

SEP 27 1993



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

5437139 $\frac{325}{17}$

Mr. Richard A. Zimmerman
Senior Project Manager
Valent U.S.A. Corporation
1333 N California Blvd. Suite 600
Walnut Creek, CA 94596-8025

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Dear Mr. Zimmerman:

Subject: Addition of Non-bearing Citrus
Orthene 75S Soluble Powder
EPA Registration No. 59639-26
Labeling Submitted February 3, 1993

The amendment referred to above, submitted in connection with registration under FIFRA, is acceptable, provided that you:

Submit one copy of your final printed labeling incorporating the following correction before you release the product for shipment.

Reformat your column headed "Recommended Application" so that it is clear that the restrictions "Do not graze treated areas" and "Do not harvest citrus for one year" are applicable to all of the specified uses on non-bearing citrus.

If this condition is 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 labeling constitutes acceptance of this condition.

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

Sincerely yours,

Robert A. Forrest
Product Manager (14)
Insecticide-Rodenticide Branch
Registration Division (H7504C)



Recycled/Recyclable
Printed on paper that contains
at least 75% recycled fiber



ORTHENE[®]

75 S Soluble Powder

(INSECTICIDE)

KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE BELOW FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

Active Ingredient: Acephate (O,S-Dimethyl acetylphosphoramide) 75%
Inert Ingredients 25%
"ORTHENE", Acephate
U.S. Pat. No. 3,914,417

Manufactured for
Valent U.S.A. Corporation
Valent Creek, CA 94588-8025
R Form 254-M Made in U.S.A.
EPA Reg. No. 59639-28-AA

ORTHENE KILLS FIRE ANTS

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Causes eye irritation. Avoid contact with eyes, skin and clothing. Avoid breathing dust or spray mist. Wash hands thoroughly after handling. Do not allow children or pets to come into contact with treated areas until sprays have dried.

STATEMENT OF PRACTICAL TREATMENT

If swallowed drink 1 or 2 glasses of water (or milk) and induce vomiting by touching the back of the throat with finger. If possible contact a physician, Poison Control Center, or emergency center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center. In case of eye contact, wash eyes with fresh water for 15 minutes. If irritation continues, see a doctor. For skin contact, wash skin with plenty of soap and water. If inhaled, remove from exposure area.

Physicians: Emergency Information—call 1-800-852-0899. Acephate is a cholinesterase inhibitor. If signs of cholinesterase inhibition appear, atropine is antidotal. 2-PAM may also be used in conjunction with atropine but should not be used alone.

WORKER SAFETY

USE ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT DURING MIXING/LOADING, APPLICATION, UNPAIR, AND CLEANING OF MIXING, LOADING, AND APPLICATION EQUIPMENT, AND DISPOSAL OF THE PESTICIDE, AND (areas for which a reentry interval has been established) EARLY REENTRY INTO TREATED AREAS: chemical-resistant gloves, long sleeved shirt, long legged pants, shoes and socks. If overhead exposure is likely, such as during flagging, wear a hood or wide brimmed hat. **WORK SAFETY:** Always wash hands, face and arms with soap and water before smoking, eating, drinking or tending. **AFTER WORK:** Before removing gloves, wash them with soap and water. Take off all work clothes and shoes. Shower using soap and water. Wear only clean clothes when leaving job. Do not wear contaminated clothing. Personal and protective clothing worn during work must be laundered separately from household articles. Store protective clothing separately from personal clothing. Clean or launder protective clothing after each use.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds. Applications may adversely affect birds in rangeland treatment areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Cover or soil-incorporate spills.

This product is highly toxic to bees exposed to direct treatment or residues 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.

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

REENTRY STATEMENT

Keep all unprotected persons out of operating areas or vicinity where there may be drift.

For use on agricultural crops, commercially grown ornamentals, commercial sod farms, and in greenhouses, reentry into treated areas is prohibited for 24 hours after the end of application unless the protective clothing specified elsewhere in this label is worn. For other uses, including golf courses and other non-agricultural areas, do not enter treated areas without protective clothing until sprays have dried.

States may require more restrictive reentry intervals, consult your State Department of Agriculture for information.

Labels or oral warnings regarding use of protective clothing and accidental exposure must be given to workers who are expected to be in treated areas or in areas about to be treated.

DIRECTIONS

Apply to strawberries only by sprinkler irrigation systems. Do not apply by chemigation to any other crop, or this crop using any other type of irrigation system.

Table of Equivalents

Amount of ORTHENE 75 S Soluble Powder	1 1/2 lbs.	1 lb.	3/4 lb.	4 oz.	2 oz.
Amount Active Contained	1 lb.	3/4 lb.	1/2 lb.	1/4 lb.	1/8 lb.

ACCEPTED
with COMMENTS
in EPA Letter Dated

SEP 27 1993

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
or amended, for the pesticide
registered under EPA Reg. No.

59639-26

COTTON

Crop	Insects	Amount ORTHERNE 75 S Per Acre	Further Use Instructions	Days to Harvest
Cotton	Thrips	4 oz	Apply in water at 3 to 10 gals spray per acre by air (minimum 5 gals/acre in CA, AZ) or 10 to 25 gals spray per acre by ground	21
	Plantbugs (Lygus)	1/2 to 1 1/2 lbs 1/2 to 1 1/2 lbs (CA, AZ)		
	flea hopper	1/2 lb	Apply when eggs or insects first appear. Repeat as necessary to maintain control	
	Cotton Aphid Whitefly	1/2 to 1 1/2 lbs		
	Armyworms Cabbage looper	1 1/2 lbs	Do not feed gin trash to livestock or allow animals to graze on treated areas	
	Bollworm Tobacco Budworm Adults Larvae	1/2 to 1 1/2 lbs (East of Rockies) 1 1/2 lbs (CA, AZ)		
	Eggs/ DEADHATCH™		Lygus - Use higher rate for lygus adults that have migrated into cotton	
	Sunkbugs (CA, AZ)	1 lb	Bollworm and Tobacco Budworm - Early season light infestation use 1/2 lb per acre. Mid and late season moderate to severe infestations use 1 to 1 1/2 lbs per acre. Apply when eggs appear and repeat at 3 to 7 day spray interval	
	Pink Bollworm (CA, AZ)	1 1/2 lbs	Adults/Larvae: Moths are controlled when they come in direct contact with spray particles during application. Moth kill is most likely to occur when application is made late in the evenings during periods of peak activity	
			Eggs: When spray particles come in direct contact with eggs, hatching larvae may be controlled as they consume and emerge from their egg casing	
		Pink Bollworm - Apply when insects appear and repeat at a 5 to 7 day spray interval		

COTTON TANK MIXES

Crop	Insects	Amount ORTHENE 75 S + LORSBAN® 4E Per Acre	Further Use Instructions	Days to Harvest
Cotton (CA, AZ)	Armyworms	1/3 to 1-1/3 lbs	Do not feed gin trash or treated forage to livestock. Do not allow livestock to graze on treated areas.	21
	Bollworm	1 to 2 pts		
Cotton (CA, AZ)	Cabbage Looper			
	Cotton Aphid			
	Cutworms			
	Flea hopper			
	Greenhoppers			
	Pink Bollworm			
	Plant Bugs (Lygus, Mirids)			
	Salt Marsh Caterpillar			
	Thrips			
	Tobacco Budworm			
	Whitefly			

Crop	Insects	Amount ORTHENE 75 S + PYDRIN® 2.4 EC Per Acre	Further Use Instructions	Days to Harvest
Cotton (except CA, AZ)	Tobacco Budworm	2/3 lb + 2-2/3 fl oz	Begin applications when eggs or insects appear and apply as needed to maintain control. Apply in 3 to 5 gals of water with aerial equipment or in 10 to 25 gals of water with ground equipment. Do not feed gin trash to livestock or allow animals to graze treated areas. Do not apply more than two (2) lbs active ingredient of PYDRIN to a crop in a growing season. All applicable directions, restrictions and precautions on the EPA registered labels are to be followed.	21

COTTON SEED HOPPER BOX TREATMENT (EXCEPT AZ, CA AND THE BLACK LANDS OF TEXAS)

Crop	Insects	Amount ORTHENE 75 S Soluble Powder Per Acre	Further Use Instructions
Cotton	Thrips	3 to 4 oz	Apply 3 to 4 oz ORTHENE 75 S Soluble Powder per acre in the planter box as a dry powder. Even coverage is required for acceptable insect control. To obtain even coverage, fill planter box 1/2 full of seed, add the proper amount of ORTHENE 75 S Soluble Powder and mix thoroughly with a stick. Add the remainder of the seed to the planter box and the additional required amount of ORTHENE 75 S Soluble Powder followed by thorough mixing. For improved mixing, premix seed with ORTHENE 75 S Soluble Powder in a suitable container, then pour treated seed into planter box. Loss of ORTHENE 75 S Soluble Powder will occur if air platters are used. Plants grown from improperly treated seed will not exhibit insect control. Do not use treated seed for food or feed purposes or process for oil.
	Cotton Aphids		
Cotton	Black (Greasy) Cutworm		

COTTON IN-FURROW APPLICATION

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Cotton	Aphids Thrips	0.5 to 1.0 lb. active	Refer to the ORTHENE 75 S conversion chart before making product application
ORTHENE 75 S CONVERSION CHART			
<u>LBS. A-1 TO OZ. FORMULATED PRODUCT</u>			
		0.5	10.7
		0.6	12.8
		0.7	14.9
		0.8	17.0
		0.9	19.2
		1.0	21.3
Apply 0.5 to 1.0 lb. active ORTHENE 75 S in 3 to 5 gals. of water per acre as an in-fur- row spray			
NOTE: For the Blacklands of Texas use only the 1.0 lb. active ORTHENE 75 S rate (21.3 oz. formulated product per acre.) ORTHENE 75 S can be mixed with fungicides that are sprayed in-furrow for disease control			
Flat-fan nozzles used for in-furrow applica- tion should be set so that the fanned spray pattern is aligned with the row to insure good spray deposition in the seed furrow. Cone type nozzles may not provide a spray pattern that insures maximum spray deposi- tion in the seed furrow, and should be a- voided. Spray systems that employ metal or plastic tubing for delivery of spray solution into the seed furrow should have tubing securely fastened to the furrow opener and should be checked frequently to insure that the tubing is properly positioned to deposit spray solution into the seed furrow			

FIELD CROPS

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Peppermint Sagebrush	Akita looper Cutworms Aphids	1 1/2 lbs	Apply in water at 5 to 10 gals. spray per acre by air or 20 to 100 gals. spray per acre by ground Apply when eggs or insects first appear. Make one repeat application, if necessary, to maintain control Do not apply more than 2 1/2 lbs. per acre per season Do not use spent mint hay for feed for dairy animals	14
Soybeans	Grasshoppers Soybean looper Cabbage looper Green Cloverworm Velvetbean caterpillar Bean leaf beetle Mexican bean beetle	1/2 to 1 1/2 lbs	Apply in water at 2 to 10 gals. spray per acre by air or 10 to 50 gals. spray per acre by ground. Repeat as necessary to maintain control Do not graze or cut vines for hay or forage	14
	Silver Spotted Skipper (except CA)	1 lb		
	Stink bugs Armyworms Three-cornered alfalfa hopper Corn Earworm	1 to 1 1/2 lbs		
Peanuts	Grasshoppers Thrips	1/2 to 1 1/2 lbs	Apply in water at 10 to 50 gals. spray per acre by ground or in 5 to 10 gals. spray per acre by air.	14 (if digging)
	Corn earworm Fall armyworm Leafhoppers Loopers Velvetbean caterpillar	1 to 1 1/2 lbs	Begin applications when insects first appear and repeat as needed to maintain control Do not feed treated forage or hay to livestock or allow animals to graze treated areas	

TOBACCO TOBACCO TRANSPLANT WATER APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Tobacco	Flea Beetle Green Peach Aphid Tobacco Aphid Cutworm, etc. Tobacco Thrips	1 lb	Provides control of early season flea beetles, green peach aphids, tobacco aphids, and cutworms for approximately 3 to 4 weeks after transplanting. For later season control of these insects, apply a foliar spray of ORTHENE 75 S Soluble Powder Apply in a minimum of 100 gals. of transplant water per acre Do not apply more than 1 lb. ORTHENE 75 S Soluble Powder per acre as a transplant water application as some phytotoxicity may occur

TOBACCO FOLIAR APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Tobacco (Flue Cured, Air Cured, Dark Fire Cured)	Grasshoppers Green Peach Aphid Flea Beetle Homworm Tobacco Thrips	1/2 to 1 1/2 lb	Apply in 10 to 50 gals. water per acre with ground equipment or a minimum of 3 gals. per acre by air Apply on a day schedule or as needed Do not re-enter sprayed areas until the spray deposit has dried	3
	Tobacco Aphid Vegetable Weevils Stinkbugs	1/2 to 1 lb		
	Budworm Cabbage Looper Cutworm	1 lb		

TOBACCO PLANT BED APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Tobacco Bed Treatment	Flea Beetle Green Peach Aphid Tobacco Aphid Cutworm	1 lb	Apply to foliage at the equivalent of 1 tablespoon in 1 gal. of water per every 1,000 sq. ft. of bed. Apply evenly to insure thorough coverage.

GREENHOUSE APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Tobacco	Cutworm Flea Beetle Green Peach Aphid Tobacco Aphid	1 lb	Apply to foliage at the equivalent of 1 tablespoon in 3 gals. water per every 1,000 sq. ft. of bed. Apply evenly to insure thorough coverage NOTE: Flooded water should be disposed of in the transplanted field through the transplant water or through foliar spray

TOBACCO SOIL APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S	Further Use Instructions	Days to Harvest
Tobacco	Imported Fire Ants	Mound Treatment - Dry Method: Evenly distributes 1 to 2 teaspoons over the mound Drench Method: Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound	For best results apply the material in the early morning or late afternoon when the ants are most active Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest Treat maximum of 13 mounds per acre Do not treat more than once per season	3

FRUIT CROPS

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Cranberries	Cranberry Blossom Worm Gypsy Moth False Armyworm Fireworms Spanworms Sparganothis	1-1 1/2 lbs	Apply in water by air, ground or with sprinklers Use a minimum of 2 gals. spray per acre by air. Use sufficient water to give thorough coverage with ground or sprinkler equipment Note: Limit to one application per growing season Do not apply from start of bloom until all berries set	90

SPRINKLER IRRIGATION APPLICATION TO CRANBERRIES:

This product may only be applied through sprinkler irrigation systems including center pivot, lateral move, and low, side (wheel) roll, travelers, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Solid Set Systems: Apply specified dosage for the entire length of the irrigation period or for a 30 to 60 minute period at the end of a regular irrigation set or as a 30 to 60 minute injection as a separate application not associated with a regular irrigation. Allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water to ensure the lines are flushed and free of remaining pesticide. A dye indicator may be injected into the lines to mark the end of the application period. See **NOTE**.

Center Pivot Systems: Inject the specified dosage per acre continuously for one complete revolution of the system. See **NOTE**.

NOTE: Constant agitation must be maintained in the chemical supply tank during the entire period of insecticide application. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance by removing the chemical from the zone of effectiveness.

VEGETABLE CROPS

Crops	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Beans and Lima Beans (Dry and Succulent forms)	Fleahoppers	1.3 to 2.3 lb	Apply in water at a minimum of 2 gals. spray per acre by air or 20 to 100 gals. spray per acre by ground	14 (snapbeans or dry beans)
	Aphids Bean leaf beetle Bean leafroller Cabbage looper Cutworms Green Cloverworm Leafhoppers Mexican bean beetle Plantbugs (lygus) Soybean looper Thrips Whitefly	2.3 to 11.3 lbs	Apply when eggs or insects first appear. Repeat at 7 to 10 day intervals as necessary. Severe insect infestations use higher rates. Do not feed treated vines to livestock	0 (lima beans - succulent form)
Brussels Sprouts Cauliflower	Green peach aphid	2.3 to 11.3 lbs	Apply in water at 25 to 150 gals. spray per acre by ground or a minimum of 5 gals. spray per acre by air	14
	Cabbage looper Diamondback moth Imported cabbage worm	1.3 lbs	Use the high rate when heavy infestations of aphids are present. Begin applications when insects or eggs first appear. Repeat application as needed. Do not apply more than 8 lbs. per acre per season to Brussels Sprouts. Do not feed trimmings to livestock or allow animals to graze in treated areas.	
Celery	Green peach aphid	2.3 to 11.3 lbs	Apply in water at 50 to 100 gals. spray per acre by ground or in a minimum of 5 gals. per acre by air	21
	Beet and Fall armyworms Cabbage looper	1.3 lbs	Apply when eggs or insects appear and repeat at 3 to 10 day intervals as necessary to maintain control. Trim plants (tops removed) before shipment or use. Do not use trimming (tops) for food or feed.	
Head Lettuce (Crisphead Type Only)	Aster Leafhopper Green peach aphid	2.3 to 11.3 lbs	Apply in water at 5 to 10 gals. spray per acre by air or 10 to 60 gals. spray per acre (broadcast) by ground	21. Spring summer and early fall crops in all areas and winter crops in Florida and Texas, late fall crops in Arizona, winter crops in Arizona and California
	Cabbage looper Armyworms	1.3 lbs	Apply as necessary to maintain desired control. Do not apply more than 6.23 lbs. per acre per season. Do not apply after first head begins to form to crops which germinate from mid September through November in desert areas of AZ and CA. Do not feed trimmings to livestock or allow animals to graze on treated areas.	
(Non-Jel)	Aphids	2.3 lb	For use in Midwestern, Eastern States and Puerto Rico only. Apply in water at 40 to 150 gals. spray per acre with ground equipment. Repeat at 7 to 10 day intervals as necessary. Do not exceed 7 applications per season.	7
Sweet peppers (Bell type)	Grasshoppers	1.3 to 2.3 lb	Apply in water at a minimum of 3 gals. spray per acre by air or 25 to 150 gals. spray per acre by ground	7
	Cabbage looper Green peach aphid Tobacco hornworm	2.3 to 11.3 lbs	Apply when eggs or insects appear. Repeat as necessary until insects have been reduced below economic numbers.	
	European corn borer	1 to 1-1/3 lbs		

PASTURE, RANGELAND, WASTELAND

Crops	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Pasture, Rangeland, Wasteland	Grasshoppers Mormon Crickets Black Grass Bugs	1.8 to 1.6 lb 10.094 to 8.125 lb active ingredient	Apply in water at a minimum of 1/2 gal. spray per acre by air or 10 to 20 gals. spray per acre by ground. Use the higher rate in thicker vegetation or on larger insects. An approved drift retardant additive may be added to aid in controlling drift and reducing evaporation of aerial sprays. Do not make more than one application per season. Do not apply when lactating dairy cattle are present. Do not graze or feed grass or grass hay to dairy animals. Remove meat animals from treated areas at least one day before slaughter if they were present at application or grazed treated areas within 21 days after application.	21 for hay

(Continued)

PASTURE, RANGELAND, WASTELAND

Crops	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Pasture, Rangeland, Wasteland	Imported Fire Ants	Mound Treatment Dry Method Evenly distribute 1 to 2 teaspoons over the mound. Drench Method Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active. Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest. Grass in treated area may be injured. Treat maximum of 13 mounds per acre. Do not treat mound more than once per season. Do not apply when lactating dairy cattle are present. Do not graze or feed grass or grass hay to dairy animals. Remove meat animals from treated areas at least one day before slaughter if they were present at application or grazed treated areas within 21 days after application.	21

COWA

SPECIALTY USES

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Non-Crop Areas (field borders, fence rows, roadsides, ditchbanks and borrow pits)	Grasshoppers	1.3 lb (25 lb active ingredient)	For early to mid season application to grasshoppers in field borders, fence rows, roadsides, ditchbanks, and borrow pits. Apply in 1 to 5 gals. of water by air, or in 10 to 20 gals. of water with ground equipment. Use the higher volumes when spraying heavier foliage. Do not graze or feed vegetation cut from treated areas.

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Non-Crop Areas	Imported Fire Ants	Mound Treatment—Dry Method Evenly distribute 1 to 2 teaspoons over the mound. Drench Method Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active. Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest. Grass in treated area may be injured. Do not treat mound more than once per season.

Plants	Insects	Amount ORTHENE 75 S Per 100 Gals	Time of Application	Recommended Application
Container Grown Nursery Stock (Arbutus, Azalea, Camelia, Rhododendron, Roses, Viburnum, Yew)	Black Vine Weevil Strawberry Root Weevil	1 lb (16 oz.)	Application should be made by mid-September for greenhouse stock and by mid-October for outdoor stock. Consult your local county extension agent for information on the identification and control of root weevils on ornamentals.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 100 gals. of solution so as to thoroughly drench the root system.
	Imported Fire Ants	1 lb (16 oz.)	Apply as needed to control the pest.	

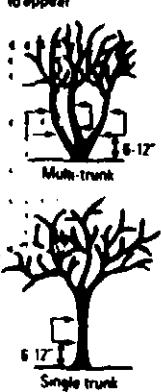
SMALL SPRAY EQUIPMENT

Preparation of ORTHENE Spray Mix using a 16 oz. Measuring Cup				
Label Recommendation ORTHENE in 100 Gals. Water	Equivalent ORTHENE in 20 Gals. Water*	Equivalent ORTHENE in 1 Gal. Water (top Gal.)		
1.3 lb	2.6 oz.			1
2.3 lb	4.6 oz.			2
1 lb	2.12 oz.			3
11.3 lbs	22.6 oz.			4
*Use in 16 oz. measuring cup				

Continued

TREES AND SHRUBS

Plants	Insects	Amount ORTHENE 75 S Per 100 Gals	Time of Application	Recommended Application
Trees and Shrubs (except Flowering Crab apple see below)	Aphids Bogworms Birch Leafminer Caterpillars Lace Bugs Leafrollers	1 1/2 lb (15.3 oz)	As the insects begin to appear	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer. The addition of a suitable sticker improves control of Gypsy Moth larvae.
	Douglas Fir Tussock Moth Larvae Gypsy Moth Larvae Webworms	2 3/4 lb (10.5 oz)	As the insects begin to appear	*Most flower applications. Adjust rates to 1 1/2 lbs. per 100 gals. water for Gypsy Moth control and 10 lb. per 100 gals. water for Tent Caterpillar control.
	Scales (Crawlers)	2 3/4 lb (10.5 oz)	As crawlers begin to appear. Repeat applications at a 2 week or more interval may be necessary where there is continuous crawler production.	Do not apply to Huckleberry, Balm of Gilead, Cottonwood, Lombardy Poplar and Viburnum suspensum.
				Nursery crops: Before treating large plantings, spray only a few plants and observe two weeks for phytotoxicity.
Trees and Shrubs	Ponderosa Pine Needle Miner	2 3/4 lb (10.5 oz)	Time of application is important. Consult your Farm Advisor or County Extension Agent.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray.
	Grasshoppers	2 3/4 lb (10.5 oz)	As the grasshoppers begin to appear	
	California Oakworm Cankers (Spring and Fall)	1/3 to 2/3 lb (5.3 to 10.5 oz)	As the insects begin to appear. Use the higher amount when the larger larvae are present.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer.
	Nantucket Pine Tip Moth Larvae	1 lb (16 oz)	Time of application is important. Consult your Farm Advisor or County Extension Agent. Repeat applications will be required for subsequent generations.	
	Root Weevil Adults	1 lb (16 oz)	Apply when first feeding damage occurs. Repeat applications, at four week intervals until the first heavy frost may be necessary for complete foliage protection.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray.
	Box Elder Bugs Sawflies Budworms Leafhoppers	1 lb (16 oz)	As the insects begin to appear	
	Japanese Beetle	1 1/3 lbs (21.3 oz)	As the Japanese Beetles begin to appear. Repeat applications, at 2 week intervals, may be necessary.	
	Elm Leaf Beetle (larvae)	1 1/2 lb (21.3 oz)	As the larvae begin to appear. ORTHENE will not prevent Elm Leaf Beetle eggs from hatching.	
Douglas Fir (Christmas Trees)	Douglas Fir Needle Midge	1 1/2 lb (10.5 oz)	Application should be made no more than 2 weeks prior to bud burst. For additional pest management information, consult your County Extension Service.	Apply the specified amount of ORTHENE 75 S Soluble Powder in not less than 2 gals. of spray per acre by air or in 100 gals. of spray per acre by ground.
Flowering Crabapples	Aphids Tent Caterpillars Leafrollers	1 1/2 lb (15.3 oz)	As the insects begin to appear	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer. Do not apply more often than 3 times in a growing season at a 4 week interval. Caution: Phytotoxicity has occurred on the following Crab apple varieties: Hops, Ichonoski, Malus floribunda, Pink Perfection, Red Wine and Snow Cloud.
Crape Myrtle	Aphids	2 to 4 level Tbs (0.8 to 1.1 lb) per 1 Tbs of water	As aphids begin to appear	Make a paint-on slurry by mixing the specified amount of ORTHENE 75 S Soluble Powder with 1 tablespoon of water. Remove the loose bark from the trunk areas to be treated. Completely paint a band around each trunk to a width twice its diameter. Application should be made to trunks within a zone 6 to 12 inches above the ground and below the point where branching begins. For multi-trunk plants be certain to treat all trunks. For either single or multi-trunk plants, application should be made as low as possible within the recommended treatment zone.



COMMERCIAL TURFGRASS, LAWNS, AND OTHER RECREATIONAL TURFGRASS AREAS
DO NOT ALLOW LIVESTOCK TO GRAZE TREATED AREAS. DO NOT FEED TREATED GRASS TO LIVESTOCK

Plant	Insects	Amount ORTHENE 75 S Per 1000 Sq. Ft.	Time of Application	Recommended Application
Turfgrass (Residential & Commercial)	Fall Armyworm Yellow Striped Armyworm Southern Armyworm	1/2 to 1.2 oz (1 1/2 to 3 1/2 lbs per acre)	As the insects appear. A repeat application at 2 week intervals may be necessary.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1000 sq. ft. Use a minimum of 5 gals. water per 1000 sq. ft. to obtain good coverage.
	Cutworm	12 to 24 oz (3 1/4 to 6 1/2 lbs per acre)		
	Chinch Bugs	12 to 24 oz (3 1/4 to 6 1/2 lbs per acre)	Apply as needed for adult population knock down (10 to 14 days)	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1000 sq. ft. Use 1 to 15 gals. water per 1000 sq. ft. to obtain good coverage.
	Fleas	12 to 24 oz	Apply as needed for knockdown (7 to 10 days) only of existing adult populations.	
	Sod Webworm (Crambus spp.)	1/2 to 1 oz (1 1/2 to 2 1/2 lbs per acre)	As sod webworms begin to appear. Use the higher amount when quick knockdown is needed or with heavy infestations.	
			Repeat application may be necessary. Do not repeat at more than 1 week intervals.	
	Leafhopper	1 oz (2 1/2 lbs per acre)	As the leafhoppers begin to appear. A repeat application at 1 week intervals may be necessary.	
	Mole Crickets (Except CA)	10 to 19 oz (2.66 to 5.2 lbs per acre)	As mole crickets begin to appear for knockdown of existing populations, more than one application may be required throughout the growing season. For heavy infestations, use the higher dosage rate.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1000 sq. ft. Use 1 to 15 gals. water per 1000 sq. ft. to obtain good coverage.
				Apply during late afternoon or early evening hours and after an irrigation. Do not irrigate after application.
				The use of a lemon fragrance substance in the spray mix may enhance control by acting as a flushing agent and thus provide increased mole cricket contact with the ORTHENE 75 S Soluble Powder. The following lemon-scented products have been shown to be effective flushing agents: Lemon Joy, Lemon Palmolive, and Mighty Myrt Products Manufacture. Base Pure Lemon Fragrance. The use rate for these lemon-scented products is 2 teaspoons per gallon of water for small total mix volumes or 6 fl. oz per 50 gals. of water for large total mix volumes.
	Greenbug (Schizaphis graminum) Grasshoppers	1/2 oz (1 1/2 lbs per acre)	Apply when insects or their damage first appears. Repeat as necessary. Application is not to be repeated at more than 1 week intervals.	Apply the specified amount of ORTHENE 75 S Soluble Powder. Use 4 gals. of water per 1000 sq. ft. to obtain good coverage. Do not mow turfgrass for at least 24 hours after application.
Dichondra	Cutworm Flea Beetle Southern Armyworm Yellow Striped Armyworm	10 to 19 oz (2.7 to 5.2 lbs per acre)	As the insects appear. Repeat at 2 week intervals as necessary.	Apply the specified amount of ORTHENE 75 S per 1000 sq. ft. Use a minimum of 15 gals. of water per 1000 sq. ft. to obtain good coverage.

Plant	Insects	Amount ORTHENE 75 S	Time of Application	Recommended Application
Turfgrass	Imported Fire Ants	Mound Treatment—Dry Method: Evenly distribute 1 to 2 teaspoons over the mound. Wet Method: Mix 1 oz in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active. Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest.	Apply the specified amount of ORTHENE 75 S Soluble Powder as directed. Grass in treated areas may be mowed. Do not treat mound more than once per season.

OUTDOOR WASP AND PERIMETER SPRAY

Location	Insects	Amount ORTHENE 75 S Per Gallon	Time of Application	Recommended Application
Outdoor Wasp and perimeter area	Wasps	16 oz (10.10 lbs)	Treat early or late in the day as wasps are generally less active during these times	Apply specified amount of ORTHENE 75 S Soluble Powder per each gallon of water used. Apply as a spot treatment to the nest, nest entrance, and surrounding areas where the wasps alight
	Cockroaches Ants Pillbugs (Perimeter Treatment)	16 oz (10.10 lbs)	As the insects appear	Apply specified amount of ORTHENE 75 S Soluble Powder per each gallon of water used Apply to a band of soil 6 to 10 feet adjacent to the structure and to a height of 2 to 3 feet on the foundation where pests may be active or may find entrance. Also apply as a residual spray or with a paint brush to surfaces of buildings, window frames, shutters, entryways, screens, eaves, patios, garages, carports, around garbage areas and other areas where these pests congregate

OUTDOOR FLORAL CROPS AND GROUND COVERS

Plant	Insects	Amount ORTHENE 75 S Per 100 Gals.	Time of Application	Recommended Application
Daisies Oakleaves Eastern Lily Gladiolus Gypsophila Pachysandra Peony Roses Sedum at Yarrow Zinnia	Aphids Thrips Lygus	2/3 lb (16.5 oz)	As insects begin to appear. Repeat applications may be necessary	Apply the specified amount of ORTHENE 75 S in 100 gals. water with a hydraulic sprayer as a full coverage spray. Multiple applications may cause slight leaf burn or marginal leaf necrosis on some varieties. Test on a few plants to determine varietal susceptibility
Roses Boston Ivy	Japanese Beetle	1-1/3 lbs (21.3 oz)	As the Japanese Beetles begin to appear. Repeat applications at 2 week intervals may be necessary	

GREENHOUSE FLORAL AND FOLIAGE PLANT CROPS

Plant	Insects	Amount ORTHENE 75 S Per 100 Gals.	Time of Application	Recommended Application
Roses	Leafrollers	4-10 lb (10.5 to 16 oz)	As leafrollers begin to appear. Use the higher amount when the large larvae are present	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray
Foliage Plants Orchids Anthuriums Cacti Poinsettia	Aphids	1-1/2 lb (15.3 oz)	As aphids begin to appear	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray
	Mealybugs Thrips Whiteflies	1-1/2 lb (15.3 oz)	As the insects begin to appear. A repeat application, at a 2 week interval, may be necessary for control of mealybugs and whiteflies	The addition of a wetting agent may be required on difficult to wet foliage Caution: Phytotoxicity has occurred on the following foliage plants: Blechnum gibbum, Cissus antarctica, Ficus triangularis, Fittonia verschaffeltii, Maranta leuconeura hercortiana, Pechystachya hirta, Plectranthus australis, Polypodium aureum, Polystichum, Pteris ensiformis, Tolmiea menziesii. Before treating large plantings spray only a few plants and observe 2 weeks for varietal phytotoxicity. Application of ORTHENE 75 S Soluble Powder on Poinsettias after bract formation may result in phytotoxicity on certain varieties
	Scales (Crawlers)	1-1/2 lb (15.3 oz)	As crawlers begin to appear. Repeat applications, at a 2 week or more interval, may be necessary where there is continuous crawler production	
	Sweet Potato Whiteflies (except CA and NY)	1/2 lb (5.3 oz) plus TAME 2.4 EC Spray 10 1/2 fl oz (10.2 fl oz)	Apply when insects first appear. If a population is well established, make one application of the tank mix and follow 5 to 7 days later with TAME alone at 10 fl oz/100 gals. See TAME label for instructions	For sweet potato whitefly control, apply the specified amounts of ORTHENE 75 S Soluble Powder plus TAME 2.4 EC Spray as a tank mix at a volume necessary to obtain good coverage. Follow the TAME label for specific instructions on the alternation of TAME plus ORTHENE and TAME alone and the rotation instructions to avoid potential resistance
Roses Carnations Chrysanthemums	Aphids Thrips	1/2 lb (10.5 oz)	As aphids begin to appear As thrips begin to appear or at the tight flower bud stage. Repeat applications may be necessary	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray Do not apply more often than once every 28 days to Carnations and Chrysanthemums Caution: Phytotoxicity has occurred on the following Chrysanthemum varieties: Albatross, Bonne Jean, Dixie, Jarland, Gem Iceberg, Pride, Showoff, Statesman, Tally Ho, Westward Ho, and Wild Honey. Before treating large Chrysanthemum plantings spray only a few plants and observe two weeks for varietal phytotoxicity. Do not apply to Chrysanthemums and Roses with open flowers

STORAGE AND DISPOSAL

PROHIBITIONS

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited.

STORAGE

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in cool, dry place. Protect from excessive heat. Do not contaminate food or foodstuffs. Do not store or transport near feed or food.

For help with any spill, leak, fire or exposure involving this material, call day or night 1-800-852-0099, or Chemtrec 1-800-424-9300.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Completely empty canister into application equipment. Do not reuse container. Dispose of empty canister in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT INFORMATION. READ BEFORE USING PRODUCT.

LIMITED WARRANTY: Valent U.S.A. Corporation warrants that this product conforms to the chemical description on the label and is reasonably fit for use under average conditions when used strictly in accordance with the directions on the labeling. Valent does not make nor authorize any agent or representative to make any other warranty, guarantee or representation, express or implied, concerning this product. Specifically, NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE IS MADE.

2. Critical and unforeseeable factors beyond Valent's control prevent it from eliminating all risks in connection with the use of this product. Such risks include, but are not limited to, damage to plants and crops to which product is applied, lack of complete control over the handling and application of this product, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit under average conditions for the uses stated on the labeling and even though label directions are followed. Buyer and user acknowledge and assume all risks and liability (except those assumed by Valent under 1 above) resulting from handling, storage, and use of the product.

3. Precautions stated on the labeling should be followed to avoid hazardous exposure to the product.

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LOREBAN® - Reg. TM of Dow Chemical Company for chlorpyrifos insecticide

PDORIN® - Reg. TM of E.I. du Pont de Nemours & Co., Inc. for fenvalerate insecticide

ORTHENE® - Reg. TM of Chevron Chemical Company for acephate insecticide

Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.

NOTE: This product is sold by weight and package is full when packed, but due to fluffy nature this material is inclined to settle.

COPY A

NON-BEARING CITRUS

Plants	Insects	Amount ORTHENE 75S per Acre	Time of Application	Recommended Application
Non-bearing Citrus (including citrus nursery seedlings)	Aphids Grasshoppers Katydid Mealybugs Orangedogs Plant Bugs Thrips Whiteflies	2/3 lb. (10.5 oz.)	Apply as needed for control of existing populations.	Apply ORTHENE 75S in 100 to 200 gallons of water per acre. Spray individual juvenile or non- bearing trees for coverage with total application not to exceed specified rate in lbs. per acre. Length of residual activity will depend upon spray coverage and the amount of moisture following application. Do not graze treated areas. DO NOT HARVEST citrus for one year after treatment.
	Imported Fire Ants	Foliar Spray 1.0 lbs. (16 oz.)	Apply as needed for control of existing populations.	For mound drench treatment, apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.
		Mound Treatment Drench Method: Mix 1 oz. in 5 gals. of water.		