COPPER HYDROXIDE	**GROUP**	**M1**	**FUNGICIDE**
MANCOZEB	**GROUP**	**M3**	**BACTERICIDE**

ManKocide®

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 (CAS No. 20427-59-2) (Metallic Copper Equivalent - 30%) 46.1%
Other 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 explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **For medical emergencies involving this product, call toll free 1-800-255-3924.**	

MANUFACTURED FOR:
Certis USA LLC
9145 Guilford Road, Suite 175
Columbia, MD 21046

EPA Reg. No. 91411-7-70051
EPA Est. No. 65387-AR-2

Net Contents: 10 lb., 30 lb.

ESL20200622
Ver. 20200818

This is a Specimen Label. It may not reflect the most-recent approved label for use in your state. Always refer to the label on the product packaging for approved use instructions. Please contact your Certis sales representative for more information.

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
- Socks and shoes
- Chemical resistant gloves made of Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, Neoprene, Rubber ≥ 14 mils, Natural Rubber ≥ 14 mils, Polyethylene Polyvinyl Chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils (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 minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any R or P filter.

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 170.305].

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. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient.

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 apply 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 Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, Neoprene, Rubber ≥ 14 mils, Natural Rubber ≥ 14 mils, Polyethylene Polyvinyl Chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils
- Protective eyewear

For Greenhouse Uses ONLY:
The 48 hour restricted entry interval (REI) may be reduced to 24 hour REI, provided that the following conditions are met:
For at least seven days following the application of copper-containing products in greenhouses:

- at least one container or station designed specifically for flushing eyes is avail-able in operating condition with the WPS required decontamination supplies for workers entering the area treated with copper-containing products,
- workers are informed orally, in a manner they can understand:
  - that residues in the treated area may be highly irritating to the eyes,
  - that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes,
  - that if they do get residues in their eyes, they should immediately flush their eyes with the eye flush container or eye flush station that is located with the decontamination supplies, and
  - how to operate the eye flush container or eye flush station.

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 per-forming mixing/loading operations observe the additional mitigation measures of wearing a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any R or P filter.
- 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 in-jury 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 fac-tor 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.

RESISTANCE MANAGEMENT

For resistance management, please note that MANKOCIDE® Fungicide/Bactericide contains both a Group M1 and Group M3 fungicide/bactericide. Any fungal/bacterial population may contain individuals naturally resistant to MANKOCIDE® Fungicide/Bactericide and other Group M1 or Group M3 fungicides/bactericides. A gradual or total loss of pest control may occur over time if these are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

To delay fungicide/bactericide resistance, take one or more of the following steps:

- Rotate the use of MANKOCIDE® Fungicide/Bactericide or other Group M1 or M3 fungicides/bactericides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicide/bactericides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide/bactericide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide/bactericide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal/bacterial populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information or to report suspected resistance contact your local Certis USA LLC representative. You can also contact your pesticide distributor or university extension specialist to report resistance.

SPRAY DRIFT

Aerial Application

- Do not release spray at a height greater than 10 ft. above the vegetative canopy or water, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speed exceeds 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the application area.
- Do not apply during temperature inversions.

Ground Boom Applications

- Apply with the spray release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- **Volume -** Increasing the spray volume so that larger droplets are produced will re-duce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure -** Use the lowest spray pressure recommended for the nozzle to pro-duce the target spray volume and droplet size.
- **Spray Nozzle -** Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- **Adjust Nozzles -** Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will pro-vide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT – Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft. above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

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.

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 maxi-mum 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
Almond	Bacterial Blast (*Pseudomonas*), Bacterial Canker, Coryneum Blight (Shot Hole), Scab	6 - 12 lbs. *(1.8-3.6 lbs. metallic copper)*	60 lbs. *(18 lbs. metallic copper, 9 lbs. mancozeb)*	Make first application before fall rains and a second at late dormant. Use the higher rates when conditions favor disease. Minimum retreatment interval is 7 days. **IMPORTANT:** Foliar injury may occur from post-bloom sprays on almonds, especially on NePlus varieties. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not make last application later than 5 weeks after petal fall. • Do not apply this product with a U-boom device. • Do not graze livestock in treated area.
	Bacterial Spot (*Xanthomonas arboricola pv. Pruni)*	6 - 12 lbs. *(1.8-3.6 lbs. metallic copper)*		**Dormant:** Make first application at late dormant. Use the higher rates when conditions favor disease. **Restrictions:** • Do not apply this product with a U-boom device. • Do not graze livestock in treated area.

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
		0.75 - 4 lbs. *(0.225-1.2 lbs. metallic copper)*		**Pink through full bloom:** Use 3.5 to 4 pounds. Maximum use rate is 4.0 pounds. **Petal Fall:** Use 1.5 to 2 pounds. Maximum use rate is 2.0 pounds. **Post Petal Fall:** Use 0.75 to 1 pound. Maximum use rate is 0.75 pound. Time sprays around rain events and temperature. Make a minimum of one application to prevent new infections. **IMPORTANT:** Copper applied after bloom can be potentially phytotoxic. Leaf spotting and premature leaf fall can occur if rates are extended. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not make last application later than 5 weeks after petal fall. • Do not apply this product with a U-boom device. • Do not graze livestock in treated area.
	Anthracnose, Blossom Blight/ Brown Rot, Coryneum Blight (Shot Hole), Scab	4 - 5 lbs. *(1.2-1.5 lbs. metallic copper)*		Apply during early bloom. Do not apply after full bloom or injury may occur. Use the higher rates when rainfall is heavy and disease pressure is high. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not make last application later than 5 weeks after petal fall. • Do not apply this product with a U-boom device. • Do not graze livestock in treated area.
Apple	Anthracnose, European Canker, Pseudomonas	12 - 16 lbs. *(3.6-4.8 lbs. metallic copper)*	53.3 lbs. *(16 lbs. metallic copper, 8 lb. mancozeb)*	**Fall, late dormant:** Apply before fall rains. Use higher specified rates under severe disease conditions. **Restrictions:** • Only one application is permitted during the fall, late dormant season. • Apply only after harvest.

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
				• Use on yellow varieties may cause discoloration, therefore, pick before spraying. • Do not graze livestock in treated areas.
	Fire Blight (Suppression)	8 - 16 lbs. *(2.4-4.8 lbs. metallic copper)*		**Between silver tip and green tip:** Make one application between silver tip and green tip as a full cover spray. **Restrictions:** • Crop injury may occur from late application; discontinue use when green tip reaches ½ inch. • Minimum pre-harvest interval is 77 days. • Do not graze livestock in treated areas.
	Crown Rot, Collar Rot	4 lbs. *(1.2 lbs. metallic copper)*		**In bloom and growing:** 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. Use this product in an Integrated Pest Management Program for all apple uses. **Restrictions:** • Minimum retreatment interval is 5 days. • For early spring use, minimum pre-harvest interval is 77 days. • Do not use if soil pH is below 5.5 since copper toxicity may result. • Do not graze livestock in treated areas.
Banana	Sigatoka	2.5 lbs. *(0.75 lb. metallic copper)*	63 lbs. *(18.9 lbs. metallic copper, 9.45 lbs. mancozeb)*	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. **Restrictions:** • Minimum retreatment interval is 7 days. • Minimum pre-harvest interval is 0 days.
Barley, Oat, Wheat	Helminthosporium Leaf Spot, Septoria Leaf	1.7 lbs. *(0.51 lb. metallic*	3.5 lbs. *(1.05 lbs. metallic*	Make first application at early heading and follow with second spray 10 days later. Use higher

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
	Spot, and Glume Blotch	*copper)*	*copper, 0.525 lb. mancozeb)*	specified rates when conditions favor disease. **Restrictions:** • Minimum retreatment interval is 10 days. • Do not apply within 26 days of harvest. • PHI for barley and wheat is Feekes Growth Stage 10.5 (typically 35 to 45 days), but no less than 26 days. • Do not graze livestock in treated areas prior to harvest.
Broccoli*§	Alternaria Black Rot (*Xanthomonas spp.)* Downey Mildew	1 - 1.75 lbs. *(0.3-0.53 lb. metallic copper)*	8.8 lbs. *(2.64 lbs. metallic copper, 1.32 lbs. mancozeb)*	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. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not apply this product with a U-boom device. • Minimum pre-harvest interval is 7 days.
Cabbage*§	Alternaria Black Rot (*Xanthomonas spp.)* Downey Mildew	1 - 1.75 lbs. *(0.3-0.53 lb. metallic copper)*	8.8 lbs. *(2.64 lbs. metallic copper, 1.32 lbs. mancozeb)*	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. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not apply this product with a U-boom device. • Minimum pre-harvest interval is 7 days.
Cranberry	Fruit Rot	7 lbs. *(2.1 lbs. metallic copper)*	42 lbs. *(12.6 lbs. metallic copper, 6.3 lbs. mancozeb)*	Start applications at mid-bloom and repeat at 7- to 10-day intervals, if needed. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not apply within 30 days of harvest.
Cucurbit Crop Group Chayote; Chinese wax gourd (Chinese preserving melon);	Alternaria Leaf Spot Angular Leaf Spot Anthracnose Bacterial Fruit Blotch Cercospora Leaf Spot	2 - 3 lbs. *(0.6-0.9 lb. metallic copper)*	17.5 lbs. *(5.25 lbs. metallic copper, 2.63 lbs. mancozeb)*	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

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
Citron melon; Cucumber; Gherkin; Gourd, edible (hyotan, cucuzza, hechima, Chinese okra); *Momordica* 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	Downy Mildew Gummy Stem Blight Powdery Mildew Scab* Watermelon Fruit Blotch			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. 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. **NOTE:** MANKOCIDE® Fungicide/Bactericide helps suppress the incidence of watermelon fruit blotch. **Restrictions:** • Minimal retreatment interval is 5 days. • Do not make more than 5 applications per year at maximum application rate. • Do not apply within 5 days of harvest.
Ginseng*	Alternaria Blight	2 lbs. *(0.6 lb. metallic copper)*	17.5 lbs. *(5.25 lbs. metallic copper, 2.63 lbs. mancozeb)*	Start applications when disease first threatens and repeat every 7 to 10 days as needed. In Wisconsin, apply with ground equipment and a minimum of 80 gallons of water per acre. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not make more than 8 applications per year at maximum application rate. • Do not apply within 30 days of harvest.
Grape	Black Rot Downy Mildew Powdery Mildew Phomopsis	2.5 lbs. *(0.75 lb. metallic copper)*	66.7 lbs. *(20 lbs. metallic copper, 10 lbs. mancozeb)* East of the Rocky Mountains 40 lbs.	Apply in sufficient water to provide thorough coverage starting at late dormant or bud break. 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

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
			(12 lbs. metallic copper, 6 lbs. mancozeb) West of the Rocky Mountains	suggested. **IMPORTANT:** 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. **Restrictions:** • Minimum retreatment interval is 3 days. • Do not apply within 66 days of harvest. • California: Do not apply after bloom.
Lettuce†§	Anthracnose Downy Mildew	1 - 2 lbs. *(0.3-0.6 lb. metallic copper)*	26 lbs. *(7.8 lbs. metallic copper, 3.9 lbs. mancozeb)*	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. **IMPORTANT:** 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. **Restrictions:** • Minimum retreatment interval is 5 days. • Minimum pre-harvest interval is 10 days. • Do not apply this product with a U-boom device.
Onion (Dry Bulb)	Botrytis Leaf Blight Downy Mildew Purple Blotch	2.5 lbs. *(0.75 lb. metallic copper)*	20 lbs. *(6 lbs. metallic copper, 3 lbs. mancozeb)*	Follow a protective spray schedule. Start when diseases are first reported in the area and repeat at 7-day intervals throughout the season. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not apply to exposed bulb. • Do not apply within 7 days of harvest.
	Bacterial Blight	1.5 - 2.25 lbs. *(0.45-0.68 lb. metallic copper)*		
Papaya*	Anthracnose	5.5 - 8.7 lbs. *(1.65-2.6 lbs. metallic copper)*	70.6 lbs. *(21.2 lbs. metallic copper, 10.6 lbs. mancozeb)*	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.

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
				Restrictions: • Minimum retreatment interval is 7 days. • Do not make more than 8 applications per year at the maximum application rate. • Minimum pre-harvest interval is 0 days.
Peanut	Cercospora Leaf Spot	2 - 2.6 lbs. *(0.6-0.78 lb. metallic copper)*	15.8 lbs. *(4.74 lbs. metallic copper, 2.37 lbs. mancozeb)*	Start applications when disease first appears or is reported in the area. Repeat sprays at 7- to 14-day intervals. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not apply within 14 days of harvest. • Do not feed treated vines to livestock.
Pear	Fire Blight	1.5 lbs. *(0.45 lb. metallic copper)*	53.3 lbs. *(16 lbs. metallic copper, 8 lbs. mancozeb)*	**In bloom, growing**: Apply at 5-day intervals throughout the bloom period. Use this product in an Integrated Pest Management Program. **Restrictions:** • Minimum retreatment interval is 5 days. • Do not apply after bloom. • Do not graze livestock in treated areas.
	Pseudomonas Blight	12 - 16 lbs. *(3.6-4.8 lbs. metallic copper)*		**Fall, late dormant:** 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. **IMPORTANT:** Russetting may occur in copper sensitive varieties. Excessive dosages may cause fruit russet. **Restrictions:** • Only one application is permitted during the fall, late dormant season. • Apply only after harvest.
Pepper*§	Anthracnose Bacterial Spot Cercospora Leaf Spot Phytophthora Blight (Suppression) Ripe Rot	2 - 2.6 lbs. *(0.6-0.78 lb. metallic copper)*	39 lbs. *(11.7 lbs. metallic copper, 5.85 lbs. mancozeb)*	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. **Restrictions:** • Minimum retreatment interval

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
				is 3 days. • Do not apply this product with a U-boom device. • Minimum pre-harvest interval is 7 days.
Potato	Early Blight Late Blight	1.5 - 5 lbs. *(0.45-1.5 lbs. metallic copper)*	74.66 lbs. *(22.4 lbs. metallic copper, 11.2 lbs. mancozeb)*	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. **Restrictions:** • Minimum retreatment interval is 5 days. • 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, and WI. • Do not use within 14 days of harvest elsewhere.
Sugar Beet	Cercospora Leaf Spot	2.5 - 4.3 lbs. *(0.75-1.3 lbs. metallic copper)*	26.2 lbs. *(7.86 lbs. metallic copper, 3.93 mancozeb)*	Begin when disease first threatens. Repeat at 10 day intervals. Use higher specified rates when conditions favor disease. **Restrictions:** • Minimum retreatment interval is 10 days. • Do not apply within 14 days of harvest. • Do not feed treated sugar beet tops to livestock.
Tomato	Anthracnose Early Blight Gray Leaf Spot Late Blight Leaf Mold Septoria Leaf Spot Bacterial Spot Bacterial Speck	Processing 1.7 lbs. *(0.5 lb. metallic copper)*	Processing 58 lbs. *(17.4 lbs. metallic copper, 8.7 lbs. mancozeb)* East of the Mississippi River 42.66 lbs. *(12.8 lbs. metallic copper, 6.4*	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. 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

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
			mancozeb) West of the Mississippi River	necessary. If copper tolerant bacterial blight is not a concern, these products can be tank mixed if enhanced fungicidal activity is desired. **Restrictions:** • Minimum retreatment interval is 3 days. • Do not apply within 5 days of harvest.
		Fresh Market 1 - 3 lbs. *(0.3-0.9 lb. metallic copper)*	Fresh Market 26.7 lbs. *(8 lbs. metallic copper, 4 lbs. mancozeb)*	
Atemoya*, Sugar Apple* (Sweetsop*)	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 - 2.5 lbs. *(0.6-0.75 lb. metallic copper)*	35 lbs. *(10.5 lbs. metallic copper, 5.25 lbs. mancozeb)*	Begin applications at flowering and continue at 7day intervals. Make applications in a minimum of 10 gallons per acre. Applications made with aerial equipment must be made in a minimum of 5 gallons per acre. Applications may be made up to the day of harvest. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not make more than 14 applications per year.
Cherimoya*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 - 2.5 lbs. *(0.6-0.75 lb. metallic copper)*	28 lbs. *(8.4 lbs. metallic copper, 4.2 lbs. mancozeb)*	Begin applications at flowering and continue at 14 day intervals. Make applications in a minimum of 10 gallons per acre. Applications made with aerial equipment must be made in a minimum of 5 gallons per acre. Applications may be made up to the day of harvest. **Restrictions:** • Minimum retreatment interval is 14 days. • Do not make more than 14 applications per year.
Custard Apple*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 - 2.5 lbs. *(0.6-0.75 lb. metallic copper)*	26.2 lbs. *(7.86 lbs. metallic copper, 3.93 lbs. mancozeb)*	Begin applications at flowering and continue at 10 day intervals. Make applications in a minimum of 10 gallons per acre. Applications made with aerial equipment must be made in a minimum of 5 gallons per acre. Applications may be made up to the day of harvest. **Restrictions:** • Minimum retreatment interval is 10 days. • Do not make more than 13 applications per year.

CROP	DISEASES	PRODUCT RATE (Lb./Acre/ Application)	MAXIMUM PRODUCT RATE (Lb. Product/ Acre/Year)	USE INSTRUCTIONS
Mango*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 - 2.5 lbs. *(0.6-0.75 lb. metallic copper)*	130 lbs. *(39 lbs. metallic copper, 19.5 lbs. mancozeb)*	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. Applications may be made up to the day of harvest. **Restrictions:** • Minimum retreatment interval is 7 days.
Mamey Sapote* Star Apple* (caimito) Canistel* Sapodilla* White Sapote*	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	2 - 2.5 lbs. *(0.6-0.75 lb. metallic copper)*	28 lbs. *(8.4 lbs. metallic copper, 4.2 lbs. mancozeb)*	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. Applications may be made up to the day of harvest. **Restrictions:** • Minimum retreatment interval is 14 days. • Do not make more than 14 applications per year.
Walnut§	Walnut Blight	6 - 10 lbs. *(1.8-3 lbs. metallic copper)*	100 lbs. *(30 lbs. metallic copper, 15 lbs. mancozeb)*	Apply first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage on a 7- to 10-day intervals if needed when frequent rainfall or extended periods of moisture occur. Thorough coverage of catkins, leaves and nutlets is essential for effective control. **Restrictions:** • Minimum retreatment interval is 7 days. • Do not make more than 10 applications per year. • Do not apply within 75 days of harvest. • Do not apply through any irrigation system. • Do not graze livestock in treated area.

*Not registered for use in California.

†Not registered for use in Arizona and California.

§Aerial application of MANKOCIDE® Fungicide/Bactericide on broccoli, cabbage, lettuce (leaf and head), peppers, and walnut requires that occupational handlers per-forming mixing/loading operations observe the additional mitigation measures of wearing a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any R or P filter.

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.
- 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 made of Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, Neoprene, Rubber ≥ 14 mils, Natural Rubber ≥ 14 mils, Polyethylene, Polyvinyl Chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils, and a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R or P filter.
- 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	*Achlya* spp. *Pythium* spp.	2 - 4 ounces *(0.037-0.075 lb. metallic copper)* 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	*Pseudomonas syringae*, *Xanthomonas translucens*, *Tilletia caries*	4 ounces (*0.075 lbs. metallic copper)* 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® *(0.45-1.05 lbs. metallic copper)* 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 specified intervals when severe disease conditions exist. Maximum annual rate per acre is 66.7 pounds *(20 lbs. metallic copper, 10 lbs. mancozeb)*. 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.

IMPORTANT: 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.

CROP	DISEASES	REMARKS
Apple (Ornamental, 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 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 (Ornamental)	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	

*Not registered for use in California.

ORNAMENTALS *(continued)*		
CROP	**DISEASES**	**REMARKS**
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	

*Not registered for use in California.

ORNAMENTALS *(continued)*		
CROP	**DISEASES**	**REMARKS**
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	

*Not registered for use in California.

ORNAMENTALS *(continued)*		
CROP	**DISEASES**	**REMARKS**
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 (*Cephaleuros virescens*), Anthracnose*, Fungal Leaf Spots* and Blights*, Spot Anthracnose*, Leaf Blotch*, Leaf Blister*	
Pansies	Anthracnose, Downy Mildew	
Pear (Ornamental)	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	

*Not registered for use in California.

ORNAMENTALS *(continued)*		
CROP	**DISEASES**	**REMARKS**
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 *Colletotrichum gloeosporioides*	
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	

*Not registered for use in California.

ORNAMENTALS *(continued)*		
CROP	**DISEASES**	**REMARKS**
Tulip	Botrytis Blight, Anthracnose	
Viburnum	Downy Mildew, Anthracnose	
Walnut, Butternut*, Pecan* (Ornamental)	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	
Witch hazel*	Fungal Leaf Spots	
Zinnias	Alternaria Leaf Blight, Botrytis Blight	

*Not registered for use in California.

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 1,000 square feet). Start applications when grass greens-up in spring or when conditions favor disease. Repeat at 10 to 14day 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 (3 lbs. metallic copper, 1.5 lbs. mancozeb) per acre or 3.6 ounces per 1,000 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.

IMPORTANT: 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./1,000 Sq. Ft./ Application)	REMARKS
Helminthosporium Melting-out Rusts (Leaf, Stem, Stripe)	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	
Copper Spot, Fusarium Blight, Powdery Mildew, Red Thread*, Slime Mold	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	
Algae	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	
Dollar Spot	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	
Rhizoctonia Brown Patch	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	Apply on a 10 day schedule.
Pythium Blight	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	Apply at 10 day intervals if conditions are especially favorable for disease development.
Fusarium Snow Mold	2 - 3.6 oz. *(1.63-2.94 lbs. metallic copper per acre)*	Apply at 2 to 6week intervals during winter.
Moss (Golf greens, tees, and fairways)	1 - 3.6 oz. *(0.82-2.94 lbs. metallic copper per acre)*	Established moss: Apply 3.6 ounces in 2 gallons of water. Sequential applications at 10 to 14day intervals are required for maximum effectiveness. Five applications may be necessary for effective moss control. Preventative: Apply 1 to 2 ounces in 2 gallons of water. Apply at 10 to 14day intervals beginning in the early spring or early fall. Use this product in an Integrated Pest Management Program with emphasis on cultural practices for preventing or minimizing moss establishment. Temporary discoloration may occur when applied to bentgrass or *Poa annua* during times of elevated stress, particularly heat stress. **Restrictions:** • For use on golf greens, tees, and fairways only • Follow restrictions listed above for maximum number of applications allowed per year.

*Except California.

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: 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.

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.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

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The MANKOCIDE® logo is a registered trademark of Kocide LLC.

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Certis USA LLC These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS. Certis USA LLC warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF CERTIS USA LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT. To the extent consistent with applicable law that allows such requirement, Certis USA LLC or your Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify Certis USA LLC or your Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

Internet address: www.certisusa.com
Certis USA LLC, 9145 Guilford Road, Suite 175, Columbia, MD 21046

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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 ½ 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.