

PM03 45639-198

4/16/98

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# Phaser<sup>®</sup> 50WSB

## INSECTICIDE

For Agricultural or Commercial use Only

**FOR USE IN CALIFORNIA**

**AGREVO<sup>®</sup>**

**ACCEPTED**

APR 16 1998

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 45639-198



**ACTIVE INGREDIENT:**  
Endosulfan (hexachlorohexahydromethano-2,4,3-benzodioxathiepin-3-oxide) 50.0%

**INERT INGREDIENTS:\*\*\*** 50.0%



**TOTAL** 100.0%

EPA Reg. No. 45639-198

**KEEP OUT OF REACH OF CHILDREN**

**DANGER — PELIGRO**

**POISON**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

**STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED:** Call a physician or Poison Control Center immediately. Vomiting should be induced only under medical supervision. Drink one or two glasses of water and induce vomiting by touching the back of the throat with finger, or by giving 1 ounce of syrup of ipecac, if available. If person is unconscious or convulsing, do not give anything by mouth and do not induce vomiting.

**IF INHALED:** Remove victim to fresh air. Apply artificial respiration if indicated. Get medical attention.

**IF ON SKIN:** Remove contaminated clothing and wash with soap and water. Get medical attention.

**IF IN EYES:** Flush eyes with plenty of water. Call a physician if irritation persists.

**NOTE TO PHYSICIAN:** Endosulfan is a central nervous system stimulant absorbable by mouth, inhalation or through contact with skin. It may cause convulsions. There is no specific antidote. Diazepam I.V. is the drug of choice. Barbituric acid derivatives such as phenobarbital may be used additionally. A neuromuscular blocking agent may be used if convulsions persist. This type of drug may be used only if complete control of respiration can be maintained. Epinephrine derivatives are absolutely contraindicated.

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**IN CASE OF MEDICAL EMERGENCIES OR HEALTH AND SAFETY INQUIRIES, OR IN CASE OF FIRE, LEAKING, OR DAMAGED CONTAINERS, INFORMATION MAY BE OBTAINED BY CALLING 800-228-5635, EXT. 202.**

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS  
(AND DOMESTIC ANIMALS)  
DANGER**

Fatal if swallowed or inhaled. Harmful if absorbed through skin. Causes moderate eye irritation. Do not breathe dust or spray mist. Avoid contact with skin, eyes, or clothing. Do not contaminate food or feed. Keep out of reach of domestic animals.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and Other Handlers Must Wear:**

- Coveralls over short-sleeved shirt and short pants.
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- A respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G)
- Add a chemical-resistant apron when cleaning equipment, mixing or loading

**ENGINEERING CONTROL STATEMENT**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish, birds and other wildlife. Birds feeding on treated areas may be killed. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Due to the risk of runoff and drift, do not apply within a distance of 300 feet of lakes, ponds, streams, and estuaries. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where fish, shrimp, crab, and other aquatic life are important resources. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. This product must not be used in areas where impact on threatened endangered species is likely. Contact your State Fish and Game Agency before applying this product. Apply this product only as specified on this label. This pesticide is toxic to bees exposed to direct application. Applications should be timed to coincide with periods of minimum bee activity, usually between late evening and early morning.

**STORAGE AND DISPOSAL**

**PESTICIDE STORAGE:** Do not store in or around the home or store near heat, open flame, or hot surfaces.

Keep out of reach of children and animals. Store in original containers only. Store in cool, dry place and avoid excess heat. Carefully open containers. After partial use, fold and roll back bags, clamp, and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

**In case of spill:** Avoid contact, isolate the area, and keep out animals and unprotected persons.

**To confine spill:** If liquid, dike surrounding area or absorb with sand, cat litter, or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticides, 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:** When all water soluble bags have been used, the empty outer bag should be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**THIS PRODUCT IS INTENDED  
FOR USE IN CALIFORNIA.**

**DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product through any type of irrigation system.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls over short-sleeved shirt and short pants; waterproof gloves; chemical-resistant footwear plus socks; protective eyewear; chemical-resistant headgear for overhead exposure

**DIRECTIONS FOR USE OF WATER SOLUBLE BAGS**

PHASER® 50WSB Insecticide is a wettable powder formulation individually packaged in 1-pound units in a translucent bag contained in an outer package.

**DO NOT OPEN WATER SOLUBLE BAGS.**

**DO NOT ALLOW THE INNER BAG TO BECOME WET BEFORE ADDING TO SPRAY OR NURSE TANK.**

**DO NOT HANDLE THE INNER BAG WITH WET HANDS OR WET GLOVES.**

**RESEAL OUTER BAG TO PROTECT REMAINING INNER BAG(S).**

Fill the spray tank with one-half of the total amount of water to be used. Open the outer wrapper of each product container to be used. Immediately dump the required number of bags into the spray tank.

Determine the total amount of PHASER 50WSB Insecticide to be added to the spray tank, based on the rates in the crop recommendations. For each pound of wettable powder to be added to the spray tank, use one 1-pound bag. For example, if it is determined that 10 pounds of PHASER 50WSB Insecticide should be added to the spray tank, add ten 1-pound bags. Where rates are expressed as fractions of pounds, prepare the tank load to the lower of the nearest whole pound.

Operate the agitator while mixing. Cooler water temperatures increase the time needed to completely dissolve the bags. Mix thoroughly to fully disperse and suspend the wettable powder. Maintain agitation during storage in nurse or supply tank, and during application.

PHASER 50WSB Insecticide is compatible with most commonly used pesticides and liquid fertilizers. However, the water-soluble bags must be completely dissolved before adding any other products. Do not use PHASER 50WSB Insecticide in a tank mix with products containing boron, chromium, or other micronutrients.

**GENERAL INSTRUCTIONS**

Not for use or storage in or around the home.

Apply the listed amount per acre when insects first appear and repeat as required, unless otherwise noted, to maintain effective control. Use in sufficient water for thorough coverage of listed crops, unless otherwise noted. Coverage of upper and lower leaf surfaces is essential for ground control. For ground application, apply recommended amount of pesticide in a minimum of 10 gallons of water per acre on vegetable or row crops, unless otherwise noted. Observe use limitations. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides.

When applying this material by aircraft, mix the recommended amount with sufficient water to provide a minimum of 1 gallon of finished spray per acre on vegetable and field crops, unless otherwise noted, and a minimum of 20 gallons of finished spray per acre on fruit and nut trees and on vines. When applying 4 pounds or more of 50% PHASER 50WSB Insecticide, mix in a minimum of 10 gallons of water.

Do not plant root crops other than carrots, potatoes, sweet potatoes, and sugar beets as follow-up crops.

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## PROCEDURES FOR REDUCING RISK OF CONTAMINATION OF AQUATIC ECOSYSTEMS

### FOR CROP USES LISTED ON THE PRODUCT LABEL

Endosulfan may be a source of contamination in aquatic ecosystems as a result of runoff from agricultural land due to discharge of irrigation water or during periods of heavy rainfall.

To minimize the chance of aquatic impact, the following conditions must be met to allow endosulfan applications:

### DIRECTIONS FOR USE (GENERAL)

IN ADDITION TO SPECIFIC INSTRUCTIONS UNDER DIRECTIONS FOR USE ON THE PRINCIPAL LABELS, THE FOLLOWING CONDITIONS MUST ALSO BE FOLLOWED FOR USE IN CALIFORNIA:

1. Do not apply this product to fields during irrigation or irrigate for 72 hours following an application.
2. Do not apply this product through any type of irrigation system.
3. Do not apply more than 1.5 lbs. a.i./acre/application or more than 3.0 lbs. a.i./acre/season. (Orchard crops and strawberries exempted on rate/acre/application restriction).
4. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.
5. Do not apply by ground or air within a distance of 300 feet to natural bodies of water including lakes, ponds, streams, and estuaries.

### FOR DRIFT CONTROL

1. All application equipment should be properly maintained and calibrated using appropriate carriers.
2. Do not make aerial or ground applications during temperature inversions.
3. Make aerial or ground applications when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 10 mph. Do not discharge at a height of more than 10 feet above the crop or target.
4. For aerial applications a positive shutoff system shall be in place to control flow of liquid to spray nozzles as follows: each individual nozzle shall be equipped with a check valve and the flow controlled by a suckback device or a boom pressure release device; or each nozzle shall be equipped with a positive action valve.
5. For aerial applications, the spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor vortices. The working boom length must not exceed 75 percent of wing span or rotor diameter.
6. Aircraft boom pressure shall not exceed 40 pounds per square inch.
7. Aircraft nozzles shall be equipped with orifices directed backward parallel to the horizontal axis of the aircraft in flight.

8. Aircraft nozzles shall not be equipped with any device or mechanism which would cause a sheet, cone, fan, or similar type dispersion of the discharged material except as otherwise provided.
9. Fixed wing aircraft and helicopters operating in excess of 60 mph shall be equipped with jet nozzles having an orifice not less than  $\frac{1}{16}$  inch in diameter (D-4 or larger).
10. Helicopters operating at 60 mph or less shall be equipped with nozzles having an orifice not less than  $\frac{1}{16}$  inch in diameter. A number 46 or equivalent whirlplate may be used.
11. For ground applications, equipment other than hand-guns shall be equipped with nozzles having an orifice not less than  $\frac{1}{16}$  inch in diameter or larger. Boom nozzles shall be operated at a boom pressure not to exceed 30 pounds per square inch.

### ACCEPTABLE SITES FOR ENDOSULFAN APPLICATION

1. FIELDS, WITH NO DRAINS, HAVING CONTAINMENT THROUGH BERMS (able to hold irrigation water and normal rainwater), LEVEES AND NON-DRAINING CIRCULATION SYSTEMS.
2. FIELDS WITH DRAINS, BUT DRAINAGE FLOWS TO SUMP, FARM POND, EVAPORATION POND OR RECIRCULATION SYSTEM WITHOUT DRAINAGE (uncontrollable overflow acceptable, e.g., 10 or 100 year flood). Only grower maintained recirculation systems without drainage are acceptable.
3. FIELDS WITH SURFACE DRAINS THAT NATURALLY FLOW ONTO PASTURELAND OR FALLOW FIELDS THAT HAVE NO CHANNELED DRAINAGE AND ARE AT LEAST 300 FEET LONG.

### UNACCEPTABLE SITES FOR ENDOSULFAN APPLICATION

1. FIELDS DRAINING DIRECTLY INTO SURFACE WATERS SUCH AS STREAMS, RIVERS, LAKES, PONDS, MARSHES, BAYS, ESTUARIES, OR THE OCEAN.
2. FIELDS DRAINING INTO SURFACE DRAINAGE DITCHES OR CANALS THAT FLOW DIRECTLY INTO SURFACE WATERS SUCH AS STREAMS, RIVERS, LAKES, PONDS, MARSHES, BAYS, ESTUARIES, OR THE OCEAN.
3. ANY AND ALL FIELDS WITH SURFACE DRAINAGE PATTERNS IN THE MOSS LANDING DRAINAGE SYSTEM HAVING MAIN ARTERIES THAT DRAIN INTO ELKHORN SLOUGH (northern portion of Monterey County).
4. ANY AND ALL FIELDS WITH DRAINAGE PATTERNS IN THE SAN DIEGO CREEK DRAINAGE SYSTEM HAVING MAIN ARTERIES THAT DRAIN INTO NEWPORT BAY.

**OBSERVE DAYS INTERVAL BETWEEN LAST APPLICATION AND HARVEST INDICATED BY NUMBER IN ( ) FOLLOWING THE CROP NAME.**

**APPLES (30)**

Insects Controlled	Rate of Application	Method of Application
Aphids (including apple aphid, rosy apple aphid, woolly apple aphid) Apple rust mite White apple leafhopper (first generation)	1 lb. per 100 gals. or a maximum of 5 lbs. per acre	For best control of first generation white apple leafhopper, apply when nymphs first appear on leaves. If necessary, prior to petal fall, use 1 1/2 lbs. per 100 gals. to control apple aphids and rosy apple aphids.
<p>Do not feed pomace from treated apples to livestock. Do not feed cull fruits to animals or allow livestock to graze in treated orchards. Do not make more than 2 applications during the fruiting period. Do not make more than 3 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.</p>		

**APRICOTS (30), NECTARINES (30), PEACHES (30)**

Insects Controlled	Rate of Application	Method of Application
Aphids (including black cherry aphid, black peach aphid, green peach aphid, rusty plum aphid) Catfacing insects (Stink bug type) Peach silver mite Peach twig borer	1 lb. per 100 gals. or 4 to 5 lbs. per acre	Make applications when insects appear or feeding is noticed.
<p>Do not feed cull fruits to animals or allow livestock to graze in treated orchards. Do not make more than 2 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.</p>		

**BEANS, Succulent and Dry (except Lima Beans) (3), and SOUTHERN FIELD PEAS (Succulent type, including Black-eyed Peas, Crowder Peas and Southern Peas) (3)**

Insects Controlled	Rate of Application	Method of Application
Black bean aphid Bean leaf skeletonizer Cucumber beetle Flea beetle Green stink bug Mexican bean beetle	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Aphids Western bean cutworm Whitefly	2 lbs. per acre	
<p>Do not feed treated threshings or allow livestock to graze in treated fields. Do not use on lima beans that are to be removed from the field for processing. Do not make more than 3 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.</p>		

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**BROCCOLI (7), BRUSSELS SPROUTS (14), CABBAGE (7), CAULIFLOWER (14)**

Insects Controlled	Rate of Application	Method of Application
Cabbage aphid Cabbage looper Cross-striped cabbageworm Diamondback moth (larvae) Flea beetle Harlequin bug Imported cabbageworm Leafhopper Stink bug	1½ to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Armyworm Cutworm Whitefly	2 lbs. per acre	
Do not make more than 2 applications per year. Do not exceed a maximum of 2 lbs. active ingredient (4 lbs. 50WSB) per acre per year.		

**CARROTS (7)**

Insects Controlled	Rate of Application	Method of Application
Green peach aphid	1 to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Flea beetle Whitefly	2 lbs. per acre	
Do not use tops for food or feed. Do not make more than 1 application per year. Do not exceed a maximum of 1 lb active ingredient (2 lbs. 50WSB) per acre per year.		

**CELERY (4)**

Insects Controlled	Rate of Application	Method of Application
Green peach aphid Cabbage looper	1 to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Flea beetle Whitefly	2 lbs. per acre	
Do not make more than 1 application per year. Do not exceed a maximum of 1 lb. active ingredient (2 lbs. 50WSB) per acre per year.		

**CELERY (7)**

Insects Controlled	Rate of Application	Method of Application
Green peach aphid	1 lb. per acre	Make applications when insects appear or feeding is noticed.
Do not make more than 2 applications per year. Do not exceed a maximum of 1 lb. active ingredient (2 lbs. 50WSB) per acre per year.		

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**CHERRIES (21)**

Insects Controlled	Rate of Application	Method of Application
Black cherry aphid Green fruitworm Plum rust (nursery mite)	1 lb. per 100 gals. or 4 to 5 lbs. per acre	Make applications when insects appear or feeding is noticed.
Pacific Northwest only: Eyespotted bud moth Fruittree leafroller	1 lb. per 100 gals. or 4 to 5 lbs. per acre	For bud moth control, apply at "popcorn" stage. For leafroller control, apply during pre-pink stage of growth.

Do not feed cull fruits to animals or allow livestock to graze in treated orchards.  
Do not make more than 2 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.

**CHERRY, PEACH, PLUM NURSERY STOCK DIP**

Insects Controlled	Rate of Application	Method of Application
Peachtree borer	4 lbs. per 40 gals.	Mix thoroughly. Immerse trees so that the roots and crowns are covered well above the grafting bud scar.

Plant immediately or dry before returning stock to storage.  
Full Personal Protective Equipment (PPE) requirements for applicators also apply to this dipping operation.

**CITRUS (Non-Bearing Trees and Nursery Stock)**

Insects Controlled	Rate of Application	Method of Application
Citrus aphid	1 lb. per 100 gals. or a maximum of 5 lbs. per acre	Make applications when insects appear or feeding is noticed.

Do not apply to bearing trees or trees that will bear fruit within 12 months.  
Do not make more than 2 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.

**COLLARDS (21)**

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage looper Diamond moth (larvae) Flea beetle Harlequin bug Imported cabbageworm Leafhopper Whitefly	1 1/2 lbs. per acre	Make application when insects appear or feeding is noticed.

Do not make more than 1 application per year.  
Do not exceed a maximum of 3/4 lb. active ingredient (1 1/2 lbs. 50WSB) per acre per year.

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**CUCUMBERS (2), MELONS (2), SUMMER AND WINTER SQUASH (2)**

Insects Controlled	Rate of Application	Method of Application
Aphids Cucumber beetle Melonworm Pickworm Rindworm (on watermelons) Squash beetle Squash bug Squash vine borer Striped flea beetle	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed. For squash vine borer control, apply weekly to flower buds, stems, and vines beginning when moths first appear.
Cabbage looper Omnivorous leafroller Whitefly	2 lbs. per acre	
Do not make more than 3 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		

**EGGPLANT (1)**

Insects Controlled	Rate of Application	Method of Application
Blister beetle Colorado potato beetle Flea beetle Green peach aphid Green stink bug Whitefly	1 lb. per acre	Make application when insects appear or feeding is noticed.
Do not make more than 1 application per year. Do not exceed a maximum of 0.5 lb. active ingredient (1 lb. 50WSB) per acre per year.		

**FILBERTS (1)**

Insects Controlled	Rate of Application	Method of Application
Filbert aphid Filbert leafroller	1 lb. per 100 gals. or 3 to 4 lbs. per acre	Make applications when insects appear or feeding is noticed.
Do not graze livestock on orchard crops or grasses in treated areas. Do not exceed 2 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		

**GRAPES (7)**

Insects Controlled	Rate of Application	Method of Application
Grape leafhopper Grape phylloxera (leaf form) Rose chafer	1 lb. per 100 gals. or 2 to 3 lbs. per acre	Make applications when insects appear or feeding is noticed.
Do not use on Baco No. 1, Baco Noir, Concord, Seibel 7053 (Chancellor), Seibel 8357 (Colobel), Seibel 13053 (Cascade) varieties of grapes as severe plant injury is likely to occur. Do not make more than 3 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		



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**KALE (21)**

Insects Controlled	Rate of Application	Method of Application
Cabbage flea beetle Harlequin bug Imported cabbageworm	1 1/2 lbs. per acre	Make application when insects appear or feeding is noticed.
Do not make more than 1 application per year. Do not exceed a maximum of 3/4 lb. active ingredient (1 1/2 lbs. 50WSB) per acre per year.		

**LETTUCE (14)**

Insects Controlled	Rate of Application	Method of Application
Cabbage looper Diamondback moth (larvae) Green peach aphid Imported cabbage worm	1 1/2 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Whitefly	2 lbs. per acre	
On Head Lettuce: Do not make more than 3 applications after thinning. Remove wrapper leaves at harvest. On Leaf Lettuce: Do not make more than 2 applications per year. Do not feed crop refuse to livestock. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		

**MUSTARD GREENS (21)**

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage looper Diamondback moth (Larvae) Flea beetle Harlequin bug Whitefly Imported cabbageworm	1 1/2 lbs. per acre	Make application when insects appear or feeding is noticed.
Do not make more than 1 application per year. Do not exceed a maximum of 3/4 lb. active ingredient (1 1/2 lbs. 50WSB) per acre per year.		

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**PEARS (7)**

Insects Controlled	Rate of Application	Method of Application
Pear psylla	5 lbs. per acre	Apply in a minimum of 10 gals. of water for aerial application, in 40 gals. of water for semi-concentrate, or in 300 gals. of water for dilute application. Apply when adults are first observed or nymphs are small and repeat to maintain control.
Pear rust mite Conspere stink bug (foliar treatment)	1 lb. per 100 gals. or 4 to 5 lbs. per acre	Make applications when insects appear or feeding is noticed. Stink bugs must be wet by spray to obtain control.
Conspere stink bug (soil treatment)	1 lb. per 100 gals; 200 to 400 gals. per acre	Apply to orchard floor and around trees prior to bloom.
Pear leaf blister mite	½ to 1 lb. per 100 gals.	Apply to trees as a post-harvest or dormant treatment.

Do not feed cull fruits to animals or allow livestock to graze in treated orchards.  
Do not make more than 2 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.  
**NOTE:** Aerial application may not result in satisfactory control and should only be employed if impossible to apply by ground.

**PECANS**

Insects Controlled	Rate of Application	Method of Application
Black pecan aphid Pecan nut casebearer Spittlebug	1½ lbs. per 100 gals.	Make applications when insects appear or feeding is noticed. For casebearer, apply when eggs of first generation appear on the tips of the young nuts. Another application may be required after the second generation of eggs is deposited. For spittlebug, apply when first leaves are half grown and repeat as required.

Do not apply after shuck split.  
Do not graze livestock on orchard crops or grasses in treated areas.  
Do not make more than 2 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.

**PEPPERS (1)**

Insects Controlled	Rate of Application	Method of Application
Flea beetle Green peach aphid Hornworm Pepper maggot	1 lb. per acre	Make applications when insects appear or feeding is noticed.

Do not make more than 2 applications per year.  
Do not exceed a maximum of 1 lb. active ingredient (2 lbs. 50WSB) per acre per year.

**PEPPERS (4)**

Insects Controlled	Rate of Application	Method of Application
Flea beetle Green peach aphid Hornworm Pepper maggot	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Whitefly	2 lbs. per acre	

Do not make more than 2 applications per year.  
Do not exceed a maximum of 2 lbs. active ingredient (4 lbs. 50WSB) per acre per year.

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**PLUMS (7) PRUNES (7)**

Insects Controlled	Rate of Application	Method of Application
Fruittree leafroller (Pacific Northwest Only)	1 lb. per 100 gals. or 4 to 5 lbs. per acre	Apply during pre-pink stage of growth when insects appear or feeding is noticed.
Aphids (including hop aphid, leafcurl aphid, thistle aphid) Plum rust (nursery) mite	1 lb. per 100 gals. or 4 to 5 lbs. per acre	For control of aphids, apply when eggs hatch during pre-bloom or petal fall. Summer applications should be made before leaves curl.
Peach twig borer	1½ lbs. per 100 gals. or 4 to 5 lbs. per acre	Make applications when insects appear or feeding is noticed.
Lesser peachtree borer Peachtree borer	1 to 1½ lbs. per 100 gallons or 4 to 5 lbs. per acre	Best control is obtained with a single application, post-harvest after leaves have dropped. Spray all bark areas from ground level to lower scaffold limbs.

Do not allow livestock to graze on orchard crops or grasses in treated areas.  
Do not make more than 2 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.

**POTATOES (1)**

Insects Controlled	Rate of Application	Method of Application
Aphids Armyworms Colorado potato beetle Green stink bug Leaffooted bug Plant bug Potato flea beetle Potato leafhopper Potato tuberworm Threelined potato beetle	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
False chinch bug Whitefly	2 lbs. per acre	
European corn borer Potato psyllid	1½ to 2 lbs. per acre	

Do not make more than 6 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.

**SPINACH (21)**

Insects Controlled	Rate of Application	Method of Application
Crown Mite Flea Beetle Green peach aphid Whitefly	1½ lbs. per acre	Make application when insects appear or feeding is noticed.

Do not make more than 1 application per year.  
Do not exceed a maximum of 0.75 lbs. active ingredient (1½ lbs. 50WSB) per acre per year.

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**STRAWBERRIES ( 4 )**

Insects Controlled	Rate of Application	Method of Application
Meadow spittlebug Strawberry aphid Tarnished plant bug Whitefly	2 lbs. per acre	Make applications when insects appear or feeding is noticed. Do not reapply within 15 days or more than twice during a 35-day period when fruit is present.
Cyclamen mite	4 lbs. per acre in 400 gallons of water	Make applications when insects appear or feeding is noticed. Thoroughly wet the foliage, stem and crown of the plant. For multiple applications, do not apply at intervals less than 35 days during the fruit season.

Do not make more than 3 applications per year.  
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.

**STRAWBERRIES - Northwest Use Only**

Insects Controlled	Rate of Application	Method of Application
Garden symphylan (aids in reducing damage)	2 lbs. per 100 gallons	Mix thoroughly. Dip entire plant. When immersing bundles of plants, make certain any trapped air is forced out to assure thorough wetting of entire plant.

Drain and allow plants to dry before setting them out in the field.  
Full Personal Protective Equipment (PPE) requirements for applicators also apply to this dipping operation.

**SWEET POTATOES (1)**

Insects Controlled	Rate of Application	Method of Application
Sweet potato flea beetle Sweet potato weevil	1 lb. per acre	Make applications when insects appear or feeding is noticed. For flea beetle control, begin applications shortly after transplanting or as soon as flea beetles appear. For sweet potatoe weevil control, apply in sufficient water for complete coverage. Applications may be made to transplants in the nursery and/or in the field. Repeat application may be made as necessary.

Do not feed cull potatoes to livestock or allow livestock to graze in treated fields.  
Do not make more than 3 applications per year.  
Do not exceed a maximum of 1½ lbs. active ingredient (3 lbs. 50WSB) per acre per year.

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**TOMATOES (Field and Greenhouse) (2)**

Insects Controlled	Rate of Application	Method of Application
Aphids Blister beetle Colorado potato beetle Flea beetle Tomato hornworm Webworm (California only)	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Cabbage looper Stink bug	1 1/2 to 2 lbs. per acre	
Tomato fruitworm Tomato russet mite Whitefly Yellowstriped armyworm	2 lbs. per acre	
Whitefly	1 lb. per 100 gals. of water. Use 100 to 200 gals. of spray per acre.	Make applications when insects appear or feeding is noticed. Higher spray volumes may be necessary for thorough coverage when high Whitefly populations exist.
Do not make more than 6 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		

**WALNUTS**

Insects Controlled	Rate of Application	Method of Application
Walnut aphid	3 to 4 lbs. per acre (Apply in a minimum of 100 gallons of water per acre.)	Make applications when insects appear or feeding is noticed.
Do not apply after husk split. Do not graze livestock on orchard crops or grasses in treated areas. Do not make more than 2 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		

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# COMMERCIALLY GROWN ORNAMENTALS

## ORNAMENTAL PLANTS

### ORNAMENTALS (Greenhouse and Out-of-Doors)

Insects Controlled	Rate of Application	Method of Application
Aphids Cyclamen mite Rose chafer Whitefly	1 lb. per 100 gallons	Make applications when insects appear or feeding is noticed.
<p>On chrysanthemums, best results will be obtained if applied before plants flower.            Do not apply to "Bonnafon Deluxe", "Fred Shoemith", and "White Knight" chrysanthemums as injury may result.            Do not use on Birch trees.            Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.</p>		

## ORNAMENTAL TREES AND SHRUBS

### DOUGLAS FIR (Grown for Ornamentals, Nursery Stock or Christmas Trees) *Pacific Northwest Only*

Insects Controlled	Rate of Application	Method of Application
Aphids Cooley spruce gall Adelgid Douglas fir Needle midge	1 lb. per 100 gallons	Make applications when insects appear or feeding is noticed. For control of Gall Adelgid, apply when white cottony tufts appear. For control of Needle Midge, apply in late April or early May just before buds open.
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WSB) per acre per year.		

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NOTES

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**IMPORTANT: READ BEFORE USE**

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