Appendix E

ECOTOX Open Literature Bibliography

Explanation of OPP Acceptability Criteria and Rejection Codes for ECOTOX Data

Studies located and coded into ECOTOX must meet acceptability criteria, as established in the *Interim Guidance of the Evaluation Criteria for Ecological Toxicity Data in the Open Literature, Phase I and II*, Office of Pesticide Programs, U.S. Environmental Protection Agency, July 16, 2004. Studies that do not meet these criteria are designated in the bibliography as "Accepted for ECOTOX but not OPP." The intent of the acceptability criteria is to ensure data quality and verifiability. The criteria parallel criteria used in evaluating registrant-submitted studies. Specific criteria are listed below, along with the corresponding rejection code.

• The paper does not report toxicology information for a chemical of concern to OPP; (Rejection Code: NO COC)
• The article is not published in English language; (Rejection Code: NO FOREIGN)
• The study is not presented as a full article. Abstracts will not be considered; (Rejection Code: NO ABSTRACT)
• The paper is not publicly available document; (Rejection Code: NO NOT PUBLIC (typically not used, as any paper acquired from the ECOTOX holding or through the literature search is considered public)
• The paper is not the primary source of the data; (Rejection Code: NO REVIEW)
• The paper does not report that treatment(s) were compared to an acceptable control; (Rejection Code: NO CONTROL)
• The paper does not report an explicit duration of exposure; (Rejection Code: NO DURATION)
• The paper does not report a concurrent environmental chemical concentration/dose or application rate; (Rejection Code: NO CONC)
• The paper does not report the location of the study (e.g., laboratory vs. field); (Rejection Code: NO LOCATION)
• The paper does not report a biological effect on live, whole organisms; (Rejection Code: NO IN-VITRO)
• The paper does not report the species that was tested; and this species can be verified in a reliable source; (Rejection Code: NO SPECIES)
• The paper does not report effects associated with exposure to a single chemical. (Rejection Code: NO MIXTURE). It should be noted that all papers including data on pesticide mixtures are considered.

Additionally, efficacy studies on target species are excluded and coded as NO TARGET. Data that originated from the OPP Pesticide Ecotoxicity Database is coded as NO EFED. These data are already available to the chemical team.

Papers Identified in the July 2011 ECOTOX Refresh

Accepted for EcoTox and OPP

Al-Mohammed, H. I. (2010). Efficacy of Two Rodenticides Against Leishmania Reservoir Host Rat (Psammomys obesus) in the Rural Area of Al-Ahsa Oasis, Saudi Arabia. *J. Egypt. Soc. Parasitol.* 40: 609-616.

EcoReference No.: 153599
Chemical of Concern: DFM,ZnP; Habitat: T; Effect Codes: POP; Code: LITE EVAL CODED (DFM,ZnP).

El-Khear, R. K. A., El-Deeb, H. I., and El-Feel, E. S. A. (1996). Field and Laboratory Evaluation of Anti-Coagulant Rodenticides Against Ship Rats Rattus rattus. *Alexandria Sci. Exch.* 17: 361-368.

EcoReference No.: 153748
Chemical of Concern: BDF,DFM; Habitat: T; Effect Codes: BEH,GRO,MOR,POP; Code: LITE EVAL CODED (BDF,DFM).

Gill, J. E. and Redfern, R. (1980). Laboratory Trials of Seven Rodenticides for Use Against the Cotton Rat (Sigmodon hispidus) . *J. Hyg.* 85: 443-450.

EcoReference No.: 75709
Chemical of Concern: BDF,BDL,DFM,PPCP,VTD2,WFN,ZnP; Habitat: T; Effect Codes: BEH,MOR; Code: LITE EVAL CODED (BDF,BDL,DFM,PPCP,VTD2,WFN,ZnP).

Gill, J. E. and Redfern, R. (1977). Some Laboratory Tests of Five Rodenticides for the Control of Arvicanthis niloticus. *PANS (Pest Artic. News Summ.)* 23: 33-37.

EcoReference No.: 153515
Chemical of Concern: CPC,DFM,PPCP,VTD2,WFN; Habitat: T; Effect Codes: BEH,MOR; Code: LITE EVAL CODED (DFM,PPCP,VTD2,WFN), NO CONTROL (CPC), TARGET (CPC).

Mahmoud, W. and Redfern, R. (1981). The Response of the Egyptian Spiny Mouse (Acomys cahirinus) and Two Other Species of Commensal Rodents to Anticoagulant Rodenticides. *J. Hyg.* 86: 329-334.

EcoReference No.: 153514
Chemical of Concern: BDF,DFM,PPCP,WFN; Habitat: T; Effect Codes: BEH,MOR; Code: LITE EVAL CODED (BDF,DFM,PPCP,WFN).

Target: Toxicity of Chemical to the Intended Pest

Abdel-Aty, A. S. (2005). Field and Laboratory Evaluation of Some Anticoagulants and Acute Rodenticides. *Alexandria Sci. Exch.* 26 : 373-377.

EcoReference No.: 153783
Chemical of Concern: BDL,CPC,DFM,ZnP; Habitat: T; Effect Codes: BEH,MOR,POP; Code: OK (BDL,CPC,ZnP), TARGET (DFM).

Desheesh, M. A. and Kadous, E. A. (1985). Comparative Studies of Different Formulated Baits for Brodifacoum, Difenacoum and Coumatetralyl Against Albino Rats (Rattus norvegicus). *Meded. Fac. Landbouwwet. Univ. Gent* 50: 951-956.

EcoReference No.: 153746
Chemical of Concern: BDF,DFM; Habitat: T; Effect Codes: BEH,MOR; Code: TARGET (BDF,DFM).

Hamza, S. M., Hegazy, A. A., and Bakry, H. H. (1984). Effects of Ektafos, Ratak and Agrosan on Pregnancy and Foetal Development in White Rats. *Egypt. J. Vet. Sci.* 21: 253-260.

EcoReference No.: 101532
Chemical of Concern: DCTP,DFM; Habitat: T; Effect Codes: GRO,MOR,REP; Code: LITE EVAL CODED (DCTP), OK (DCTP), TARGET (DFM).

Kerins, G. M. (1999). Plasma Fibrinogen Concentration is Increased Following Depletion of Vitamin K-Dependent Clotting Factors by the Indirect Anticoagulant Difenacoum in Norway Rats (Rattus norvegicus). *Comp. Haematol. Int.* 9: 76-82.

EcoReference No.: 153595
Chemical of Concern: DFM; Habitat: T; Effect Codes: CEL; Code: TARGET (DFM).

Lam, Y. M. (1984). Laboratory Evaluation of Difenacoum Against the Rice Field Rat, Rattus argentiventer. *MARDI Res. Bull.* 12: 194-199.

EcoReference No.: 153516
Chemical of Concern: DFM; Habitat: T; Effect Codes: MOR; Code: TARGET (DFM).

MacNicoll, A. D. and Gill, J. E. (1993). Vitamin K3 in Feedstuffs: Antidotal Effects in Captive Anticoagulant-Resistant Rats and Mice. *J. Wildl. Manag.* 57: 835-841 .

EcoReference No.: 153519
Chemical of Concern: BDF,BDL,DFM; Habitat: T; Effect Codes: MOR; Code: TARGET (BDF,BDL,DFM).

Smith, P., Inglis, I. R., Cowan, D. P., Kerins, G. M., and Bull, D. S. (1994). Symptom-Dependent Taste Aversion Induced by an Anticoagulant Rodenticide in the Brown Rat (Rattus norvegicus). *J. Comp. Psychol.* 108: 282-290.

EcoReference No.: 153733
Chemical of Concern: DFM; Habitat: T; Effect Codes: BEH,MOR; Code: TARGET (DFM).

Papers Identified in the November 2006 ECOTOX Run

Acceptable for ECOTOX but not OPP

Atterby, H., Kerins, G. M., and MacNicoll, A. D. (2005). Whole-Carcass Residues of the Rodenticide Difenacoum in Anticoagulant-Resistant and -Susceptible Rat Strains (Rattus norvegicus). *Environ.Toxicol.Chem.* 24: 318-323.

EcoReference No.: 79379
Chemical of Concern: DFM,CBL; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(DFM).

Breckenridge, A. M., Leck, J. B., Park, B. K., Serlin, M. J., and Wilson, A. (1978). Mechanisms of Action of the Anticoagulants Warfarin, 2-Chloro-3-Phytylnaphthoquinone (Cl-K), Acenocoumarol, Brodifacoum and Difenacoum in the Rabbit. *Br.J.Pharmacol.* 64: 399P.

EcoReference No.: 75568
Chemical of Concern: BDF,WFN,DFM,CBL; Habitat: T; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

Bull, J. O. (1976). Laboratory and Field Investigations with Difenacoum, a Promising New Rodenticide. *In: Proc.7th Vert Pest Conf Monterey* 72-84.

EcoReference No.: 86456
Chemical of Concern: DFM,WFN,CBL; Habitat: T; Effect Codes: MOR,CEL,PHY; Rejection Code: NO CONTROL(ALL CHEMS).

Gray, A., Eadsforth, C. V., Dutton, A. J., and Vaughan, J. A. (1994). Non-invasive Method for Monitoring the Exposure of Barn Owls to Second-Generation Rodenticides. *Pestic.Sci.* 41: 339-343.

EcoReference No.: 76148
Chemical of Concern: BDF,DFM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

Gray, A., Eadsforth, C. V., Dutton, A. J., and Vaughan, J. A. (1994). The Toxicity of Three Second-Generation Rodenticides to Barn Owls. *Pestic.Sci.* 42: 179-184 .

EcoReference No.: 75719
Chemical of Concern: BDF,DFM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT(ALL CHEMS).

Greaves, J. H., Shepherd, D. S., and Gill, J. E. (1982). An Investigation of Difenacoum Resistance in Norway Rat Populations in Hampshire. *Ann.Appl.Biol.* 100: 581-587.

EcoReference No.: 49712
Chemical of Concern: DFM,CBL; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: NO CONTROL,ENDPOINT(DFM).

Hadler, M. R., Redfern, R., and Rowe, F. P. (1975). Laboratory Evaluation of Difenacoum as a Rodenticide. *J Hyg.* 74: 441-448.

EcoReference No.: 86457
Chemical of Concern: DFM,WFN,CPC,DPC,CBL; Habitat: T; Effect Codes: PHY,BEH,MOR; Rejection Code: NO CONTROL(ALL CHEMS).

Lund, M. (1981). Comparative Effect of the Three Rodenticides Warfarin, Difenacoum and Brodifacoum on Eight Rodent Species in Short Feeding Periods. *J.Hyg.* 87: 101-107.

EcoReference No.: 75609
Chemical of Concern: BDF,WFN,DFM,CBL; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL,ENDPOINT(DFM).

Lund, M. (1981). Hens, Eggs and Anticoagulants. *Int.Pest Control* 23: 126-127.

EcoReference No.: 37764
Chemical of Concern: DFM,BDF,BDL,WFN; Habitat: T; Effect Codes: BEH,MOR,PHY; Rejection Code: NO CONTROL,ENDPOINT(ALL CHEMS).

Moran, S. and Sofer, S. (1995). The Toxicity of Difenacoum and Difethialone to the Rock Hyrax, Procavia capensis. *Pestic.Sci.* 44: 305-307.

EcoReference No.: 75485
Chemical of Concern: DFT,DFM,CBL; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL,ENDPOINT(ALL CHEMS).

Newton, I., Wyllie, I., and Freestone, P. (1990). Rodenticides in British Barn Owls. *Environ.Pollut.* 68: 101-117.

EcoReference No.: 74820
Chemical of Concern: BDF,DFM; Habitat: T; Effect Codes: MOR,ACC,PHY; Rejection Code: NO CONTROL,ENDPOINT(ALL CHEMS).

Newton, I., Wyllie, I., Gray, A., and Eadsforth, C. V. (1994). The Toxicity of the Rodenticide Flocoumafen to Barn Owls and Its Elimination via Pellets. *Pestic.Sci.* 41: 187-193.

EcoReference No.: 75718
Chemical of Concern: BDF,BDC,DFM; Habitat: T; Effect Codes: BEH,ACC,MOR; Rejection Code: NO CONTROL(ALL CHEMS),REVIEW(BDF,BDL).

Rennison, B. D. and Hadler, M. R. (1975). Field Trials of Difenacoum Against Warfarin-Resistant Infestations of Rattus norvegicus. *J.Hyg.* 74: 449-455.

EcoReference No.: 86459
Chemical of Concern: WFN,DFM,CBL; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL,ENDPOINT(DFM).

Romankow-Zmudowska, A. (1983). Effectiveness of Difenacoum and Brodifacoum Against Common Vole [Microtus arvalis], Mouse [Mus musculus V. Alba] and Rabbit [Oryctolagus cuniculus] in the Laboratory Tests. *Prace Naukowe Insty.Ochrony Roslin* 83-90.

EcoReference No.: 86458
Chemical of Concern: DFM,BDF,CBL; Habitat: T; Effect Codes: MOR,GRO,BEH,PHY; Rejection Code: NO CONTROL(ALL CHEMS).