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DEC 19 1997

Mr. Darryl E. Brock
Griffin Corporation
P.O. Box 1847
Rocky Ford Road
Valdosta, Georgia 31603-1847

Dear Mr. Brock:

Subject: ManKocide
EPA Reg. No. 1812-360
Your Submission of October 22, 1997

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

1. Submit and/or cite all data required for registration and reregistration under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.

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

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

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

Sincerely yours,

Mary L. Waller

Mary L. Waller
Acting Product Manager (21)
Fungicide Branch
Registration Division (7505C)

Enclosure

7505C:C.Grable:cg:12/1/97

ManKocide®

~~DRY FLOWABLE~~

FUNGICIDE/BACTERICIDE

~~DRY FLOWABLE~~

ACTIVE INGREDIENTS

Mancozeb, a coordination product of zinc ion and manganese ethylenebisdithiocarbamate	15.0%
in which the ingredients are	
Manganese	3.0%
Zinc	0.4%
Ethylenebisdithiocarbamate ion ($C_4H_6N_2S_4$)	11.6%
Copper Hydroxide (Metallic Copper Equivalent - 30%)	46.1%
INERT INGREDIENTS	38.9%
TOTAL	100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

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

STATEMENT OF PRACTICAL TREATMENT

IF 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 irritation persists.

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.

See label for additional Precautions and Directions for Use.

GRIFFIN CORPORATION
VALDOSTA, GEORGIA 31601

EPA Reg. No. 1812-360
EPA Est. No.
NET CONTENTS

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)
DANGER - PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed or inhaled. Do not get in eyes or clothing. ~~Wear goggles or face shield.~~ Avoid inhaling dust or spray mist. ~~Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.~~ Prolonged and repeated dermal contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Chemical resistant apron during mixing and loading
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been heavily contaminated with this product's concentrate. Follow manufacturer's instructions for cleaning and 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.

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. 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. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of ~~48~~ 24 hours without recommended PPE.

The following equipment and precautions must be followed for 7 days following the application of this product:

- An eye-flush container, designed specifically for flushing eyes, must be available at the WPS decontamination site for workers entering the area treated with copper hydroxide (an active ingredient in MankoCide).

- Notify workers of the application by warning them orally that residues in the treated areas may be highly irritating to their eyes and to take precautions such as refraining from rubbing their eyes and if they get residues in their eyes they should immediately flush their eyes using the eye-flush container.

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
- Shoes plus socks
- Protective eyewear

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.

Keep unprotected persons out of the treated areas until sprays have dried.

STORAGE AND DISPOSAL

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

GROUND or AERIAL APPLICATIONS: - Apply ManKocide at the rate shown; use sufficient water to provide thorough coverage, with available equipment in either dilute sprays or in concentrate ground or aerial sprays, typically at least 100 gallons per acre for traditional airblast sprayers, 25-50 gallons per acre for low volume airblast sprayers, and 3-10 gallons per acre for aerial application. Rates of product per acre should be the same for dilute and concentrated sprays. Add ManKocide slowly to water in the spray tank with agitation, or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Continuous agitation is ~~required~~ recommended to keep the product in suspension. If needed, adjuvants of the spreader, sticker, or compatibility agent type that are approved for use on growing crops may be used. During aerial application, human flaggers are prohibited unless in totally enclosed vehicles.

SPECIAL PRECAUTIONS

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

* 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.

* 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 ManKocide resulting in possible phytotoxicity or loss of effectiveness.

* Pesticides 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.

* Do not apply this product through any irrigation (chemigation) system using aluminum parts or components as damage to the system may occur. Such application is prohibited regardless of whether the irrigation system is flushed with water after use of this product.

  Apply this product only through one or more of the following types of systems: sprinkler including center pivot, lateral move, traveler, big gun, and plastic pipe solid set system(s) which contain no aluminum parts or components. Do not apply this product through any other type of irrigation system.

* Mixing of this product with products containing diazinon or thiophanate-methyl is not recommended because of physical incompatibility.

* 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 pesticides 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.

* ManKocide should be used only in accordance with recommendations on this label.

* GRIFFIN will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by GRIFFIN. User assumes all risks associated with such non-recommended use.

FROST INJURY PROTECTION

BACTERIAL ICE NUCLEATION INHIBITOR

When used at the appropriate rate and timing, to all crops listed on this label for disease control, ManKocide may also afford control of ice-nucleating bacteria (*Pseudomonas syringae, Erwinia herbicola,* and *Pseudomonas fluorescens*). If the applications occur at least 24 hours prior to anticipated frost conditions, some protection against light frost may be provided. No reduction in frost damage should be expected in those geographic areas where weather conditions favor severe frost.

APPLICATION INSTRUCTIONS

FOLIAR TREATMENT

Where EBDC products used allow the same maximum poundage of active ingredient per acre per season:

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

Where EBDC products used allow different maximum poundage of active ingredient per acre per season:

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

SEED TREATMENT

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

CROPS	DISEASES PRODUCT/ ACRE	RATE (lb./Acre)	MAXIMUM RATE (lb./Acre/ Season)	USE INSTRUCTIONS
Apples	Anthracnose; European Canker; Pseudomonas	12-16 lb.	128 lb.	**Pre-bloom:** 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 (suppression)	~~10.66 - 21.33~~ 8-16 lb.	~~Single Application~~ 128 lb.	**Pre-bloom:** Make ~~a single~~ application between silver tip and green tip as a full cover spray. Crop injury may occur from late application; discontinue use when green tip reaches ½ inch.
	Crown or Collar rot	4 lb.	128 lb.	**Pre-bloom:** 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.
				It is recommended that this product be used in an Integrated Pest

				Management Program for all apple uses.
Bananas	Sigatoka	2.5 lb.	160 lb. (per growing cycle)	Apply when leaves first appear and repeat every 14 to 21 days or as required. Use sufficient water to provide adequate coverage. The addition of a surfactant to spray solutions will improve performance. May be applied by air in 3 gal. of water combined with 0.5 gal. of agricultural spray oil. Minimum pre-harvest interval is 0 days.
Barley, Oats, and Wheat	Helmintho-sporium Leaf Spot, Septoria Leaf Spot, and Glume Blotch	2 - 2.5 lb.	32 lb. (per crop)	Make first application at early heading and follow with second spray 10 days later. Do not apply within 26 days of harvest. Use higher rates when conditions favor disease Do not graze livestock in treated areas prior to harvest.
Cranberries	Fruit Rot	10.5 lb.	96 lb. (per season)	Start applications at mid-bloom and repeat at 7 to 10 day intervals as required. Do not apply within 30 days of harvest.
Cucumbers	Angular Leaf Spot, Downy Mildew, Gummy Stem Blight, Anthracnose	2 - 2.5 lb.	128 lb. (per crop)	Start applications when plants begin to vine and repeat weekly. Use higher rates and apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces. Do not apply within 5 days of harvest.
Grapes	Black Rot, Downy Mildew, Powdery Mildew, Phomopsis	2.5 lb.	128 lb. (per season East of the Rocky Mountains) 40 lb. (per season West of the	Apply in sufficient water to provide thorough coverage starting at late dormant, or bud break. Repeat when shoots are ½ to 1½ inches long, 3 to 5 and 8 to 10 inches long and then at 7 to 10 day intervals until fruit is set. Apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease.

			Rocky Mountains)	For late season control of black rot, powdery, and downy mildew the use of other approved and recommended fungicide is suggested. Do not apply within 66 days of harvest. **California: Do not apply after bloom.**
				NOTE: Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara, and Rosette. Either test for sensitivity or add 1-3 pounds of hydrated lime per pound of ManKocide.
Melons (Cantaloupes Casaba Crenshaw Honeydew Muskmelon Watermelon)	Alternaria Leaf Spot, Anthracnose, Cercospora Leaf Spot, Downy Mildew, Gummy Stem Blight, Bacterial Fruit Blotch, Watermelon Fruit Blotch	2.5 lb.	128 lb. (per crop)	Start applications when plants are in the two-leaf stage and repeat at approximately 7 day intervals. Apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces. Do not apply within 5 days of harvest. **Note:** ManKocide helps suppress the incidence of watermelon fruit blotch.
Onions (dry bulb)	Botrytis Leaf Blight, Downy Mildew, Purple Blotch,	2.5 lb.	160 lb. (per crop)	Follow a protective spray schedule. Start when diseases are first reported in the area and repeat at 7 day intervals throughout the season. Apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Do not apply to exposed bulbs. Do not apply within 7 days of harvest.
	Bacterial Blight	1.5 - 2.25 lb.		
Papaya	Anthracnose	5.5 - 13 lb.	186.6 lb. (per crop)	Apply in a minimum of 50 gallons of spray solution per acre. Apply before disease appears. Apply at 14-21 day intervals under light disease pressure and at 5-7 day intervals under heavy disease pressure. The addition of an approved spreader is desirable.

				Minimum pre-harvest interval is 0 days.
Peanuts	Cercospora Leaf Spot	2 - 4 lb.	85.3 lb. (per crop)	Start applications when disease first appears or is reported in the area. Repeat sprays at 7 to 14 day intervals. Use higher rates and apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Reduce sprays to a 7 day interval during humid weather. Do not apply within 14 days of harvest. Use higher rate when disease conditions favor disease. Do not feed treated vines to livestock.
Pear	Fireblight	1.5 lb.	128 lb. (per season)	Apply at 5 day intervals throughout the bloom period. Do not apply after bloom. Do not graze livestock in treated areas. It is recommended that this product be used in an Integrated Pest Management Program.
	Pseudomonas Blight	12-16 lbs.	128 lb (per season)	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 disease development. **NOTE:** Russitting may occur in copper sensitive varieties. Excessive dosages may cause fruit russet.
Potatoes	Early/Late Blight	1.5 - 5.0 lb.	74.66 lb. (per crop)	Apply 1.5 - 2.0 lbs. per acre at ~~7~~ 10 day intervals starting when plants are 6 inches high in locations where disease is light and up to 4.0-5.0 pounds per acre as vine size increases and where disease is more severe. Use higher rates and apply every 3 to 5 days with moderate to severe disease pressure and when conditions favor disease. It is

				recommended that this product be used in an Integrated Pest Management Program. Vine-kill should occur 14 days before harvest. Do not use within 3 days of harvest in CT, DE, FL, MA, ME, MI, NH, NY, OH, PA, RI, VT, WI and within 14 days elsewhere.
Squash (Summer squash)	Anthracnose Downy Mildew, Powdery Mildew	2 - 4 lb.	128 lb. (per crop)	Apply weekly when plants begin to vine or when disease symptoms first appear. Use higher rates and apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces. Do not apply within 5 days of harvest.
Sugar Beets	Cercospora Leaf Spot	2.5 - 6.5 lb.	74.66 lb. (per crop)	Begin when disease first threatens. Repeat at 7 to 10 day intervals. Use higher rates and apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Do not apply within 14 days of harvest. Do not feed treated sugar beet tops to livestock. Use higher rates when conditions favor disease.
Tomatoes	Anthracnose, Early Blight, Gray leaf Spot, Late Blight, Leaf Mold, Septoria Leaf Spot, Bacterial Spot, Bacterial Speck	2.5 - 5.0 lb.	112 lb. (per crop east of the Mississippi River) 42.66 lb. (per crop west of the Mississippi River)	Begin applications when disease first threatens and repeat at 7 to 10 day intervals as needed. Use higher rates and apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease. Do not apply within 5 days of harvest. ManKocide is a specially formulated product to provide control of copper tolerant bacteria; therefore, tank mixing with products containing maneb or mancozeb is not necessary. If copper tolerant bacterial blight is not a concern, these products can be tank mixed if enhanced fungicidal activity is desired.

SEED TREATMENT

Seeds to be treated should be cleaned and well cured prior to treatment. ManKocide may be applied to dry seed with conventional slurry or mist seed treating equipment or as a planter-box application. For best results, the seed must be completely and uniformly covered with fungicide. For seed treatment, a dye must be added to ManKocide which will impart an unnatural color to the seed.

All treated seed should be labeled, "Seed treated with MANKOCIDE fungicide containing the active ingredient mancozeb. Must not be used for food, feed or oil purposes."

CROP	DISEASE	RATE/ACRE	USE INSTRUCTIONS
Rice	Achlya spp. Pythium spp.	2-4 ounces per 100 pounds of seed	When using a seed treating machine dilute with an equal amount of water. Consult State Agricultural Experiment Station regarding specific recommendations.
Wheat and Barley	*Pseudomonas syringae*, *Xanthomonas translucens* and *Filletia caries*	4 ounces per 100 pounds of seed	When using a seed treating machine dilute with an equal amound of water. Consult State Agricultural Experiment regarding specific recommendations.

NON-CROP AGRICULTURAL USE

CROP	DISEASE	RATE (lb./Acre)	USE INSTRUCTIONS
Mineola citrus (non-bearing)	Alternaria	4-6 lb.	To maintain disease free trees used for bud wood, apply every 7 to 14 days when trees are actively growing.

~~USE INSTRUCTIONS~~

ORNAMENTALS

For outdoor or greenhouse use, apply as a thorough coverage spray using 1.5 to 3.5 lb. ManKocide per acre ~~100 gals~~. dilute spray, using the higher rates when conditions favor disease. One-half tablespoon of ManKocide per gallon of water is equivalent to 1.5 lb. per 100 gallons. Begin application at first sign of disease and repeat at 7 - 14 day intervals as needed. Use shorter intervals when severe disease conditions exist.

Note: Plant sensitivities to ManKocide 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 ManKocide. Neither the manufacturer or the seller has determined whether or not ManKocide can be safely used on ornamental or nursery plants not listed on this label. The user should determine if ManKocide 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.

Not intended for use on fruit trees by homeowners. Do not use for food or feed purposes.

CROP	DISEASES	REMARKS
Apples (including crab apples)	Fireblight (suppression)	Make a single application between silver tip and green tip as a full cover spray. Injury may occur from late application; discontinue use when green tip reaches ½ inch.
Arborvitae	Cercospora Blight, Alternaria Twig Blight, Phomopsis needle blight	
Ash	Anthracnose	
Azalea	Cercospora Leaf Spot, Botrytis Blight, Phytophthora Twig and Bud Blight, Powdery Mildew	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.
Banana	Sigatoka	Apply when leaves first appear and repeat every 14 to 21 days or as required. Use sufficient water to provide adequate coverage. The addition of a surfactant to spray solutions will improve performance.

Barberry	Bacterial leaf, twig blight	
Beech	Fungal leaf spot	
Begonia	Botrytis Blight, Bacterial Leaf Spot	
Birch	Leaf blister rust	
Bittersweet	Fungal leaf spot	
Bush honeysuckle	Fungal leaf spot	
Camelia	Anthracnose, Bacterial Leaf Spot, Petal Blight	
Carnations	Alternaria Blight, Pseudomonas Leaf Spot, Botrytis Blight, Septoria Leaf Spot	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
Catalpa	Fungal leaf spot	
Cherry-laurel	Brown rot, blossom & twig blight, fungal leaf spot, bacterial spot	
Chrysanthe-mums	Septoria Leaf Spot, Botrytis Blight	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.
Cotonester	Scab, fungal leaf spot, Botrytis blight	
Current, alpine	Anthracnose, fungal leaf spot	

Dahlias	Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Blight	
Dogwood	Anthracnose, fungal leaf spot, leaf blotch, spot anthracnose, flower and leaf blights	Apply when buds begin to open, when bracts have fallen, 4 weeks later and again in late summer after flower buds for next season have formed.
Easter Lily	Botrytis Blight	Use 4.0 - 6.5 lbs. in 20 to 100 gallons of water per acre.
Elm	Xanthomonas Leaf Spot, anthracnose, black leaf spot, and other fungal leaf spots, twig blight	
Euonymus	Anthracnose, Botrytis Blight, fungal leaf spots, scab, anthracnose	
Fir	Needle and twig blights, leaf casts	
Forsythia	Fungal leaf spot	
Geranium	Alternaria Leaf Spot, Botrytis Gray Mold, Cercospora Leaf Spot	
Gladiolus	Alternaria Leaf Spot, Botrytis Gray Mold, Bacterial Leaf Blight	

Hickory	Anthracnose, fungal leaf spot or blotch, scab, spot anthracnose	
Holly	Fungal leaf spot, tar spot, anthracnose, spot anthracnose, leaf and twig blight, algae	
Honeysuckle	Herpobasidium leaf blight, Fungal leaf spot	
Horse-chestnut, Buckeye	Leaf blotch, fungal leaf spot or blight, anthracnose, spot anthracnose	
Hydrangea	Fungal leaf spot, rust, Botrytis leaf and flower blight or gray mold	
India Hawthorn	Anthracnose, Entomosporium Leaf Spot	Use 2.5 - 5.0 lb. per 100 gallons water acre.
Juniper (Eastern Red Cedar)	Anthracnose, rust, Phomopsis twig blight, Cercospora leaf blight	
Lilac	Bacteria and Phytophthora blight	

Linden; Basswood	Anthracnose, fungal leaf spots, leaf blight, spot anthracnose	
Magnolia	Gleosporium Leaf Spot, Algal Leaf Spot, Anthracnose, Bacterial Leaf Spot, leaf blights	
Maple, boxelder	Anthracnose, fungal leaf spots, leaf blight or blotch, leaf scab, tar spot, leaf blister	
Marigold	Botrytis Leaf and Blossom Blight, Alternaria Leaf Spot, Cercospora Leaf Spot	Not recommended for use on French Marigold as phytotoxicity may occur.
Mountain-Ash	Leaf blight, scab, fungal leaf spot, rust, fire blight	
Mulberry	Bacterial blight or leaf spot, fungal leaf spot, false mildew	
Oak	Algal Leaf Spot (*Cephaleuros virescens*), anthracnose, fungal leaf spots and blights, spot	

	anthracnose, leaf blotch, leaf blister	
Pachysandra	Volutella Leaf Blight	
Pansies	Anthracnose, Downy Mildew	
Pear	Fireblight	Apply at 5 day intervals throughout the bloom period. Do not apply after bloom.
Peonies	Alternaria Leaf Spot, Botrytis Blight	
Photinia	Anthracnose, Entomosporium Leaf Spot, powder mildew	
Pine	Dothistroma needle blight, Scirrhia brown spot and needle blight, Rhizosphaera needle cast, Sirococcus tip blight, Sphaeropsis or Diplodia tip blight or dieback, Rhabdocline needle cast, Lophodermium and cyclaneusma needle cast	
Poplar, Aspen, Cottonwood	Leaf rusts, fungal leaf spot, yellow leaf blister	

Privet	Anthracnose, fungal leaf spots, twig blight	
Pyracantha	Fireblight, Scab	
Redbud	Cercospora and other fungal leaf spots	
Rhododendron; Azalea	Alternaria Flower Spot, Cercospora Leaf Spot, Ovulinia petal or flower blight, fungal leaf spots, rust, galls (leaf, flower and stem), Botrytis blight, bud and twig blight dieback	
Rose	Black Spot, Cercospora Leaf Spot, Powdery Mildew, Botrytis blight, Cankers, Cane blight, spot anthracnose, rust, anthracnose, fungal leaf spot	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.
Russian-olive	Fungal leaf spots	
Stone fruit (ornamental) -- almond, apricot, cherry, nectarine, peach, plum	Black knot, brown rot, blossom & twig blight, Botrytis blight, gray mold, leaf	No post-bloom application

	blister or curl, plum pockets, witches' -broom, scab, shot hole, fungal leaf spot, bacterial spot	
Sumac	Fungal leaf spots	
Sycamore, Planetree	Anthracnose, leaf blight, fungal leaf spots	
Tulip	Botrytis Blight, Anthracnose	
Viburnum	Downy Mildew, Anthracnose	
Walnut, Butternut, Pecan	Bacterial Blight, Anthracnose, yellow leaf blotch, fungal leaf spots or blights	Do not use for food or feed.
Willow	Tar spot, leaf blight, scab, black canker, spot anthracnose	
Witchhazel	Fungal leaf spots	
Zinnias	Alternaria Leaf Blight, Botrytis Blight	

2/6/25

TURF

For golf courses, sod farms, industrial or municipal turf areas and professional applications to residential lawns. Not for use by homeowners.

Start applications when grass greens-up in spring or when disease threatens. Repeat at 7 to 14 day intervals as needed. Use the shorter interval and maximum rate when disease is severe or expected to be so. Apply in sufficient water to provide adequate coverage.

Do not graze treated areas. Do not use on grasses intended for grazing, such as range or pasture grasses. Do not feed clippings to livestock. Do not use for grasses grown for seed.

Note: Phytotoxicity may occur depending upon varietal differences. Apply recommended rate to 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.

DISEASES	RATE/1000 Sq. Ft.	REMARKS
Helminthosporium Melting-out Rusts (leaf, stem, stripe)	~~1.3 lb.~~ ~~4-8 oz.~~	
Copper Spot, Fusarium Blight, Powdery Mildew, Red Thread, Slime Mold	~~1.3 - 2.5 lb.~~ ~~4-8 oz.~~	
Algae	~~2 lb.~~ ~~4-8 oz.~~	
Dollar Spot	~~2 - 2.5 lb.~~ ~~4-8 oz.~~	
Rhizoctonia Brown Patch	~~1.3 lb.~~ ~~4-8 oz.~~	Apply on a 7 day schedule.
Pythium Blight	~~2.5 lb.~~ ~~4-8 oz.~~	Apply at 5 day intervals, or more frequently, if conditions are especially favorable for disease development.
Fusarium Snow Mold	~~2 - 2.5 lb.~~ ~~4-8 oz.~~	Apply at 2 to 6 week intervals during winter.

GENERAL CHEMIGATION INSTRUCTIONS
(for crops, turf and sod)

Apply ManKocide only through sprinkler including center pivot, lateral move, ~~end tow, side (wheel) roll,~~ traveler, big gun, or plastic pipe solid set ~~or hand move~~ irrigation systems which contain no aluminum parts or components. Do not apply ManKocide through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of chemigation 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.

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.

This sign is in addition to any sign posted to comply with the Worker Protection Standard.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

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

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone backflow preventor (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged

into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top of the overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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

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

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

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

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

When mixing, fill nurse tank half full with water. Add ManKocide slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. DO NOT PRE-SLURRY ManKocide. 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. Good agitation is required in the injection tank.

ManKocide should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems.

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

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 liquid back toward the injection pump.

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

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

The irrigation line or water pump must include a functional pressure switch which will stop the water pump 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.

When mixing, fill nurse tank half full with water. Add ManKocide slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. DO NOT PRE-SLURRY ManKocide. 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. Good agitation is required in the injection tank.

ManKocide should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems.

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

ATTENTION: This product contains mancozeb and ETU, chemicals known to the State of California to cause cancer in laboratory animals. ETU is also known to the State of California to cause birth defects or other reproductive harm in laboratory animals.

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. The exclusive remedy of any buyer or user of this product for any and all losses, injuries, or damages resulting from or in any way arising from the use, handling, or application of this product, whether in contract, warranty, tort, negligence, strict liability, or otherwise, shall not exceed the purchase price paid for this product or at Griffin Corporation's election, the replacement of this product. GRIFFIN MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.