



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

September 1, 2016

Cheryl Wagner  
Agent for Kocide, LLC  
c/o Wagner Regulatory Associates, Inc.  
7217 Lancaster Pike, Suite A, P.O. Box 640  
Hockessin, DE 19707

Subject: Label Amendment – Adds “me-too” uses for turf and ornamentals; Updates  
Precautionary Statements and PPE; Revises rates and use directions to be  
consistent with Copper and Mancozeb REDs; Other minor formatting changes  
Product Name: Mankocide Fungicide/ Bactericide  
EPA Registration Number: 91411-7  
Application Date: 05/11/2016  
Decision Number: 517732

Dear Ms. Wagner:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Kiryssa Kasprzyk at (703) 347-8429 or by email at [kasprzyk.kiryssa@epa.gov](mailto:kasprzyk.kiryssa@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "Tony Kish". The signature is written in a cursive style with a large, stylized "T" and "K".

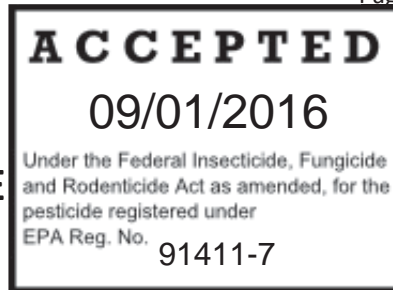
Tony Kish, Product Manager 22  
Fungicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

# Mankocide®

## FUNGICIDE/BACTERICIDE

*Dry Flowable*



**By Weight**

**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 <sub>4</sub> H <sub>6</sub> N <sub>2</sub> S <sub>4</sub> ) .....	11.6%
Copper Hydroxide (CAS No. 20427-59-2) (Metallic Copper Equivalent - 30%) .....	46.1%
<b>Other Ingredients:</b> .....	<u>38.9%</u>
<b>TOTAL:</b> .....	<b>100.0%</b>

### KEEP OUT OF REACH OF CHILDREN DANGER PELIGRO

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

FIRST AID	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<p><b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate use of gastric lavage.</p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p> <p><b>For medical emergencies involving this product, call toll free 1-800-255-3924.</b></p>	

See Label for Additional Precautionary Statements and Directions for Use.

EPA Reg. No. 91411-7

EPA Est. No. \_\_\_\_\_

**Nonrefillable Container**

Net Contents: \_\_\_\_\_

*OR*

**Refillable Container**

Net Contents: \_\_\_\_\_

**Manufactured For:**

Kocide LLC  
9145 Guilford Road, Suite 175  
Columbia, MD 21046

**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. Avoid inhaling dust or spray mist. Prolonged or frequently repeated dermal contact may cause allergic reactions in some individuals.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Mixers, loaders, applicators, and other handlers must wear:**

- Long-sleeved shirt
- Long pants
- Shoes and socks
- Chemical resistant gloves made of any waterproof material (except pilots, ground boom applicators, airblast applicators, and handlers who are bagging treated seed or sewing the bags)
- Protective eyewear

Aerial application of MANKOCIDE® Fungicide/Bactericide on broccoli, cabbage, lettuce (leaf and head), and peppers requires that occupational handlers performing mixing/loading operations observe the additional mitigation measures of wearing a particulate respirator with an N, R or P filter, NIOSH approval prefix TC84-A.

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

**ENGINEERING CONTROL STATEMENTS:**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR Part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

Drift and runoff may be hazardous to aquatic organisms in waters adjacent to treated areas. 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 wash-waters or rinsate.

## 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 State or Tribal 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 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes and socks
- Chemical resistant gloves made of any waterproof material
- 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. Application to golf courses, industrial (office park), and commercial (municipal) lawns and ornamentals are not within the scope of the Worker Protection Standard.

Do not enter or allow others to enter until sprays have dried.

## PRODUCT INSTRUCTIONS

**GROUND or AERIAL APPLICATIONS:** Apply MANKOCIDE® Fungicide/Bactericide 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. Use at least 100 gallons per acre for traditional airblast sprayers, 25 to 50 gallons per acre for low volume airblast sprayers, and 3 to 10 gallons per acre for aerial application. Rates of product per acre must be the same for dilute and concentrated sprays. Add MANKOCIDE® Fungicide/Bactericide slowly to water in the spray tank with agitation, or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Maintain continuous agitation 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.

## RESTRICTIONS

- Aerial application of MANKOCIDE® Fungicide/Bactericide on broccoli, cabbage, lettuce (leaf and head), and peppers requires that occupational handlers performing mixing/loading operations observe the additional mitigation measures of wearing a particulate respirator with an N, R or P filter, NIOSH approval prefix TC84-A.
- 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). Do not apply this product through any other type of irrigation system. In California, do not apply in systems which contain aluminum parts or components.
- MANKOCIDE® Fungicide/Bactericide must be used only in accordance with directions on this label.
- Do not mix this product with products containing diazinon, fosetyl-al or other aluminum-containing products, or thiophanate-methyl because of physical incompatibility.

## SPECIAL PRECAUTIONS

- If MANKOCIDE® Fungicide/Bactericide is applied in a spray solution having a pH of less than 6.5, 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® Fungicide/Bactericide 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 specified by a state/local expert, or the user has small scale direct experience, do not tank mix. Follow more restrictive labeling of any tank mix partners. Do not tank mix with any product that contains a prohibition on tank mixing.
- 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.

## 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® Fungicide/Bactericide 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 year:**

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

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

If more than one product containing an EBDC active ingredient is used on a crop during the same growing year and the EBDC products used allow different maximum poundage of active ingredient per acre per year, 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.

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

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
Apple	Anthracnose European Canker Pseudomonas	12 - 16 lb.	53.3 lb.	<p><b>Fall, late dormant:</b> Apply before fall rains. Use higher specified rates under severe disease conditions.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Only one application is permitted during the fall, late dormant season.</li> <li>• Apply only after harvest.</li> <li>• Use on yellow varieties may cause discoloration, therefore, pick before spraying.</li> <li>• Do not graze livestock.</li> </ul>
	Fire Blight (Suppression)	8 - 16 lb.		<p><b>Between silver tip and green tip:</b> Make one application between silver tip and green tip as a full cover spray.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Crop injury may occur from late application; discontinue use when green tip reaches 1/2 inch.</li> <li>• Minimum preharvest interval is 77 days.</li> <li>• Do not graze livestock in treated areas.</li> </ul>

(continued)

(continued) Apple	Crown Rot Collar Rot	4 lb.		<p><b>In bloom and growing:</b> 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 latefall after harvest. Use this product in an Integrated Pest Management Program for all apple uses.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 5 days.</li> <li>• For early spring use, minimum preharvest interval is 77 days.</li> <li>• Do not use if soil pH is below 5.5 since copper toxicity may result.</li> <li>• Do not graze livestock in treated areas.</li> </ul>
Banana	Sigatoka	2.5 lb.	63 lb.	<p>Apply when leaves first appear and repeat every 14 to 21 days if needed. 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 gallons of water combined with 0.5 gallon of agricultural spray oil.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Minimum preharvest interval is 0 days.</li> </ul>
Barley, Oat, Wheat	Helminthosporium Leaf Spot, Septoria Leaf Spot, and Glume Blotch	1.7 lb.	3.5 lb.	<p>Make first application at early heading and follow with second spray 10 days later. Use higher specified rates when conditions favor disease.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 10 days.</li> <li>• Do not apply within 26 days of harvest.</li> <li>• PHI for barley and wheat is Feekes Growth Stage 10.5 (typically 35 to 45 days), but no less than 26 days.</li> <li>• Do not graze livestock in treated areas prior to harvest.</li> </ul>
Broccoli*§	Alternaria Black Rot ( <i>Xanthomonas spp.</i> ) Downey Mildew	1 - 1.75 lb.	8.8 lb.	<p>Begin applications prior to disease development and when conditions are favorable for disease development. Apply at 7 to 10 day intervals, if needed. Use higher specified rates when conditions favor disease.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not apply this product with a U-boom device.</li> <li>• Minimum preharvest interval is 7 days.</li> </ul>

\*Not registered for use in California.

§Aerial application of MANKOCIDE® Fungicide/Bactericide on broccoli, cabbage, lettuce (leaf and head), and peppers requires that occupational handlers performing mixing/loading operations observe the additional mitigation measures of wearing a particulate respirator with an N, R or P filter, NIOSH approval prefix TC84-A.



Cabbage*§	Alternaria Black Rot ( <i>Xanthomonas spp.</i> ) Downey Mildew	1 - 1.75 lb.	8.8 lb.	<p>Begin applications prior to disease development and when conditions are favorable for disease development. Apply at 7 to 10 day intervals, if needed. Use higher specified rates when conditions favor disease.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not apply this product with a U-boom device.</li> <li>• Minimum preharvest interval is 7 days.</li> </ul>
Cranberry	Fruit Rot	7 lb.	42 lb.	<p>Start applications at mid-bloom and repeat at 7 to 10 day intervals, if needed.</p> <p><b>Restriction:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not apply within 30 days of harvest.</li> </ul>
<p>Cucurbit Crop Group</p> <p>Chayote; Chinese wax gourd (Chinese preserving melon); Citron melon; Cucumber; Gherkin; Gourd, edible (hyotan, cucuzza, hechima, Chinese okra); <i>Momordica</i> spp. (balsam apple, balsam pear, bittermelon, Chinese cucumber); Muskmelon (true cantaloupe, cantaloupe, casaba, Santa Claus melon, crenshaw melon, honeydew melon, honey balls, Persian melon, golden pershaw melon, mango melon, pineapple melon, snake melon); Pumpkin; Squash, summer; Squash, winter (butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); Watermelon</p>	<p>Alternaria Leaf Spot Angular Leaf Spot Anthracnose Bacterial Fruit Blotch Cercospora Leaf Spot Downy Mildew Gummy Stem Blight Powdery Mildew Scab* Watermelon Fruit Blotch</p>	2 - 3 lb.	17.5 lb.	<p>Start applications when plants are in the two-leaf stage and repeat at 7 to 10 day intervals. Use higher specified rates and apply every 5 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. The minimum aerial spray volume for cucurbits is 2 gallons.</p> <p>Some cantaloupe varieties (i.e., Harvest Queen, Gold Star, Super Star, Sweet and Early, and Saticoy) are sensitive to MANKOCIDE® Fungicide/ Bactericide. Consult State Cooperative Extension Service Specialist prior to use.</p> <p><b>NOTE:</b> MANKOCIDE® Fungicide/Bactericide helps suppress the incidence of watermelon fruit blotch.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimal retreatment interval is 5 days.</li> <li>• Do not make more than 5 applications per year at maximum application rate.</li> <li>• Do not apply within 5 days of harvest.</li> </ul>

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Ginseng*	Alternaria Blight	2 lb.	17.5 lb.	<p>Start applications when disease first threatens and repeat every 7 to 10 days as needed.</p> <p>In Wisconsin, apply with ground equipment and a minimum of 80 gallons of water per acre.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not make more than 8 applications per year at maximum application rate.</li> <li>• Do not apply within 30 days of harvest.</li> </ul>
Grape	Black Rot Downy Mildew Powdery Mildew Phomopsis	2.5 lb.	<p>66.7 lb. East of the Rocky Mountains</p> <p>40 lb. West of the Rocky Mountains</p>	<p>Apply in sufficient water to provide thorough coverage starting at late dormant or bud break.</p> <p>Apply every 7 to 10 days with moderate to severe disease pressure and when conditions favor disease. For late season control of black rot, powdery mildew, and downy mildew, the use of another approved fungicide is suggested.</p> <p><b>NOTE:</b> Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara, and Rosette. Either test for sensitivity or add 1 to 3 pounds of hydrated lime per pound of MANKOCIDE® Fungicide/Bactericide.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 3 days.</li> <li>• Do not apply within 66 days of harvest.</li> <li>• California: Do not apply after bloom.</li> </ul>
Lettuce†§	Anthrachnose Downy Mildew	1 - 2 lb.	26 lb.	<p>Begin applications prior to disease development and when conditions are favorable for disease development. Apply at 7 to 10 day intervals, if needed. Use higher specified rates when conditions favor disease.</p> <p><b>NOTE:</b> Determine if there is varietal sensitivity prior to use. Injury may occur to sensitive lettuce varieties and under adverse weather conditions. Discontinue use if injury occurs.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 5 days.</li> <li>• Minimum preharvest interval is 10 days.</li> <li>• Do not apply this product with a U-boom device.</li> </ul>
Onion (Dry Bulb)	Botrytis Leaf Blight Downy Mildew Purple Blotch	2.5 lb.	20 lb.	<p>Follow a protective spray schedule. Start when diseases are first reported in the area and repeat at 7 day intervals throughout the season.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not apply to exposed bulbs.</li> <li>• Do not apply within 7 days of harvest.</li> </ul>
	Bacterial Blight	1.5 - 2.25 lb.		

\*Not registered for use in California.

†Not registered for use in California and Arizona.

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Papaya*	Anthraco nose	5.5 - 8.7 lb.	70.6 lb.	<p>Apply in a minimum of 50 gallons of spray solution per acre. Apply before disease appears. Apply at 14 day intervals if retreatment is needed. The addition of an approved spreader is desirable.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not make more than 8 applications per year at the maximum application rate.</li> <li>• Minimum preharvest interval is 0 days.</li> </ul>
Peanut	Cercospora Leaf Spot	2 - 2.6 lb.	15.8 lb.	<p>Start applications when disease first appears or is reported in the area. Repeat sprays at 7 to 14 day intervals.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Do not feed treated vines to livestock.</li> </ul>
Pear	Fire Blight	1.5 lb.	53.3 lb.	<p><b>In bloom, growing:</b> Apply at 5 day intervals throughout the bloom period. Use this product in an Integrated Pest Management Program.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 5 days.</li> <li>• Do not apply after bloom.</li> <li>• Do not graze livestock in treated areas.</li> </ul>
	Pseudomonas Blight	12 - 16 lb.		<p><b>Fall, late dormant:</b> Apply before fall rains and again during dormancy before spring growth starts. Use the higher specified rate when disease pressure is high or when conditions favor disease development.</p> <p><b>NOTE:</b> Russetting may occur in copper sensitive varieties. Excessive dosages may cause fruit russet.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Only one application is permitted during the fall, late dormant season.</li> <li>• Apply only after harvest.</li> </ul>
Pepper*§	Anthracnose Bacterial Spot Cercospora Leaf Spot Phytophthora Blight (Suppression) Ripe Rot	2 - 2.6 lb.	39 lb.	<p>Begin applications prior to disease development and when conditions are favorable for disease development. Apply at 7 to 10 day intervals, if needed. Use higher specified rates when conditions favor disease.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 3 days.</li> <li>• Do not apply this product with a U-boom device.</li> <li>• Minimum preharvest interval is 7 days.</li> </ul>

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Potato	Early Blight Late Blight	1.5 - 5 lb.	74.66 lb.	<p>Apply 1.5 to 2.0 pounds per acre at 5 to 10 day intervals starting when plants are 6 inches high in locations where disease is light and up to 4.0 to 5.0 pounds per acre as vine size increases and where disease is more severe. Use higher specified rates and apply every 5 days with moderate to severe disease pressure and when conditions favor disease. Use this product in an Integrated Pest Management Program.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 5 days.</li> <li>• Vine-kill should occur 14 days before harvest.</li> <li>• Do not use within 3 days of harvest in CT, DE, FL, MA, ME, MI, NH, NY, OH, PA, RI, VT, and WI.</li> <li>• Do not use within 14 days of harvest elsewhere.</li> </ul>
Sugar Beet	Cercospora Leaf Spot	2.5 - 4.3 lb.	26.2 lb.	<p>Begin when disease first threatens. Repeat at 10 day intervals. Use higher specified rates when conditions favor disease.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 10 days.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Do not feed treated sugar beet tops to livestock.</li> </ul>
Tomato	Anthracnose Early Blight Gray Leaf Spot Late Blight Leaf Mold Septoria Leaf Spot Bacterial Spot Bacterial Speck	Processing 1.7 lb.	Processing 58 lb. East of the Mississippi River	<p>Begin applications when disease first threatens and repeat at 7 to 10 day intervals if needed. Use higher specified rates and apply every 3 to 7 days with moderate to severe disease pressure and when conditions favor disease.</p> <p>MANKOCIDE® Fungicide/Bactericide 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.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 3 days.</li> <li>• Do not apply within 5 days of harvest.</li> </ul>
		Fresh Market 1 - 3 lb.	Fresh Market 26.7 lb.	
Atemoya, Sugar Apple (Sweetsop)*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2- 2.5 lb.	42 lb.	<p>Begin applications at flowering and continue at 7 day intervals. Make applications in a minimum of 10 gallons per acre.</p> <p>Applications made with aerial equipment must be made in a minimum of 5 gallons per acre.</p> <p>Applications may be made up to the day of harvest.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> <li>• Do not make more than 14 applications per year.</li> </ul>

Cherimoya*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 – 2.5 lb.	28 lb.	<p>Begin applications at flowering and continue at 7 day intervals. Make applications in a minimum of 10 gallons per acre.</p> <p>Applications made with aerial equipment must be made in a minimum of 5 gallons per acre.</p> <p>Applications may be made up to the day of harvest.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 14 days.</li> <li>• Do not make more than 14 applications per year.</li> </ul>
Custard Apple*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 – 2.5 lb.	26.2 lb.	<p>Begin applications at flowering and continue at 10 day intervals. Make applications in a minimum of 10 gallons per acre.</p> <p>Applications made with aerial equipment must be made in a minimum of 5 gallons per acre.</p> <p>Applications may be made up to the day of harvest.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 10 days.</li> <li>• Do not make more than 13 applications per year.</li> </ul>
Mango*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 – 2.5 lb.	160 lb.	<p>Start applications at flowering and continue at 7 to 21 day intervals. Direct spray to crown and blossom area. Use 20 to 100 gallons of water per acre.</p> <p>Applications may be made up to the day of harvest.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 7 days.</li> </ul>
Mamey Sapote* Star Apple* (caimito) Canistel* Sapodilla* White Sapote*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 – 2.5 lb.	28 lb.	<p>Start applications at flowering and continue at 14 to 21 day intervals. Direct spray to crown and blossom area. Use 20 to 100 gallons of water per acre.</p> <p>Applications may be made up to the day of harvest.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Minimum retreatment interval is 14 days.</li> <li>• Do not make more than 14 applications per year.</li> </ul>

\*Not registered for use in California.

**SEED TREATMENT**

Seeds to be treated must be cleaned and well cured prior to treatment. MANKOCIDE® Fungicide/Bactericide may be applied to dry seed with conventional slurry or mist seed treating equipment. For best results, the seed must be completely and uniformly covered with fungicide. For seed treatment, a dye must be added to MANKOCIDE® Fungicide/Bactericide which will impart an unnatural color to the seed.

The Federal Seed Act requires that seed that have been treated with this product that are then packaged or bagged for future use shall be labeled with the following statements:

- This seed has been treated with MANKOCIDE® Fungicide/Bactericide, a fungicide containing mancozeb and copper hydroxide.
- Do not use treated seed for feed, food, or oil purposes.

The following statements are also required:

- Store treated seed away from food and feedstuffs.
- Do not allow children, pets or livestock to have access to treated seeds.
- When opening this bag or loading/pouring the treated seed, wear long-sleeved shirt, long pants, shoes, socks, chemical resistant gloves, and a particulate respirator with an N, R or P filter, NIOSH approval prefix TC84-A
- Dispose of all excess treated seed by burying seed away from bodies of water.
- Do not contaminate bodies of water when disposing of planting equipment wash water.
- Dispose of seed packaging or containers in accordance with local requirements.
- After the seeds have been planted, do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.
- **Exception:** Once the seeds are planted in the soil or other planting media, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no worker contact with the soil/media subsurface.

CROP	DISEASE	PRODUCT RATE	USE INSTRUCTIONS
Rice	<i>Achlya</i> spp. <i>Pythium</i> 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, Barley	<i>Pseudomonas syringae</i> , <i>Xanthomonas translucens</i> , <i>Tilletia caries</i>	4 ounces per 100 pounds of seed	When using a seed treating machine dilute with an equal amount of water.  Consult State Agricultural Experiment regarding specific recommendations.

**ORNAMENTALS**

For outdoor or greenhouse use, apply as a thorough coverage spray using 1.5 to 3.5 pounds MANKOCIDE® per acre. Dilute spray, using the higher rates when conditions favor disease. One-half tablespoon of MANKOCIDE® per gallon of water is equivalent to approximately 1.75 pounds product per 100 gallons. Begin application at first sign of disease and repeat at 7 to 14 day intervals if needed. Use shorter intervals when severe disease conditions exist. Maximum annual rate per acre is 66.7 pounds. The minimum retreatment interval for ornamentals is 7 days. For cut flowers and greenhouse grown ornamentals, do not exceed 20 applications per year. Do not use on pachysandra.

**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 nor 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 labeled rates to the plants in question, e.g. bedding plants, foliage, etc., and observe for 7 to 10 days for symptoms of phytotoxicity.

Intended for use by professional or commercial applicators. Do not apply to plants grown for food or feed purposes.

<b>CROP</b>	<b>DISEASES</b>	<b>REMARKS</b>
Apple (Including Crab Apple)	Fire Blight (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 1/2 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	
Bittersweet	Fungal Leaf Spot	
Camellia	Anthracnose, Bacterial Leaf Spot, Petal Blight	
Carnation	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 and Twig Blight, Fungal Leaf Spot, Bacterial Spot	
Chrysanthemum	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.
Cotoneaster	Scab, Fungal Leaf Spot, Botrytis Blight	
Currant, Alpine	Anthracnose, Fungal Leaf Spot	
Dahlia	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 to 6.5 pounds in 20 to 100 gallons of water per acre. Maximum annual application rate is 250 pounds of product per acre (75 pounds metallic copper equivalent). Do not apply any additional copper pesticide to this land for 36 months.
Elm	Xanthomonas Leaf Spot, Anthracnose, Black Leaf Spot and other Fungal Leaf Spots, Twig Blight	
Euonymus	Anthracnose, Botrytis Blight, Fungal Leaf Spots, Scab, Spot 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	
Impatiens, New Guinea and Standard Varieties	Alternaria, Pseudomonas syringae	Use 3 to 5 teaspoons per gallon.
Indian Hawthorn	Anthracnose, Entomosporium Leaf Spot	Use 2.5 to 5.0 pounds per acre.
Juniper (Eastern Red Cedar)	Anthracnose, Rust, Phomopsis Twig Blight, Cercospora Leaf Blight	
Lilac	Bacteria Blight, 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	Do not 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, Laurel	Algal Leaf Spot ( <i>Cephaleuros virescens</i> ), Anthracnose, Fungal Leaf Spots and Blights, Spot Anthracnose, Leaf Blotch, Leaf Blister	
Pansies	Anthracnose, Downy Mildew	
Pear	Fire Blight	Apply at 7 day intervals throughout the bloom period. Do not apply after bloom.
Peonies	Alternaria Leaf Spot, Botrytis Blight	
Periwinkle (Vinca)	Anthracnose	Apply 3 to 5 teaspoons per gallon.
Photinia	Anthracnose, Entomosporium Leaf Spot, Powdery 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	Fire Blight, 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	
Spathiphyllum	Bacterial Leaf Spot, Bacterial Soft Rot, Leaf Spot caused by Alternaria, Ascochyta, Cercospora, Gleosporium and/or Phyllosticta, Anthracnose caused by <i>Colletotrichum gloeosporioides</i>	
Stone fruit (Ornamental) -- Almond, Apricot, Cherry, Nectarine, Peach, Plum	Black Knot, Brown Rot, Blossom and Twig Blight, Botrytis Blight, Gray Mold, Leaf Blister or Curl, Plum Pockets, Witches'-Broom, Scab, Shot Hole, Fungal Leaf Spot, Bacterial Spot	No post-bloom application.
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	

### TURF GRASS

For use on sod farms, golf courses, industrial (Office Parks) and commercial (Municipal) lawns and other similar non-residential areas which are not used as athletic fields. Not for residential use.

**DIRECTIONS FOR USE:**

Apply as a thorough coverage spray using 5.5 to 10 pounds MANKOCIDE per acre (2 to 3.6 ounces per 1000 square feet). Start applications when grass greens-up in spring or when conditions favor disease. Repeat at 10 to 14 day intervals if 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.

Due to the wide variation in climatic conditions, cultural practices and other factors, test tank mixtures on a small area before wide scale use. Under certain circumstances, this product or tank mixtures containing this product can cause discoloration to some turf grass species and varieties including Bluegrass and annual Bluegrass (Poa). If discoloration occurs, it is usually short term and can normally be mitigated by fertilizing and mowing.

**RESTRICTIONS:**

- Maximum single application rate is 10 pounds per acre or 3.6 ounces per 1000 square feet.
- Minimum retreatment interval is 10 days.
- Sod Farm Turf: Harvesting of treated turf is prohibited until 72 hours following application. Do not apply more than 4 applications per year.
- Golf Courses:
  - For cool season grasses on greens, tees, and aprons: Do not apply more than 5 applications per year.
  - For cool season grasses on fairways: Do not apply more than 4 applications per year.
  - For warm season grasses on greens, tees, and aprons: Do not apply more than 4 applications per year.
  - For warm season grasses on fairways: Do not apply more than 3 applications per year.
- All Other Turf: Do not apply more than 4 applications per year.
- 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 on grasses grown from seed.

**NOTE:** Phytotoxicity may occur depending upon varietal differences. Apply specified rate to small area and observe for 7 to 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/PESTS	PRODUCT RATE (Oz./1000 Sq. Ft./ Application)	REMARKS
Helminthosporium Melting-out Rusts (Leaf, Stem, Stripe)	2 - 3.6 oz.	
Copper Spot, Fusarium Blight, Powdery Mildew, Red Thread*, Slime Mold	2 - 3.6 oz.	
Algae	2 - 3.6 oz.	
Dollar Spot	2 - 3.6 oz.	
Rhizoctonia Brown Patch	2 - 3.6 oz.	Apply on a 10 day schedule.

Pythium Blight	2 - 3.6 oz.	Apply at 10 day intervals if conditions are especially favorable for disease development.
Fusarium Snow Mold	2 - 3.6 oz.	Apply at 2 to 6 week intervals during winter.
Moss (Golf greens, tees, and fairways)	1 – 3.6 oz.	<p><u>Established moss:</u> Apply 3.6 ounces in 2 gallons of water. Sequential applications at 10 to 14 day intervals are required for maximum effectiveness. Five applications may be necessary for effective moss control.</p> <p><u>Preventative:</u> Apply 1 to 2 ounces in 2 gallons of water. Apply at 10 to 14 day intervals beginning in the early spring or early fall.</p> <p>Use this product in an Integrated Pest Management Program with emphasis on cultural practices for preventing or minimizing moss establishment.</p> <p>Temporary discoloration may occur when applied to bentgrass or <i>Poa annua</i> during times of elevated stress, particularly heat stress.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• For use on golf greens, tees, and fairways only</li> <li>• Follow restrictions listed above for maximum number of applications allowed per year.</li> </ul>

\* Except California

### CHEMIGATION INSTRUCTIONS

Apply MANKOCIDE® Fungicide/Bactericide only through sprinkler systems including center pivot, lateral move, traveler, big gun and plastic pipe solid set system(s). Do not apply MANKOCIDE® Fungicide/Bactericide through any other type of irrigation system. In California, do not apply in systems which contain aluminum parts or components.

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

If you have questions about calibration, 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 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 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® Fungicide/Bactericide slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. DO NOT PRE-SLURRY MANKOCIDE® Fungicide/Bactericide. Add stickers, spreaders, insecticides, nutrients, etc. 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® Fungicide/Bactericide must be added through a traveling irrigation system continuously or at the last 30 minutes of solid set irrigation systems.

Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all MANKOCIDE® Fungicide/Bactericide 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® Fungicide/Bactericide slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. DO NOT PRE-SLURRY MANKOCIDE® FUNGICIDE/BACTERICIDE. Add stickers, spreaders, insecticides, nutrients, etc. 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® Fungicide/Bactericide must be added through a traveling irrigation system continuously or at the last 30 minutes of solid set irrigation systems.

Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all MANKOCIDE® Fungicide/Bactericide is flushed from the system.

### **SPRAY DRIFT MANAGEMENT**

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

#### **Droplet Size**

Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

#### **Wind Speed**

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition (approximately 3 to 10 mph), and there are no sensitive areas within 250 feet downwind.

#### **Temperature Inversions**

If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

#### **Other State and Local Requirements**

Applicators must follow all state and local pesticide drift requirements regarding application of mancozeb. Where states

have more stringent regulations, they must be observed.

### Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

#### *Additional requirements for aerial applications:*

1. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
2. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
3. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

#### *Additional requirements for ground boom application:*

1. Do not apply with a nozzle height greater than 4 feet above the crop canopy.

**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.

### STORAGE AND DISPOSAL

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

**PESTICIDE 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 HANDLING:** Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

**Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal.



Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners:** Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

**Refillable Fiber Drums With Liners:** Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with MANKOCIDE® Fungicide/Bactericide containing mancozeb and copper hydroxide only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Disposing of Fiber Drum and/or Liner: Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

**All Other Refillable Containers:** Refillable container. Refilling Container: Refill this container with MANKOCIDE® Fungicide/Bactericide containing mancozeb and copper hydroxide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact ChemTel at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact ChemTel at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour

or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact ChemTel at 1-800-255-3924, day or night.

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