

NOV 28 1995

Dr. Berthold Volger
AgrEvo USA Company
Little Falls Centre One
2711 Centerville Road
Wilmington, DE 19808

Dear Dr. Volger:

Subject: Amendment - Update label
Phaser 50 WP
EPA Reg. No. 45639-194
Your submission dated May 16, 1995

The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(7)(a), is acceptable provided that you:

1. Submit and/or cite all data or other material required for registration/reregistration of your product under FIFRA section 3(c)(5) or FIFRA section 4 when the Agency requires all registrants of similar products to submit such data.
2. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling
 - a. In the ingredients statement, delete the hyphen between "benzodio" and "xathiepin" in the endosulfan formula name.
 - b. In the Personal Protective Equipment listing, the correct glove listing is "waterproof gloves" rather than "Chemical resistant gloves such as barrier laminate or viton ≥14 mils", since there is no solvent in this product.
 - c. The last item of the Personal Protective Equipment entry should read "Add a chemical-resistant apron when cleaning equipment, mixing or loading." This emphasizes that the apron is to be worn in addition to the other specified protective equipment, and is the wording indicated in 40 CFR section 156.212(i)(3).

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- d. You may want to capitalize the "F" of "for" in the California use product name that is referred to directly above the heading GENERAL INSTRUCTIONS.
- e. For all crop entries, revise the notes at the bottom of each entry so that they follow a standard format, i.e., the last item presented is the maximum pounds/acre/year preceded by the number of applications per year, preceded by any remaining notes in the order they appear on your draft label (Exception - For the crop Pears, the last note will be the NOTE about aerial application- but be sure to relocate the maximum poundage to appear after the number of applications limitation). Crop entries currently appearing the correct order include blueberries, collards, cotton, eggplant, filberts, kale, mustard greens, peas, peppers (1), safflower, spinach, strawberries, and sweet corn.
- f. For all crop entries, to be consistent in the Method of Application you may want to use "Make applications when insects appear or feeding is noticed." for those crops where more than one application per year is permitted while using "Make application when insects appear or feeding is noticed." for those crops where only one application per year is permitted.
- g. In the notes for the crop Alfalfa, revise "(1.5 lbs. 50WP)" to "(1 1/2 lbs. 50WP)" to be consistent with the entry for Kale.
- h. For Apples, relocate "to" from the Insects Controlled column to the Method of Appl cation column and bring up the rest of the sentence "control apple aphid and rosy apple aphid" to that line.
- i. In the directions for control of Peachtree Borer and Lesser Peachtree Borer for Apricots, Nectarine, and Peaches and for Cherries, FMC has indicated to the Agency that the time specificity in the directions for control of Peachtree Borer and Lesser Peachtree Borer may potentially cause difficulties due to the variations encountered in the time of harvest for these crops in different geographical areas. Therefore, you may elect to delete "during the first week of September" from these directions as you have done on the new label for Phaser 50WP For Use in California.
- j. For Apricots, Nectarines, and Peaches, FMC has requested that the words "maximum of" be deleted from the Rate of

Application column, and you may do likewise if you so choose. Also, delete West Coast: Do not use more than 6 lbs. per acre", since the maximum of 6 pounds per acre is stated within the notes in the box below the specific use recommendations. In the Method of Application

- k. For Blueberries, in the notes revise "(6.0 lbs. 50 WP)" to "(6 lbs. 50WP)".
- l. For Citrus, lower the application rate to 1/2 lb. per 100 gals.
- m. For Cotton, add "Make applications when insects appear or feeding is noticed." as the first sentence of the Method of Application.
- n. For Eggplant, add a line in the Insects Controlled and Method of Application columns between Green stink bug and Whitefly, then revise the rate for Blister beetles through Green stink bugs to 1-2 lbs. per acre. The rate for Whitefly should be 2 lbs. per acre.
- o. For Mustard Greens, in the notes revise "(2.0 lbs. 50 WP)" to "(2 lbs. 50WP)".
- p. For Plums and Prunes, revise the directions for control of Peachtree Borer and Lesser Peachtree Borer on Plums and Prunes to read as follows (a single entry may appear in the Method of Application column, i.e, delete the horizontal line in that column between these two pests with the same directions):

Best control is obtained with a single application post-harvest. Spray all bark areas from ground level to lower scaffold limbs.

- q. For Pumpkins, in the notes revise "(6.0 lbs. 50 WP)" to "(6 lbs. 50WP)".
- r. For Tomatoes, Add a horizontal line in the Method of Application column between Yellowstriped armyworm and Whitefly and add the following for Whitefly: "Higher spray volumes may be necessary for thorough coverage when high whitefly populations exist."

4-8-23

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

3) Submit three (3) copies of your final printed labeling before you release the product for shipment.

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

Sincerely,

George T. LaRocca
Product Manager (13)
Insecticide-Rodenticide Branch
Registration Division (7505C)

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Specimen Label

A company of Hoechst and NOR-AM

FOR AGRICULTURAL OR COMMERCIAL USE ONLY

Phaser® 50WP

ACCEPTED
with COMMENTS
in EPA Letter Dated

INSECTICIDE

EPA Registration Number 45639-194

NOV 28 1995

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
45639-194



For Agricultural or Commercial Use Only

Phaser[®] 50WP

INSECTICIDE

ACTIVE INGREDIENT:

endosulfan (hexachlorohexahydromethano-
2,4,3-benzodioxathiopin-3-oxide)

50.00%

INERT INGREDIENTS:

50.00%

TOTAL 100.00%

EPA Reg. No. 45639-194

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 back of 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 skin 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.

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. Food utensils such as tablespoons or measuring cups must not be used for food purposes after use in measuring pesticides.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- ◆ Coveralls over short-sleeved shirt and short pants
- ◆ Chemical-resistant gloves, such as barrier laminate, or viton ≥14 mils
- ◆ 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-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G)
- ◆ 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.

PHYSICAL OR CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

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: Completely empty bags into application equipment. Then dispose of empty bags in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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.

This product is not intended for use in California. For California, use PHASER® 50WP for Use in California.

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 good 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 50WP 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.

Observe days interval between last application and harvest indicated by number in () following the crop name.

ALFALFA (Grown for Forage) (21)

Insects Controlled	Rate of Application	Method of Application
Meadow spittlebug	½ lb. per acre	Apply 1 week after eggs begin to hatch or when first small masses of froth are produced in the crowns of the plant, which is usually when the alfalfa is about 4 to 6" tall. Apply in a minimum of 10 gals. of water per acre by ground or 2 gallons of water per acre by air.

Do not graze or cut forage within 21 days of treatment.
 Do not apply more than once per cutting.
 Do not exceed a maximum of 0.75 lb. active ingredient (1.5 lbs. 50WP) per acre per year.
 Do not make more than 3 applications per year.

APPLES (21)

Insects Controlled	Rate of Application	Method of Application
Aphids (including apple aphid, rosy apple aphid, woolly apple aphid) to Apple rust mite Green fruitworm Tarnished plant bug Tentiform leafminer White apple leafhopper (first generation)	1 lb. per 100 gals. or a maximum of 5 lbs. per acre	Applications made at pink and/or petal fall provide best control of tarnished plant bug and green fruitworm. For best control of first generation white apple leafhopper, apply when nymphs first appear on leaves. If necessary, prior to petal fall, use 1½ lbs. per 100 gals. control apple aphid and rosy apple aphid.

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

APRICOTS (21) NECTARINES (21), PEACHES (21)

Insects Controlled	Rate of Application	Method of Application
Peachtree borer Lesser peachtree borer	1½ lbs. per 100 gals. West Coast: 1 to 1½ lbs. per 100 gals. Southeastern States: 3-5 lbs. per 100 gals.	Best control is obtained with a single application post-harvest during the first week of September. Spray all bark areas from ground level to lower scaffold limbs.

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

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

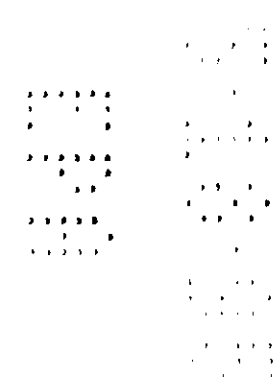
Insects Controlled	Rate of Application	Method of Application
Aphids (including black cherry aphid, black peach aphid, green peach aphid, rusty plum aphid) Catfacing insects (Stink bug type) Green fruitworm Peach silver mite Peach twig borer	1 lb. per 100 gals. or a maximum of 4 to 5 lbs. per acre West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

ARTICHOKES (7)

Insects Controlled	Rate of Application	Method of Application
Aphids (including artichoke aphid, green peach aphid)	1 1/2 to 2 lbs. per acre	Make application when insects appear or feeding is noticed. Apply in a minimum of 20 gals. of water per acre by ground and in a minimum of 10 gals. of water per acre by air.
Artichoke plume moth	2 lbs. per acre	
Do not exceed a maximum of 2 lbs. active ingredient (4 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.		

BARLEY, OATS, RYE, WHEAT

Insects Controlled	Rate of Application	Method of Application
Army cutworm	1 lb. per acre	For aerial application, apply in 2 gals. of crop oil per acre.
Cereal leaf beetle (Illinois, Indiana, Michigan, and Ohio only)	1/2 to 1 lb. per acre	Apply when small larvae are readily found in the field. For aerial application, use a minimum of 1 to 2 gals. of water per acre.
Do not apply after heads begin to form. Do not feed treated forage to livestock. Do not exceed a maximum of 1 lb. active ingredient (2 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.		



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 Cowpea curculio Cucumber beetle Flea beetle Green stink bug Leafhopper Mexican bean beetle	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed. For control of Cowpea Curculio, make 3 applications at 5-day intervals starting when the pods are 1/2 inch long.
Aphids Western bean cutworm Whitefly	2 lbs. per acre	

Do not feed treated threshings or allow livestock to graze in treated fields.
Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.
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.

BLUEBERRIES

Insects Controlled	Rate of Application	Method of Application
Blueberry bud mite	3.0 lbs. per acre in 300 gals. of water	Apply immediately after harvest and repeat 6 to 8 weeks later.

Do not apply after buds are well formed.
Do not make more than 2 applications per year.
Do not exceed a maximum of 3.0 lbs. active ingredient (6.0 lbs. 50WP) per acre per year.

BROCCOLI (7), BRUSSEL 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	1 1/2 to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Armyworm Cutworm Whitefly	2 lbs. per acre	

Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year.
Do not make more than 4 applications per year.

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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.
Armyworm Flea beetle Whitefly	2 lbs. per acre	

Do not use tops for food or feed.
Do not exceed a maximum of 1 lb. active ingredient (2 lbs. 50WP) per acre per year.
Do not make more than 1 application 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 exceed a maximum of 1 lb. active ingredient (2 lbs. 50WP) per acre per year.
Do not make more than 1 application per year.

CELERY (7)

Insects Controlled	Rate of Application	Method of Application
Green peach aphid	1 lb. per acre	Make application when insects appear or feeding is noticed.

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

CHERRIES (21)

Insects Controlled	Rate of Application	Method of Application
Peachtree borer Lesser peachtree borer	1½ lbs. per 100 gals. West Coast: 1 to 1½ lbs. per 100 gals.	Best control is obtained with a single application post-harvest during the first week in September. Spray all bark areas from ground level to lower scaffold limbs.
Black cherry aphid Green fruitworm Plum rust (nursery mite)	1 lb. per 100 gals. or 4 to 5 lbs. per acre	Make application 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.
Michigan only: Mineola moth	2 lbs. per 100 gals.	Apply in the delayed dormant period.

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

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 application when insects appear or feeding is noticed.
Do not apply to bearing trees or trees that will bear fruit within 12 months. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.		

COLLARDS (21)

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage looper Diamondback moth (larvae) Flea beetle Harlequin bug Imported cabbageworm Leafhopper	1½ to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Whitefly	2 lbs. per acre	
Do not make more than 1 application per year. Do not exceed a maximum of 1.0 lb. active ingredient (2 lbs. 50WP) per acre per year.		

COTTON

Insects Controlled	Rate of Application	Method of Application
Boll weevil	1 to 3 lbs. per acre	Applications may be made using ground or aerial application equipment. The higher rate should be used under heavy pest pressure.
Bollworm Cabbage looper Cotton leafperforator Lygus bug Stink bug	2 to 3 lbs. per acre	
Thrips	3 lbs. per acre	
Do not apply after bolls open. Do not graze dairy or meat animals in treated fields. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year.		

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

Insects Controlled	Rate of Application	Method of Application
Aphids Cucumber beetle Melonworm Pickleworm Rindworm (on watermelons) Squash beetle Squash bug Squash vine borer Striped flea beetle	1 to 2 lbs. per acre	Make application 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 exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 6 applications 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 applications when insects appear or feeding is noticed.
Do not make more than 2 applications per year. Do not exceed a maximum of 1.0 lb. active ingredient (2 lbs. 50WP) 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 3.0 lbs. active ingredient (6 lbs. 50WP) 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 injury is likely to occur. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 3 applications per year.		

KALE (21)

Insects Controlled	Rate of Application	Method of Application
Cabbage flea beetle Harlequin bug Imported cabbageworm	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 lb. active ingredient (1½ lbs. 50WP) per acre per year		

LETTUCE (14)

Insects Controlled	Rate of Application	Method of Application
Cabbage looper Diamondback moth (larvae) Green peach aphid Imported cabbageworm	1½ to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Armyworm Whitefly	2 lbs. per acre	
<p>On Head Lettuce: Do not make more than 3 applications after thinning. Remove wrapper leaves at harvest.</p> <p>On Leaf Lettuce: Do not make more than 2 applications per year. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year.</p> <p>Do not feed crop refuse to livestock.</p>		

MUSTARD GREENS (21)

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage looper Diamondback moth (larvae) Fall armyworm Flea beetle Harlequin bug Imported cabbageworm Leafhopper	1½ to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Whitefly	2 lbs. per acre	
<p>Do not make more than 1 application per year.</p> <p>Do not exceed a maximum of 1.0 lb. active ingredient (2.0 lbs. 50WP) per acre per year.</p>		

PEARS (7)

Insects Controlled	Rate of Application	Method of Application
Green fruitworm Tarnished plant bug	1 lb. per 100 gals. or 4 to 5 lbs. per acre	Make application at white bud or petal fall when insects appear or feeding is noticed.
Pear psylla	5 lbs. per acre	Apply in a minimum of 10 gals. of water for aerial application, 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 application 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 as a post harvest or dormant treatment.
<p>Do not feed cull fruits to animals or allow livestock to graze in treated orchards. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 2 applications per year. NOTE: Aerial application may not result in satisfactory control and should only be employed if impossible to apply by ground.</p>		

PEAS (Seed Crop Only) (1)

Insects Controlled	Rate of Application	Method of Application
Pea aphid Pea weevil	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed.
<p>Use only on peas to be harvested by combine. Do not feed treated vines or threshings to livestock or allow livestock to graze in treated fields. Do not make more than 2 applications per year. Do not exceed a maximum of 1.5 lbs. active ingredient (3 lbs. 50WP) per acre per year.</p>		

PECANS

Insects Controlled	Rate of Application	Method of Application
Black pecan aphid Pecan nut casebearer Spittlebug	1½ lbs. per 100 gals.	Make application 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.
Pecan leaf phylloxera	1 to 1½ lbs. per 100 gals.	Apply when nymphs appear and before they are enclosed in plant tissue. For high populations, use the higher rate.
<p>Do not apply after shuck split. Do not graze livestock on orchard crops or grasses in treated areas. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.</p>		

PEPPERS (1)

Insects Controlled	Rate of Application	Method of Application
Flea beetle Green peach aphid Hornworm Pepper maggot	1 lb. per acre	Make application 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. 50WP) per acre per year.		

PEPPERS (4)

Insects Controlled	Rate of Application	Method of Application
Armyworm Flea beetle Green peach aphid Hornworm Leafhopper Pepper maggot	1 to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Whitefly	2 lbs. per acre	
Do not exceed a maximum of 2 lbs. active ingredient (4 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.		

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 application when insects appear or feeding is noticed.
Lesser peachtree borer	1½ lbs. per 100 gals. or 4 to 5 lbs. per acre	Apply spray to thoroughly wet the trunk and main branches.
Peachtree borer	1 to 1½ lbs. per 100 gals. or 4 to 5 lbs. per acre	Spray thoroughly to cover all bark areas from ground to scaffold limbs.
Do not allow livestock to graze on orchard crops or grasses in treated areas. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 2 applications 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 application when insects appear or feeding is noticed.
European corn borer Potato psyllid	1½ to 2 lbs. per acre	
False chinch bug Whitefly	2 lbs. per acre	
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 6 applications per year.		

PUMPKINS (1)

Insects Controlled	Rate of Application	Method of Application
Aphids Cucumber Beetle Squash Vine Borer	1 to 2 lbs. per acre	Make applications when insects appear or feeding is noticed. For vine borer, apply to flower buds, stems, and vines beginning when moths first appear.
Do not exceed a maximum of 3.0 lbs. active ingredient (6.0 lbs., 50WP) per acre per year. Do not make more than 6 applications per year.		

SAFFLOWER

Insects Controlled	Rate of Application	Method of Application
Green peach aphid Whitefly	2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Do not apply after flower heads open. Do not make more than 2 applications per year. Do not exceed a maximum of 2.0 lbs. active ingredient (4 lbs. 50WP) per acre per year.		

SPINACH (21)

Insects Controlled	Rate of Application	Method of Application
Armyworm Crown mite Flea beetle Green peach aphid Leafhopper	1½ to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Whitefly	2 lbs. per acre	
Do not make more than 1 application per year. Do not exceed a maximum of 1.0 lb. active ingredient (2 lbs. 50WP) per acre per year.		

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 day period during the fruiting season.
Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) 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 the entire plant.
Drain and allow plants to dry before setting them out in the field.		

SUGAR BEETS (30)

Insects Controlled	Rate of Application	Method of Application
Green peach aphid Meadow spittlebug	1 to 2 lbs. per acre	Make application when insects appear or feeding is noticed. Make one or two applications per year as needed for control.
Sugar beet webworm	1½ to 2 lbs. per acre	
Whitefly	2 lbs. per acre	
Do not feed treated tops to livestock. Do not exceed a maximum of 2 lbs. active ingredient (4 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.		

SUNFLOWERS (1)

Insects Controlled	Rate of Application	Method of Application
Sunflower moth	2 lbs. per acre	Make application when insects appear or feeding is noticed. Make the first application at the onset of bloom. Allow 7 days between repeat applications.
Do not feed treated forage to livestock. Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 3 applications per year.		

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SWEET CORN (Fresh Vegetable Use Only) (1)

Insects Controlled	Rate of Application	Method of Application
Corn leaf aphid Whitefly	2 lbs. per acre	Make applications when insects appear or feeding is noticed.
Corn earworm	3 lbs. per acre	Apply when silks first appear and continue until they begin to dry. Allow 5 days between applications.

Do not apply to Sweet Corn to be processed.
Do not feed treated forage or ensilage 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 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.

SWEET POTATOES (1)

Insects Controlled	Rate of Application	Method of Application
Sweet potato flea beetle Sweet potato weevil	1 lb. per acre	Make application when insects appear or feeding is noticed. For flea beetle control, begin applications shortly after transplanting or as soon as flea beetles appear.
Whitefly	2 lbs. per acre	For sweet potato weevil control, apply in sufficient water for complete coverage. Applications may be made to transplants in the nursery and/or in the field. Repeat applications may be necessary. For sweet potato weevil control in a cleanup program, apply at a rate of 4 lbs. per acre to the soil under the sweet potato nursery beds and to the area immediately surrounding the nursery beds. Do not place the seed tubers directly on the ground treated with PHASER 50WP.

Do not feed cull potatoes to livestock or allow livestock to graze in treated fields.
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year.
Do not make more than 3 applications per year.

TOBACCO (5)

Insects Controlled	Rate of Application	Method of Application
Aphids (including green peach aphid, tobacco aphid) Budworm Cabbage looper Flea beetle Hornworm	Seed Bed: 1 lb. per 100 gals.	Make application when insects appear or feeding is noticed. Apply approximately 6 gals. of finished spray/100 sq yd.
Green june bug (larvae)	Plant Bed: ½ lb. per 100 gals.	Make application when insects appear or feeding is noticed. Drench at a rate of 1 gal./sq yd.
Aphids (including green peach aphid, tobacco aphid) Budworm Cabbage looper Flea beetle Green june bug (larvae) Hornworm	Field: 1 to 2 lbs. per acre	Make application when insect activity or feeding is noticed.
Stink bug	Field: 2 to 3 lbs. per 100 gals.	

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

TOMATOES (Field and Greenhouse) (2)

Insects Controlled	Rate of Application	Method of Application
Aphids Blister beetles Colorado potato beetle Flea beetle Tomato hornworm	1 to 2 lbs. per acre	Make application when insects appear or feeding is noticed.
Cabbage looper Stink bug	1½ to 2 lbs. per acre	
Tomato fruitworm Tomato russet mite Whitefly Yellowstriped armyworm	2 lbs. per acre	
Whitefly	1 lb. per 100 to 200 gals. of water per acre	
Do not exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 6 applications per year.		

WALNUTS

Insects Controlled	Rate of Application	Method of Application
Walnut aphid	3 to 4 lbs. per acre	Make application 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 exceed a maximum of 3 lbs. active ingredient (6 lbs. 50WP) per acre per year. Do not make more than 2 applications per year.		

COMMERCIALLY GROWN ORNAMENTALS

ORNAMENTAL PLANTS

LEATHERLEAF FERN (Leather Holly Fern)

Insects Controlled	Rate of Application	Method of Application
Leatherleaf fern borer	1 lb. per 100 gallons (1 tablespoon per gallon)	Begin treatment when first larval feeding is observed in the mid-vein area at the base of the leaflets. Repeat at intervals of 2 to 3 weeks as necessary.
Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs 50WP) per acre per year.		

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 (1 tablespoon per gallon)	Make applications when insects appear or feeding is noticed.
Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. On chrysanthemums, best results will be obtained if applied before plants flower. Do not apply to "Bonafon Deluxe", "Fred Shoemith", and "White Knight" chrysanthemums as injury may result. Do not use on birch trees. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.		

ORNAMENTAL TREES AND SHRUBS

DOGWOOD, LILAC

Insects Controlled	Rate of Application	Method of Application
Dogwood borer Lilac borer	1 to 2 lbs. per 100 gallons (1-2 tablespoons per gallon)	Apply in early June and repeat in 10-14 days. Drench all bark areas down to the ground level.
Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.		

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 (1 tablespoon per gallon)	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.
Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.		

PINES (Austrian, Jack, Red, Scotch, White)

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Insects Controlled	Rate of Application	Method of Application
Zimmerman pine moth	1 1/2 lbs. per 100 gallons (1 1/2 tablespoons per gallon)	Apply in mid-April and again, if necessary, in late fall. Thoroughly wet bark and main stem, especially where branches join main stem.

Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.

SHADE TREES (except Birch), SHRUBS

Insects Controlled	Rate of Application	Method of Application
Aphids	1 lb. per 100 gallons (1 tablespoon per gallon)	Make applications when insects appear or feeding is noticed.

Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.

SPRUCE (New England Area Only)

Insects Controlled	Rate of Application	Method of Application
Spruce gall aphid	1 lb. per 100 gallons (1 tablespoon per gallon)	Apply in late April or early May when aphids are present but before galls are formed.

Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.

TAXUS

Rate of Insects Controlled	Application	Method of Application
Taxus bud mite	1 lb. per 100 gallons (1 tablespoon per gallon)	Make 3 to 5 applications beginning in mid-May. Thoroughly spray foliage, twigs and bark.
Black vine weevil	2 lbs. per 100 gallons (2 tablespoons per gallon)	Spray thoroughly and drench the soil under the plants. Apply when the weevils first appear and repeat in 14 days.

Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (6 lbs. 50WP) per acre per year.

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