

PM 04 1015-66 S480748 9/26/97 P3 1718



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 26 1997

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

Mr. W.P. Conrath
Vice-President
Douglas Chemical Company
1500 E. Old 210 Hwy.
Liberty, MO 64068

Dear Mr. Conrath:

Subject: Deletion of Unsupported Malathion Uses
Douglas Malathion 57% Malathion
EPA Reg. No. 1015-66
Labeling Submitted January 20, 1995
Federal Register Notice of March 29, 1995

The labeling amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, As Amended (FIFRA), is acceptable, provided that you:

1. Submit one copy of your final printed label incorporating the following corrections before you release the product for shipment.

a. This product is subject to the Worker Protection Standard (WPS) and the labeling must bear the required WPS labeling statements in accordance with the instructions in PR Notices 93-7 and 93-1. The new protective language in those submissions must be incorporated into this label. Since the release for shipment deadline has passed for products not bearing WPS statements, you cannot release the product for shipment unless the label has been revised to comply with the WPS labeling requirements.

The PR Notices 93-7 and 93-11 referenced above were sent to registrants in 1993. Additional copies may be ordered from the National Technical Information Service at the following address.

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Telephone: 703-487-4650
Fax: 703-321-8547
Rush: 800-553-NTIS

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NTIS charges a fee for documents. When ordering the documents referenced above, include the NTIS Numbers PB94-104189 and PB94-104221 for the 93-7 and 93-11 Notices, respectively.

b. Replace the section headed with " General Worker Protection Statements" with the required WPS labeling referenced in item 1.a. of this letter.

c. Add a statement prohibiting the grazing or feeding of the treated crop foliage by livestock for the crops, beans, peas and lentils (vines/forage and straw/hay); and grain sorghum (forage, fodder/stover and hay). Delete the reference to feeding of the treated crop which appears in the directions for use on some of these crops.

d. Add the following restriction in the directions for use on the aquatic crop, rice. As described in the 1988 Malathion Reregistration Standard, footnote numbers 164 and 165 of the Residue Chemistry Generic Data Requirement Table (page 114), these restrictions are being required in lieu of conducting residue chemistry studies under 171-4 (Magnitude of the Residue in Fish and Shellfish and Magnitude of the Residue in Drinking and Irrigation Water).

"Broadcast use only over intermittently flooded areas. Application may not be made around bodies of water where fish or shellfish are grown and/or harvested commercially."

e. Revise the Environmental Hazards statements to read as stated below. These revisions will bring the statements into compliance with the 1988 Malathion Registration Standard and PR Notice 93-3.

"This product is toxic to fish, aquatic invertebrates, and aquatic life stages of amphibians. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in areas near the application site. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area."

f. The statement "Contains petroleum distillates" must be located in the vicinity of the ingredient statement.

g. Relocate the statements, "Causes eye irritation." and "May be a skin sensitizer." from their present location at the end of the human precautionary section to the beginning of

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the section, immediately following the statement, "Harmful if swallowed, inhaled, or absorbed through the skin."

2. Submit your updated Confidential Statement of Formula (CSF) for our files showing your current supplier of the active ingredient, malathion used in the formulation of the subject product. The most recent CSF in our files dated September 22, 1989 lists a supplier product which has since been transferred to another firm. You are reminded that the registered supplier product label must allow for the formulation of a product for the uses appearing on your proposed label.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

Marilyn A. Mautz
Biologist
Insecticide-Rodenticide Branch
Registration Division (7504C)

ACCEPTED 4/18
with COMMENTS
in EPA Letter Dated

SEP 26 1997

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
1015-66

Douglas MALATHION 57-WE EMULSIFIABLE CONCENTRATE PREMIUM GRADE

ACTIVE INGREDIENT:

Malathion (0, 0-dimethyl dithiophosphate of diethyl mercaptosuccinate)*	57.00%
INERT INGREDIENTS	43.00%
TOTAL	100.00%

*Equivalent to 5 lbs. of premium grade malathion per gal.

KEEP OUT OF REACH OF CHILDREN
WARNING!/AVISO!

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

FIRST AID

- IF SWALLOWED:** Do not induce vomiting. Get medical attention!
- IF IN EYES:** Immediately flush eyes and skin with plenty of water for at least 15 minutes. Call a physician.
- IF ON SKIN:** Immediately wash with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention.
- IF INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Note to Physicians: This product is a cholinesterase inhibitor. Atropine is antidotal. 2-PAM may be effective as an adjunct to atropine.

SEE NEXT PAGE FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA Reg. No. 1015-66

EPA Est. No. 1015-MO-1

DOUGLAS CHEMICAL CO., 1500 E. ^{Old} 210 Hwy.
Liberty, Missouri 64068-9459

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS

WARNING

Harmful if swallowed, inhaled or absorbed through the skin. Keep container closed. Use with adequate ventilation. Avoid breathing spray mist. Avoid contact with skin or clothing. Wash skin thoroughly after handling. Remove and wash contaminated clothing before reuse. May be a skin sensitizer. Causes eye irritation.

PHYSICAL/CHEMICAL HAZARDS

Flammable: Do not use or store near heat sources or open flame. Do not use in the vicinity of pilot lights.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water except as specified on this label. Drift and runoff may be hazardous to aquatic organisms in areas near the application site. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures such as limited open burning.

General Worker Protection Statements

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: WARNING. Area treated with DOUGLAS MALATHION 57-WE insecticide on (date of application). Do not enter without appropriate protective clothing.

DISCLAIMER

CONDITIONS OF SALE: This product is sold subject to and buyer and users are deemed to have accepted the terms contained in the CONDITIONS OF SALE AND WARRANTY, DIRECTIONS FOR USE AND PRECAUTIONARY STATEMENTS.

WARRANTY LIMITATIONS: DOUGLAS CHEMICAL COMPANY warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the DIRECTIONS FOR USE. DOUGLAS CHEMICAL COMPANY MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESSED OR IMPLIED WARRANTY.

LIMITATION OF LIABILITY: In no case shall DOUGLAS CHEMICAL COMPANY or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. No claim of any kind shall be greater in amount than the purchase price of the product in respect of which such damages are claimed. USER ASSUMES THE RISK OF ANY USE CONTRARY TO LABEL INSTRUCTIONS.

In case of an emergency endangering life or property involving this product, call CHEMTREC (800) 424-9300 day or night.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

VEGETABLES: Apply in a minimum of 30 gals. by ground equipment or 5 gals. by air equipment unless otherwise specified. Best results are obtained with uniform coverage.

Crop	Pests Controlled	Rate/A	Interval (Days) Between Last Application and Harvest
Beans (Green Beans, Lima Beans, Navy Beans, Red Kidney Beans, Snap Beans, Wax Beans, Cowpeas and Blackeyed Peas)	Aphids Bean leaf beetles Blister beetles Cucumber beetles Potato leafhoppers Lygus bugs	2 pts.	Do not apply within 1 day of harvest.
	Japanese beetle Mexican bean beetle	1½-2 pts.	
	Red Spider mites	1½ pts.	
Dry Beans (California and Northwest only)	Lygus bugs	1½-2 pts. (ground) 1½ pts. (air) in 10 gallons of water	Do not apply within 1 day of harvest.
Beets (Garden and Table)	Aphids	1½-2 pts.	Do not apply within 7 days of harvest if tops are to be used as food or feed.
Broccoli	Aphids Cabbage looper Imported cabbageworm	1-2 pts.	Do not apply within 3 days of harvest.
Brussels Sprouts	Aphids	1-2 pts.	Do not apply within 7 days of harvest.
Cabbage	Aphids Cabbage looper Imported cabbageworm	1-2 pts.	Do not apply within 7 days of harvest. For control of caterpillars on summer and fall plantings in the South, begin when true leaves appear. On other plantings, and for control of other insects, begin when insects appear.
	Diamondback moth Webworm	2 pts.	
Cauliflower	Diamondback moth	2-4 pts.	Do not apply within 7 days of harvest.
	Aphids	1-2 pts.	
Celery, Anise	Aphids Spider mites	1½ pts.	To be applied to fresh leaves and stalks only. Do not use on crops grown for seed and oil. Do not apply within 7 days of harvest.
Collards	Aphids	1½-2 pts.	Do not apply within 7 days of harvest. For control of caterpillars on summer and fall plantings in the South, begin when true leaves appear. On other plantings, and for control of other insects, begin when insects appear.
	Harlequin cabbage bug	1 pt.	

Crop	Pests Controlled	Rate/A	Interval (Days) Between Last Application and Harvest
Cucumbers	Aphids Pickieworms Spider mites	1 1/2-2 pts.	Do not apply to cucumbers unless plants are dry. Do not apply within 1 day of harvest.
	Squash vine borer	3 pts.	
	Cucumber beetle Leaf miner	2 pts.	
Dandelion, Parsley, Parsnip, Swiss Chard, Watercress	Aphids	1 1/2-2 pts.	Do not apply within 21 days of harvesting parsley or within 7 days of harvesting dandelion, parsnip, Swiss chard or watercress.
Eggplant	Aphids Spider mites	1 pt.	Do not apply within 3 days of harvest.
	Lacebugs	3 pts.	
Endive	Aphids Spider mites	1 1/2-2 pts.	Do not apply within 7 days of harvest.
Garlic, Shallots	Aphids Thrips	1 1/2-2 pts.	Do not apply within 3 days of harvest.
Hops	Aphids Spider mites	1 pt.	Do not apply within 10 days of harvest.
Kale	Aphids Cabbage looper Imported cabbageworm	1-2 pts.	Do not apply within 7 days of harvest. For control of caterpillars on summer and fall plantings in the South, begin when true leaves appear. On other plantings, and for control of other insects, begin when insects appear.
	Webworm Diamondback moth	2 pts.	
Kohlrabi	Aphids	1-2 pts.	Do not apply within 7 days of harvest.
	Cabbage looper Diamondback moth Imported cabbageworm Webworm	2 pts.	
Leeks	Aphids	1 1/2-2 pts.	Do not apply within 3 days of harvest.
	Onion maggot flies	2 1/2 pts.	
	Thrips	3 pts.	
Lentils	Cowpea aphid Pea aphid	1 1/2 pts.	Do not apply within 3 days of harvest.
Lettuce (Head and Leaf)	Aphids Leathoppers Spider mites	2 pts.	Do not apply within 7 days of harvesting head lettuce or within 14 days of harvesting leaf lettuce.
	Cabbage looper	3 pts.	

Crop	Pests Controlled	Rate/A	Interval (Days) Between Last Application and Harvest
Mushrooms	Mites Phorid and Sciarid flies	2½ pts. in 130 gallons of water; or, 2 tablespoons in 3 gallons of water per 1000 sq. ft. of bed	Make thorough applications as soon after picking as possible. Repeat applications as necessary, usually twice a week. Do not apply within 1 day of harvest.
Mustards (Greens)	Aphids Cabbage looper Imported cabbageworm	2 pts.	For control of caterpillars on summer and fall plantings in the South, begin when true leaves appear. On other plantings, and for control of other insects, begin when insects appear. Do not apply within 7 days of harvest.
	Flea beetles	1½-2 pts.	
Okra	Achids	1½ pts.	Do not apply within 1 day of harvest. Make no application after pods start to form.
	Japanese beetle	2 pts.	
Onions (Bulb and Green)	Onion maggots	1½-2½ pts.	Do not apply within 3 days of harvest.
	Onion thrips	1½-2 pts.	
Peas	Aphids	1½-2 pts.	Do not apply within 7 days of harvest if vines are to be fed, or within 3 days of harvest if vines are not to be fed.
	Grasshoppers	2 pts.	
	Leafhoppers	1½-4 pts.	
Peppermint, Spearmint	Aphids Flea beetles Leafhoppers Spider mites	1½ pts.	Do not apply within 7 days of harvest.
Peppers (Bell)	Aphids	1-2½ pts.	Do not apply within 3 days of harvest.
	Pepper maggots	2½ pts.	
Potatoes (White and Red)	Aphids Grasshoppers Leafhoppers	2 pts.	May be applied on the day of harvest.
	False chinch bugs	1½ pts.	
	Mealybugs	2-2½ pts.	

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Crop	Pests Controlled	Rate/A	Interval (Days) Between Last Application and Harvest
Radish, Horseradish	Apnids	1 1/2-2 pts.	Do not apply within 7 days of harvest.
Rice	Rice leaf miner	2 1/2 pts.	Make first application shortly after the first rice blades appear on the surface of the water and repeat if necessary. Do not apply within 7 days of harvest.
	Rice stink bugs	1-1 1/2 pts.	Apply by airplane in 2 gallons of water per acre during the early milk and dough stage of growing rice. Repeat applications as necessary. Do not apply within 7 days of harvest.
Rutabaga	Aphids	1 1/2 pts.	Do not apply within 3 days of harvest.
Spinach	Aphids	2 pts.	Do not apply within 7 days of harvest.
Squash	Aphids Leaf miners Spider mites Pickleworm	2 pts.	Do not apply to squash unless plants are dry. Do not apply within 1 day of harvest.
	Cucumber beetles Squash vine borer	3 pts.	
Strawberries (Excluding soil incorporated)	Apnids Spider mites	1 1/2 pts.	Do not apply within 3 days of harvest.
	Field crickets Lygus bugs Scutellbugs Thrips	1 1/2-3 pts.	
	Potato leafhopper Strawberry leafroller Strawberry root weevii Whiteflies	1 1/2-2 1/2 pts.	
Sweet Corn	Japanese beetle	2 pts.	Do not apply within 5 days of harvest. Injury may occur in the whorl or to the silks.
Sweet Potatoes	Leafhoppers	1 1/2-2 pts.	Do not apply within 3 days of harvest.
	Morninglory leaf miner	2 1/2-3 pts.	
Tomatoes	Apnids	1 1/2 pts.	Do not apply within 1 day of harvest.
	Drosophila	2 1/2 pts.	
	Spider mites	1 1/2 pts.	
	Armyworms Fruitworms (California only)	2 3/4 qts.	Do not apply within 3 days of harvest.

Crop	Pests Controlled	Rate/A	Interval (Days) Between Last Application and Harvest
Turnip	Aphids Cabbage looper Imported cabbageworm	1-2 pts.	For control of caterpillars on summer and fall plantings in the South, begin when true leaves appear. On other plantings, and for control of other insects, begin when insects appear. Do not apply within 7 days of harvest if tops are to be used for food or feed.

Fruit and Nut

Crop	Pests Controlled	Rate/100 gals.	Rate/A	Interval (Days) Between Last Application and Harvest
Apricots	Aphids Codling moth European fruit lecanium Orange tortrix Soft brown scale Terrapin scale	1 1/2-2 pts.	4 1/2-6 pts.	Do not apply within 7 days of harvest.
	The rate for use on apricots is based on a standard of 300 gallons per acre dilute spray for mature trees.			
Avocado	Greenhouse thrips Latania scale Omnivorous looper Orange tortrix Soft brown scale	1 1/2 pts.	7 1/2 pts.	Do not apply within 7 days of harvest.
	The rate for use on avocados is based on a standard of 500 gallons per acre dilute spray for mature trees.			
Blackberry Boysenberry Dewberry Loganberry Raspberry	Aphids Rose scale chafers Japanese beetle Leafhoppers Mites Thrips	1 1/2 pts.	3 pts.	Do not apply within 1 day of harvest.
	The rates for use on brambles are based on a standard of 200 gallons per acre dilute spray.			
Blueberries	Blueberry maggots	1 pt. + 1 1/2 qts. Staley's Sauce Base No. 7	—	For use in the Northeast only. Apply in 100 gallons of water per acre. Do not apply within 8 hours of harvest.
	Cherry fruitworm	1 pt.	2 pts.	Do not apply within 1 day of harvest.
	Cranberry fruitworm	1 pt.	2 pts.	Make first application at egg hatch and repeat applications every 4 or 5 days until a total of four applications has been made. Do not apply within 1 day of harvest.

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Crop	Pests Controlled	Rate/ 100 gals.	Rate/A	Interval (Days) Between Last Application and Harvest
	Japanese beetle	3/4 pt.	1 1/2 pts.	Make application when first berries turn blue and at 10 day intervals as long as infestation persists. Do not apply within 1 day of harvest.
The rates for use on blueberries are based on a standard of 200 gallons per acre dilute spray.				
Cherry (Sweet and Tart)	Black cherry aphid Fruit-tree leafroller	1 1/2 pts.	6 pts.	Do not apply within 3 days of harvest.
	Cherry fruit fly Japanese beetle	1 pt.	4 pts.	
The rates for use on cherries are based on a standard of 400 gal./acre dilute spray for mature trees. Do not apply more than 8 lbs. of actual DCUGLAS 57% MALATHION per acre to cherry trees.				
Injury may occur on certain varieties of sweet cherries, particularly in the Northwest.				
Citrus Gracefruit Kumquat Lemon Lime Orange Tangerine Tangelo	Black scale (single and off-brooded) California red scale Citricola scale Purple scale Soft brown scale Yellow scale	1-1 1/2 pts.	—	Do not apply when trees are in bloom. Do not apply within 7 days of harvest.
	Florida purple scale Florida red scale	2 pts.	—	
	Citrus red mites Thrips	—	2 1/2 pts.	Apply in 200 gallons of water per acre. Do not apply when trees are in bloom. Do not apply within 7 days of harvest.
The rate for use on citrus is based on a standard of 500 gallons per acre dilute spray for mature trees.				
Currants Gooseberries	Japanese beetles	1 1/2 pts.	3 pts.	Do not apply within 3 days of harvest.
	Rose chafers Mites	1 pt.	2 pts.	
The rates for use on currants and gooseberries are based on a standard of 200 gallons per acre dilute spray.				
Figs	Dried fruit beetles Vinegar flies	—	2 qts. + 1-2 gals. unsulfured molasses	Do not apply within 3 days of harvest.
Grapes	Leafhoppers Spider mites	1 1/2 pts.	3 pts.	Do not apply within 3 days of harvest.
	European fruit lecanium	1 1/2 pts.	—	Make full coverage applications when newly hatched nymphs are migrating over vines, usually shortly after bloom. Do not apply within 3 days of harvest.
	Mealybugs	—	1 1/2 pts.	Apply in 50-100 gallons of water per acre. Do not apply within 3 days of harvest.

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Crop	Pests Controlled	Rate/100 gals.	Rate/A	Interval (Days) Between Last Application and Harvest
The rates for use on grapes are based on a standard of 200 gallons per acre dilute spray.				
Injury may occur on grapes of Almeria, Cardinal, Italia and Ribier varieties when sprays containing DOUGLAS 57% MALATHION are applied after clusters appear.				
Grape Vines (Overwintering on nursery stock only)	Grape phylloxera	3 pts.	—	Remove excell soil from the roots and dip in the DOUGLAS 57% MALATHION solution. Submerge the entire root system for 5 minutes. Keep the solution agitated at all times.
Macadamia Nuts	Green stink bugs	1 1/2 pts.	—	Apply when insects start to feed on the nuts and repeat as necessary. May be applied during harvest. No more than 15 lbs. of actual DOUGLAS 57% MALATHION per acre should be applied to macadamia nut trees.
Nectarines	Spider mites	1-2 pts.	3-6 pts.	Do not apply within 7 days of harvest.
	Plum curculio	2 pts.	6 pts.	
	The rates for use on nectarines are based on a standard of 300 gallons per acre dilute spray for mature trees. DOUGLAS 57% MALATHION may cause fruit spotting on nectarines.			
Pacaya	Agnids Mealybugs	1 1/2-2 pts.	—	May be applied on the day of harvest.
Peaches	Black cherry aphid Black peach aphid European red mite Green peach aphid Rusty plum aphid Japanese beetle Spider mites	1 pt.	3 pts	Do not apply within 7 days of harvest.
	Oriental fruit moth Plum curculio	2 pts.	3 qts.	
	Cottony peach scale European fruit lecanium Terrapin scale	2 pts.	—	Make full coverage applications at completion of hatching, about the last of June. Do not apply within 7 days of harvest.
The rates for use on peaches are based on a standard of 300 gal./acre dilute spray for mature trees. Do not apply more than 9 lbs. of actual DOUGLAS 57% MALATHION per acre to peach trees.				
Pecans	Agnids Spider mites Walnut aphid	1 1/2-2 pts.	7 1/2-10 pts.	May be applied on the day of harvest.
	European red mite	1 1/4 pts.	6 3/4 pts.	May be applied on the day of harvest.
	Pecan phylloxera	1 1/4 pts.	6 3/4 pts.	Apply when buds begin to develop and repeat as necessary. May be applied on the day of harvest.

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Crop	Pests Controlled	Rate/100 gals.	Rate/A	Interval (Days) Between Last Application and Harvest
	Pecan nut casebearer Walnut husk fly	1 1/4 pts.	6 1/4 pts.	Apply after first generation eggs begin to hatch. May be applied on the day of harvest.
	The rates for use on pecans are based on a standard of 500 gallons per acre dilute spray for mature trees 25-35 feet high.			
Walnuts	Aphids European red mite Walnut aphid	1/2 pt.	1 1/2-3 pts.	May be applied on the day of harvest.
	Walnut husk fly	1/2 pt.	1 1/2-3 pts.	Apply with conventional sprayer. For bait sprays, combine Staley's Sauce Base No. 2 or No. 7 at the rate of 2 qts./acre with DOUGLAS 57% MALATHION. May be applied on the day of harvest.
		—	3-4 pts.	Apply in 500 gal. of water/acre with air-carrier type sprayer. For bait sprays, combine Staley's Sauce Base No. 2 or 7 at the rate of 2 qts./acre with DOUGLAS 57% MALATHION. May be applied on the day of harvest.

Field Crops and Pasture and Range Grasses

Crop	Pests Controlled	Rate/A	Interval (Days) Between Last Application and Harvest
Alfalfa	Alfalfa weevil larvae Aphids Grasshoppers Lygus bugs Potato leafhoppers Spider mites Spittlebugs Stink bugs	1 1/2-2 pts.	Apply to alfalfa in bloom only in the evening or early morning when bees are not working in the field or are not hanging on outside of hives. May be applied on the day of harvest.
	Armyworms	2 pts.	
	Clover leaf weevil	1 1/2 pts.	
	Vetch bruchid	2-2 1/2 pts.	
Clover	Alfalfa weevil larvae Aphids Grasshoppers Lygus bugs Potato leafhoppers Spider mites Spittlebugs	1 1/2-2 pts.	Do not apply to clover in bloom. May be applied on the day of harvest.
	Armyworms	2 pts.	
	Clover leaf weevil	1 1/2 pts.	

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Crop	Pests Controlled	Rate/ 100 gals.	Rate/A	Interval (Days) Between Last Application and Harvest
Corn (Grain or Forage) (Field or Sweet)	Aphids Corn earworm Corn rootworm adults Grasshoppers Sap beetle Thrips	1 1/2 pts.		For control of corn earworm and sap beetles, begin treatments when 10% of the ears show silk. Repeat applications at 3-5 day intervals until 4-5 applications have been made. Do not apply within 5 days of harvest or forage use.
	Armyworms	1 1/2-2 pts.		
Injury may occur in the whorl and silk stages with DOUGLAS 57% MALATHION.				
Cotton	Brown cotton leafworm Cotton aphid Cotton leafworm Cotton leafperforator Desert spider mite Leafhoppers Lygus bugs Thrips Whiteflies	1/2-2 pts.		May be applied on the day of harvest. Consult local agricultural authorities for exact time of application.
	Boll weevil	2-4 pts.		
	Cotton fleahoppers	1-1 1/2 pts.		
	Fall armyworms Garden webworms Grasshoppers	1 1/2-3 pts.		
Lygus bugs Thrips	1-4 pts.			
Grasses (Barnyardgrass, Canarygrass, Fescue, Orchardgrass, Red top, Timothy, Yellow foxtail)	Cereal leaf beetle	1-1 1/2 pts.		May be applied on the day of harvest or grazing.
Pasture and Range Grass, Grass and Grass Hay	Aphids Grasshoppers Leafhoppers	1 1/2-2 pts. OR 1 1/2 pts. in 1 gal. of diesel fuel oil per acre		May be applied on the day of harvest or grazing.
	Armyworms	2 pts. OR 1 1/2 pts. in 1 gal. of diesel fuel oil per acre		
Small Grains (Barley, Oats, Rye, Wheat, Rice)	Cereal leaf beetle	1-1 1/2 pts.		Do not apply within 7 days of harvest or forage use.
	English grain aphids Grasshoppers Greenbugs	1 1/2 pts.		
	Winter grain mite	2 pts.		
Grain Sorghum	Greenbugs	1 1/2 pts.		Do not apply within 7 days of harvest or forage use.

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Crop	Pests Controlled	Rate/ 100 gals.	Rate/A	Interval (Days) Between Last Application and Harvest
Vetch	Omnivorous leaf tier Pea aphid Vetch bruchid	1 1/2-2 pts.		May be applied on the day of harvest or grazing.

Mosquito Control

Mosquito Larvae	13 fl oz per acre	For use in standing water ("Broadcast use only over intermittently flooded areas, stagnant water, temporary rain pools. Application may not be made around bodies of water where fish or or shellfish are grown and/or harvested commercially.") Mix in sufficient water or oil when applied by air or ground equipment.		
Mosquito adults	1 part to 28 parts water, fuel oil or diesel oil.	Spray building foundations; shrubs, low trees and lawn areas.		

OUTDOOR ORNAMENTALS

Flowers, Shade Trees, Shrubs

Injury may occur on Ferns, Hickory, Viburnum, Lantana, Crassula and Canaret; Juniper following the use of DOUGLAS 57% MALATHION, slight injury has also been reported on Boston, Pteris, and Maidenhair Ferns, Perunias, Small-Leaf Spirea, White Pine and Maples. Under Extreme heat, drought and disease conditions the emulsifiable concentrates may cause slight damage to elms.

Pest	Rate	Remarks
Aphids Spider mites	1 1/2 pts per 100 gal OR 2 teaspoons per gal	—
Bagworms Birch leaf miner Boxwood leaf miner	2 pts per 100 gal OR 2 teaspoons per gal	—
European pine shoot moth Four-lined leaf bug Japanese beetle adult Potato leafhopper Rose leafhopper Tarnished plant bug Thrips	1 1/2 pts per 100 gal OR 2 teaspoons per gal	—
Lace bug	1 pt per 100 gal OR 2 teaspoons per gal	—
Mealybugs Whiteflies	1 1/2 pts per 100 gal OR 2 teaspoons per gal	—
Oak kermes	2 pts per 100 gal OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage.
Tent caterpillar	2 pts per 100 gal OR 2 teaspoons per gal	—
Oyster shell scale	1 pt per 100 gal OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage.
Euonymus scale Scurfy scale	1 1/2 pt per 100 gal OR 2 teaspoons per gal	—
Azalea scale Magnolia scale Pine leaf scale	2 pts per 100 gal OR 2 teaspoons per gal	—

Pest	Rate	Remarks
Fletcher scale	2 pts per 100 gal OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage.
Florida red scale Juniper scale	2 pts per 100 gal OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage.
Black scale crawlers Soft brown scale	2 1/4 pts per 100 gal OR 2 teaspoons per gal	—
Monterey pine scale	2 1/2 pts per 100 gal OR 2 teaspoons per gal	—
Pine needle scale	4 pts per 100 gal OR 4 teaspoons per gal	—
Wax scale	4 pts per 100 gal OR 4 teaspoons per gal	Apply in spring when crawlers are active. Repeat 1 or 2 full-coverage applications at 10-day intervals.

Around the Home

Site	Pest	Rate	Remarks
Lawns	Ant mounds	1 1/2 pts/100 gal	Spray ant hills thoroughly so that they are well soaked. For other small ants in flower beds, lawns, around trees, spray lightly in the infested areas. Repeat in 10 to 15 days if ants return.
	Ground pearls	3 to 4 qts/100 gal	Make full coverage to soil surface when ground pearl nymphs are in the pink, "crawler" or active stage and immediately wash into soil with additional water.

On and Around Cull Fruit and Vegetable Dumps

Pest	Rate	Remarks
Drosophila flies Dried fruit beetles	1 1/2 gal per 100 gal water	Apply as a drench using 8 to 10 gal of spray per 100 sq ft. For best results, dumps should not be over 18 inches deep. DO NOT FEED TREATED FRUIT AND VEGETABLES.