

Escarole

days as needed to suppress disease. Use shorter intervals and higher rates when conditions favor disease.

**NOTE:** Flecking and/or yellowing of leaves will occur under certain environmental conditions such as extended periods of moist weather, acid rains, or other conditions favoring reduced pH on leaf surfaces. Injury may be severe enough to reduce crop value.

Onion

Purple Blotch & Downy Mildew 2<sup>2</sup>/<sub>3</sub> pt

Begin when plants are 4-6 inches high and repeat at 7-10 day intervals as needed depending upon disease pressure. Can cause phytotoxicity to leaves.

Bacterial Blight 2 pt

Pea

Powdery Mildew 2 - 4 pt

Begin applications when disease symptoms first appear and repeat at weekly intervals as needed. Use higher rate for more severe disease.

Pepper

Bacterial Spot 2<sup>2</sup>/<sub>3</sub> - 4 pt

Begin applications when conditions first favor disease development and repeat at 5-10 day intervals as needed depending on disease severity. Use higher rates for severe disease.

Spinach

Anthrachnose, White Rust, Blue Mold, Cercospora Leaf Spot 2<sup>2</sup>/<sub>3</sub> - 4 pt

Begin application when disease first appears or when conditions favor disease development. Repeat at 7-10 day intervals as needed. Use higher rates for severe disease.

**NOTE:** Flecking may occur on Spinach leaves.

Table Beet

Cercospora Leaf Spot 2<sup>2</sup>/<sub>3</sub> - 6<sup>2</sup>/<sub>3</sub> pt

Begin applications when conditions first favor disease development and repeat at 10-14 day intervals as needed. Use the higher rate when disease is severe. Addition of a

suitable agricultural spray oil is recommended.

Tomato	Anthracnose, Bacterial Speck, Bacterial Spot, Early Blight, Gray Leaf Mold, Late Blight, Septoria Leaf Spot	2 <sup>2</sup> / <sub>3</sub> - 5 <sup>1</sup> / <sub>3</sub> pt	Begin when disease first threatens and repeat at 7-10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.
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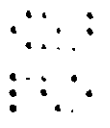
Watercress	Cercospora leafspot	<sup>2</sup> / <sub>3</sub> pt	Begin application when plants are first established in the field, repeating at 7 - 14 day intervals depending on disease severity and environmental conditions. Do not exceed 4 applications per crop. Apply using ground spray equipment at no less than 50 gallons of spray solution per acre.
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**VINES**

Crops	Disease	Rate/Acre	Use Instructions
Grape	Black Rot, Powdery Mildew, Downy Mildew	2 <sup>2</sup> / <sub>3</sub> pt	Begin application at bud break with subsequent applications throughout the season depending upon disease severity.

**NOTE:** Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara, and Rosettes. Either test for sensitivity or add 1-3 pounds of hydrated lime per 2<sup>2</sup>/<sub>3</sub> pints of Kocide LF.

Hops	Downy Mildew	2 <sup>2</sup> / <sub>3</sub> pt	Make crown treatment after pruning, but before training. After training, additional treatments are needed at about 10 day intervals.
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NOTE: Discontinue use 2 weeks before harvest.

Kiwi	<u>Pseudomonas syringae</u> , <u>Erwinia herbicola</u> , <u>Pseudomonas fluorescens</u>	1 1/3 gal	Apply in 200 gallons of water per acre. Make application on a monthly basis. A maximum of 3 applications may be made.
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MISCELLANEOUS

Crop	Disease	Rate/Acre	Use Instructions
Atemoya )	Anthracnose	4- 6 pt	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rate for severe disease.
Carambola	Anthracnose	1-1 1/2 gal	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rate for severe disease.
Chives )	Downy Mildew	2 1/2-4 pt	Begin applications when plants are established in the field. Repeat applications every 7-10 days as dictated by disease conditions. If disease pressure is high, use the shorter spray interval and higher rate.
Dill	Phoma Leaf Spot and Rhizoctonia Foliage Blight	2-4 pt	Begin applications when plants are first established in the field and repeat at 7-10 day intervals depending upon disease severity and environmental conditions. If disease pressure is high, use the shorter spray interval and the higher rate.
Douglas Fir	Rhabdocline needlecast	2 1/2-4 pt	Begin applications at bud break and repeat at 3-4 week intervals. Apply in a tank mix with another registered pesticide if moderate to severe disease pressure is present. Use higher rate for severe

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disease.

Ginseng	Alternaria Leaf and Stem Blight	3½-5 pt	Use as a tank mix with 2 pounds Rovral® 50W in 100 gallons of water. Begin KOCIDE-Rovral applications as soon as plants have emerged in spring. Use higher rate for severe disease.
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Applications should be repeated every 7 days until plants become dormant in fall. If schedule application is to be made before a rain shower, apply fungicides at least 8 hours before the rain, giving the fungicides time to dry on the plants. Use of a spreader-sticker or sticker is advised.

NOTE: Alternaria Leaf and Stem Blight is most severe in humid conditions such as those found in the dense canopies of 2, 3, and 4-year old Ginseng. It is very important that the stems be thoroughly covered with fungicide; therefore, use a spray apparatus which distributes the fungicide throughout the canopy.

Guava	Anthracnose, Red Algae	4-6 pt	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rate for severe disease.
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Litchi	Anthracnose	4-6 pt	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rate for severe disease.
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Pecan, Live Oak	Ball Moss	1-2 gal*	Apply in 100 gallons* of water, in the spring when ball moss is actively growing, using 1.5 gallons of spray per foot of tree height. Make sure to wet ball moss tufts thoroughly. A second application may be required after 12 months.
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NOTE: KOCIDE LF may be injurious to

ornamentals grown under Live Oaks. This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.

Macadamia	Anthracnose	1-1½ gal	Initiate sprays at first sign of flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rate for severe disease.	
)	Phytophthora Blight ( <i>P. capsici</i> ), Raceme Blight ( <i>Botrytis cinerea</i> )	¾-1½ gal	Apply during raceme development and bloom periods. Apply in sufficient water for thorough coverage. Use higher rate for severe disease.	
Mamey Sapote	Anthracnose, Algal Leaf Spot	1-1½ gal	Apply when conditions favor disease development. Repeat on 14-30 day schedule as disease severity and environmental conditions dictate. Use higher rates when conditions favor disease.	
Papaya	Anthracnose	2/3-1 2/3 gal	Begin applications before disease appears and repeat at 10 - 14 day intervals. Apply at 5 - 7 day intervals during periods of heavy rainfall. Use higher rates when conditions favor disease.	
)	Parsley	Bacterial blight ( <i>Pseudomonas</i> sp.)	4 pt	Begin applications when plants are first established in the field and repeat at 5-7 days intervals depending upon disease severity and environmental conditions.
Passion Fruit	Anthracnose	1-1½ gal	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates when conditions favor disease.	
Sugar Apple (Annona)	Anthracnose	1½-2 gal	Make initial application just before flowering and repeat on a weekly schedule	

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until just before harvest. Apply in sufficient water for thorough coverage. Use higher rates when conditions favor disease.

Sycamore	Anthracnose	2 <sup>2</sup> / <sub>3</sub> -4 pt	Apply as a full cover spray. Apply in 100 gallons of water or sufficient volume for thorough coverage. Make first application at bud crack and second application 7-10 days later at 10% leaf expansion. Use higher rates when conditions favor disease.
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## GREENHOUSE AND SHADE HOUSE CROPS

**Notice to User:** KOCIDE LF may be used in greenhouses and shade houses to control diseases on some crops which appear on this label; specific instructions have been developed for the crops listed below. The grower should bear in mind that the sensitivity of crops grown in greenhouses and shade houses differ greatly from crops grown under field conditions. Neither the manufacturer nor seller has determined whether or not KOCIDE LF can be used safely on all greenhouse and shade house-grown crops. The user should determine if KOCIDE LF can be used safely prior to commercial use. In a small area, apply the recommended rates to the plants in question, i.e. foliage, fruit, etc., and observe for 7-10 days for symptoms of phytotoxicity prior to commercial use.

Apply KOCIDE LF according to specific rates given for those crops in pounds per acre or pounds per 100 gallons. **Two level teaspoons of KOCIDE LF per 1000 square feet is equivalent to 1 pint per acre. One level teaspoon of KOCIDE LF per gallon of water is equivalent to 1 pint per 100 gallons.** KOCIDE LF should be applied in adequate water for thorough coverage of plant parts. Begin application at first sign of disease and repeat at 7-14 day intervals as needed; use shorter interval during periods when severe disease conditions persist.

<u>Crop</u>	<u>Disease</u>	<u>Rate Per 1000 Sq Ft</u>	<u>Use Instructions</u>
Citrus (Non-Bearing Nursery)	Melanose, Scab, Pink Pitting, Greasy Spot, Brown Rot, Citrus Canker	1 <sup>1</sup> / <sub>2</sub> -3 oz.	Begin applications when disease threatens. Repeat at 30 day intervals or as needed depending on disease severity. Use higher rates when conditions favor disease.
Cucumber ..... .....	Angular Leaf Spot, Downy	<sup>3</sup> / <sub>4</sub> -1 oz.	Apply weekly when plants begin to vine. Use higher rates when conditions favor

	Mildew		disease.
Eggplant	Alternaria Blight, Anthracnose, & Phomopsis	1 oz.	Begin applications prior to development of disease symptoms. Repeat sprays at 7-10 day intervals or as disease pressure dictates.
Pepper	Bacterial Spot	1-1½ oz.	Begin applications when conditions first favor disease development and repeat at 5-10 day intervals as needed depending on disease severity. Use higher rates for severe disease.
Tomato	Anthracnose, Bacterial Speck, Bacterial Spot, Early Blight, Grey Leaf Mold, Late Blight, Septoria Leaf Spot	1-2 oz.	Begin when disease first threatens and repeat at 7-10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.  NOTE: Disease control will be improved by adding 2 - 3 TBSP/1000 sq. feet MANEX, MANEX II or other maneb/mancozeb product in accordance with the instructions provided above. When MANEX, or MANEX II is used in tank mixture with KOCIDE LF, do not apply within 5 days of harvest.

### TURFGRASS

To control algae in turfgrass, apply 1⅓ pints KOCIDE LF per 1,000 square feet in 5 gallons of water. KOCIDE LF may be used alone or in combination with other registered fungicides as a maintenance spray. Observe all precautions and limitations on the label of each product used in tank mixes.

**NOTE:** Phytotoxicity may occur depending upon varietal differences. Apply the recommended rate to a small area and observe for 7-10 days for signs of injury. If phytotoxicity occurs, discontinue use. Do not apply in spray solutions with a pH of less than 6.5.

### ORNAMENTALS

**Notice to User:** Plant sensitivities to Kocide LF have been found to be acceptable in specific genera and species listed on this label under conditions tested; however, phytotoxicity may occur with varying conditions. Due to the large number of species and varieties of

ornamentals and nursery plants, and the widely varying growth conditions, it is impossible to test every one for sensitivity to Kocide LF. Neither the manufacturer nor seller has determined whether or not Kocide LF can be safely used on ornamental or nursery plants not listed on this label or under all conditions. The user should determine if Kocide LF can be used safely prior to commercial use. In a small area, apply the recommended rates to the plants in question, i.e. bedding plants, foliage, etc., and observe for 7-10 days for symptoms of phytotoxicity prior to commercial use.

Use Kocide LF on container, bench or bed-grown ornamentals in greenhouses or outdoor nurseries, for professional use on ornamentals grown for indoor and outdoor landscaping, and for control of bacterial and fungal diseases of foliage, flowers and stems.

**For control of disease on ornamentals in Greenhouses, Field and Nurseries** - Apply as a thorough coverage spray using 1 1/3 pints of Kocide LF per 100 gallons of water (1 1/4 teaspoons per gallon). Begin application at first sign of disease and repeat at 7-14 day intervals as needed; use shorter interval during periods of frequent rains or when severe disease conditions persist.

Kocide LF may be used as a maintenance spray. Kocide LF may be used alone or in combination with other fungicides as a maintenance spray. Observe all precautions and limitations on the label of each product used in tank mixes.

**NOTE:** Do not tank mix Kocide LF with Aliette® fungicide unless appropriate precautions have been taken to buffer the spray solution. Severe phytotoxicity may result if adequate precautions are not taken.

<u>Crop</u>	<u>Latin Name</u>	<u>Disease</u>
Althea (Rose of Sharon)	<u>Hibiscus syriacus</u>	Bacterial Leaf Spot
Aralia	<u>Dizygotheca elegantissima</u>	Xanthomonas & Cercospora Leaf Spots, Alternaria
Arborvitae	<u>Thuja sp.</u>	Alternaria Twig Blight, Cercospora Leaf Blight
Azalea 1/	<u>Rhododendron sp.</u>	Cercospora Leaf Spot, Botrytis Blight, Phytophthora Dieback, Powdery Mildew
Begonia	<u>Begonia semperflorens</u>	Bacterial Leaf Spot (Xanthomonas sp., Erwinia sp., Pseudomonas





sp.)

Bougainvillea	<u>Bougainvillea spectabilis</u>	Anthracnose, Bacterial Leaf Spot
Bulbs (Tulip, Gladiolus)	Miscellaneous	Anthracnose, Botrytis Blight
Camphor Tree	<u>Cinnamomum camphora</u>	Pseudomonas Leaf Spot
Carnation 1/	<u>Dianthus</u> sp.	Alternaria Blight, Pseudomonas Leaf Spot, Botrytis Blight
Camelia	<u>Camellia japonica</u> , <u>C. sasangua</u>	Anthracnose, Bacterial Leaf Spot
Canna	<u>Canna</u> sp.	Pseudomonas Leaf Spot
Chinese Tallow Tree	<u>Sapium sebiferum</u>	Bacterial Leaf Spot ( <u>Xanthomonas</u> sp., <u>Pseudomonas</u> sp.)
Chrysanthemum 1/	<u>Chrysanthemum morifolium</u>	Septoria Leaf Spot, Botrytis Blight
Cotoneaster	<u>Cotoneaster</u> sp.	Botrytis Blight
Dahlia	<u>Dahlia pinnata</u>	Alternaria Leaf Spot, Botrytis Gray Mold, Cercospora Leaf Spot
Date Palm	<u>Phoenix canariensis</u>	Pestalotia Leaf Spot
Dianthus	<u>Dianthus</u> sp.	Bacterial Spot, Bacterial Soft Rot
Dogwood	<u>Cornus florida</u>	Anthracnose
Dusty Miller	<u>Senecio cineraria</u>	Bacterial Leaf Spot ( <u>Pseudomonas cichorii</u> )
Easter Lily 2/	<u>Lilium longiflorum</u>	Botrytis Blight
Echinacea	Echinacea sp.	Bacterial Leaf Spot

		( <u>Pseudomonas cichorii</u> )
Elm "Drake"	<u>Ulmus parvifolia</u>	Xanthomonas Leaf Spot
Euonymus	<u>Euonymus sp.</u>	Botrytis Blight, Anthracnose
European Fan Palm	<u>Chamaerops numilis</u>	Pestalotia Leaf Spot
Gardenia	<u>Gardenia jasminoides</u>	Alternaria Leaf Spot, Botrytis Bud Rot, Cercospora Leaf Spot
Geranium	<u>Pelargonium sp.</u>	Alternaria Leaf Spot, Botrytis Gray Mold, Cercospora Leaf Spot
Gladiolus	<u>Gladiolus sp.</u>	Alternaria Leaf Spot, Botrytis Gray Mold, Bacterial Leaf Blight
Golden Rain Tree	<u>Koelreuteria paniculata</u>	Bacterial Leaf Spot
Hibiscus	<u>Hibiscus rosa-sinensis</u>	Bacterial Leaf Spot
Holly Fern	<u>Cyrtomium falcatum</u>	Pseudomonas Leaf Spot /
Impatiens	<u>Impatiens sallerana</u>	Bacterial Leaf Spot
India Hawthorn 3/	<u>Raphiolepis indica</u>	Anthracnose, Entomosporium Leafspot
Ivy (English, Algerian) 1/	<u>Hедера helix, H. canariensis</u>	Xanthomonas Leaf Spot
Ixora	<u>Ixora coccinea</u>	Xanthomonas Leaf Spot
Juniper (Eastern Red Cedar)	<u>Juniperus virginiana</u>	Anthracnose
Lantana	<u>Lantana camara</u>	Bacterial Leaf Spot
Lilac	<u>Syringa sp.</u>	Cercospora Leaf Spot
Loblolly Bay	<u>Gordonia lasianthus</u>	Anthracnose

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Loquat	<u>Eriobotrya japonica</u>	<u>Entomosporium maculata</u> , <u>Colletotrichum</u> sp.
Mandevillas	<u>Mandevilla</u> sp.	Anthraxnose
Magnolia (Southern)	<u>Magnolia grandiflora</u>	Algal Leaf Spot, Anthraxnose, Bacterial Leaf Spot
Magnolia (Sweet Bay)	<u>Magnolia virginiana</u>	Anthraxnose
Magnolia	<u>Magnolia soulangiana</u>	Bacterial Leaf Spot
Marigold	<u>Tagetes</u> sp.	Alternaria Leaf Spot, Botrytis Leaf and Flower Rot, Cercospora Leaf Spot
) Mulberry, Weeping	<u>Morus alba</u>	Bacterial Leaf Spot
Oleander	<u>Nerium oleander</u>	Bacterial Leaf Spot, Fungal Leaf Spot
Oak, Laurel	<u>Quercus laurifolia</u>	Algal Leaf Spot ( <u>Cephaleuros virescens</u> )
Pachysandra	<u>Pachysandra procumbens</u>	Volutella Leaf Blight
Pansy	<u>Viola</u> Sp.	Downy mildew
) Pear (Flowering)	<u>Pyrus calleryana</u>	Fireblight, Leaf Spot
Peony	<u>Paeonia</u> sp.	Botrytis blight
Pentas (Egyptian Star)	<u>Pentas</u> sp.	Bacterial Leaf Spot ( <u>Xanthomomas</u> sp.)
Periwinkle	<u>Catharanthus roseus</u> , <u>Vinca</u> sp.	Phomopsis Stem Blight Crop Disease
Phlox	<u>Phlox</u> sp.	Alternaria Leaf Spot
Pistachio	<u>Pistacia chinensis</u>	Anthraxnose
Plantain Lily	<u>Hosta</u> sp.	Bacterial Leaf Spot

Powder Puff Plant	<u>Callindra</u> sp	Bacterial Leaf Spot
Philodendron	<u>Philodendron selloum</u>	Bacterial Leaf Spot
Photinia ("Red Top", "Red Leaf")	<u>Photinia fraserii</u> , <u>P. glabra</u>	Anthracnose, Entomosporium
Pyracantha	<u>Pyracantha</u> sp.	Fireblight, Scab
Queen Palm	<u>Arecastrum romanzoffianum</u>	Exosporium Leaf Spot, Phytophthora Bud Rot
Rhododendron	<u>Rhododendron</u> sp.	Alternaria Flower Spot
Rose 1/	<u>Rosa</u> sp.	Powdery Mildew, Black Spot
Verbena	<u>Verbena</u> sp.	Xanthomonas Leafspot
Viburnum	<u>Viburnum odoratissimum</u> , <u>V. suspensum</u>	Anthracnose
Washingtonia Palm	<u>Washingtonia robusta</u>	Pestalotia Leaf Spot
Weeping Willow	<u>Salix babylonica</u>	Anthracnose
Yucca (Adam's needle)	<u>Yucca</u> sp.	Cercospora and Septoria Leaf Spot

1/ Discoloration of foliage and/or blooms has been noted on some varieties. To prevent residues on commercial plants, do not spray just before selling season.

2/ Apply KOCIDE LF at 4-10 pints per acre in 20-100 gallons water per acre.

3/ For India Hawthorn use 4 to 6 pints per 100 gallons or 3 to 5 level tablespoons per gallon.

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**NOTE:** Phytotoxicity may depend on varietal differences. If unfamiliar with the use of Kocide LF, apply the recommended rate to a few plants and observe after 7-10 days for symptoms of phytotoxicity.



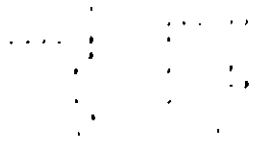
**WARRANTY STATEMENT**

GRIFFIN warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of GRIFFIN. In no case shall GRIFFIN be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. GRIFFIN MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

- ) Aliette® is a registered trademark of Rhone-Poulenc.
- Manex™ is a trademark of Griffin Corporation.
- Rovral® is a registered trademark of Rhone-Poulenc.
- Manex™ II is a trademark of Griffin Corporation.
- Super Six® is a registered trademark of Plant Health Technologies.



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PM 22

1812-338

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James Yowell  
Griffin Corporation  
P.O. Box 1847  
Valdosta, GA 31603

Dear Mr. Yowell:

Subject: Revised Labeling  
Kocide LF  
EPA Registration No. 1812-338  
Your Submission Dated January 10, 1994

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

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

a. Either delete the Non-Agricultural Use Requirements box, or specify appropriate protective measures for non-agricultural workers.

b. In the Precautionary Statements section delete the duplicate "Precautionary Statements:" that appears before "Causes moderate eye injury".

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

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

Sincerely yours,

(S)

Cynthia Giles-Parker  
Product Manger (22)  
Fungicide Herbicide Branch  
Registration Division (7505C)

Enclosure

*Packets of 34*

**KOCIDE® LF**

09/02/94  
01/06/95

ACCEPTED  
with COMMENTS  
In: EPA Letter Dated:

Active Ingredient Copper Hydroxide . . . . .	23%
Inert Ingredients . . . . .	77%
Total . . . . .	100%

**FUNGICIDE/BACTERICIDE**

(Metallic Copper Equivalent 15% or 1.6 lbs. metallic copper per gallon)  
(2.4 Pounds Copper Hydroxide per Gallon)

01/06/95  
 The Federal Insecticide,  
 Fungicide, and Rodenticide  
 Act, 7 U.S.C. 136  
 Under EPA Reg. No.  
1812-338

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION - AVISO**  
**STATEMENTS OF PRACTICAL TREATMENT**

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

**IF ON SKIN:** Wash with plenty of soap and water. Get medical attention.

**IF SWALLOWED:** Call a physician or poison control center. Drink one or two 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.

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

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate use of gastric lavage.

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

Net Contents \_\_\_\_\_ gallons

Griffin Corporation  
Valdosta, GA 31601

EPA Reg. No. 1812-338  
EPA Est. No. 8901 TX-1

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**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)**  
**CAUTION - AVISO**

**Precautionary Statements:** Causes moderate eye injury. Avoid breathing vapor or spray mist. Harmful if swallowed or absorbed through the skin. Avoid contact with eyes, or skin and clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical resistant headgear for overhead exposure

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.

**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.



## 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 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 48 hours without approved PPE.

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
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

### 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

Do not contaminate water, food or feed by storage or disposal.

**STORAGE:** Store in a cool, dry place.

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

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

## GENERAL INSTRUCTIONS

Use Kocide LF as noted below. Kocide LF is adaptable to spraying from aircraft and ground spraying equipment. Depending upon the equipment used and the specific crop, the spray volume applied per acre will differ. Refer to recommended volume table below.

This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.

It must be determined in the selection process if proper application equipment is available and if the waste associated with its use can be properly handled. Materials used in the construction of application equipment is also an important factor as agricultural chemicals are often reactive with soft metals such as aluminum and even some synthetic materials such as plastics, rubbers, etc. Therefore it is necessary when working with equipment containing these materials that they are thoroughly flushed with clean water after each days use.

**CAUTION** - Agricultural chemicals may perform in an unpredictable manner when tank mixed especially where several products are involved. Reduced effect on pests or crop injury may occur. Unless recommended on this label or by a state/local expert, or the user has small scale direct experience, tank mixing should not be undertaken.

**NOTE:** Do not tank mix Kocide LF with Alette® fungicide unless appropriate precautions have been taken to buffer the spray solution or severe phytotoxicity may result.

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## GENERAL CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of sprinkler systems: center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

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

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

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the 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. ✓

### CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water system 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 preventer (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 the 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 or 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 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

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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.

When mixing, fill nurse tank half full with water. Add Kocide LF slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc. should be added last. If compatibility is in question, use the Compatibility Jar Test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all cautions and limitations on the label of all products used in mixtures.

Kocide LF should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation of the mixture in the nurse tank is recommended.

### SPRINKLER CHEMIGATION

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

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

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

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

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

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

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

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When mixing, fill nurse tank half full with water. Add Kocide LF slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc. should be added last. If compatibility is in question, use the Compatibility Jar Test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all cautions and limitations on the label of all products used in mixtures.

Kocide LF should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation is recommended.

Shut off injection equipment after treatment and continue to operate irrigation system until Kocide LF has been cleared from the last sprinkler head.

### CROP CLASSIFICATION

CITRUS: Grapefruit, Kumquat, Lemon, Lime, Orange, Tangelo and Tangerine.

FIELD CROPS: Alfalfa, Barley, Oats, Peanut, Potato, Sugar Beet and Wheat.

SMALL FRUITS: Blackberry, Blueberry, Cranberry, Currant, Gooseberry, Raspberry and Strawberry.

TURFGRASS: Algae control

TREE CROPS: Almond, Apple, Apricot, Avocado, Banana, Cacao, Cherry, Coffee, Filbert, Mango, Nectarine, Olive, Peach, Pear, Pecan, Pistachio, Plum, Prune, Quince and Walnut.

VEGETABLES: Bean, Broccoli, Brussels Sprout, Cabbage, Cantaloupe, Carrot, Cauliflower, Celery, Cucumber, Eggplant, Endive, Escarole, Greens (Beet, Collard, Mustard and Turnip), Honeydew, Lettuce, Muskmelon, Onion, Pea, Pepper, Pumpkin, Spinach, Squash, Table Beet, Tomato, Watercress, and Watermelon.

VINES: Grape, Hops and Kiwi.

GREENHOUSE AND SHADE HOUSE CROPS: While specific directions are presented for Citrus, Cucumber, Eggplant, Pepper, and Tomato; general use may occur for any crop on this label where physiology allows Greenhouse or Shade house culture.

MISCELLANEOUS: Atemoya, Carambola, Chives, Dill, Douglas Fir, Ginseng, Guava, Litchi, Live Oak, Macadamia, Mamey Sapote, Papaya, Parsley, Passion Fruit, Pecan, Sugar Apple, and Sycamore.

ORNAMENTALS: Species as listed.

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### USE INSTRUCTIONS

Kocide LF may be applied as an aerial, ground dilute or ground concentrate spray unless specifically directed otherwise in the specific crop use directions.

Consult the Kocide LF label for specific rates and timing of application by crop. When selecting a Kocide LF use rate do not apply less than the label recommended minimum amount. Where application rates are provided in a range (6 - 16 pts), the higher rates are recommended when rainfall is heavy and/or disease pressure high. Under heavy disease pressure or when conditions favor such, use the higher rate and shorter spray intervals specified for each crop. In addition, use the higher rates for large mature tree crops.

The per acre use rate of Kocide LF is applicable for both dilute and concentrate spraying. Complete spray coverage is essential to assure optimum performance from Kocide LF. When treating by aerial application, or with low volume application equipment, unless you have had specific previous experience, it is advisable to test for compatibility and tolerance to crop injury prior to full scale commercial utilization. Environmental conditions such as extended periods of wet weather, acid rain, etc. which alter the pH of the leaf surface may affect the performance of Kocide LF resulting in possible phytotoxicity or loss of effectiveness.

While volume is important in obtaining full spray coverage, often factors such as foliage density, environmental conditions and sprayer calibrations, have a greater impact. Always be sure that sprayers are calibrated to spray equipment manufacturer's specifications and environmental conditions are within those recommended by State and local regulatory authorities.

When mixing, fill spray tank one-half full with water. Add Kocide LF slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Spreaders, stickers (cleared for application to growing crops), nutrients, etc. should be added last. If compatibility is in question, use the Compatibility Jar Test before mixing a whole tank.

**NOTE:** Kocide LF should not be applied in a spray solution having a pH of less than 6.5 as phytotoxicity may occur.

Environmental conditions such as extended periods of wet weather, acid rain, etc. which alter the pH of the leaf surface may affect the performance of KOCIDE LF resulting in possible phytotoxicity or loss of effectiveness.



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**Minimum Recommended Spray Volume (Gallons) Per Acre  
When Applying Kocide LF**

	Aerial	Ground	
		Dilute	Concentrate
Vegetables	3	20	---
Field Crops	3	20	---
Small Fruits	5	150	50
Vines	5	150	50
Tree Crops	10	400	50
Citrus	10	200	100* (50 Florida*)
Miscellaneous	10	150	50
Turf (Algae control)**			
Ornamentals**			

\*Pesticide application equipment such as Curtec® or other similar sprayers which are capable of obtaining thorough coverage at low volumes may be used at as low as 20 gpa of spray volume.

\*\*Application volumes for Turf and Ornamentals are provided in the specific directions for these sites.

The following specific instructions are based on general application procedures. The recommendations of the State Agricultural Extension Service should be closely followed as to timing, frequency, and number of sprays per season.

**FROST INJURY PROTECTION**

**BACTERIAL ICE NUCLEATION INHIBITOR**

Application of KOCIDE LF made to all crops listed on this label at rates and stages of growth indicated on this label, at least 24 hours prior to anticipated frost conditions, will afford control of ice nucleating bacteria (Pseudomonas syringae, Erwinia herbicola, and Pseudomonas fluorescens) and may therefore provide some protection against light frost. Not recommended for those geographical areas where weather conditions favor severe frost.

**CITRUS**

**NOTE:** Adding foliar nutritionals or other products to spray mixtures containing Kocide LF and applying to Citrus during the post bloom period when young fruit is present may result in spray burn.

**NOTE:** Do not use KOCIDE LF on citrus seedlings grown in greenhouses or shade houses.

Disease	Rate/Acre	Use Instructions
Melanose, Scab, Algal Spot	$\frac{2}{3}$ - 2 gal	Apply as pre-bloom and post-bloom sprays. Use higher rates when conditions favor disease.
Greasy Spot, Pink Pitting	$\frac{1}{3}$ - 1 gal.	Apply in summer on expanded new flush. Repeat on subsequent flushes where disease pressure is severe. Use higher rates when conditions favor disease.
Alternaria Brown Spot (suppression)	$1\frac{1}{3}$ - $1\frac{2}{3}$ gal	On susceptible varieties apply when the first spring flush appears and each flush thereafter. Application to the fruiting bodies should start after two thirds of the petals have fallen and be repeated on a 21-day schedule.
Phytophthora Brown Rot, Septoria Spot	$\frac{2}{3}$ - $1\frac{1}{3}$ gal.	Begin application in fall before or just after the first rain and continue as needed. Apply to entire tree. Apply also to bare ground one foot beyond skirt. Use higher rates when conditions favor disease.
Phytophthora Foot Rot	$1\frac{1}{3}$ pt	<p><b>NOTE:</b> In California, in areas subject to copper injury, add <math>\frac{1}{3}</math> to 1 pound of high quality lime per quart of Kocide LF.</p> <p>Mix with 1 gallon of water and paint trunks of trees from the soil surface to the lowest scaffold limbs. Apply in May prior to summer rains and/or in the fall prior to wrapping trees for freeze protection. Treatment serves as protection for up to one year, but does not cure existing infections.</p>



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**NOTE:** Areas where microjet or low volume irrigation hit the tree trunk may require retreatment due to wash off.

Citrus Canker (Suppression) 2 gal

Spray flushes 7-14 days after shoots begin to grow. Young fruit may require an additional application. Number and timing of applications will be dependent upon disease pressure. Under heavy pressure, each flush of new growth should be sprayed.

## CITRUS Field Nursery Grown

To control melanose, scab, pink pitting, greasy spot, brown rot and for suppression of citrus canker, apply 2<sup>2</sup>/<sub>3</sub> pints of Kocide LF per 100 gallons of water (2<sup>2</sup>/<sub>3</sub>-1<sup>1</sup>/<sub>3</sub> gal/acre). Apply Kocide LF at 28 day intervals or as needed depending on disease severity.

## FIELD CROPS

Crop	Disease	Rate/Acre	Use Instructions
Alfalfa	Cercospora and Leptosphaerulina Leaf Spots	2 <sup>2</sup> / <sub>3</sub> pt	Apply 10-14 days before each harvest or earlier if disease threatens.
Barley, Oats, Wheat	Septoria Leaf Blotch, Helminthosporium Spot Blotch	1 <sup>1</sup> / <sub>3</sub> - 2 <sup>2</sup> / <sub>3</sub> pt	Make first application at early heading and follow with second spray 10 days later. Use the higher rates when conditions favor disease.
Peanut	Cercospora Leaf Spot	2 - 4 pt	One to two quarts of SUPER SIX <sup>®</sup> or equivalent flowable sulfur per acre may be added. Begin spraying at 35-40 days after planting or when disease symptoms first appear and repeat at 10-14 day intervals as needed. Reduce sprays to 7 day

**NOTE:** Spray injury may occur with sensitive varieties such as Lathontan.

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Potato      Early and Late Blight      1 1/3 - 5 1/3 pt

intervals during humid weather. Use higher rates when conditions favor disease.

Apply 1 1/3-2 pints at 7-10 day intervals starting when plants are 6 inches high in locations where disease is light and up to 4-5 1/3 pints per acre where disease is more severe.

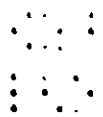
Sugar Beet      Cercospora Leaf Spot      2 2/3 - 6 2/3 pt

Begin applications when conditions first favor disease development and repeat at 10-14 day intervals as needed. Use the higher rate when disease is severe. Addition of a suitable agricultural spray oil is recommended.

## SMALL FRUITS

Crop	Disease	Rate/Acre	Use Instructions
Blackberry (Santiams, Logans, Boysens, Marions, Auroras, Cascades)	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, Pseudomonas Blight	5 1/3 pt	Make fall application after harvest. Apply delayed dormant spray after training in the spring. Add 1 quart of crop oil per acre.
Chehalems & Thornless Evergreens)	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust	2 2/3 pt	Apply when leaf buds begin to open and repeat when flower buds show white. Add 1 quart of crop oil per acre.

**NOTE:** Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.



Blueberry	Bacterial Canker	2/3 - 1 gal	Make first application before fall rains and a second application four weeks later.
Cranberry	Fruit Rot	1 1/3 gal	Make first application in late bloom. One or two additional applications at 10-14 day intervals may be required depending upon disease severity.
	Rose Bloom	1 1/3 gal	Apply three sprays on 10 - 14 day schedule as soon as symptoms are observed.
	Bacterial Canker	1 1/3 gal	Apply post harvest and again in Spring at bud swell. One or two additional applications at 10 - 14 day intervals may be required depending on disease severity.
	Tip Blight (Monilinia), Stem and Leaf Blight, Red Leaf Spot	1 1/3 gal	Apply delayed dormant spray in the Spring. Repeat at 10 - 14 day intervals as needed through pre-bloom.
Currant, Gooseberry	Anthracoese, Leaf Spot	1 2/3 gal	Make initial application after first leaves have expanded. Continue on a 10 - 14 day schedule during wet conditions in the Spring. Make an additional application after harvest.
Raspberry	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, Pseudomonas Blight	5 1/3 pt	Make fall application after harvest. Apply delayed dormant spray after training in the spring. Add 1 quart of crop oil per acre.
	Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust	2 2/3 pt	Apply when leaf buds begin to open and repeat when flower buds show white. Add 1 quart of crop oil per acre.

**NOTE:** Crop injury may occur if applied to foliage under certain environmental conditions such as

Strawberry      Leaf Spot and Leaf Scorch, Leaf Blight, Angular Leaf Spot (Xanthomonas)      2<sup>2</sup>/<sub>3</sub> - 4 pt

hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.

Begin application when plants are established and continue on a weekly schedule throughout season. Apply in at least 20 gallons of water. Use higher rates when conditions favor disease.

**NOTE:** Discontinue applications if signs of crop injury appear.

**TREE CROPS**

Crop	Disease	Rate/Acre	Use Instructions
Almond, Apricot, Cherry, Plum, Prune	Coryneum Blight (Shot Hole), Bacteria Canker and Blast ( <u>Pseudomona</u> )	1 <sup>1</sup> / <sub>3</sub> -2 <sup>2</sup> / <sub>3</sub> gal	Make first application before fall rains and a second at late dormant. Use higher rates when rainfall is heavy and disease pressure is high. One pint of superior-type oil per 100 gallons of water may be added.

For Cherries, where disease is severe, an additional application at leaf-fall may be required.

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Almond only: For bacterial blast control in sprinkler irrigated orchards or where disease is severe, apply 1<sup>1</sup>/<sub>3</sub> pints per acre post-bloom, at 2 week intervals or just before sprinkling.

**NOTE:** injury may occur from post-bloom sprays on almonds, especially on Neplus varieties.

Coryneum Blight (Shot Hole), Plossom Brown Rot  
 1-1<sup>1</sup>/<sub>3</sub>gal (almonds)  
 1<sup>1</sup>/<sub>3</sub>-2 gal (all others)

Early bloom application: Apply before full bloom. Use higher rates when rainfall is heavy and disease pressure is high.

NOTE: To avoid plant injury, do not use above rate after full bloom.

Appf Anthracnose, European Canker, Blossom and Shoot Blast (Pseudomonas) 2 - 2<sup>2</sup>/<sub>3</sub> gal

Apply before fall rains. Use higher rates under severe disease conditions.

NOTE: Use on yellow varieties may cause discoloration. To avoid discoloration pick before spraying.

Fireblight 1<sup>1</sup>/<sub>3</sub>- 2<sup>2</sup>/<sub>3</sub> gal

Make application between silver-tip and green-tip. Apply as a full cover spray.

NOTE: Crop injury may occur from late application; discontinue use when green tip reaches 1/2 inch.

Crown or Collar Rot 5<sup>1</sup>/<sub>3</sub> pt\*

Mix in \*100 gallons of water. Apply 4 gallons of suspension as a drench on the lower trunk area of each tree. Apply either in early spring or in late fall after harvest.

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NOTE: Do not use if soil pH is below 5.5 since copper toxicity may result.

) Avocado Anthracnose, Blotch, Scab 1<sup>1</sup>/<sub>3</sub> - 2 gal

Apply when bloom buds begin to swell and continue application at monthly intervals for 5-6 applications. Use higher rate when conditions favor disease.

Banana Sigatoka 2<sup>2</sup>/<sub>3</sub> pt

Apply by air in 3 gallons of water combining 0.5 gallons of agricultural oil. Apply on a 14 day schedule throughout the wet season. Apply at 21 day intervals during dry periods.

Black Pitting 5<sup>1</sup>/<sub>3</sub> pt

Mix in 100 gallons of water and apply directly to the fruit stem and include the basal portion of the leaf

crown. Apply during the first and second weeks after fruit emergence.

Cacao Black Pod 2<sup>2</sup>/<sub>3</sub> - 11<sup>1</sup>/<sub>3</sub> pt

Begin applications at the start of the rainy season and continue while infection conditions persist. Sprays should be made as often as 14 to 21 days in high rainfall areas at varying rates depending on disease severity. For drier areas, where 2 to 4 applications are recommended during critical infection periods and at long intervals use 11<sup>1</sup>/<sub>3</sub> pints per a according to disease incidence and planting density.

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Coffee Coffee Berry Disease (Collectotrichum coffeanum) 1 - 1<sup>1</sup>/<sub>3</sub> gal

Apply first spray after flowering and before onset of long rains and then at 21-28 day intervals until picking. Use higher rates when rainfall is heavy and disease pressure is high.

Bacterial Blight (Pseudomonas syringae) 1 - 1<sup>1</sup>/<sub>3</sub> gal

Begin spray program before the onset of long rainy periods and continue throughout the rainy season at 14-21 day intervals. The critical time of spraying to control this disease is just before, during and after flowering(s) especially when coinciding with wet weather. Use higher rates when rainfall is heavy and disease pressure is high.

Leaf Rust (Hemileia vastatrix) 2<sup>2</sup>/<sub>3</sub> - 5<sup>1</sup>/<sub>3</sub> pt

Apply before the onset of rain and then at 21 day intervals while the rains continue. Use higher rates when rainfall is heavy and disease pressure is high.

Leaf Rust - Basil 4<sup>2</sup>/<sub>3</sub> - 7<sup>1</sup>/<sub>3</sub> pt

Low density plantings.

1 - 1<sup>1</sup>/<sub>3</sub> gal

High density plantings.

Apply before the onset of rain.



Continue applications depending on altitude and local recommendations. Apply at 3 to 4 week intervals depending on disease severity and rainfall conditions. Use high rates where disease pressure is heavy and rainfall high.

Iron Spot (Cercospora coffeicola), Pink Disease (Corticium salmonicolor) 2<sup>2</sup>/<sub>3</sub> pt

Use concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for 3 applications.

Filberts

Bacterial Blight 2<sup>2</sup>/<sub>3</sub>-4 gal

Apply as a post harvest spray. In seasons of heavy rainfall apply a second spray when three-fourths of the leaves have dropped. Add 1 pint of superior-type oil per 100 gallons of water. Use higher rates when rainfall is heavy and disease pressure is high.

Eastern Filbert Blight 2<sup>2</sup>/<sub>3</sub>-4 gal

Apply as a dilute spray in adequate water for thorough coverage. Make initial application after harvest in October before heavy winter rains begin. The next application should be made in late February to early March followed by another application one month later. If desired, add 1 pint of a sticking agent or superior-type oil per 100 gallons of water. Use higher rates when rainfall is heavy and disease pressure is high.

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Mango Anthracnose 1<sup>1</sup>/<sub>3</sub>-1<sup>2</sup>/<sub>3</sub> gal

Apply monthly after fruit set until harvest. Use higher rates when rainfall is heavy and disease pressure is high.

Olive Peacock Spot, Olive Knot 1<sup>1</sup>/<sub>3</sub>-2 gal

Make first application before winter rains fall. A second application in early spring should be made if

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disease is severe. Apply the high rate for heavy disease pressure or when conditions favor disease development.

Peach,  
Nectarine

Leaf Curl,  
Coryneum Blight  
(Shot Hole),  
Bacterial Canker  
and Blast  
(Pseudomonas),  
Bacterial Spot  
(Xanthomonas)

1 1/3 - 2 2/3 gal

Apply at leaf fall. Use the highest rate when rainfall is heavy and disease pressure is high. May be used with agricultural spray oil.

Blossom Brown  
Rot, Leaf Curl,  
Coryneum Blight,  
(Shot Hole)

1 1/3 - 2 gal

Full cover spray at pink bud.

Bacterial Spot

1 1/3 pt

Post bloom application applied at first and second cover sprays.

**NOTE:** Do not spray 3 weeks prior to harvest. Use only recommended rates. Spotting of leaves and defoliation may occur from use in cover sprays.

Pear

Fire Blight

1 1/3 pt

Apply at 5 day intervals throughout the bloom period.

Blossom Blast  
(Pseudomonas)

2 - 2 2/3 gal

Apply before fall rains and again during dormancy before spring growth starts. Use the higher rate when disease pressure is high or when conditions are favorable for development.

**NOTE:** Excessive dosages may cause fruit russet.

Pecan

Shuck & Kernal Rot  
(Phytophthora  
cactorum) and  
Zonate Leafspot

2 2/3 - 5 1/3 pt

For suppression, apply in sufficient water to ensure complete spray coverage at 2 to 4 week intervals starting at kernal growth and



	( <u>Cristulariella pyramidalis</u> )		continuing until shucks open. Use the higher rate and shorter interval if frequent rainfall occurs.
Pistachio	Botrytis Blight, Botryosphaeria panicle and shoot blight, Septoria leaf blight, late blight ( <u>Alternaria alternata</u> )		Make initial application at bud swell and repeat on a 14 - 28 day schedule as dictated by disease conditions. If disease conditions are severe, use the high rate and short spray interval.
Quince	Fire Blight	1 1/3 pt	Apply at 5 day intervals through bloom period. Apply in adequate water for thorough coverage.
) Walnut	Walnut Blight	1 1/3 - 2 gal	Apply first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage or as needed if frequent rainfall occurs. Thorough coverage of catkins, leaves and nutlets is essential for effective control. When applied as a dilute spray, 1 pint of summer oil emulsion may be added per 100 gallons of spray.
)			<b>NOTE:</b> Adequate control may not be obtained when copper tolerant species of <u>Xanthomonas</u> bacteria are present.

**VEGETABLES**

Crop	Disease	Rate/Acre	Use Instructions
Bean (dry & green)	Brown Spot, Halo Blight, Common Blight	1 1/3 - 4 pt	Use the higher rate for more severe disease. For protective sprays, make first application when plants are 6 inches high; repeat on a 7-14 day schedule depending upon local conditions.
Carrot	Alternaria and	2 3/4 pt	Begin application when disease first

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	Cercospora Leaf Spot		threatens and repeat at 7-14 day intervals as needed depending on disease severity.
Celery, Celeriac	Cercospora Early Blight, Septoria Late Blight, & Bacterial Blight	2 <sup>2</sup> / <sub>3</sub> pt	Begin applications as soon as plants are first established in the field, repeating at 5-7 day intervals depending on disease severity and environmental conditions.
Crucifers: Broccoli, Brussels Sprout, Cabbage, Cauliflower, and Geens: Beet, Collard, Mustard, and Turnip	Black Rot (Xanthomonas) & Black Leaf Spot (Alternaria), Downy Mildew	1 <sup>1</sup> / <sub>3</sub> -2 <sup>2</sup> / <sub>3</sub> pt	Apply at 7-10 day intervals. Begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development.  <b>NOTE:</b> Reddening of older leaves may occur on Broccoli and a flecking of wrapper leaves may occur on Cabbage.
Cucurbits (Cucumber, Cantaloupe, Honeydew, Muskmelon, Watermelon, pumpkin, and Squash)	Alternaria Leaf Spot, Angular Leaf Spot, Anthracnose, Downy and Powdery Mildew, Gummy Stem Blight, and Watermelon Bacterial Fruit Blotch (suppression)	2 - 4 pt	Begin application when conditions are favorable for disease development and prior to development of disease symptoms. Repeat at 5-10 day intervals. Use shorter intervals and higher rates when disease is present and conditions are favorable for rapid expansion.  <b>NOTE:</b> Crop injury may occur from application at higher rates and shorter intervals. Discontinue use if injury occurs.
Eggplant	Alternaria Blight, Anthracnose, & Phomopsis	2 <sup>2</sup> / <sub>3</sub> pt	Begin applications prior to development of disease symptoms. Repeat sprays at 7-10 day intervals or as needed depending on disease severity.
Lettuce, Endive, ...	Downy Mildew	1 <sup>1</sup> / <sub>3</sub> - 2 <sup>2</sup> / <sub>3</sub> pt	Begin treatment when disease first appears and repeat every 7 - 10