

PM 21

1812-251

1/25

APR 30 1996

Mr. Richard H. Collier
Griffin Corporation
P.O. Box 1847
Rocky Ford Road
Valdosta, Georgia 31603-1847

Dear Mr. Collier:

Subject: Manex ~~45~~
EPA Reg. No. 1812-251
Your Submission of December 11, 1995

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

1. Submit and/or cite all data required for registration and reregistration under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
2. Make the following revisions to the label:
 - a. For ornamentals, indicate the types of sites where the product is intended to be used; i.e., field, greenhouse, nursery, interior landscapes, or other sites.
 - b. For ornamentals, add "Do not use fruit or other treated plant parts for food or feed purposes."
 - c. The entry for cypress is confusing. As stated on the label, the entry could be taken to mean that the use on cypress is limited to the state of Arizona. It is assumed that the plant Arizona cypress is intended. Change the entry to state "Cypress, Arizona" or "Arizona Cypress" to clarify the intended use.

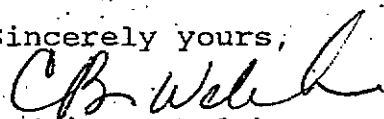
Submit five (5) copies of your final printed labeling before you release the product for shipment.

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

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

Sincerely yours,



Connie B. Welch
Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (7505C)

Enclosure

7505C:C.Grable:cg:4/26/96

10/20/95

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ACCEPTED
with COMMENTS
In EPA Letter Dated
APR 30 1996

Manex®

Fungicide

Flowable with Zinc

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
1812-251

ACTIVE INGREDIENT:

MANEB (MANGANESE ETHYLENEBISDITHIOCARBAMATE).....37%

(Total manganese as metallic.....7.6%)

INERT INGREDIENTS:.....63%

TOTAL

100%

4 Pounds of Maneb Per Gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

IF INHALED: Remove victim to fresh air; if not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Remove by washing.

IF IN EYES: Flush with plenty of water. Call a physician.

GRIFFIN CORPORATION
VALDOSTA, GEORGIA 31601

EPA REG. NO. 1812-251
EPA EST. NO. _____

NET CONTENTS _____ GALLONS

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

CAUTION

Precautionary Statements: May cause irritation of eyes, nose, throat and skin. Avoid breathing spray mist. Do not rub eyes or mouth with hands.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring 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 incorporate spilled treated seed. Do not contaminate water when disposing of equipment washwaters.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers (other than mixing and loading) must wear:

- coveralls over long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks

Mixers and Loaders must wear:

- coverall over long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- protective eyewear
- chemical-resistant apron when mixing and loading

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering controls statements:

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.

The closed systems or enclosed cabs must be used 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.

Human flaggers must be in enclosed cabs.

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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.

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.

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 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 long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides 40 CFR part 170.

The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

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STORAGE AND DISPOSAL

Store in a cool dry place. Do not contaminate water, food or feed by storage or disposal.

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: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities by burning. If burned, stay out of smoke.

PHYSICAL AND CHEMICAL HAZARDS

Keep away from fire and sparks. Store in a cool dry place.

APPLICATION DIRECTIONS

Manex is approved for application in sufficient water to provide good coverage with available equipment in either dilute sprays or in concentrate ground or aerial sprays. Rates listed are based on 100 $\frac{1}{2}$ gallons of dilute spray unless otherwise noted. Rates of product for concentrate and aerial applications should be equal to the rates for dilute sprays on a per acre basis.

FOR GROUND APPLICATIONS use at the rate indicated in sufficient water for thorough coverage, minimum of 10 gallons. Increased volume of water may be necessary as foliage density increases.

FOR AERIAL APPLICATIONS use at the rate indicated in sufficient water for thorough coverage, a minimum of 3 gallons per acre for field crops and 10 gallons per acre for orchard crops. Apply with properly calibrated aerial equipment, arrange nozzles so that spray delivery is uniform over the entire spray swath.

When dosage ranges are given, use the higher rate and shorter intervals under severe disease pressure, but do not exceed the maximum rate or apply more frequently than the minimum interval given in the directions for that crop.

FOLIAR APPLICATIONS

Where EBDC Products Used Allow the Same Maximum Poundage of Active Ingredients Per Acre Per Season:

If more than one product containing an EBDC active ingredient (maneb, mancozeb, or metiram) is used on a crop during the same growing season and the EBDC products used allow the same maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed any one of the specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

Where EBDC Products Used Allow Different Maximum Poundage of Active Ingredients Per Acre Per Season:

If more than one product containing an EBDC active ingredient is used on a crop during the same growing season and the EBDC products used allow different maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed the lowest specified individual

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EBDC product maximum seasonal poundage of active ingredient allowed per acre.

SEED TREATMENT

In addition to the maximum number of foliar applications permitted by the formula stated above, a single application of seed treatment may be made on crops which have registered seed treatment uses.

CHEMIGATION

Apply Manex only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move. Do not apply Manex through any other type of irrigation system.

Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform 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 pesticide label prescribed safety devices for public water systems are in place.

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

Specific Instructions for Public Water Systems

Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone backflow preventor (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top of the overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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 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 the water, 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, or in cases where there is no water pump, 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 injections 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.

Specific Instructions for Sprinkler Irrigation Systems

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, quickcheck valve to prevent the flow of liquid 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 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.

Good agitation is required in the injection tank. In moving systems, apply specified dosage of Manex as a continuous injection. In nonmoving systems inject Manex for 15 to 30 minutes at end of cycle. Use the least amount of water possible with uniform coverage.

Mix the amount of Manex needed for acreage to be treated into the quantity of water determined during prior calibration. For moving systems inject into the system continuously for one complete revolution of the field. For nonmoving systems inject into system for the time established during calibration.

Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all Manex is flushed from system.

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INSTRUCTIONS FOR APPLICATION

FRUIT AND NUT CROPS

CROPS	DISEASES	QUARTS PER ACRE	MAXIMUM QUARTS PER ACRE PER SEASON	USE INSTRUCTIONS
Almonds	Brown Rot Blossom and Twig Blight, Fungus (Leaf Blight), Scab, Shothole	4.8 - 6.4 or (1.2 - 1.6 per 100 gal in a dilute spray)	25.6	Apply in popcorn, full bloom and petal fall or every 7 to 10 days if bloom is staggered. Omit petal fall spray if only brown rot is present. Do not apply later than 5 weeks after petal fall or within 145 days of harvest. Do not allow livestock to graze in almond orchards.
Apples	Rusts (including Cedar apple), Fabrea Leaf Spot, Flyspeck, Scab, Sooty Blotch	4.8 or (1.2 per 100 gal in dilute spray)	19.2 per year	Use either the Pre-bloom or Extended Application schedules. DO NOT COMBINE OR INTEGRATE THE TWO TREATMENT SCHEDULES. <u>Pre-bloom:</u> Begin applications at ¼ to ½ inch green tip and continue on a 7 to 10 day application schedule through bloom. Do not graze livestock in treated areas. It is recommended that this product be used in an Integrated Pest Management Program.

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2.4 or (0.6 per 100 gal in dilute spray)

16.8 per year

Extended application or tank mix:
For implementation of IPM programs, applications based on tree-row volume or for use as a resistance management tool: begin applications at ¼ to ½ inch green tip and continue applications on a 7 to 10 day schedule through the second cover spray or to within 77 days of harvest. Do not apply within 77 days of harvest. Do not graze livestock in treated areas. It is recommended that this product be used in an Integrated Pest Management Program.

Add spreader/sticker to spray mixture for cover sprays and tank mix with an effective systemic protectant/curative fungicide for more effective control of diseases.

Bananas Sigatoka 1.6 - 2.4 24

Apply when leaves first appear and repeat as needed on a 14 to 21 day interval. May be applied up to the day of harvest.

Cranberries Fruit Rot 2.4 - 4.8 14.4

Spray on a 7 to 10 day interval. Do not apply within 30 days of harvest.

Grapes Black Rot, Bunch Rot, Deadarm, Downy Mildew 1.2 - 3.2 or (0.3 - 0.8 per 100 gal in a dilute spray) 19.2

East of the Rocky Mountains:
Apply in sufficient water to provide thorough coverage starting when new shoots are ½ to 1½ inches long and continue at 7- to 10 day intervals until fruit is set. Do not apply within 66 days of harvest.

1.2 - 2.0 or (0.3 - 0.5 per 100 gal in a dilute spray) 6.0

West of the Rocky Mountains:
Apply when shoots are ½ to 1½ inches long and continue at 7 to 10 day intervals. Do not apply within 66 days of harvest except in California.

California: Do not apply after bloom.

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Kadota Figs (Except CA)	Surface Mold (Cladosporium), Surface Rot (Alternaria)	0.6 per 100 gal	2.4	Apply when disease threatens in 100-400 gallons of water per acre. Do not apply within 10 days of harvest.
Papayas	Anthracnose, Phytophthora, Fruit Rot, Cercospora Black Rot	1.6 - 2.0 or (0.4 - 0.5 per 100 gal in a dilute spray)	28	Apply when disease first threatens and repeat at 14 to 21 day intervals. May be applied up to the day of harvest.

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FIELD AND VEGETABLE CROPS

CROPS	DISEASES	QUARTS PER ACRE	MAXIMUM QUARTS PER ACRE PER SEASON	USE INSTRUCTIONS
Beans (Dry)	Anthracnose, Downy Mildew, Rust	1.2 - 1.6	9.6	Begin when plants are small. Spray on a 5 to 7 day interval. Do not apply within 30 days of harvest.
Broccoli, Brussels sprout, Cauliflower	Alternaria Leaf Spot, Downy Mildew	1.2 - 1.6	9.6	Begin when diseases threaten. Spray on a 7 to 10 day interval. Do not apply within 7 days of harvest.
Cabbage, Kohlrabi, Chinese Cabbage (tight headed only)	Alternaria Leaf Spot, Downy Mildew	1.2 - 1.6	9.6	Plant beds and direct seeded fields: Spray on a 7 to 10 day interval. Do not apply within 7 days of harvest.
Chinese Cabbage (loose head)	Alternaria Leaf Spot, Downy Mildew	0.8 - 1.2	7.2	Plant beds and direct seeded fields: Spray on a 7 to 10 day interval. <u>California:</u> Do not apply within 7 days of harvest. <u>Hawaii:</u> Do not apply within 10 days of harvest.
Corn (sweet corn, popcorn, sweet corn used for seed production)	Common Rust, Helminthosporium Blight	1.2	18	<u>East of the Mississippi including AR and LA:</u> Use sufficient water for thorough coverage. Start applications when disease first appears and repeat at 3 to 10 day intervals. Add a recommended surfactant or spreader/sticker if needed for better coverage. Do not apply within 7 days of harvest. Do not feed treated forage to livestock.

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1.2 6

West of the Mississippi except AR and LA: Use sufficient water for thorough coverage. Start applications when disease first appears at 3 to 10 day intervals. Add a recommended surfactant or spreader/sticker if needed for better coverage. Do not apply within 7 days of harvest. Do not feed treated forage to livestock.

Cucumbers

Alternaria (Macrosporium) Leaf Spot, Angular Leaf Spot, Anthracnose, Downy Mildew, Pythium Fruit Rot

1.2 - 1.6

12.8

Begin when diseases threaten or plants begin to run. Spray on a 7 to 10 day interval. Do not apply within 5 days of harvest.

Eggplant

Anthracnose, Septoria Leaf Spot, Cladosporium Leaf Mold, Early Blight, Late Blight, Gray Leaf Spot (Stemphylium)

1.2 - 1.6

11.2 (per crop)

Begin at first fruit cluster and repeat at 7 to 10 day intervals. Do not apply within 5 days of harvest.

Kale (Except CA)

Alternaria Leaf Spot, Downy Mildew

1.2 - 1.6

3.2 (per cutting)

Begin when disease threatens and apply on a 7 to 10 day interval. Do not apply with 10 days of harvest.

Lettuce (Head and Leaf), Endive

Downy Mildew

1.2 - 1.6

9.6

Apply when disease appears. Spray on a 7 to 10 day interval. Remove residues from head lettuce by stripping and trimming. Do not apply within 10 days of harvest.

6.4

California: Spray on a 7 to 10 day interval. Do not apply within 14 days of harvest.

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Melons (Cantaloupe, Casabas, Crenshaws, Honeydew, Watermelons)	Alternaria Leaf Spot, Anthracnose, Cercospora Leaf Spot, Downy Mildew, Gummy Stem Blight	1.2 - 1.6	12.8	Apply as soon as plants begin to run or when disease first appears. Spray on a 7 to 10 day interval. Do not apply within 5 days of harvest.
Onions (Dry Bulb)	Botrytis Leaf Blight, Downy Mildew, Neck Rot, Purple Blotch	1.6 - 2.4	24	Begin applications when diseases are first reported in the area at 7 day intervals. Do not apply within 7 days of harvest. Do not apply to exposed bulbs.
Onions (Green)	Botrytis Leaf Blight, Downy Mildew, Neck Rot, Purple Blotch	1.6 - 2.4	16.8	Begin application when diseases are first reported in the area at 7 day intervals throughout the season. Do not apply within 7 days of harvest. Do not apply to exposed bulbs.
	Smut (except in California)	2.4	2.4 (per 29,000 linear feet of row - 18 inch spacing)	Apply as a furrow drench at time of planting onion seeds. Use 75 to 100 gallons of water/acre.
Peppers	Anthracnose, Cercospora Leaf Spot (Frogeye Spot), Phytophthora Blight, Ripe Rot	1.2 - 2.4	14.4	<u>East of the Mississippi:</u> Begin when disease threatens. Spray on a 7 to 10 day interval. Do not apply within 7 days of harvest.
		1.2 - 1.6	9.6	<u>West of the Mississippi:</u> Begin when disease threatens. Spray on a 7 to 10 day interval. Do not apply within 7 days of harvest.

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Potatoes	Early and Late Blights	0.8 - 1.6	11.2	Begin applications when plants are 2 to 6 inches high by applying 0.8 qts. per acre. As the vines increase in size, apply 1.2 to 1.6 qts. per acre. Apply on a 5 to 10 day interval. Do not apply within 14 days of harvest except for DE, FL, CT, ME, MA, MI, NH, NY, OH, PA, RI, VT and WI where the PHI is 3 days. It is recommended that this product be used with an Integrated Pest Management Program. Vine Kill should occur 14 days before harvest.
Potatoes (Seed Pieces)	Fusarium Seed Piece Decay	0.8 quart/10 gallons		Dip whole or cut tubers. Spread in cool place if held before planting. Seed piece treatment only. Do not use treated seed pieces for food, feed or oil purposes.
Pumpkins	Angular Leaf Spot, Downy Mildew	1.2 - 1.6	12.8	Begin when disease threatens. Spray on a 7 to 10 day interval. Do not apply within 5 days of harvest.
Squash (Winter and Summer)	Anthracnose, Downy Mildew	1.2 - 1.6	12.8	Begin when plants start to run. Spray on a 7 to 10 day interval. Do not apply within 5 days of harvest.
Sugar Beets	Cercospora Leaf Spot	1.2 - 1.6	11.2	Apply when disease appears. Spray on a 7 to 10 day interval. Do not apply within 14 days of harvest.
Tomatoes (Greenhouse and Field)	Anthracnose, Cladosporium Leaf Mold, Early and Late Blights, Gray Leaf Spot (Stemphylium), Septoria Leaf Spot	1.2 - 2.4	16.8	<u>East of the Mississippi:</u> Begin at first fruit cluster and repeat at 7 to 10 day intervals. Do not apply within 5 days of harvest.

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1.2 - 1.6 6.4

West of the Mississippi: Begin at first fruit cluster and repeat at 7 to 10 day intervals. Do not apply within 5 days of harvest.

ORNAMENTALS

CROP	DISEASES	RATE PER ACRE IN 100 GAL WATER	USE INSTRUCTIONS
African Violet	Botrytis Blight	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Anthurium	Anthracnose Spadix Rot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Arborvitae	Cercospora Blight	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Ash, mountain	Entomosporium Leaf Spot, Guignardia Leaf Blotch	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Ash, white	Anthracnose, Cylindrosporium Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Aster, perennial	Puccinia Rusts	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Aucuba japonica	Alternaria Leaf Spot, Anthracnose	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

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Azalea
Cylindrocladium
Rot. Petal
Blight,
Phytophthora
Twig and Bud
Blight

Apply in a full coverage spray, 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under bushes.

Begonia
Botrytis Blight 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Buffaloberry
Cylindrosporium
Leaf Spot 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Camellias
Petal Blight 1.2 quarts

Apply in a full coverage spray, 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under bushes.

Carnations
Alternaria Leaf
Spot, Anthracnose,
Botrytis
Blight, Rust,
Septoria Leaf
Spot 0.8 - 1.2
quarts

Begin when new growth starts. Repeat weekly.

Cedar, red
(Juniper)
Cercospora
Blight,
Phomopsis
Blight 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Chrysan-
themums
Asochyta Ray
Blight, Botrytis
Petal Spot, Rust,
Septoria Leaf
Spot 12.8 fl oz
plus 3/4
pound Captan
50W

Apply twice weekly during the blooming season for petal spot and ray blight. For septoria leaf spot apply weekly throughout the season.

Conifers
Lophodermium
Needle Cast
Pine Gall Rust
Scirrhia Brown 1.2 quarts

Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two week intervals as long as needed.

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	Spot		
Cordyline	Cercospora Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Crabapple	Cedar-apple rust, Scab, Sphaeropsis Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Cypress (AZ)	Cercospora Blight, Monochaeta Canker	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Dahlias	Alternaria Leaf Spot, Botrytis Blight	0.8 - 1.2 quarts	Begin when new growth starts. Repeat weekly.
Dieffenbachia	Leptosphaeria Brown Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Dogwood	Anthracnose, Elsinoe Leaf Spot, Septoria Leaf Spot	0.8 - 1.2 quarts	Begin when buds open. Repeat when bracts fall 4 weeks later and in late summer.
Dracaena	Fusarium Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Elni	Black Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Euonymus	Anthracnose	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Fatsia Anthracnose 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Fern Rhizoctonia Blight 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Ficus Cercospora Leaf Spot 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Douglas Swiss Needle Cast 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Firethorn (Pyracantha) Fusicladium Scab 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Fuchsia Botrytis Blight, Rust 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Geranium Rust 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Gladiolus Botrytis Blight, Curvularia and Stemphylium Leaf Spots 1.2 quarts

Begin when flower spikes are developing. Repeat 2 to 3 times at weekly intervals.

Hawthorn Cedar-apple rust, Fabraea Leaf Spot, Frogeye Leaf Spot, Hawthorn Rust, Scab 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

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Holly	Purple Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Hollyhock	Anthracnose, Cercospora Leaf Spot, Puccinia Rusts	1.2 quarts	Apply when conditions favor disease development at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Honeysuckle	Herpobasidium Blight	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Horsechestnut Buckeye	Alternaria Leaf Spot, Guignardia Leaf Blotch	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Hydrangea	Botrytis Blight, Cercospora Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Iris	Didymellina Leaf Spot, Myrosporum Ink Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Juniper	Phomopsis Blight	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Laurel, mountain	Cercospora Leaf Spot, Petal Blight	1.2 quarts	Apply in a full coverage spray, 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under bushes.
Ligustrum	Cercospora Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

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Lilies	Botrytis Blight	0.8 - 1.2 quarts	Begin with new growth. Repeat weekly.
Magnolia	Gloeosporium Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Maple	Alternaria Leaf Spot, Phyllosticta Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Marigold	Botrytis Blossom Blight	1.2 quarts	Do not use on French dwarf double or signet-type marigold seedlings
Narcissus	Botrytis Blight (fire), Smoulder	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Oak	Actinopelte Leaf Spot, Taphrina Leaf Blister	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Orchid (Dendrobium)	Botrytis Blossom Blight	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Pachysandra	Volutella Blight	1.6 qts per 50 gal. of water per 5000 sq. ft. of bed	Use a drenching spray. Start application at first sign of disease and apply at least 5 applications at 10 to 14 day intervals.
Pansies	Anthracnose	0.8 - 1.2 quarts	Begin with new growth. Repeat weekly.
Peonies	Alternaria Leaf Spot, Botrytis Blight, Phytophthora Blight	0.8 - 1.2 quarts	Apply to foliage and soil in early spring and early fall and 7 to 10 day intervals during the growing season.
Peperomia	Cercospora Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign

Philodendron	Dactylaria Leaf Spot, Phytophthora Leaf Spot	1.2 quarts	of disease. Spray at 7 to 10 day intervals throughout the season.
Photinia	Entomosporium Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Pleomele	Fusarium Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Poinsettia	Sphaeloma Scab	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Rhododendron	Cercospora Leaf Spot, Discosia Leaf Spot, Petal Blight	1.2 quarts	Apply in a full coverage spray, 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under bushes.
es	Black Spot, Cercospora Leaf Spot (Texas), Rust (California)	0.8 - 1.2 quarts	Begin when first leaves unfold. Repeat at 7 to 10 day intervals.
Schefflera	Alternaria Blight	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Skunkbush, Sumac	Cylindrosporium Leaf Spot	1.2 quarts	Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.
Snapdragons	Rust	0.8 - 1.2 quarts	Begin with emergence. Repeat weekly.

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Stance Cercospora 1.2 quarts
Frogeye

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Syngonium Cephalosporium 1.2 quarts
Leaf Spot

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Tulip Botrytis Blight 1.2 quarts
(fire)

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

ms. flytrap Anthracnose 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Viburnum Downy Mildew 1.2 quarts
Ramularia Leaf Spot

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Walnut Anthracnose 1.2 quarts

Apply when conditions favor disease development or at first sign of disease. Spray at 7 to 10 day intervals throughout the season.

Zinnias Alternaria 0.8 - 1.2
Blight, Leaf quarts
Spot, Botrytis
Blight

Begin with emergence. Repeat weekly.

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TURF GRASSES

CROP	DISEASES	USE RATE	USE INSTRUCTIONS
Grasses	Brown Patch	4.8 fl oz in sufficient water/1000 square feet	Begin at first sign of disease. Repeat at 7 to 14 day intervals. Do not use on pasture or range grasses. Do not feed clippings to livestock. Do not use if grass is grown for seed.
	Dollar Spot	9.6 - 12.8 fl oz in sufficient water/1000 square feet	Begin at first sign of disease. Repeat at 7 to 14 day intervals. Do not use on pasture or range grasses. Do not feed clippings to livestock. Do not use if grass is grown for seed.
	Melting-Out	4.8 - 6.4 fl oz in sufficient water/1000 square feet	Begin at first sign of disease. Repeat at 7 to 14 day intervals. Do not use on pasture or range grasses. Do not feed clippings to livestock. Do not use if grass is grown for seed.
	Leaf, Stem and Stripe Rusts	2.4 quarts per acre in 100 gal water	Begin when rust pustules are first seen. Repeat at 7 to 14 day intervals. Do not graze treated areas or feed clippings to livestock.
	Copper Spot, Fusarium Blight, Red Thread, Slime Mold	6.4 - 12.8 fl oz in sufficient water/1000 square feet	Apply in spring or when first signs of disease appear. Repeat at 7 to 14 day intervals until disease threat is past.
	Algae	9.6 fl oz in sufficient water/1000 square feet	Apply in spring or when first signs of disease appear. Repeat at 7 to 14 day intervals until disease threat is past.
	Pythium Blight	12.8 fl oz in sufficient water/1000 square feet	Apply at 5 day intervals, or more frequently, if conditions are especially favorable for disease development.