PM # 1812-334

1 of 11

File

United States Environmental Protection Agency
Washington, D.C. 20460

Office of
Prevention, Pesticides and
Toxic Substances

OCT 13 1993

James Yowell
GRIFFIN CORPORATION
BOX 1847
VALDOSTA GA 31603

Subject: Label Amendment Submission of 06/15/93
in Compliance with WPS Labeling Requirements
EPA Reg No. 1812-334
KOCIDE DF

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is accepted subject to the comments listed below.

Based on your certification, the Agency has accepted only those changes to your labeling which are necessary to comply with PR Notices 93-7 and 93-11, which reflect the WPS labeling requirements of 40 CFR part 156, subpart K. Any other labeling changes submitted in connection with this amendment application and not directly related to compliance with PR Notice 93-7 or 93-11 have neither been reviewed nor accepted by the Agency. If you wish to make any such changes, you must submit a separate amendment application proposing them. If your product registration is currently suspended, acceptance of this labeling amendment does not affect the suspension in any way.

A copy of your proposed labeling stamped "Accepted with comments" is attached. Make any required changes described in the attached and send three copies of final labeling as soon as it is available to:

Document Processing Desk (FIN-LABEL)

GRIFFIN CORPORATION
KOCIDE DF
1812-334 06/15/93
Original Submission

You omitted the Personal Protective Equipment heading.
User Safety Recommendations must either be placed in a box or printed on the label in a contrasting color from surrounding text.
The Agricultural Use Requirements section must either be placed in a box or printed on the label in a contrasting color from the surrounding text.

KOCIDE DF

DRY FLOWABLE

AGRICULTURAL FUNGICIDE

Active Ingredient Copper Hydroxide	61.4%
Inert Ingredients	38.6%
Total.	100.0%

(Metallic Copper Equivalent 40%)

DANGER - PELIGRO

[redacted]

KEEP OUT OF REACH OF CHILDREN
FOR ADDITIONAL INFORMATION SEE
STATEMENT OF PRACTICAL TREATMENT

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

ACCEPTED
with COMMENTS
In EPA Letter Dated

OCT 13 1993

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 1812-334

Griffin Corporation
Valdosta, GA 31601

EPA Reg. No. 1812-334
EPA Est. No. 8901-TX-1

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

DANGER - PELIGRO

[redacted] Corrosive. Causes irreversible eye damage. ~~Wear goggles, face shield or safety glasses.~~ Harmful if swallowed, absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. ~~Protective clothing, including goggles, should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.~~

[redacted]

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Hold eyelids open and flush with water for 15 minutes. Get medical attention.

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

IF SWALLOWED: Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol. Get medical attention.

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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. Do not allow rinsate from cleaning of equipment or disposed material to enter surface or ground water.

DIRECTIONS FOR USE

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

[redacted]

RE-ENTRY STATEMENT

~~Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.~~

~~Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. (Indicate specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time field must be vacated and appropriate actions to take in case of accidental exposure). When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: DANGER. Area treated with KOCIDE DF on (date of application). Do not enter without appropriate protective clothing until spray has dried.~~ In case of accidental exposure see Statement of Practical Treatment.

STORAGE AND DISPOSAL

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

GENERAL INSTRUCTIONS

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

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

	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	800	100 (50 Florida)

GENERAL CHEMIGATION INSTRUCTIONS

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

Crop injury or lack of effectiveness 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.

[redacted]

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any

public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

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 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 DF 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 DF 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.

SPRINKLER CHEMIGATION

The system must contain a functio[illegible] valve, [illegible]elief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination[illegible]m b[illegible]

The pesticide injectio[illegible] must c[illegible]in a [illegible]ctional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection[illegible] at [illegible]in a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connect[illegible]o the s[illegible]n inc[illegible]k to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually [illegible]own.

The system [illegible]stain [illegible]ional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. [illegible]he irrigatio[illegible]er pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases [illegible]the point [illegible]re pesticide distribution is adversely affected.

[illegible]ems mu[illegible]se a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed o[illegible] that are compatible with pesticides and capable of being fitted with a system interlock.

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Kocide DF 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.

CROP CLASSIFICATION

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

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

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

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

VEGETABLES: Beans, Broccoli, Brussels Sprout, Cabbage, Cantaloupe, Carrot, Cauliflower, Celery, Collards, Cucumber, Eggplant, Honeydew, Muskmelon, Onion, Peas, Peppers, Pumpkin, Spinach, Squash, Tomato, and Watermelon.

VINES: Grape, Hops, and Kiwi.

MISCELLANEOUS: Ginseng, Live Oak and Sycamore.

Kocide DF may be applied as an aerial, ground dilute or ground concentrate spray unless specifically directed otherwise by crop.

When selecting a use rate for Kocide DF do not apply less than the label recommended minimum amount. 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 DF is applicable for both dilute and concentrate spraying. Consult the Kocide DF label for specific r[illegible]es and timing of application by crop.

Complete spray coverage is essential to assure optimum performance from Kocide DF. When treating on a concentrate basis or by aerial application, 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.

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 DF slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Spreaders, stickers, insecticides, nutrients, etc. should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank.

NOTE: Kocide DF should not be applied in a spray solution having a pH of less than 6.5 as phytotoxicity may occur. Applying Kocide DF in a spray solution having a pH greater than 9.0 may result in reduced level of disease control.

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 DF resulting in possible phytotoxicity or loss of effectiveness.

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 DF made to all crops listed on the 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

Disease	Rate/Acre	Use Instructions
Melanose, Scab, Post Bloom	4-12 lbs.	Apply as pre-bloom and post-bloom sprays.
Greasy Spot	2-6 lbs.	Use higher rates when conditions favor disease.
Brown Rot	4-8 lbs.	Begin application in fall and continue as needed. Apply to swirls of trees to a height of at least 4 feet. Apply also to bare ground one foot beyond skirt. Use higher rates when conditions favor disease. NOTE: In California, in areas subject to copper injury, add 1/3 to 1 pound of high quality lime per pound of Kocide DF
Phytophthora	1 lb.	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 for protection for up to one year, but does not cure existing infections.
Citrus Canker (Suppression Only)	12 lbs.	Spray fluxes 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.

FIELD CROPS

Crop	Disease	Rate/Acre	Use Instructions
Alfalfa	Cercospora & Leptosphaerulina Leaf Spots	2 lbs.	Apply 10-14 days before each harvest or earlier if disease threatens. NOTE: Spray injury may occur with sensitive varieties such as Lahontan.
Peanut	Cercospora Leaf Spot	1.5-3 lbs.	1-2 quarts of Super Six® 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 intervals during humid weather. Use higher rates when conditions favor disease.
Potato	Early & Late Blight	1-4 lbs.	Apply 1-1.5 lbs. at 7-10 day intervals starting when plants are six inches high until 2 weeks before harvest in locations where disease is light and up to 3 - 4 pounds per acre where disease is more severe.
Sugar Beet	Cercospora Leaf Spot	2-6 lbs.	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
Wheat, Oats and Barley	Septoria Leaf Blotch, Helminthosporium Spot Blotch	1.5-2 lbs.	Make first application at early heading and follow with second spray 10 days later. Use the higher rates when conditions favor disease.

SMALL FRUITS

Crop	Disease	Rate/Acre	Use Instructions
Blackberry (Boysens, Logans, Boysens, Marions, Aurorus, Cascades, Chehalems and Thornless Evergreens)	Leaf and Cane Spot	4 lbs.	Apply delayed dormant spray after training in the spring. Make fall application after harvest. Add 1 quart of crop oil per acre.
Cranberry	Fruit Rot	8 lbs.	Make first application in late bloom. One or two additional applications at 10 - 14 day intervals may be required depending upon disease severity.
Currant, Gooseberry	Leaf Spot	1[illegible] lbs.	Make three applications starting after harvest followed by application before bloom and after petal fall.
Raspberry (Except California)	Leaf and Cane Spot	4 lbs.	Apply delayed dormant spray after training in the spring. Make fall application after harvest. Add 1 quart of crop oil per acre.
Strawberry	Leaf Spot & Leaf Blight	2-3 lbs.	Apply in at least 20 gallons of water. Begin application when plants are established and continue on a weekly schedule throughout season. NOTE: Discontinue applications if signs of crop injury appear.

TREE CROPS

Crop	Disease	Rate/Acre	Use Instructions
Almond	Coryneum Blight, Blossom Brown Rot	8-12 lbs.	Dormant application. Apply before foliage buds begin to swell. Use higher rates when rainfall is heavy and disease pressure is high
		6-8 lbs.	Early bloom (prebloom) 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
	Bacterial Blast (Pseudomonas)	12-16 lbs.	Apply at dormant to early pink bud. For control in sprinkler irrigated orchards or where disease is severe, apply 1 pound per acre at 2 week post-bloom intervals or just before sprinkling. NOTE: Injury may occur from post-bloom sprays, especially on Nonpareil varieties.
Apple (Except California)	Anthracnose, European Canker, Pseudomonas	12-16 lbs.	Apply before fall rains. Use higher rates under severe disease conditions. NOTE: Use on yellow varieties may cause discoloration. To avoid, pick before spraying.
	Fireblight	8-16 lbs.	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	4 lbs.	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. NOTE: Do not use if soil pH is below 5.5 since copper toxicity may result
Apricot	Coryneum Blight (Shot Hole), Blossom Brown Rot	8-12 lbs.	Apply at prebloom to full bloom and use higher rates when conditions favor disease. NOTE: Applications applied after bloom will result in crop injury
Avocado	Scab	8-12 lbs.	Apply when bloom buds begin to swell and continue application at monthly intervals for 5 to 6 applications. Use higher rate when conditions favor disease.
Banana	Sigatoka	2 lbs.	Apply by air in 3 gallons of water containing 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	4 lbs.	Mix in 100 gallons of water (4 pounds per acre) directly to the fruit stem and include the basal portion of the leaf sheath. Apply during the first and second weeks after fruit emergence.
Cacao	Black Pod	2-6.5 lbs.	Begin applications at the start of the rainy season and continue while infection conditions persist. Apply 2-4.5 lbs. 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 6.5 pounds per acre, according to disease incidence and planting density.
Cherry	Dead Bud (Pseudomonas syringae) and Coryneum Blight	8-12 lbs.	Make first application in fall before heavy rains and a second at late dormant. In orchards where the disease is severe, a spray should also be applied shortly after harvest. Add 1 pint of summer-type oil per 100 gallons of water as a dilute spray
	Brown Rot, Blossom Blight	8-12 lbs.	Apply a full cover spray at bloom stage and a second application at full bloom

TREE CROPS *Cont'd.*

Crop	Disease	Rate / Acre	Use Instructions
Coffee	Coffee Berry Disease (Colletotrichum coffeanum)	6-8 lbs.	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)	6-8 lbs.	Begin spray program before the onset of the long rains and continue throughout the rainy season at 14 to 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)	2-4 lbs.	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.
	Iron Spot (Cercospora coffeicola) and Pink Disease (Corticium salmonicolor)	2 lbs.	Use concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for three applications.
Filberts	Bacterial Blight	16-24 lbs.	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
	Eastern Filbert Blight	16-24 lbs.	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.
Mango (Florida)	Anthracnose	6 lbs.	Apply monthly after fruit set until harvest
Olives (California)	Peacock Spot	8-12 lbs.	Make first application before winter rains fall. A second application in early spring should be made if disease is severe. Apply the high rate for heavy disease pressure or when conditions favor such
Peach, Nectarine	Leaf Curl, Coryneum Blight (Shot Hole)	8-16 lbs.	Apply at leaf fall. Use the highest rate when rainfall is very heavy and disease pressure is high. May be used with agricultural spray oil
	Brown Rot, Blossom Blight	8-12 lbs.	Full cover spray at pink bud. Application at this time affords some control of Leaf Curl and Coryneum Blight.
	Bacterial Spot	1 lb.	Post Bloom application applied at first and second cover sprays.
		8 lbs.	Apply as a dormant spray. NOTE: Do not spray three weeks prior to harvest. Use only recommended rates. Spotting of leaves and defoliation may occur from use in cover sprays.
Pear	Fire Blight	1 lb.	Apply at 5 day intervals throughout the bloom period
	Pseudomonas Blight	12-16 lbs.	Apply before fall rains and again during dormancy before spring growth starts. Use the higher rate when disease pressure is high or when conditions favor development of such. NOTE: Excessive dosages may cause fruit russet
Pecan	Shuck & Kernel Rot (Phytophthora cactorum) and Zonate Leafspot (Cristulariella pyramidalis)	2-4 Ls.	For suppression, apply in sufficient water to ensure complete spray coverage at 2 to 4 week intervals starting at kernel growth and continuing until shucks open. Use the higher rate and shorter interval if frequent rainfall occurs.
Plum & Prune	Coryneum Blight (Shot Hole)	8-16 lbs.	Apply as a dormant spray. Use the higher rate when rainfall is heavy and/or disease pressure is high.
	Brown Rot, Blossom Blight	8-12 lbs.	Apply full cover application at pink, red or early white bud stage. Use the higher rate when disease pressure is heavy or conditions favor the development of such.
Walnut	Walnut Blight	8-12.5 lbs.	Apply first application 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

VEGETABLES

Crop	Disease	Rate/Acre	Use Instructions
Beans	Bacterial Blight (Halo & Common), Brown Spot	1-3 lbs.	Use the higher rate for more severe disease. For protective sprays, make first application when plants are six inches high; repeat on a 7-14 day schedule depending upon local conditions
Broccoli, Brussels Sprout, Cabbage, Cauliflower, Collards, Spinach	Black Rot (Xanthomonas) & Black Leaf Spot (Alternaria)	2 lbs.	Apply at 7 - 10 day intervals. For control of disease of these crops, begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development.
	Downy Mildew (Cabbage Only)	0.5-1 lb.	Use higher rates when conditions favor disease. NOTE: Reddening of older leaves may occur on Broccoli and a flecking of wrapper leaves may occur on Cabbage.
Cantaloupe, Honeydew, Muskmelon	Downy Mildew	2 lbs.	Begin application when conditions are favorable for disease development and repeat at 5-7 day intervals as needed depending on disease severity.
Carrot	Cercospora Leaf Spot	2 lbs.	Begin application when disease first threatens and repeat at 7-14 day intervals as needed depending on disease severity.
Celery	Cercospora Early Blight, Septoria Late Blight, & Bacterial Blight	2 lbs.	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.
Cucumber	Angular Leaf Spot and Downy Mildew	1.5-2 lbs	Apply weekly when plants begin to vine.
Eggplant (Except California)	Alternaria Blight, Anthracnose, & Phomopsis	2 lbs.	Begin applications prior to development of disease symptoms. Repeat sprays at 7-10 day intervals or as needed depending on disease severity
Onion	Purple Blotch & Downy Mildew	2 lbs	Begin when plants are 4-6 inches high and repeat at 7-10 day intervals as needed depending upon disease pressure
Peas	Powdery Mildew	1.5-3 lbs.	Begin applications when disease symptoms first appear and repeat at weekly intervals as needed. Use higher rate for more severe disease
Peppers	Bacterial Spot	2-3 lbs	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
Pumpkin & Squash	Powdery Mildew	1.5-3 lbs.	Begin applications when plants are 3 weeks old or when disease symptoms first appear and repeat at 7 day intervals as needed to maintain control. Use the higher rates if disease is heavy or conditions favor such
Tomato	Early and Late Blight	2-3 lbs.	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
	Bacterial Speck	2 lbs.	Begin applications when disease first threatens and repeat at 10-30 day intervals or as needed depending on disease severity
	Bacterial Spot, Anthracnose, Gray Leaf Mold, Septoria Leaf Spot	2-4 lbs	Begin applications 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: May be combined with 1 1-1.5 quarts per acre of Manex II or combination product of mancozeb (80+ active compound). When Manex™ II or mancozeb is used in tank mixture with Kocide DF do not apply within 5 days of harvest
Watermelon	Anthracnose	2 lbs	Apply as soon as plants become established in the field and repeat at weekly intervals as needed depending upon disease severity
	Downy Mildew	1.5-3 lbs	Apply as soon as plants become established in the field and repeat at weekly intervals as needed depending upon disease severity. Use higher rates when conditions favor disease

VINES

Crop	Disease	Rate/Acre	Use Instructions
Grape	Black Rot, Powdery Mildew, Downy Mildew	2 lbs.	Begin applications 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 Regale. Simple test for sensitivity or add 1-3 lbs of hydrated lime per pound of Kocide DF
Hops	Downy Mildew	2 lbs.	Make dormant treatment after pruning, but before training. After training, additional treatments are needed at about 10 day intervals. NOTE: Discontinue use 2 weeks before harvest.
Kiwi	Pseudomonas syringae, Erwinia herbicola, Pseudomonas fluorescens	6 lbs.	Apply in 200 gallons of water per acre. Make applications on a monthly basis. A maximum of 3 applications may be made.

MISCELLANEOUS

Crop	Disease	Rate/Acre	Use Instructions
Ginseng	Alternaria Leaf and Stem Blight	2.5 lbs.	Use a 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. Applications should be repeated every 7 days until plants become dormant in fall. If scheduled application is to be made before a rain shower, apply fungicides at least 6 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 to 2-, 3-, 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.
Live Oak (Texas and Florida)	Ball Moss	6 lbs.	Apply 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. NOTE: Kocide DF may be injurious to ornamentals grown under Live Oaks.
Sycamore	Anthracnose	3-3 lbs.	Apply as a full cover spray. Apply in 100 gallons of water or sufficient volume for thorough coverage. Make first application at bud break and second application 7-10 days later at 10+ leaf expansion.

ORNAMENTALS

Notice to User: Plant sensitivities to Kocide DF have been found to be acceptable in specific genera and species listed on this label, however, phytotoxicity may occur. Due to the large number of species and varieties of ornamentals and nursery plants, it is impossible to test every one for sensitivity to Kocide DF. Neither the manufacturer nor seller has determined whether or not Kocide DF can be safely used on ornamental or nursery plants not listed on this label. The user should determine if Kocide DF 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 DF 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.

One-half tablespoon of Kocide DF per gallon of water is equivalent to 1 pound per 100 gallons.

Apply as a thorough coverage spray using 1 pound Kocide DF per 100 gallons of water. 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 DF may be used alone or in combination with other fungicides as a maintenance spray. Kocide DF may be used alone or in combination with other fungicides such as the dithiocarbamates.

Crop	Disease	Crop	Disease
Aralia	Xanthomonas & Coniosporra Leaf Spots, Alternaria	India Hawthorn (greenhouse)**	Entomosporium Leaf Spot
Azalea*	Coniosporra Leaf Spot, Botrytis Blight, Physosphora dieback and Powdery Mildew	Ivy*	Xanthomonas Leaf Spot
Begonia	Xanthomonas Leaf Spot	Pachysandra	Volutella Leaf Blight
Bulbs (Easter Lily, Tulip, Gladiolus)	Anthracnose, Botrytis Blight	Periwinkle	Phomopsis Stem Blight
Carnation*	Alternaria Blight, Pseudomonas Leaf Spot and Botrytis Blight	Philodendron	Bacterial Leaf Spot
Chrysanthemum*	Septoria Leaf Spot and Botrytis Blight	Pyracantha	Fireblight, Scab
Cotoneaster	Botrytis Blight	Rose*	Powdery Mildew, Black Spot
Euonymus	Botrytis Blight, Anthracnose	Yucca (Adams - Needle)	Coniosporra and Septoria Leaf Spot

* Discoloration of foliage and/or blooms have been noted on some varieties. To prevent residues on commercial plants, do not spray just before selling season.
**For India Hawthorn use 2 to 4 lbs per 100 gallons or 1 to 2 level tablespoons per gallon.

WARRANTY STATEMENT

GRIFFIN warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the 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.