p.   
Rec #: 910  
Call Number: NO ENDPOINT (AZ,CBL,DMT,DS,DZ,Naled,PRT,TCF)  
Notes: EcoReference No.: 97448  
Chemical of Concern: AND,AZ,CBL,DMT,DS,DZ,HPT,Naled,PRT,TCF,TXP

62. George, T. K. and Liber, K. Laboratory Investigation of the Toxicity and Interaction of Pesticide Mixtures in Daphnia magna. MORAQUA,MIXTURE; 2007; 52, (1): 64-72.   
Rec #: 1000  
Call Number: NO CONTROL (AZ,CPY,DZ,ES,TFN)  
Notes: EcoReference No.: 100838  
Chemical of Concern: AZ,CPY,DZ,ES,TFN

63. Georgis, R.; Ross, R. J., and Koskan, L. P. Enhancement of Herbicide and Insecticide Activity with Thermal Polyaspartate. MOR. Donlar Biosyntrex Corporation,Bedford Park,IL,USA Advancing Sustainability through Green Chemistry and Engineering//: SOIL,ENV,MIXTURE; 2002; 823, 101-112.   
Rec #: 1830  
Call Number: NO CONTROL (ATZ,CBL,DZ,GYPI,MTL,TFN), NO ENDPOINT (ATZ,CBL,DZ,GYPI,MTL,TFN), OK (ACP,NMX)  
Notes: EcoReference No.: 158976  
Chemical of Concern: ACO,ACP,ATZ,CBL,DMM,DZ,FZFB,GYPI,MTL,NMX,SS,TFN

64. Gillard, C. L. and Ranatunga, N. K. Interaction Between Seed Treatments, Surfactants and Foliar Fungicides on Controlling Dry Bean Anthracnose (Colletotrichum lindemuthianum). PHYENV,MIXTURE; 2013; 45, (0): 22-28.   
Rec #: 1970  
Call Number: NO MIXTURE (Captan,DZ), OK (ALSV,MOIL), TARGET2012 (AZX,Captan)  
Notes: EcoReference No.: 161152  
Chemical of Concern: ALSV,AZX,Captan,DZ,FDX,MOIL,PRC,TPM

65. Gillard, C. L.; Ranatunga, N. K., and Conner, R. L. The Control of Dry Bean Anthracnose Through Seed Treatment and the Correct Application Timing of Foliar Fungicides. GRO,PHY,POP,REPENV,MIXTURE; 2012; 37, (0): 81-90.   
Rec #: 1980  
Call Number: NO MIXTURE (Captan,DZ), OK (AZX)  
Notes: EcoReference No.: 161153  
Chemical of Concern: AZX,Captan,DZ,FDX,PRC,TPM

66. Gol'berg, A.; Avigdori-Avidov, H., and Nuriel, E. Insecticide Control of a White Grub, Maladera matrida, on Sweet Potato. GRO,POPSOIL,ENV,MIXTURE; 1989; 17, (3): 175-183.   
Rec #: 1750  
Call Number: LITE EVAL CODED (BFT,DM), NO CONC (DZ)  
Notes: EcoReference No.: 156732  
Chemical of Concern: BFT,DM,DZ,HPT,IFP

67. Grover, I. S. and Kaur, P. Mutagenic Effects of Some Organophosphorus Pesticides in Barley. CEL,MOR,REP. I.S.Grover, Dep. Biol., Guru Nanak Dev Univ., Amritsar, 143005, India//: SOIL,ENV; 1986; 2, (1-4): 43-52.   
Rec #: 1110  
Call Number: NO ENDPOINT (CPY,DMT,DZ,FNT,MP)  
Notes: EcoReference No.: 68676  
Chemical of Concern: CPY,DMT,DZ,FNT,MP

68. Hall, R. A. Laboratory Studies on the Effects of Fungicides, Acaricides and Insecticides on the Entomopathogenic Fungus, Verticillium lecanii. PHY,POP,REPENV; 1981; 29, (1): 39-48.   
Rec #: 1010  
Call Number: NO ENDPOINT (BMY,CBL,CTN,Captan,DCF,DFZ,DZ,FRM,IPD,MLN,Maneb,PMR,TFR,VCZ), TARGET2012 (TFR)  
Notes: EcoReference No.: 94390  
Chemical of Concern: BMY,CBL,CHX,CTN,Captan,Conazoles,DCF,DFZ,DINO,DZ,FRM,ILL,IPD,MLN,Maneb,OXC,PIM,PMR,TFR,VCZ,Zineb

69. Hanson, N. and Stark, J. D. Extrapolation from Individual-Level Responses to Population Growth Rate Using Population Modeling. MOR,REPAQUA,ENV; 2011; 17, 1332-1347.   
Rec #: 2000  
Call Number: NO PUBL AS (DZ)  
Notes: EcoReference No.: 161083  
Chemical of Concern: ABM,DZ,SS

70. Hart, R. J.; Cavey, W. A.; Ryan, K. J.; Strong, M. B.; Moore, B.; Thomas, P. L.; Boray, J. C., and Von Orelli, M. CGA-72662 - a New Sheep Blowfly Insecticide. POP,REPENV; 1982; 59, (4): 104-109.   
Rec #: 350  
Call Number: NO ENDPOINT (CYR,DZ)  
Notes: EcoReference No.: 97416  
Chemical of Concern: CYR,DZ

71. Hassan, S. A.; Bigler, F.; Bogenschutz, H.; Boller, E.; Brun, J.; Chiverton, P.; Edwards, P.; Mansour, F.; Naton, E.; Oomen, P. A.; Overmeer, W. P. J.; Polgar, L.; Rieckmann, W.; Samsoe-Petersen, L.; Staubli, A.; Sterk, G.; Tavares, K.; Tuset, J. J.; Viggiani, G., and Vivas, A. G. Results of the Fourth Joint Pesticide Testing Programme Carried Out by the IOBC/WPRS-Working Group. Pesticides and Beneficial Organisms. MOR,PHYENV; 1988; 105, (4): 321-329.   
Rec #: 1420  
Call Number: LITE EVAL CODED (FRM), NO ENDPOINT (ATZ,CPY,CYP,Conazoles,DMT,DZ,Folpet,GYP,MEM,MVP,PCZ,PPCP,PPCP2011)  
Notes: EcoReference No.: 70387  
Chemical of Concern: ATZ,BMN,CPY,CYP,DMT,DZ,FRM,FZFB,Folpet,GYP,MEM,MVP,PCZ,PPCP,PPCP2011,PPHD

72. Hastings, F. L.; Hain, F. P.; Mangini, A., and Huxster, W. T. Control of the Balsam Woolly Adelgid (Homoptera: Adelgidae) in Fraser Fir Christmas Tree Plantations. POPENV,MIXTURE; 1986; 79, (6): 1676-1680.   
Rec #: 520  
Call Number: NO MIXTURE (DZ), TARGET MANUAL (FNV,PMR)  
Notes: EcoReference No.: 93000  
Chemical of Concern: DZ,FNV,MXC,PMR

73. Hastings, F. L.; Jones, A. S., and Franklin, C. K. Observations on Phytotoxicity. MOR,PHY,POPSOIL,ENV; 1981: 6 p.   
Rec #: 1160  
Call Number: NO CONTROL (ACP,CBF,CBL,CPY,CPYM,DCTP,DMT,DZ,FNT,MOM,MTM,Naled,PIRE,PIRM,PMR,PPX,PSM,TCF,TVP)  
Notes: EcoReference No.: 44231  
Chemical of Concern: ACP,CBF,CBL,CPY,CPYM,DCTP,DMT,DZ,FNF,FNT,HCCH,MOM,MTM,MXC,Naled,PIRE,PIRM,PMR,PPCP,PPX,PSM,TCF,TVP

74. Heller, P. R. and Walker, R. Evaluation of Bifenthrin, Diazinon, and Dursban Granular Formulations for Management of Black Cutworm on Creeping Bentgrass, 1997. PHY,POPSOIL,ENV; 1998; 23, 315-(7G).   
Rec #: 1760  
Call Number: LITE EVAL CODED (BFT), NO ENDPOINT (CPY,DZ), PESTS MANUAL (CPY)  
Notes: EcoReference No.: 156556  
Chemical of Concern: BFT,CPY,DZ

75. Hellman, J. L. and Patton, T. W. Control of Green June Beetle Grubs on a Golf Course, 1986. POPENV; 1988; 13, 363-(68G).   
Rec #: 500  
Call Number: NO ENDPOINT (ACP,CBL,CPY,CYF,DZ,PMR,TCF)  
Notes: EcoReference No.: 88823  
Chemical of Concern: ACP,CBL,CPY,CYF,DZ,IFP,IZF,PMR,TCF

76. Higgs, A. R.; Morcombe, P. W.; Love, R. A., and Young, G. E. Further Evidence that Zinc Sulphate Compromises the Efficacy of Dipping Treatments Using Diazinon to Control Sheep Lice (Bovicola ovis). POPENV,MIXTURE; 1998; 76, 44-49.   
Rec #: 1740  
Call Number: NO ENDPOINT (DZ,ZnS), NO MIXTURE (ZnS)  
Notes: EcoReference No.: 161181  
Chemical of Concern: DZ,ZnS

77. Hislop, R. G. and Prokopy, R. J. Integrated Management of Phytophagous Mites in Massachusetts (U.S.A.) Apple Orchards. 2. Influence of Pesticides on the Predator Amblyseius fallacis (Acarina: Phytoseiidae) Under Laboratory and Field Conditions. MOR,POP,REPSOIL,ENV,TOP; 1981; 3, (2): 157-172.   
Rec #: 960  
Call Number: NO ENDPOINT (1Major ions,AZ,BMY,CBL,CaCl2,Captan,DCF,DMT,DMZ,DOD,DZ,EPH,ES,FBOX,FNV,FTT,FTTCl,GYP,Halides,MLN,MOM,MP,Maneb,PAQT,PMR,PPG,PSM,SZ,THM), TARGET2012 (AZ,CBL,DCF,DMT,ES,FBOX,FNV,FTT,FTTCl,MLN,MOM,MP,PMR,PPG,PSM)  
Notes: EcoReference No.: 70632  
Chemical of Concern: 1Major ions,AZ,BMY,CBL,CHX,CaCl2,Captan,DCF,DEM,DINO,DMT,DMZ,DOD,DZ,EPH,ES,FBM,FBOX,FNV,FTT,FTTCl,GYP,Halides,MLN,MOM,MP,MXC,Maneb,NAA,PAQT,PHSL,PMR,PPG,PPHD,PSM,SZ,THM

78. Hodgins, S. M.; Kasten, S. A.; Harrison, J.; Otto, T. C.; Oliver, Z. P.; Rezk, P.; Reeves, T. E.; Chilukuri, N., and Cerasoli, D. M. Assessing Protection Against OP Pesticides and Nerve Agents Provided by Wild-Type HuPON1 Purified from Trichoplusia ni Larvae or Induced via Adenoviral Infection. BCM,BEH,MOR,PHYINJECT; 2013; PRESS, 4 p. (doi: 10.1016/j.cbi.2012.10.015).   
Rec #: 1910  
Call Number: NO CONTROL (CPYO,DZ), NO ENDPOINT (CPYO), NO EXP TYPE (CPYO,DZ)  
Notes: EcoReference No.: 159922  
Chemical of Concern: CPYO,DZ

79. Isa, A. L.; Awadallah, W. H.; Tantawy, A. M., and Bishara, M. A. On the Chemical Control of the Rice Stem Borer. POPENV; 1970; 4, 117-125.   
Rec #: 1170  
Call Number: NO ENDPOINT (AZ,CBL,CPY,DZ,FNT,MLN,TCF), TARGET2012 (AZ,CBL,FNT,MLN,TCF)  
Notes: EcoReference No.: 50503  
Chemical of Concern: AZ,CBL,CPY,DDT,DZ,EN,EPRN,FNT,FNTH,HCCH,MLN,PHSL,PPCP,PRN,TCF

80. Iverson, F. Inhibition and Regeneration of Rat Liver Enzymes Hydrolyzing Acetanilide and O-Nitrophenyl Butyrate. BCMINJECT; 1977; 18, (4): 466-471.   
Rec #: 830  
Call Number: NO ENDPOINT (ADC,AZ,CBL,DZ,FNT,MLN,MOM), NO EXP TYPE (ADC,AZ,CBL,DZ,FNT,MLN,MOM)  
Notes: EcoReference No.: 103799  
Chemical of Concern: ADC,AZ,CBL,DZ,EPRN,FNT,MLN,MOM,PRN

81. Jafari, M.; Salehi, M.; Ahmadi, S.; Asgari, A.; Abasnezhad, M., and Hajigholamali, M. The Role of Oxidative Stress in Diazinon-Induced Tissues Toxicity in Wistar and Norway Rats. BCM,CEL. Chemical Injuries Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran.//: INJECT; 2012; 22, (8): 638-647.   
Rec #: 2050  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 161123  
Chemical of Concern: DZ

82. Jamshidi, H. R.; Ghahremani, M. H.; Ostad, S. N.; Sharifzadeh, M.; Dehpour, A. R., and Abdollahi, M. Effects of Diazinon on the Activity and Gene Expression of Mitochondrial Glutamate Dehydrogenase from Rat Pancreatic Langerhans Islets. CEL,PHYINJECT; 2009; 93, 23-27.   
Rec #: 1940  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 160934  
Chemical of Concern: DZ

83. Jeon, J.; Ra, J. S.; Lee, S. H.; Lee, M. J.; Yu, S. H., and Kim, S. D. Role of Food and Clay Particles in Toxicity of Copper and Diazinon Using Daphnia magna. MOR. Department of Environmental Science and Engineering, Gwangju Institute of Science and Technology (GIST), 1 Oryong-dong, Buk-gu, Gwangju 500-712, Korea////: AQUA; 2010; 73, (3): 400-406.   
Rec #: 30  
Call Number: NO CONTROL (CuS,DZ)  
Notes: EcoReference No.: 150308  
Chemical of Concern: CuS,DZ

84. Johansen, C. A.; Mayer, D. F.; Eves, J. D., and Kious, C. W. Pesticides and Bees. BEH,MOR,POPSOIL,ENV,MIXTURE,ORAL; 1983; 12, (5): 1513-1518.   
Rec #: 1240  
Call Number: LITE EVAL CODED (FTTCl,Naled), NO CONTROL (ACP,AZ,CBF,CBL,CPY,CYP,Captan,DCF,DCTP,DFZ,DMT,DS,DZ,ES,FNV,FVL,MDT,MLN,MOM,MP,MTM,MVP,OML,OXD,PFF,PIRE,PIRM,PMR,PPG,PPX,PSM,TCF,TDC,TEPP,TMP,TVP), NO EFFECT (Captan)  
Notes: EcoReference No.: 37328  
Chemical of Concern: ACP,AND,AZ,CBF,CBL,CPY,CYP,Captan,DCF,DCTP,DDT,DEM,DFZ,DMT,DS,DZ,EN,EPRN,ES,ETN,FNTH,FNV,FTTCl,FVL,IFP,MDT,MLN,MOM,MP,MTM,MVP,MXC,Naled,OML,OXD,PFF,PHSL,PIM,PIRE,PIRM,PMR,PPG,PPHD,PPX,PRN,PSM,TCF,TDC,TEPP,TMP,TVP,TXP

85. Johnston, G.; Walker, C. H., and Dawson, A. Interactive Effects Between EBI Fungicides (Prochloraz, Propiconazole and Penconazole) and OP Insecticides (Dimethoate, Chlorpyrifos, Diazinon and Malathion) in the Hybrid Red-Legged Partridge. BCM. G.Johnston, Sch. Anim. Microb. Sci., Univ. Reading, Reading, RG6 2AJ, UK//: MIXTURE,ORAL; 1994; 13, (4): 615-620.   
Rec #: 970  
Call Number: NO ENDPOINT (CPY,Conazoles,DMT,DZ,MLN,PCZ,PPCP,PPCP2011), NO MIXTURE (CPY,Conazoles,DMT,DZ,MLN,PCZ,PPCP,PPCP2011)  
Notes: EcoReference No.: 67235  
Chemical of Concern: CPY,DMT,DZ,MLN,PCZ,PPCP,PPCP2011

86. Jokanovic, M. and Maksimovic, M. A Comparison of Trimedoxime, Obidoxime, Pralidoxime and HI-6 in the Treatment of Oral Organophosphorus Insecticide Poisoning in the Rat. MORINJECT,MIXTURE,ORAL; 1995; 70, (2): 119-123.   
Rec #: 130  
Call Number: NO CONTROL (AZ,CPY,DDVP,DMT,DZ,FNT,MLN,OMT,PIRM,PRT,PSM,TBO,TCF)  
Notes: EcoReference No.: 74883  
Chemical of Concern: AZ,CPY,DDVP,DEM,DMT,DZ,EPRN,FNT,FNTH,MLN,OMT,PHSL,PIRM,PPCP,PPHD,PRN,PRT,PSM,TBO,TCF

87. Jun, B. H.; Lee, S. I.; Ryu, H. D., and Kim, Y. J. Temperature-Based Rapid Toxicity Test Using Ceriodaphnia dubia. MORAQUA; 2006; 53, (4-5): 347-355.   
Rec #: 1530  
Call Number: NO CONTROL (CuS,DZ,FNT,KCN,PCP)  
Notes: EcoReference No.: 108237  
Chemical of Concern: CuS,DZ,FNT,K2CrO4,KCN,KCrSO,PCP,PL

88. Kashiwada, S.; Mochida, K.; Ozoe, Y., and Nakamura, T. Contribution of Zooplankton to Disappearance of Organophosphorus Insecticides in Environmental Water. ACC,MORAQUA; 1995; 20, (4): 503-512.   
Rec #: 460  
Call Number: NO CONTROL (DZ,FNT,MLN)  
Notes: EcoReference No.: 90667  
Chemical of Concern: DZ,FNT,MLN

89. Kaufman, D. D. Biodegradation and Persistence of Several Acetamide, Acylanilide, Azide, Carbamate, and Organophosphate Pesticide Combinations. ACC,POPSOIL,ENV; 1977; 9, 49-57.   
Rec #: 320  
Call Number: NO ENDPOINT (CBL,CPP,DU,DZ,EPTC,PPN,PRT)  
Notes: EcoReference No.: 87267  
Chemical of Concern: CBL,CPP,DU,DZ,EPTC,FMU,PCH,PPN,PRT

90. Kaur, P. and Grover, I. S. Cytological Effects of Some Organophosphorus Pesticides II. Meiotic Effects. CELSOIL,ENV; 1985; 50, (1): 199-211.   
Rec #: 570  
Call Number: NO ENDPOINT (CPY,DMT,DZ,FNT,MP)  
Notes: EcoReference No.: 44279  
Chemical of Concern: CPY,DMT,DZ,FNT,MP

91. Kendall, R. J.; Brewer, L. W.; Hitchcock, R. R., and Mayer, J. R. American Wigeon Mortality Associated with Turf Application of Diazinon AG500. ACC,BCM,MORSOIL,ENV; 1992; 28, (2): 263-267.   
Rec #: 270  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 85643  
Chemical of Concern: DZ

92. Kerby, J. L.; Wehrmann, A., and Sih, A. Impacts of the Insecticide Diazinon on the Behavior of Predatory Fish and Amphibian Prey. BEHAQUA; 2012; 46, (2): 171-176.   
Rec #: 2010  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 161084  
Chemical of Concern: DZ

93. Kikuchi, H.; Suzuki, Y., and Hashimoto, Y. Increase of beta-Glucuronidase Activity in the Serum of Rats Administered Organophosphate and Carbamate Insecticides. BCMINJECT,ORAL; 1981; 6, (1): 27-35.   
Rec #: 790  
Call Number: NO ENDPOINT (CBL,DDVP,DS,DZ), NO EXP TYPE (DDVP,DS,DZ)  
Notes: EcoReference No.: 96723  
Chemical of Concern: CBL,DDVP,DS,DZ

94. Kimbrough, R. D. and Gaines, T. B. Effect of Organic Phosphorus Compounds and Alkylating Agents on the Rat Fetus. GRO,MOR,REPINJECT; 1968; 16, 805-808.   
Rec #: 670  
Call Number: NO EXP TYPE (DDVP,DZ,MLN)  
Notes: EcoReference No.: 110722  
Chemical of Concern: DDVP,DZ,EPRN,MLN,PRN

95. Knutson, H.; Kadoum, A. M.; Hopkins, T. L.; Swoyer, G. F., and Harvey, T. L. Insecticide Usage and Residues in a Newly Developed Great Plains Irrigation District. ACCSOIL,ENV,MIXTURE; 1971; 5, (1): 17-26.   
Rec #: 1260  
Call Number: NO CONTROL (DZ,MP), NO ENDPOINT (DZ,MP)  
Notes: EcoReference No.: 67383  
Chemical of Concern: AND,DZ,EN,EPRN,HPT,MP,PRN

96. Kobayashi, K.; Rompas, R. M.; Imada, N., and Oshima, Y. Mechanism of Abrupt Increase in Toxicity of Organophosphorothionates to Tiger Shrimp Larvae with Progress of Stages. ACC,BCM,MORAQUA; 1991; 23, (1-3): 487-496.   
Rec #: 1060  
Call Number: NO CONTROL (DDVP,DZ,FNT)  
Notes: EcoReference No.: 104347  
Chemical of Concern: DDVP,DZ,FNT

97. Kojima, T.; Tsuda, S., and Shirasu, Y. Non-cholinergic Mechanisms Underlying the Acute Lethal Effects of P=S Type Organophosphorus Insecticides in Rats. MOR,PHYINJECT,MIXTURE; 1992; 54, (3): 529-533.   
Rec #: 1140  
Call Number: NO CONTROL (DZ), NO ENDPOINT (DZ), NO EXP TYPE (DZ)  
Notes: EcoReference No.: 85788  
Chemical of Concern: DZ,FNTH

98. Kraus, M. P. Cyanophage Assay as a New Concept in the Study of Environmental Toxicity. CELAQUA; 1985: 27-41.   
Rec #: 550  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 64534  
Chemical of Concern: DZ,FML,FNTH

99. Kretschmann, A.; Ashauer, R.; Hitzfeld, K.; Spaak, P.; Hollender, J., and Escher, B. I. Mechanistic Toxicodynamic Model for Receptor-Mediated Toxicity of Diazinon, the Active Metabolite of Diazinon, in Daphnia magna. BCM,MOR,PHYAQUA; 2011; 45, 4980-4987.   
Rec #: 1950  
Call Number: NO ENDPOINT (DZ), NO IN VITRO (DZ)  
Notes: EcoReference No.: 160933  
Chemical of Concern: DZ

100. LaBrecque, G. C.; Wilson, H. G., and Gahan, J. B. Residual Effectiveness of Some Insecticides Against Adult House Flies. MORENV; 1965: 11 p.   
Rec #: 1360  
Call Number: NO CONTROL (CBL,DCTP,DMT,DZ,ES,MLN,PSM,TBTO,Ziram), TARGET2012 (CBL,DCTP,DMT,ES,MLN,PSM)  
Notes: EcoReference No.: 93929  
Chemical of Concern: CBL,DCTP,DMT,DZ,ES,ETN,MLN,PPHD,PSM,TBTA,TBTO,Ziram

101. Laetz, C. A.; Baldwin, D. H.; Hebert, V.; Stark, J. D., and Scholz, N. L. Interactive Neurobehavioral Toxicity of Diazinon, Malathion, and Ethoprop to Juvenile Coho Salmon. BCM,BEHAQUA,MIXTURE; 2013; 47, 2925-2931.   
Rec #: 2020  
Call Number: NO MIXTURE (DZ), OK (EP,MLN,MOL)  
Notes: EcoReference No.: 161085  
Chemical of Concern: DZ,EP,MLN,MOL

102. Lawrence, K. O.; Klein, M. G., and Ladd, T. L. Jr. Adult Japanese Beetles: Evaluation of Insecticides for Control. MORENV; 1973; 66, (2): 477-479.   
Rec #: 240  
Call Number: NO CONTROL (ACP,CBL,DZ,PSM,TCF,TVP), PESTS (ACP), TARGET2012 (CBL,PSM,TCF,TVP)  
Notes: EcoReference No.: 113286  
Chemical of Concern: ACP,CBL,DZ,FNTH,PHSL,PSM,TCF,TVP

103. Lockridge, O.; Duysen, E. G.; Voelker, T.; Thompson, C. M., and Schopfer, L. M. Life Without Acetylcholinesterase: The Implications of Cholinesterase Inhibitor Toxicity in AChE-Knockout Mice. BCM,MOR,PHYINJECT; 2005; 19, (3): 463-469.   
Rec #: 1030  
Call Number: LITE EVAL CODED (CPYO), NO EXP TYPE (CPYO,DDVP,DZ,MLO), NO IN VITRO (DDVP,MLO)  
Notes: EcoReference No.: 89554  
Chemical of Concern: CPYO,DDVP,DZ,MLO

104. Manna, B. and Ghose, K. C. Symptomology and Histopathological Changes in Achatina fulica due to Gut Poisoning by Diazinon and Fenitrothion. BEH,CEL,MOR,PHYORAL; 1982; 35, (1-2): 37-47.   
Rec #: 1510  
Call Number: NO ENDPOINT (DZ,FNT)  
Notes: EcoReference No.: 88791  
Chemical of Concern: DZ,FNT

105. Marganian, V. M. and Wall, W. J. Jr. Dursban and Diazinon Residues in Biota Following Treatment of Intertidal Plots on Cape Cod - 1967-69. ACC,MORAQUA; 1972; 6, (3): 160-165.   
Rec #: 620  
Call Number: NO ENDPOINT (CPY,DZ)  
Notes: EcoReference No.: 4503  
Chemical of Concern: CPY,DZ

106. Matin, M. A.; Agarwal, R., and Mirza, M. A. Distribution of pp'DDT in Certain Brain Regions of Rats Treated with Diazinon. ACC,BCMINJECT; 1988; 39, (4): 365-369.   
Rec #: 610  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 104617  
Chemical of Concern: DDT,DZ

107. Matsushita, T.; Aoyama, K.; Yoshimi, K.; Fujita, Y., and Ueda, A. Allergic Contact Dermatitis from Organophosphorus Insecticides. PHYTOP; 1985; 23, (2): 145-153.   
Rec #: 260  
Call Number: NO CONTROL (DDVP,DZ,FNT,MDT,MLN,Naled), NO ENDPOINT (DDVP,DZ,FNT,MDT,MLN,Naled)  
Notes: EcoReference No.: 91369  
Chemical of Concern: DDVP,DZ,FNT,MDT,MLN,Naled

108. Mau, R. F. L.; Gusukuma-Minuto, L. R., and Okayama, L. Thrips Control on Banana Using the Bunch Injection Method, 1998. POPINJECT; 1999; 24, 1-2 (C1).   
Rec #: 1600  
Call Number: NO EXP TYPE (DZ,IMC), TARGET2012 (IMC)  
Notes: EcoReference No.: 88120  
Chemical of Concern: ABM,DZ,IMC,SS

109. Mayer, F. L. Jr. Acute Toxicity Handbook of Chemicals to Estuarine Organisms. GRO,MOR,PHY,POPAQUA; 1987: 274 p. (Publ in part as 3644,5604,11070,11427,11709,11868,14574,15259,15639,56755).   
Rec #: 210  
Call Number: LITE EVAL CODED (CPY,DMT), NO PUBL AS (DZ,EP,MLN,PSM), OK (24D,24DXY,24DXYBEE,ACL,ACP,ADC,ALSV,ATM,ATZ,AZ,AgN,BMC,BS,CAP,CBF,CBL,CMPH,CST,CTN,CYP,Captan,DCF,DCPA,DCTP,DDVP,DFZ,DMB,DQTBr,DS,DU,EPTC,ES,FMP,FNT,FNV,MCB,MDT,MLT,MP,MTAS,MVP,Maneb,NaPCP,Naled,PCBZ,PCP,PMR,PMT,PPX,PQT,PRO,PRT,RTN,SFR,SZ,TBC,TBF,TBTO,TCF,TDC,TFN,TMP,Ziram,ZnS)  
Notes: EcoReference No.: 3947  
Chemical of Concern: 24D,24DC,24DXY,24DXYBEE,ACD,ACL,ACP,ADC,ALSV,AMTR,AND,ANZ,ATM,ATZ,AZ,AgN,AsTO,BMC,BS,CAP,CBF,CBL,CCA,CHD,CMPH,CPY,CST,CTN,CYP,Captan,CdCl,DBN,DCF,DCPA,DCTP,DDE,DDT,DDVP,DEM,DFZ,DLD,DMB,DMT,DQTBr,DS,DSMA,DU,DZ,EDT,EN,EP,EPRN,EPTC,ES,ETN,FBM,FMP,FNF,FNT,FNTH,FNV,HCB,HCCH,HCCP,HMN,HPT,HgCl2,K2Cr2O7,MCB,MDT,MLN,MLT,MP,MRX,MTAS,MVP,MXC,Maneb,NTP,NaHCT,NaLS,NaPCP,Naled,PCBZ,PCP,PEB,PHTH,PL,PMR,PMT,PPCP,PPHD,PPX,PQT,PRN,PRO,PRT,PSM,RTN,SFR,SZ,TBC,TBF,TBTO,TCF,TDC,TEG,TFN,TMP,TPTH,TRL,VNT,Zineb,Ziram,ZnS

110. ---. Pesticides as Pollutants. ACC,GRO,MOR,REPAQUA,Unspecified; 1974: 405-418 (Publ in Part As 6797).   
Rec #: 1250  
Call Number: LITE EVAL CODED (13DPE,24DXYBEE,ACL,ARM,ATM,ATN,ATZ,AZ,As,CAP,CBL,CPY,Captan,CuS,DCF,DD,DMB,DPDP,DQT,DQTBr,DU,ES,MLH,MLN,MVP,Naled,PPB,PPG,PQT,RTN,SZ,TBTO,TCF,TFN,TMP), NO CONTROL (13DPE,24DXYBEE,ACL,ARM,ATM,ATN,ATZ,AZ,As,CAP,CBL,CPY,Captan,CuS,DCF,DD,DMB,DPDP,DQT,DQTBr,DU,DZ,ES,MLH,MLN,MVP,Naled,PPB,PPG,PQT,RTN,SZ,TBTO,TCF,TFN,TMP)  
Notes: EcoReference No.: 70421  
Chemical of Concern: 13DPE,24DIO,24DXY,24DXYBEE,ACL,AND,ARM,ATM,ATN,ATZ,AZ,As,AsO3Na,CAP,CBL,CHD,CPY,Captan,CuS,DBN,DCF,DD,DDT,DLD,DMB,DPDP,DQT,DQTBr,DU,DZ,EDT,EN,EPRN,ES,FNTH,HCCH,HPT,MLH,MLN,MRX,MVP,MXC,Naled,PCL,PPB,PPCP,PPG,PPHD,PQT,PRN,PYN,RTN,SZ,TBT,TBTO,TCF,TFN,TMP,TPTH,TXP,VNT

111. Miller, R. J.; Li, A. Y.; Tijerina, M.; Davey, R. B., and George, J. E. Differential Response to Diazinon and Coumaphos in a Strain of Boophilus microplus (Acari: Ixodidae) Collected in Mexico. BCM,MOR. robert.miller@ars.usda.gov//USDA-ARS, Cattle Fever Tick Research Laboratory, 22675 N. Moorefield Road, Edinburg, TX 78541////: ENV,MIXTURE; 2008; 45, (5): 905-911.   
Rec #: 600  
Call Number: NO CONTROL (CMPH,DZ,PPB)  
Notes: EcoReference No.: 119627  
Chemical of Concern: CMPH,DZ,PPB

112. Morishita, M. Toxicity of Some Insecticides to Larvae of Flankliniella occidentalis (Pergande) (Thysanoptera: Thripidae) Evaluated by the Petri Dish-Spraying Tower Method. MORENV; 2001; 36, (1): 137-141.   
Rec #: 1670  
Call Number: NO ENDPOINT (BFT,CBL,CPYM,CYP,DFZ,DMT,DZ,EFX,ES,FNT,FPP,FVL,IMC,MDT,MLN,PIRM,PMR,PRB,TCF,TDC), TARGET2012 (ACP,BFT,CBL,CPY,CPYM,CYP,DDVP,DFZ,DMT,EFX,ES,FNT,FPP,FVL,IMC,MDT,MLN,MOM,PFF,PIRM,PMR,PRB,TCF,TDC)  
Notes: EcoReference No.: 82021  
Chemical of Concern: ACP,ACT,BFT,CBL,CPY,CPYM,CYP,DDVP,DFZ,DMT,DZ,EFX,EMMB,ES,FNT,FNTH,FPP,FVL,IMC,LUF,MDT,MLN,MOM,PFF,PHSL,PIM,PIRM,PMR,PRB,SPS,SS,TCF,TDC

113. Moser, V. C. Comparisons of the Acute Effects of Cholinesterase Inhibitors Using a Neurobehavioral Screening Battery in Rats. BEH,GRO,MOR,PHYORAL; 1995; 17, (6): 617-625.   
Rec #: 430  
Call Number: NO ENDPOINT (ADC,CBL,CPY,DZ)  
Notes: EcoReference No.: 83781  
Chemical of Concern: ADC,CBL,CPY,DZ,EPRN,FNTH,PRN

114. Mostafa, A. A. and Allam, K. A. M. Studies on the Present Status of Insecticides Resistance on Mosquitoes Using the Diagnostic Dosages in El-Fayium Governorate, a Spot Area of Malaria in Egypt. MORAQUA,ENV; 2001; 31, (1): 177-186.   
Rec #: 1470  
Call Number: NO CONTROL (CYP,DM,DZ,FNT,MLN,PMR,TMP)  
Notes: EcoReference No.: 100283  
Chemical of Concern: CYP,DM,DZ,FNT,FNTH,MLN,PMR,TMP

115. Muniappan, R. and Marutani, M. Pest Management for Head Cabbage Production on Guam. POPENV; 1992; 60, 541-549.   
Rec #: 40  
Call Number: NO ENDPOINT (DZ,FNV,MOM), OK (CBL,MLN,Naled)  
Notes: EcoReference No.: 154609  
Chemical of Concern: CBL,DZ,FNV,MLN,MOM,Naled

116. Murdoch, C. L. and Mitchell, W. C. Insect Control in 'Sunturf' Bermudagrass. POPENV; 1972; 21, (2): 1, 11-12.   
Rec #: 870  
Call Number: NO ENDPOINT (CPY,DZ,Naled), TARGET2012 (CPY,Naled)  
Notes: EcoReference No.: 91302  
Chemical of Concern: CPY,DZ,HCCH,Naled,PPCP

117. Murray, A.; Rathbone, A. J., and Ray, D. E. Novel Protein Targets for Organophosphorus Pesticides in Rat Brain. BCMORAL; 2005; 19, (3): 451-454.   
Rec #: 1150  
Call Number: NO ENDPOINT (CPYO,DZ,MLN,PIRM), NO IN VITRO (CPYO,DZ,MLN)  
Notes: EcoReference No.: 89041  
Chemical of Concern: AZM,CPYO,DZ,MLN,PIRM

118. Mustapha, J. and Hill, S. B. Short-Term Effects of Diazinon on Soil Arthropods. POPENV; 1974; 11, (2): 197-200.   
Rec #: 1450  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 58114  
Chemical of Concern: DZ

119. Nadaroglu, H. and Demir, N. In Vivo Effects of Chlorpyrifos and Parathion-Methyl on Some Oxidative Enzyme Activities in Chickpea, Bean, Wheat, Nettle and Parsley Leaves. BCMSOIL,ENV; 2009; 18, (5): 647-652.   
Rec #: 1710  
Call Number: NO ENDPOINT (DZ,MP), NO TOX DATA (CPY)  
Notes: EcoReference No.: 153608  
Chemical of Concern: CPY,DZ,MP

120. Nagia, D. K.; Kumar, S., and Saini, M. L. Relative Toxicity of Some Important Insecticides to Bihar Hairy Caterpillar, Spilosoma obliqua (Walker) (Arctiidae: Lepidoptera). MOR. Central Insecticides Lab., Directorate Plant Protection, Quarantine and Storage, NH-IV, Faridabad-121 001////: ENV; 1990; 14, (1): 60-62.   
Rec #: 50  
Call Number: LITE EVAL CODED (DM,FNV,FPP,FVL), NO ENDPOINT (ACP,DZ), OK (ES), TARGET2012 (CYP,DM,MP)  
Notes: EcoReference No.: 153338  
Chemical of Concern: ACP,CYP,DM,DZ,ES,FNV,FPP,FVL,MP

121. Naseh, M.; Vatanparast, J.; Baniasadi, M., and Hamidi, G. A. Alterations in Nitric Oxide Synthase-Expressing Neurons in the Forebrain Regions of Rats After Developmental Exposure to Organophosphates. CELINJECT; 2013; PRESS, 10 p. (doi: 10.1016/j.ntt.2013.02.003).   
Rec #: 1880  
Call Number: NO EXP TYPE (CPY,DZ)  
Notes: EcoReference No.: 160377  
Chemical of Concern: CPY,DZ

122. Nelson, E. E.; Croft, B. A.; Howitt, A. J., and Jones, A. L. Toxicity of Apple Orchard Pesticides to Agistemus fleschneri. MOR,POPENV,MIXTURE; 1973; 2, (2): 219-222.   
Rec #: 1650  
Call Number: NO CONTROL (AZ,BMY,CBL,Captan,DOD,DZ,MDT,PSM,TVP), TARGET2012 (AZ,CBL,DMT,ES,MDT,PPG,PSM,TVP)  
Notes: EcoReference No.: 38109  
Chemical of Concern: AZ,BMY,CBL,CHX,Captan,DEM,DINO,DMT,DOD,DZ,ES,MDT,OTQ,PHSL,PPG,PPHD,PSM,TVP

123. Newton, J. and Coombes, D. S. A Comparison of a Range of Novel and Conventional Insecticides for Pharaoh's Ant Control. POPORAL; 1987; 29, (2): 45-47.   
Rec #: 110  
Call Number: NO ENDPOINT (BRA,BRA3,DZ,PMR), TARGET2012 (BRA,BRA3,PMR)  
Notes: EcoReference No.: 99840  
Chemical of Concern: ABM,BDC,BRA,BRA3,CHD,DZ,HCCH,HMN,PMR,PPCP,PYN

124. Niassy, S.; Maniania, N. K.; Subramanian, S.; Gitonga, M. L.; Maranga, R.; Obonyo, A. B., and Ekesi, S. Compatibility of Metarhizium anisopliae Isolate ICIPE 69 with Agrochemicals Used in French Bean Production. GRO,MOR,POPENV,MIXTURE; 2012; 58, (2): 131-137.   
Rec #: 2030  
Call Number: NO CONC (CBD,CPY,CuOH,DZ,LCYT,NMO,SPM), OK (IMC)  
Notes: EcoReference No.: 161126  
Chemical of Concern: CBD,CMX,CPY,CuOH,DZ,IMC,LCYT,NMO,SPM,TMX

125. Nishiuchi, Y. and Asano, K. Toxicity of Agricultural Chemicals to Some Freshwater Organisms - 59. MORAQUA,Unspecified; 1979; 27, (1): 48-55(JPN) (ENG TRANSL).   
Rec #: 1630  
Call Number: LITE EVAL CODED (ACP,ACR,AMZ,ATZ,As,BMC,BMY,BT,CAP,CBL,CPP,CPY,CPYM,CTN,Captan,CuOH,CuOX,CuS,DAED,DCB,DCF,DDVP,DMDP,DMT,DQT,DS,DU,EPTC,ES,FNT,Folpet,LNR,LQN,MAL,MDT,MEM,MITC,MLN,MOM,MZB,Maneb,NaPCP,Naled,PHMD,PMT,PNB,PPG,PPN,PPX,PPZ,PQT,PSM,PYZ,PZM,QOC,RTN,SFR,SMS,SZ,TBC,TCF,TFN,TVP,Ziram), NO CONTROL (ACP,ACR,AMZ,ATZ,As,BMC,BMY,BT,CAP,CBL,CPP,CPY,CPYM,CTN,Captan,CuOH,CuOX,CuS,DAED,DCB,DCF,DDVP,DMDP,DMT,DQT,DS,DU,DZ,EPTC,ES,FNT,Folpet,LNR,LQN,MAL,MDT,MEM,MITC,MLN,MOM,MZB,Maneb,NaPCP,Naled,PHMD,PMT,PNB,PPG,PPN,PPX,PPZ,PQT,PSM,PYZ,PZM,QOC,RTN,SFR,SMS,SZ,TBC,TCF,TFN,TVP,Ziram)  
Notes: EcoReference No.: 6954  
Chemical of Concern: 24DXY,ACP,ACR,AMTL,AMZ,AND,ATZ,As,BFL,BMC,BMY,BT,BTC,CAP,CBL,CHD,CPP,CPY,CPYM,CTN,CYC,CZE,Captan,CuOH,CuOX,CuS,DAED,DBN,DCB,DCF,DDT,DDVP,DINO,DLD,DMDP,DMT,DQT,DS,DU,DZ,EPTC,ES,FBM,FLAC,FML,FNT,FNTH,FZFB,Folpet,HCCH,HPT,HYX,LNR,LQN,MAL,MCPA,MCPAK,MCPANa,MCPBNa,MDT,MEM,MITC,MLN,MOM,MZB,Maneb,NaClO,NaFS,NaPCP,Naled,ODZ,PCL,PEB,PHMD,PHSL,PMT,PNB,PPCP,PPG,PPN,PPX,PPZ,PQT,PSM,PYZ,PZM,QOC,RTN,SFR,SMS,SZ,TBA,TBC,TCF,TFN,TPE,TPM,TPN,TPTH,TVP,TZL,VNT,Zineb,Ziram

126. Nishiuchi, Y. and Yoshida, K. The Effects of Several Pesticides on Fresh Water Snails. MORAQUA,Unspecified; 1972(13 p.): (Translation of Bull. Agric. Chem. Insp. Stn. 12 (1972) 86-92).   
Rec #: 1610  
Call Number: LITE EVAL CODED (ACR,CAP,CBL,CTN,CuOH,CuOX,CuS,DAED,DCF,DDVP,DMT,DOD,ES,FNT,Folpet,KSM,MDT,MOM,MP,NaPCP,PAQT,PHMD,PPN,QOC,RTN,TBC,TBTO,TCF,TFN,Ziram), NO CONTROL (ACR,CAP,CBL,CTN,CuOH,CuOX,CuS,DAED,DCF,DDVP,DMT,DOD,DZ,ES,FNT,Folpet,KSM,MDT,MOM,MP,NaPCP,PAQT,PHMD,PPN,QOC,RTN,TBC,TBTO,TCF,TFN,Ziram)  
Notes: EcoReference No.: 9158  
Chemical of Concern: ACR,AMTR,AND,ANZ,BFL,CAP,CBL,CTN,CZE,CuOH,CuOX,CuS,DAED,DCF,DDT,DDVP,DINO,DMT,DOD,DZ,EN,EPRN,ES,ETN,FNT,Folpet,HCCH,KSM,MDT,MOM,MP,NaPCP,OTQ,PAQT,PEB,PHMD,PHSL,PPCP,PPN,PRN,PYN,QOC,RTN,TBC,TBTO,TCF,TDE,TFN,TPE,TPTH,Zineb,Ziram

127. Palmer, J. S. Toxicologic Evaluation of Microencapsulated Formulation of Diazinon Applied Dermally to Cattle. BCM,MOR,PHYTOP; 1978; 39, (7): 1231-1232.   
Rec #: 1680  
Call Number: NO CONTROL (DZ), NO ENDPOINT (DZ)  
Notes: EcoReference No.: 38237  
Chemical of Concern: DZ

128. Pardo, A.; Gea, F. J.; Pardo, J., and Navarro, M. J. Organophosphorus Insecticide Residues in the Cultivated Mushroom, Agaricus bisporus (Lange) Imbach. ACCENV; 1995; 14, (1-2): 515-524.   
Rec #: 1220  
Call Number: NO CONTROL (DDVP,DZ,MLN,SFT), NO ENDPOINT (DDVP,DZ,MLN,SFT)  
Notes: EcoReference No.: 89596  
Chemical of Concern: DDVP,DZ,MLN,SFT

129. Paris, D. F.; Lewis, D. L.; Barnett, J. T. Jr., and Baughman, G. L. Microbial Degradation and Accumulation of Pesticides in Aquatic Systems. POPENV; 1975: 46 p.   
Rec #: 1080  
Call Number: NO CONTROL (24DXYBEE,ATZ,CBL,Captan,DZ,MLN), NO ENDPOINT (24DXYBEE,ATZ,CBL,Captan,DZ,MLN)  
Notes: EcoReference No.: 78294  
Chemical of Concern: 24DXYBEE,ATZ,CBL,Captan,DZ,EPRN,MLN,MXC,PRN,TXP

130. Park, K. H.; Kim, Y. S.; Chung, E. Y.; Choe, S. N., and Choo, J. J. Cardiac Responses of Pacific Oyster Crassostrea gigas to Agents Modulating Cholinergic Function. BCM,PHYAQUA; 2004; 139, (4): 303-308.   
Rec #: 340  
Call Number: NO ENDPOINT (DZ,MLN)  
Notes: EcoReference No.: 88997  
Chemical of Concern: DZ,EPRN,MLN,PRN

131. Pradhan, S.; Jotwani, M. G., and Rai, B. K. Bioassay of Insecticides VIII. Relative Toxicity of Some Insecticides to Red Pumpkin Beetle, Aulacophora foveicollis Lucas (Coleoptera: Chrysomelidae). MORENV; 1958; 20, (2): 104-107.   
Rec #: 310  
Call Number: NO CONTROL (DZ,MLN), TARGET2012 (MLN)  
Notes: EcoReference No.: 59615  
Chemical of Concern: AND,CHD,DDT,DLD,DZ,EN,EPRN,HCCH,MLN,PPCP,PRN,PYN,TXP

132. Prakash, A. and Bhattacharya, R. Investigations on Downward Translocation of BPMC in Rice. MOR,PHYSOIL,ENV; 1993; 6, (1): 146-147.   
Rec #: 980  
Call Number: NO CONTROL (CBF,DZ,FNT)  
Notes: EcoReference No.: 85965  
Chemical of Concern: CBF,DZ,FNT,PPHD

133. Proctor, N. H.; Moscioni, A. D., and Casida, J. E. Chicken Embryo NAD Levels Lowered by Teratogenic Organophosphorus and Methylcarbamate Insecticides. GRO,PHYINJECT; 1976; 25, (7): 757-762.   
Rec #: 400  
Call Number: NO ENDPOINT (ADC,AZ,CBF,CBL,CMPH,DCTP,DS,DZ,MDT,MP,MTM,Naled,PSM,TBF), NO EXP TYPE (ADC,AZ,CBF,CBL,CMPH,DCTP,DS,DZ,MDT,MP,MTM,Naled,PSM,TBF)  
Notes: EcoReference No.: 84915  
Chemical of Concern: ADC,AZ,CBF,CBL,CMPH,DCTP,DS,DZ,EPRN,MDT,MP,MTM,Naled,PPHD,PRN,PSM,TBF

134. Qadri, S. S. H.; Sultana, H., and Anjum, F. Selective Toxicity of Organophophorous and Carbamate Pesticides to Honey Bee and Freshwater Fish. BCM,MORAQUA,TOP; 1982; 24, (5): 124-126.   
Rec #: 1440  
Call Number: NO CONTROL (CBX,DMT,DZ)  
Notes: EcoReference No.: 68557  
Chemical of Concern: CBX,DMT,DZ

135. Quistad, G. B.; Fisher, K. J.; Owen, S. C.; Klintenberg, R., and Casida, J. E. Platelet-Activating Factor Acetylhydrolase: Selective Inhibition by Potent n-Alkyl Methylphosphonofluoridates. BCMINJECT; 2005; 205, (2): 149-156.   
Rec #: 1300  
Call Number: NO ENDPOINT (CPYO,DDVP,DZ,PFF,TBF), NO EXP TYPE (CPYO,DDVP,DZ,PFF,TBF), NO IN VITRO (CPYO,DZ)  
Notes: EcoReference No.: 80192  
Chemical of Concern: CPYO,DDVP,DZ,PFF,TBF

136. Quistad, G. B.; Klintenberg, R.; Caboni, P.; Liang, S. N., and Casida, J. E. Monoacylglycerol Lipase Inhibition by Organophosphorus Compounds Leads to Elevation of Brain 2-Arachidonoylglycerol and the Associated Hypomotility in Mice. BCM,PHYINJECT; 2006; 211, (1): 78-83.   
Rec #: 1100  
Call Number: LITE EVAL CODED (CPYO,DDVP), NO ENDPOINT (CPY,PFF,TBF), NO EXP TYPE (CPY,CPYO,DDVP,DZ,PFF,TBF)  
Notes: EcoReference No.: 93529  
Chemical of Concern: CPY,CPYO,DDVP,DZ,EPRN,PFF,PRN,TBF

137. Radeleff, R. D. and Kunz, S. E. Toxicity and Hazard of Diazinon, Ethion, and Supracide to Turkeys. BCM,MORORAL,TOP; 1972; 65, (1): 162-165.   
Rec #: 1620  
Call Number: NO ENDPOINT (DZ,MDT)  
Notes: EcoReference No.: 38425  
Chemical of Concern: DZ,ETN,MDT

138. Ramsdale, C. D.; Herath, P. R. J., and Davidson, G. Recent Developments of Insecticide Resistance in Some Turkish Anophelines. MORAQUA; 1980; 83, (1): 11-19.   
Rec #: 1340  
Call Number: NO CONTROL (CBL,CPY,DMT,DZ,FNT,MLN,PIRM,PPX,TMP), NO ENDPOINT (CBL,CPY,DMT,DZ,FNT,MLN,PIRM,PPX,TMP)  
Notes: EcoReference No.: 103945  
Chemical of Concern: CBL,CPY,DMT,DZ,EPRN,FNT,FNTH,MLN,PIRM,PPX,PRN,TMP

139. Reyes, J. G. G.; Dalla-Venezia, L., and Alvarez, M. G. L. Effect of Some Organophosphorus Pesticides on Oxygen Consumption of Shrimp, Litopenaeus vannamei. PHYAQUA; 2002; 52, (2): 134-136.   
Rec #: 690  
Call Number: NO ENDPOINT (AZ,DZ)  
Notes: EcoReference No.: 65857  
Chemical of Concern: AZ,DZ,EPRN,PRN

140. Richardson, E. R. and Seiber, J. N. Gas Chromatographic Determination of Organophosphorus Insecticides and Their Dialkyl Phosphate Metabolites in Liver and Kidney Samples. ACCORAL; 1993; 41, 416-422.   
Rec #: 750  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 92443  
Chemical of Concern: DZ,EPRN,PRN

141. Rodrigues, G. S.; Pimentel, D., and Weinstein, L. H. In Situ Assessment of Pesticide Genotoxicity in an Integrated Pest Management Program: II. Maize Waxy Mutation Assay. CELSOIL,ENV,MIXTURE; 1998; 412, (3): 245-250.   
Rec #: 780  
Call Number: NO MIXTURE (CBX,CPY,Captan,DZ,MTL), TARGET2012 (MTL)  
Notes: EcoReference No.: 73530  
Chemical of Concern: CBX,CPY,CZE,Captan,DZ,HCCH,MTL,PPCP

142. Rodriguez, R. and Melendez, P. L. Effect of Fungicide on Disease Incidence and Yield of Bean (Phaseolus vulgaris L.) Infected with Isariopsis griseola Sacc. and Ascochyta phaseolorum Sacc. POPSOIL,ENV; 1986; 70, (2): 127-134.   
Rec #: 60  
Call Number: EFFICACY (BMY,CTN), NO CONC (DZ), OK (MZB)  
Notes: EcoReference No.: 151169  
Chemical of Concern: BMY,CTN,DZ,MZB

143. Roegge, C. S.; Timofeeva, O. A.; Seidler, F. J.; Slotkin, T. A., and Levin, E. D. Developmental Diazinon Neurotoxicity in Rats: Later Effects on Emotional Response. BEH,GROINJECT; 2008; 75, (1): 166-172.   
Rec #: 580  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 108324  
Chemical of Concern: DZ

144. Rossiter, P. D. Insecticides to Control Sorghum Midge Contarinia sorghicola (Coq.). POPSOIL,ENV; 1977; 34, (2): 147-150.   
Rec #: 950  
Call Number: NO ENDPOINT (CBL,DMT,DZ,MLN), TARGET MANUAL (DMT,MLN), TARGET2012 (CBL)  
Notes: EcoReference No.: 56016  
Chemical of Concern: CBL,DDT,DMT,DZ,MLN

145. Rovesti, L. and Deseo, K. V. Compatibility of Pesticides with the Entomopathogenic Nematode, Heterorhabditis heliothidis. BEH,PHY,REPENV; 1991; 37, (1): 113-116.   
Rec #: 450  
Call Number: NO ENDPOINT (ACP,CBF,DOD,DZ,GYP,LNR,MOM,PAQT,PPG,PQT,TBO,TFN)  
Notes: EcoReference No.: 102311  
Chemical of Concern: ACP,CBF,DOD,DZ,GYP,LNR,MOM,PAQT,PPG,PPHD,PQT,TBO,TFN

146. Rovesti, L.; Heinzpeter, E. W.; Tagliente, F., and Deseo, K. V. Compatibility of Pesticides with the Entomopathogenic Nematode Heterorhabditis bacteriophora Poinar (Nematoda: Heterorhabditidae). BEH,MORENV,MIXTURE; 1988; 34, (4): 462-476.   
Rec #: 440  
Call Number: NO ENDPOINT (24D,24DXY,ACR,ADC,AMZ,ATZ,CBD,CBF,CPY,CTN,Conazoles,CuS,DCF,DCPA,DFZ,DOD,DZ,ES,FMP,FRM,FSF,Folpet,GYPI,HTX,LNR,MCPP1,MLX,MOM,MTAS,MZB,OXF,PCZ,PDM,PHMD,PPCP,PPCP2011,PPG,PQT,PRT,PYZ,PZM,SFR,TBO,TFN,TFR,THM), TARGET2012 (ADC,CBF,CPY,FMP,MTAS,PRT,TBO)  
Notes: EcoReference No.: 93075  
Chemical of Concern: 24D,24DXY,ACR,ADC,AMZ,ATZ,CBD,CBF,CHX,CMX,CPR,CPY,CSF,CTN,Conazoles,CuS,DCF,DCPA,DFZ,DINO,DOD,DZ,EPRN,ES,FMP,FNF,FRM,FSF,FZFB,Folpet,GYPI,HCCH,HTX,IFP,LNR,MCPP1,MLX,MOM,MTAS,MZB,OXF,PCZ,PDM,PHMD,PPCP,PPCP2011,PPG,PPHD,PPM,PQT,PRN,PRT,PYZ,PZM,SFR,TBO,TCM,TFN,TFR,THM

147. Sarabia, L.; Maurer, I., and Bustos-Obregon, E. Melatonin Prevents Damage Elicited by the Organophosphorous Pesticide Diazinon on the Mouse Testis. BCM,CEL,MORINJECT,MIXTURE; 2009; 72, (3): 938-942.   
Rec #: 1070  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 119210  
Chemical of Concern: DZ

148. Schafer, E. W. Acute Oral Toxicity of 369 Pesticidal, Pharmaceutical and Other Chemicals to Wild Birds. MORORAL; 1972; 21, 315-330.   
Rec #: 200  
Call Number: NO CONTROL (ACL,AZ,BZO,CBL,CMPH,CPY,Captan,DCTP,DDVP,DMT,DS,DZ,ES,MAL,MCB,MLN,MP,NCTN,PRT,PSM,SFL,TCF,THM,TMP,Ziram)  
Notes: EcoReference No.: 38655  
Chemical of Concern: ACL,AN,AND,AZ,BZC,BZO,CBL,CBZ,CMPH,CPY,CYT,Captan,DCTP,DDVP,DEM,DMT,DS,DZ,EN,ES,ETN,FNTH,HCCH,MAL,MCB,MLN,MP,MRX,NCTN,NP,PPCP,PPHD,PRT,PSM,SFL,TCF,THM,TMP,Zineb,Ziram

149. Schultz, P. B. Forest Tent Caterpillar, Its Management as an Urban Pest in Virginia. MOR,POPENV,MIXTURE; 1989; 15, (4): 92-93.   
Rec #: 70  
Call Number: NO ENDPOINT (ACP,CBL,DZ,SMT), NO MIXTURE (PPB,TMT), PESTS (ACP,SMT), TARGET2012 (CBL,CYF,TMT)  
Notes: EcoReference No.: 154923  
Chemical of Concern: ACP,CBL,CYF,DZ,PPB,PYN,SMT,SS,TMT

150. Semidey, N. Clomazone and Oxyfluorfen for Weed Control in Transplanted Cabbage (Brassica oleracea L.). PHY,POP. Crop Protection Department, Agricultural Experiment Station,Lajas,P. R//: SOIL,ENV; 1997; 81, (3/4): 203-210.   
Rec #: 1860  
Call Number: LITE EVAL CODED (OXF), NO EFFECT (AZ,DZ,MOM,PMR), TARGET2012 (CMZ,OXF,PMT), WEEDS (CMZ,OXF,PMT)  
Notes: EcoReference No.: 159726  
Chemical of Concern: AZ,CMZ,DZ,MOM,OXF,PMR,PMT

151. Seume, F. W. and O'Brien, R. D. Potentiation of the Toxicity to Insects and Mice of Phosphorothionates Containing Carboxyester and Carboxyamide Groups. MORINJECT,MIXTURE; 1960; 2, (5): 495, 503 (doi: DOI: 10.1016/0041-008X(60)90016-8).   
Rec #: 1310  
Call Number: NO CONTROL (DMT,DZ,MLN,MVP,TCF), NO EXP TYPE (DMT,DZ,MLN,MVP,TCF)  
Notes: EcoReference No.: 117765  
Chemical of Concern: DMT,DZ,MLN,MVP,TCF

152. Sharifpour, I.; Pourgholam, R.; Soltani, M.; Hassan, M. D.; Akbari, S., and Nouri, A. Light and Electron Microscope Studies of Grass Carp (Ctenopharyngodon idella) Organs Following Exposure to Various Sublethal Concentrations of Diazinon. CELAQUA; 2006; 5, (2): 111-136.   
Rec #: 1040  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 120884  
Chemical of Concern: DZ

153. Sharma, V. I.; Ahirwar, R., and Singh, R. P. Effect of Diazinon on Basic Proteins in Stomach and Intestine of Channa punctatus. CEL. Department of Zoology, Bipin Behari (PG) College, Jhansi (U.P.), India////: AQUA; 2008; 14, (1): 93-95.   
Rec #: 640  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 121149  
Chemical of Concern: DZ

154. Shaw, R. D.; Thompson, G. E., and Baker, J. A. F. Resistance to Cholinesterase-Inhibitors in the Blue Tick, Boophilus decoloratus, in South Africa. POPENV; 1967; 81, 548-549.   
Rec #: 1390  
Call Number: NO CONTROL (CBL,CMPH,DZ)  
Notes: EcoReference No.: 72320  
Chemical of Concern: CBL,CMPH,DZ,ETN,PPHD

155. Shin, S. W.; Chung, N. I.; Kim, J. S.; Chon, T. S.; Kwon, O. S.; Lee, S. K., and Koh, S. C. Effect of Diazinon on Behavior of Japanese Medaka (Oryzias latipes) and Gene Expression of Tyrosine Hydroxylase as a Biomarker. BCM,BEH,CEL. Division of Civil and Environmental Engineering, Korea Maritime University, Pusan 606-791, Korea Republic//: AQUA; 2001; 36, (6): 783-795.   
Rec #: 650  
Call Number: NO ENDPOINT (DZ)  
Notes: EcoReference No.: 85508  
Chemical of Concern: DZ

156. Singh, R. M. and Sharma, A. Assessment of Cytotoxic Effect of Pesticides on Zea mays. CELENV; 1991; 18, (5-6): 228-231.   
Rec #: 290  
Call Number: NO ENDPOINT (DDVP,DMT,DZ)  
Notes: EcoReference No.: 75032  
Chemical of Concern: DDVP,DMT,DZ

157. Sistachs, M. and Leon, J. J. Chemical Control of Weeds in Soybean (Glycine max (L.) Merrill). BCM,GRO,POPSOIL,ENV; 1974; 8, 89-94.   
Rec #: 380  
Call Number: NO CONTROL (CuS,DZ,MLN), NO EFFECT (CuS,DZ,MLN), NO ENDPOINT (CuS,DZ,MLN), OK (LNR,PMT)  
Notes: EcoReference No.: 26197  
Chemical of Concern: AMTR,CuS,DZ,FMU,LNR,MLN,PMT,Zineb

158. Sites, R. W. and Cone, W. W. Vertical Dispersion of Twospotted Spider Mites on Hops Throughout the Growing Season. POPENV; 1985; 82, 22-25.   
Rec #: 80  
Call Number: NO CONTROL (DZ), NO ENDPOINT (DZ)  
Notes: EcoReference No.: 161100  
Chemical of Concern: DZ

159. Skinner, C. S. and Kilgore, W. W. Acute Dermal Toxicities of Various Organophosphate Insecticides in Mice. BCM,CEL,MORTOP; 1982; 9, 491-497.   
Rec #: 190  
Call Number: NO CONTROL (AZ,DZ,MP,MVP)  
Notes: EcoReference No.: 38799  
Chemical of Concern: AZ,DZ,EPRN,MP,MVP,PRN

160. Slimak, K. M. Avoidance Response as a Sublethal Effect of Pesticides on Lumbricus terrestris (Oligochaeta). BEHENV; 1997; 29, (3-4): 713-715.   
Rec #: 300  
Call Number: NO ENDPOINT (ACP,CBL,CTN,Captan,DZ,MAL,MLN)  
Notes: EcoReference No.: 92008  
Chemical of Concern: ACP,CBL,CTN,Captan,DZ,HCCH,MAL,MLN,PPCP

161. Slotkin, T. A.; Bodwell, B. E.; Levin, E. D., and Seidler, F. J. Neonatal Exposure to low Doses of Diazinon: Long-Term Effects on Neural Cell Development and Acetylcholine Systems. CELINJECT; 2008; 116, (3): 340-348.   
Rec #: 1120  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 111461  
Chemical of Concern: DZ

162. Slotkin, T. A. and Seidler, F. J. Developmental Exposure to Organophosphates Triggers Transcriptional Changes in Genes Associated with Parkinson's Disease In Vitro and In Vivo. CEL. Department of Pharmacology & Cancer Biology, Duke University Medical Center, Box 3813 DUMC, Durham, NC 27710, USA. t.slotkin@duke.edu//: INJECT; 2011; 86, (5/6): 340-347.   
Rec #: 1900  
Call Number: NO EXP TYPE (CPY,DZ)  
Notes: EcoReference No.: 160180  
Chemical of Concern: CPY,DZ

163. ---. Developmental Neurotoxicity of Organophosphates Targets Cell Cycle and Apoptosis, Revealed by Transcriptional Profiles In Vivo and In Vitro. CELINJECT; 2012; 34, (2): 232-241.   
Rec #: 1920  
Call Number: NO EXP TYPE (CPY,DZ)  
Notes: EcoReference No.: 160252  
Chemical of Concern: CPY,DZ

164. Speese III, J. Comparison of Various Soil Insecticides and Foliar Sprays for Soil Insect Control in Sweet Potatoes, Painter, VA, 1995. POPENV,MIXTURE; 1996; 21, 176-177 (123E).   
Rec #: 420  
Call Number: LITE EVAL CODED (CBF,EP), NO MIXTURE (CBL,DZ,ES), TARGET2012 (CBL)  
Notes: EcoReference No.: 104478  
Chemical of Concern: CBF,CBL,DZ,EP,ES,FNF

165. Stark, J. D.; Jepson, P. C., and Mayer, D. F. Limitations to Use of Topical Toxicity Data for Predictions of Pesticide Side Effects in the Field. MORTOP; 1995; 88, (5): 1081-1088.   
Rec #: 1050  
Call Number: NO CONTROL (DZ,IMC)  
Notes: EcoReference No.: 105603  
Chemical of Concern: DZ,IMC

166. Stebbins, R. L. Effect of 1-Naphthyl N-Methylcarbamate (Sevin) as a Chemical Thinner for Apples in Western Colorado. REPSOIL,ENV,MIXTURE; 1962; 95, (3): 319-322.   
Rec #: 630  
Call Number: NO CONTROL (AZ,DZ), TARGET2012 (CBL)  
Notes: EcoReference No.: 42741  
Chemical of Concern: AZ,CBL,DZ,NAD

167. Stern, V. M. and Johnson, J. A. Biology and Control of the Grape Bud Beetle, Glyptoscelis squamulata (Coleoptera: Chrysomelidae), in Southern California Table Grapes. MORENV; 1984; 77, (5): 1327-1334.   
Rec #: 330  
Call Number: NO CONTROL (AZ,CBL,DMT,DZ,PSM), NO ENDPOINT (AZ,CBL,DMT,DZ,PSM), TARGET2012 (AZ,CBL,PSM)  
Notes: EcoReference No.: 113774  
Chemical of Concern: AZ,CBL,DMT,DZ,PSM

168. Stevenson, J. H. The Acute Toxicity of Unformulated Pesticides to Worker Honey Bees (Apis mellifera L.). MORORAL,TOP; 1978; 27, 38-40.   
Rec #: 1550  
Call Number: NO CONTROL (ATN,CBL,CPY,DMB,DS,DZ,OXD,RSM)  
Notes: EcoReference No.: 38931  
Chemical of Concern: ATN,CBL,CMD,CPY,DDT,DLD,DMB,DS,DZ,EN,HCCH,OXD,PIM,PPCP,RSM

169. ---. Laboratory and Field Assessment of Pesticide Poisoning of Honeybees (Apis mellifera). MORORAL,TOP; 1970; 2, 378-385.   
Rec #: 990  
Call Number: NO CONTROL (ATN,CBL,DCTP,DMT,DS,DZ,ES,MLN,MVP,PRT)  
Notes: EcoReference No.: 96450  
Chemical of Concern: ATN,CBL,CHD,DCTP,DDT,DLD,DMT,DS,DZ,EN,ES,MLN,MVP,PRT,PYN

170. Streu, H. T. and Cruz, C. Control of the Hairy Chinch Bug in Turfgrass in the Northeast with Dursban Insecticide. POPENV; 1972; 28, (1): 1-4.   
Rec #: 90  
Call Number: NO ENDPOINT (DZ), TARGET MANUAL (CPY)  
Notes: EcoReference No.: 159935  
Chemical of Concern: CHD,CPY,DZ

171. Stromborg, K. L. Seed Treatment Pesticide Effects on Pheasant Reproduction at Sublethal Doses. BEH,GRO,MOR,REPMIXTURE,ORAL; 1977; 41, (4): 632-642.   
Rec #: 1430  
Call Number: LITE EVAL CODED (Captan), NO ENDPOINT (Captan,DZ)  
Notes: EcoReference No.: 35481  
Chemical of Concern: Captan,DLD,DZ

172. Takahashi, M. and Yasutomi, K. Insecticidal Resistance of Culex tritaeniorhynchus (Diptera: Culicidae) in Japan: Genetics and Mechanisms of Resistance to Organophosphorus Insecticides. CEL,MORAQUA; 1987; 24, (6): 595-603.   
Rec #: 890  
Call Number: NO CONTROL (CBL,DZ,FNT,MLN,PMR,PPX,TMP)  
Notes: EcoReference No.: 100994  
Chemical of Concern: CBL,DZ,FNT,FNTH,MLN,PMR,PPX,TMP

173. Thomas, B. V. Organophosphate Insecticides: Metabolism, Excretion, Forensic and Mechanistic Investigations in Fish. ACC,BCM,MORAQUA; 1996: 149 p. (UMI#9816627).   
Rec #: 1190  
Call Number: LITE EVAL CODED (TBO), NO IN VITRO (CPY,DDVP,DS,DZ,EP,PRT)  
Notes: EcoReference No.: 95974  
Chemical of Concern: CPY,DDVP,DS,DZ,EP,PRT,TBO

174. Tichy, M.; Rucki, M.; Hanzlikova, I., and Roth, Z. The Tubifex tubifex Assay for the Determination of Acute Toxicity. BEHAQUA; 2007; 35, (2): 229-237.   
Rec #: 1580  
Call Number: NO CONTROL (CPY,DZ,IMC)  
Notes: EcoReference No.: 101625  
Chemical of Concern: CPY,CdN,DZ,IMC,NiCl,PbN,TAP,ZnN

175. Timchalk, C.; Poet, T. S.; Hinman, M. N.; Busby, A. L., and Kousba, A. A. Pharmacokinetic and Pharmacodynamic Interaction for a Binary Mixture of Chlorpyrifos and Diazinon in the Rat. BCM,PHYMIXTURE,ORAL; 2005; 205, (1): 31-42.   
Rec #: 1270  
Call Number: NO ENDPOINT (CPY,DZ)  
Notes: EcoReference No.: 80327  
Chemical of Concern: CPY,DZ

176. Toppozada, A.; Ismail, F. I., and Eldefrawi, M. E. Susceptibility of Local Strains of Sitophilus oryzae (L.) and Tribolium castaneum (Herbst) to Insecticides. MORENV,ORAL; 1969; 5, (4): 393-397.   
Rec #: 1490  
Call Number: NO CONTROL (CBL,DDVP,DZ,MLN), TARGET2012 (CBL,DDVP,MLN)  
Notes: EcoReference No.: 54897  
Chemical of Concern: CBL,DDT,DDVP,DZ,HCCH,MLN,PPCP,PYN

177. Tronsmo, A. Effect of Fungicides and Insecticides on Growth of Botrytis cinerea, Trichoderma viride and T. harzianum. POPENV; 1989; 3, (2): 151-156.   
Rec #: 660  
Call Number: NO CONTROL (AZ,BMY,CAP,Captan,Conazoles,Cu,DCF,DMT,DOD,DZ,ES,FNT,IPD,MLN,MZB,SFR,TDF,TFR,THM,VCZ), TARGET2012 (BMY,CAP,Captan,Conazoles,Cu,DOD,IPD,MZB,SFR,TDF,TFR,THM,VCZ)  
Notes: EcoReference No.: 75156  
Chemical of Concern: AZ,BMY,BTN,CAP,Captan,Conazoles,Cu,DCF,DINO,DMT,DOD,DOP,DZ,EPRN,ES,FNT,FNTH,IPD,MLN,MZB,PRN,SFR,TDF,TFR,THM,TYF,VCZ

178. Tucker, R. K. and Crabtree, D. G. Handbook of Toxicity of Pesticides to Wildlife. MORORAL; 1970: 131 p.   
Rec #: 2080  
Call Number: NO CONTROL (24D,24DXY,ATN,ATZ,AZ,CBL,DCTP,DDVP,DMT,DS,DZ,FNT,Folpet,MLN,MP,PRT,PSM,THM)  
Notes: EcoReference No.: 39146  
Chemical of Concern: 24D,24DXY,AND,ATN,ATZ,AZ,CBL,DCTP,DDT,DDVP,DLD,DMT,DS,DZ,EN,EPRN,FNT,Folpet,HCCH,HPT,MLN,MP,MXC,Nabam,PPCP,PPHD,PRN,PRT,PSM,THM,TXP,Zineb

179. Uchiyama, M.; Yoshida, T.; Homma, K., and Hongo, T. Inhibition of Hepatic Drug-Metabolizing Enzymes by Thiophosphate Insecticides and Its Toxicological Evaluation. BCMINJECT; 1975; 4, 109-116.   
Rec #: 840  
Call Number: NO ENDPOINT (DDVP,DZ,FNT,MP), NO EXP TYPE (DDVP,DZ,FNT,MP)  
Notes: EcoReference No.: 103944  
Chemical of Concern: DDVP,DZ,FNT,MP

180. ---. Inhibition of Hepatic Drug-Metabolizing Enzymes by Thiophosphate Insecticides and Its Drug Toxicological Implications. BCMINJECT; 1975; 24, (11/12): 1221-1225.   
Rec #: 850  
Call Number: NO ENDPOINT (DDVP,DZ,FNT,MP), NO EXP TYPE (DDVP,DZ,FNT,MP)  
Notes: EcoReference No.: 107308  
Chemical of Concern: DDVP,DZ,EPRN,FNT,MP,PRN

181. Ueyama, J.; Kamijima, M.; Asai, K.; Mochizuki, A.; Wang, D.; Kondo, T.; Suzuki, T.; Takagi, K.; Takagi, K.; Kanazawa, H.; Miyamoto, K. I.; Wakusawa, S., and Hasegawa, T. Effect of the Organophosphorus Pesticide Diazinon on Glucose Tolerance in Type 2 Diabetic Rats. BCM,GRO,PHYINJECT; 2008; 182, (1-3): 42-47.   
Rec #: 710  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 115929  
Chemical of Concern: DZ

182. Uno, S.; Shiraishi, H.; Hatakeyama, S.; Otsuki, A., and Koyama, J. Accumulative Characteristics of Pesticide Residues in Organs of Bivalves (Anodonta woodiana and Corbicula leana) Under Natural Conditions. ACCAQUA; 2001; 40, (1): 35-47.   
Rec #: 180  
Call Number: NO CONTROL (CTN,DZ,FNT,MLN,MLT,SZ,TBC), NO ENDPOINT (CTN,DZ,FNT,MLN,MLT,SZ,TBC)  
Notes: EcoReference No.: 65855  
Chemical of Concern: BTC,CTN,DZ,FNT,FNTH,MLN,MLT,ODZ,SZ,TBC

183. Uyeki, E. M.; Doull, J.; Cheng, C. C., and Misawa, M. Teratogenic and Antiteratogenic Effects of Nicotinamide Derivatives in Chick Embryos. GRO,MOR,PHYINJECT; 1982; 9, (5/6): 963-973.   
Rec #: 1540  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 85627  
Chemical of Concern: DZ

184. Van de Veire, M. Chemical Control of the Cecid, Heteropeza pygmaea in the Culture of the Oyster Mushroom Pleurotus ostreatus. ACC,POPENV; 1990; 55, (2b): 681-683.   
Rec #: 390  
Call Number: NO ENDPOINT (BFT,CYR,DFZ,DZ,ES)  
Notes: EcoReference No.: 99170  
Chemical of Concern: BFT,BPZ,CYR,DFZ,DZ,ES,TFT

185. Vatanparast, J.; Naseh, M.; Baniasadi, M., and Haghdoost-Yazdi, H. Developmental Exposure to Chlorpyrifos and Diazinon Differentially Affect Passive Avoidance Performance and Nitric Oxide Synthase-Containing Neurons in the Basolateral Complex of the Amygdala. BEH,CELINJECT; 2013; 1494, 17-27.   
Rec #: 2040  
Call Number: NO EXP TYPE (CPY,DZ)  
Notes: EcoReference No.: 161150  
Chemical of Concern: CPY,DZ

186. Villani, M. G.; Wright, R. J., and Baker, P. B. Differential Susceptibility of Japanese Beetle, Oriental Beetle, and European Chafer (Coleoptera: Scarabaeidae) Larvae to Five Soil Insecticides. MORSOIL,ENV; 1988; 81, (3): 785-788.   
Rec #: 1870  
Call Number: NO ENDPOINT (CPY,DZ), PESTS (CPY,EP)  
Notes: EcoReference No.: 160509  
Chemical of Concern: BDC,CPY,DZ,EP,IFP

187. Vinuela, A.; Snoek, L. B.; Riksen, J. A. G., and Kammenga, J. E. Gene Expression Modifications by Temperature-Toxicants Interactions in Caenorhabditis elegans. CEL. Laboratory of Nematology, Wageningen University, Wageningen, The Netherlands.//: ENV,MIXTURE; 2011; 6, (9): 1-11.   
Rec #: 1930  
Call Number: NO CONTROL (CPY,DZ), TARGET2012 (CPY)  
Notes: EcoReference No.: 160323  
Chemical of Concern: CPY,DZ

188. Walgenbach, J. F. and Palmer, C. R. Apple Insect Control, 1998. POPENV,MIXTURE; 1999; 24, 30-34 (A30).   
Rec #: 280  
Call Number: NO MIXTURE (AZ,CPY,DMT,DZ,EFV,ES,IMC,MP,PSM,TUZ), PESTS (CPY,DMT,EFV,ES), TARGET2012 (AZ,CPY,DMT,EFV,ES,IMC,LCYT,MP,PSM,TUZ)  
Notes: EcoReference No.: 88276  
Chemical of Concern: AZ,CPY,DMT,DZ,EFV,ES,IMC,LCYT,MP,PSM,TUZ

189. Wall, W. J. Jr. and Marganian, V. M. Control of Culicoides melleus (Coq.) (Diptera: Ceratopogonidae) with Granular Organophosphorus Pesticides, and the Direct Effect on Other Fauna. POPAQUA; 1971; 31, (2): 209-214.   
Rec #: 490  
Call Number: NO ENDPOINT (CPY,DZ,MLN,TMP)  
Notes: EcoReference No.: 4800  
Chemical of Concern: CPY,DZ,FNTH,MLN,TMP

190. ---. Control of Salt Marsh Culicoides and Tabanus Larvae in Small Plots with Granular Organophosphorus Pesticides, and the Direct Effect on Other Fauna. POPAQUA; 1973; 33, (1): 88-93.   
Rec #: 510  
Call Number: NO ENDPOINT (CPY,DZ,TMP)  
Notes: EcoReference No.: 60858  
Chemical of Concern: CPY,DZ,FNTH,TMP

191. Wardlow, L. R.; Ludlam, F. A. B., and Hammon, R. P. A Comparison of the Effectiveness of Insecticides Against Glasshouse Whitefly (Trialeurodes vaporariorum). MORENV; 1975; 81, 433-435.   
Rec #: 120  
Call Number: NO CONTROL (AZ,DDVP,DMT,DZ,ES,MCB,MLN,MOM,OML,PPX,RSM,TEPP), TARGET2012 (AZ,DDVP,DMT,ES,MCB,MLN,MOM,OML,PPX,RSM,TEPP)  
Notes: EcoReference No.: 71321  
Chemical of Concern: AZ,BDC,DDT,DDVP,DMT,DZ,EPRN,ES,HCCH,MCB,MLN,MOM,OML,PPCP,PPX,PRN,PYN,RSM,TEPP

192. Weaver, J. E. and Smith, B. D. Allegheny Mound Ant Control, Grant Co., WV, 1992. POPENV; 1993; 18, 337-338 (63G).   
Rec #: 250  
Call Number: NO CONTROL (ACP,CPY,CYF,DZ,LCYT), TARGET2012 (ACP,CPY,CYF,LCYT)  
Notes: EcoReference No.: 120050  
Chemical of Concern: ACP,BDC,CPY,CYF,DZ,IZF,LCYT

193. Weiss, C. M. Response of Fish to Sub-lethal Exposures of Organic Phosphorus Insecticides. BCM,MORAQUA,MIXTURE; 1959; 31, (5): 580-593.   
Rec #: 1400  
Call Number: NO CONTROL (AZ,DZ,MLN), NO ENDPOINT (AZ,DZ,MLN)  
Notes: EcoReference No.: 60203  
Chemical of Concern: AZ,DEM,DZ,EPRN,MLN,PRN

194. Werner, I.; Deanovic, L. A.; Connor, V.; De Vlaming, V.; Bailey, H. C., and Hinton, D. E. Insecticide-Caused Toxicity to Ceriodaphnia dubia (Cladocera) in the Sacramento-San Joaquin River Delta, California, USA. MORAQUA,MIXTURE; 2000; 19, (1): 215-227.   
Rec #: 900  
Call Number: LITE EVAL CODED (CPY,MOL,PPB), NO ENDPOINT (CPY), NO MIXTURE (CBF,DZ)  
Notes: EcoReference No.: 86597  
Chemical of Concern: CBF,CPY,DZ,MOL,PPB

195. Wheelock, C. E.; Miller, J. L.; Miller, M. J.; Phillips, B. M.; Huntley, S. A.; Gee, S. J.; Tjeerdema, R. S., and Hammock, B. D. Use of Carboxylesterase Activity to Remove Pyrethroid-Associated Toxicity to Ceriodaphnia dubia and Hyalella azteca in Toxicity Identification Evaluations. MORAQUA,MIXTURE; 2006; 25, (4): 973-984.   
Rec #: 1690  
Call Number: LITE EVAL CODED (BFT,CPYO,PMR), NO IN VITRO (1Major ions,CaCl2,CuCl,DZ,Halides,NaCl,ZnCl2)  
Notes: EcoReference No.: 99604  
Chemical of Concern: 1Major ions,BFT,CPYO,CaCl2,CdCl,CuCl,DZ,FeCl,FeCl3,Halides,HgCl2,KCl,NaCl,NiCl,PMR,ZnCl2

196. White, G. L. Control of the Leaf-Cutting Ants Acromyrmex octospinosus (Reich), and Atta cephalotes (L.), with a Bait of Citrus Meal and Fipronil. POPMIXTURE,ORAL; 1998; 44, (2): 115-117.   
Rec #: 1820  
Call Number: NO CONTROL (DZ,EFX,PIRE), NO ENDPOINT (DZ,EFX,FPN,PIRE), NO MIXTURE (PIRE), TARGET2012 (EFX,FPN,PIRE)  
Notes: EcoReference No.: 158304  
Chemical of Concern: DZ,EFX,FPN,IZF,PIRE

197. Williams, M. A. Insecticidal Control of Myrmecia pilosula F. Smith (Hymenoptera: Formicidae). BEHENV; 1991; 30, (1): 93-94.   
Rec #: 880  
Call Number: NO ENDPOINT (CPY,DZ,PMR,PPX), TARGET2012 (CPY,PMR,PPX)  
Notes: EcoReference No.: 99842  
Chemical of Concern: BDC,CHD,CPY,DZ,PMR,PPX

198. Win-Shwe, T. T.; Nakajima, D.; Ahmed, S., and Fujimaki, H. Impairment of Novel Object Recognition in Adulthood After Neonatal Exposure to Diazinon. BEH,CEL,GRO. Center for Environmental Health Sciences, National Institute for Environmental Studies, 16-2 Onogawa, Tsukuba, Ibaraki, 305-8506, Japan, tin.tin.win.shwe@nies.go.jp//: INJECT; 2013; 87, (4): 753-762.   
Rec #: 1990  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 161094  
Chemical of Concern: DZ

199. Win-Shwe, T. T.; Nakajima, D., and Fujimaki, H. Involvement of TLR4 in Diazinon-Induced Neurotoxicity in Mice. CEL,GRO. Center for Environmental Health Sciences, National Institute for Environmental Studies, Onogawa, Tsukuba, Ibaraki 305-8506, Japan.//: INJECT; 2012; 34, (1): 1-13.   
Rec #: 2060  
Call Number: NO EXP TYPE (DZ)  
Notes: EcoReference No.: 161183  
Chemical of Concern: DZ

200. Yamamoto, K.; Ichinose, H.; Aso, Y.; Banno, Y.; Kimura, M., and Nakashima, T. Molecular Characterization of an Insecticide-Induced Novel Glutathione Transferase in Silkworm. CEL,MORTOP; 2011; 1810, (4): 420-426.   
Rec #: 1960  
Call Number: NO CONTROL (DZ), NO ENDPOINT (DZ)  
Notes: EcoReference No.: 161129  
Chemical of Concern: DZ

201. Yen, J. H. Organophosphorus Pesticide Exposure Effects on Neurobehavioral Development of Zebrafish and Characterization of Developmental Switch Between Two Cation-Chloride Cotransporters (Zfnkcc1 and Zfkcc2). BCM,BEH,CEL,MORAQUA; 2012: 166 p. (UMI# 3522122) (Publ in Part as 159765).   
Rec #: 1890  
Call Number: NO ENDPOINT (CPY,NCTN), NO PUBL AS (DZ)  
Notes: EcoReference No.: 159872  
Chemical of Concern: CPY,DZ,EPRN,NCTN,PRN

202. Yoshida, T.; Homma, K.; Suzuki, Y., and Uchiyama, M. Effect of Organophosphorus Insecticides on Hepatic Microsomal Cytochrome P-450 in Mice. BCMINJECT,MIXTURE; 1978; 3, (1): 21-26.   
Rec #: 680  
Call Number: NO ENDPOINT (DZ,FNT), NO EXP TYPE (FNT), NO IN VITRO (DZ)  
Notes: EcoReference No.: 105160  
Chemical of Concern: CoCl,DZ,EPRN,FNT,PRN

203. Yoshida, T.; Nomura, M.; Suzuki, Y., and Uchiyama, M. Inhibition of Hepatic UDP-Glucuronyltransferase Activity by Organophosphate Insecticides and by Carbon Disulfide in Mice. BCMINJECT; 1976; 15, (4): 421-424.   
Rec #: 860  
Call Number: NO ENDPOINT (CBNDS,DDVP,DZ,FNT,MP), NO EXP TYPE (CBNDS,DDVP,DZ,FNT,MP)  
Notes: EcoReference No.: 39489  
Chemical of Concern: CBNDS,DDVP,DZ,EPRN,FNT,MP,PRN,Pm

204. Yu, S. J. Detection and Biochemical Characterization of Insecticide Resistance in Fall Armyworm (Lepidoptera: Noctuidae). MORORAL; 1992; 85, (3): 675-682.   
Rec #: 1850  
Call Number: NO CONTROL (CBL,CPY,CYP,DZ,FNV,FVL,MLN,MOM,MP,PMR,TDC), PESTS (CPY,FNV,FVL,MOM,PMR), TARGET2012 (CBL,CYP,MLN,MP,TDC)  
Notes: EcoReference No.: 159448  
Chemical of Concern: CBL,CPY,CYP,DZ,FNV,FVL,MLN,MOM,MP,PMR,TDC

205. ---. Insecticide Resistance in the Fall Armyworm, Spodoptera frugiperda (J. E. Smith). MORTOP; 1991; 39, (1): 84-91.   
Rec #: 930  
Call Number: NO CONTROL (CYH,DZ,TMT), PESTS (CPY,FNV,FVL,MOM,PMR), TARGET2012 (BFT,CBL,CYH,CYP,DDVP,MLN,MP,TDC,TLM,TMT)  
Notes: EcoReference No.: 73599  
Chemical of Concern: BFT,CBL,CPY,CYH,CYP,CYT,DDVP,DZ,FNV,FVL,MLN,MOM,MP,PMR,SPS,TDC,TLM,TMT

206. Zepp, R. G. and Schlotzhauer, P. F. Influence of Algae on Photolysis Rates of Chemicals in Water. BCMAQUA; 1983; 17, (8): 462-468.   
Rec #: 800  
Call Number: NO CONTROL (CPY,DZ,FA,FNT,MLN,MP,NAPH,PAHs,PHE,PYR), NO ENDPOINT (CPY,DZ,FA,FNT,MLN,MP,NAPH,PAHs,PHE,PYR)  
Notes: EcoReference No.: 15794  
Chemical of Concern: AN,AND,CPY,DZ,EPRN,FA,FNT,MLN,MP,NAPH,NBZ,PAHs,PHE,PL,PRN,PYR

207. Zorb, G. L. and Black, C. T. Effects of Diazinon and Guthion on Penned Pheasants. MOR,PHYENV; 1965: 85-86.   
Rec #: 1790  
Call Number: NO ENDPOINT (AZ,DZ)  
Notes: EcoReference No.: 160926  
Chemical of Concern: AZ,DZ