MASTERCOP®

Bactericide / Fungicide

FOR USE IN: CITRUS, VEGETABLES, TREE CROPS, SMALL FRUITS, VINES, AND FIELD CROPS.

GROUP M1 FUNGICIDE

ACTIVE INGREDIENT:	**% BY WT.**
Copper sulfate pentahydrate*†	21.46%
OTHER INGREDIENTS:	78.54%
TOTAL:	100.00%

*CAS No. 7758-99-8

†Metallic copper content 5.4%

EPA Reg. No. 55272-18-66222 **EPA Est. No. 55272-MEX-001**

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO

Si usted no entiende la etiqueta, busque al 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.)

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMCALS

DANGER/PELIGRO: Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear protective eyewear such as goggles, face shield, or safety glasses. Harmful if swallowed, absorbed through skin, or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Remove and wash contaminated clothing before reuse.

For additional First Aid, precautionary, handling, and use statements, see inside of this booklet.

051314-3.0

Net Contents: 2.5 Gallons

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. • Call a poison control center or doctor for 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 by a poison control center or doctor. • Do not give anything 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.
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.
Note to Physician: Probable Mucosal damage may contraindicate the use of gastric lavage.	
Have the product container or label with you when calling a poison control center, doctor, or going for treatment. For emergency medical treatment information, call PROSAR 24-hours a day at 1-877 250-9291.	

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PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators, and other handlers must wear the following:

- protective eyewear such as goggles, face shield, or safety glasses,
- long-sleeve shirt,
- long pants,
- chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber.
- shoes plus socks.

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 and other absorbent material that has been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

ENGINEERING CONTROL STATEMENTS

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.
- 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 water 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 washwater 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.

READ THE ENTIRE LABEL BEFORE USING THIS PRODUCT! This label must be in the possession of the user at the time of pesticide application.

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 the protection of agricultural workers on farms, forests, nurseries and greenhouses and handlers of agricultural insecticides. 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 interval. 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 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 plus socks,
- Chemical-resistant gloves made of any waterproof material, and
- Protective eyewear.

Do not enter or allow others to enter until dusts have settled.

NON AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of this Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep children, pets and other unprotected persons out of treated area until sprays have dried.

PRODUCT INFORMATION

MASTERCOP® is a fungicide and bactericide. To be applied as an aerial, ground-dilute or ground-concentrate spray unless specifically directed otherwise in the specific crop use directions. The per acre use rate of MASTERCOP is applicable for both dilute and concentrate sprays. Complete coverage is essential to assure good product performance. The required amount of product must be mixed with enough water to thoroughly cover the crop with spray mixture and be applied to the point of runoff. The volume of water per acre will differ depending on the specific crop and the equipment used. See MASTERCOP label for specific rates and timing of application for each crop. Use higher rates and shorter treatment intervals when conditions favor high disease pressure. Use higher rates for large trees or mature crop plants.

RESISTANCE MANAGEMENT

MASTERCOP contains a Group M1 fungicide. Fungal isolates/bacterial strains with acquired resistance to Group M1 may eventually dominate the fungal/bacterial population if Group M1 fungicides/bactericides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by MASTERCOP or other Group M1 fungicides.

To delay fungicide/bactericide resistance consider:

- Avoiding the consecutive use of MASTERCOP or other target site of action Group M1 fungicides/bactericides that might have a similar target site of action, on the same fungal pathogen species.
- Using tank mixtures or premixes with fungicides/bactericides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action and are both effective at the tank mix or premix rate on the fungal pathogen of concern.
- Basing fungicides/bactericides use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated fungal pathogen populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors and/or manufacturer for fungicides/bactericides resistance management and/or integrated management recommendations for specific crops and resistant biotypes.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, and 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 copper compounds. 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:

- The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- 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.
- 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: Do not apply with a nozzle height greater than 4 feet above the crop canopy.

PLANT SAFETY

As plant varieties of stone fruit, pome fruits, grapes, and cucurbits differ in sensitivity to copper, always evaluate injury potential to MASTERCOP prior to treating orchards or fields.

CHEMIGATION STATEMENT

Do not apply this product through any type of irrigation system.

SPECIAL PRECAUTIONS

Except as specified, begin applications before or at first sign of disease and repeat as needed to maintain control but observe use limitations. Maximum application is for a crop cycle. Crop cycle is defined as prebloom through postharvest. Apply the high rate and/or spray at shorter intervals when climatic conditions favor disease(s). Apply the low rate and/or spray at larger intervals when climatic conditions least favor disease(s). If you are unaware of the climatic conditions favorable for disease(s) claimed for the specific use sites, you must consult with your State Agricultural Extension Service to learn of these conditions.

MASTERCOP is compatible with most of the pesticides present in the market; do not mix with fenvalerate, parathion, phosetyl-al (Aliette®), chlorpyrifos or dichloran. Do not use MASTERCOP with Fireline™ 17 WP.

MASTERCOP may be reactive on metal surfaces such as galvanized roofing. Avoid contact with cars, houses or other metal surfaces susceptible to damage. MASTERCOP may discolor sprayed surfaces such as masonry or wood.

MIXING INSTRUCTIONS

MASTERCOP mixes easily with the water. Follow the instructions below:

1. Fill the mix tank with water to half volume.
2. Add the recommended quantity of MASTERCOP.
3. Fill the mix tank to full volume and mix well before application.
4. Maintain agitation during filling and spraying operations.
5. Spreaders, stickers, nutrients, etc. should be added last.

TANK MIXING ORDER:

Add and thoroughly mix the pesticide products, one at a time, beginning with

those hardest to mix (such as suspension-forming formulations). Wettable powder (WP) and dry flowable or water-dispersible granule (DF, WDG) products should be added initially followed by flowable (F, FL) and microencapsulated (ME) products. Add emulsifiable concentrates (EC) next, followed by any solutions (S) or soluble powder (SP) products. Any crop oils and/or surfactants should be added last. Preslurry (mixed with a little water) dry formulations before adding them to the spray tank.

APPLICATION AND HANDLING

Do not spray this product during high temperatures hours that would cause droplets to volatilize, if rain is coming soon or if wind is high. Do not use carbon steel tanks for mixing; use plastic, bronze or stainless steel tanks.

For aerial or concentrate spray applications, apply the same amount of MASTERCOP per acre as labeled for dilute spray applications. Apply aerial or concentrate sprays in sufficient water for coverage. **USE INSTRUCTIONS**

The following table shows suggested minimum spray volumes per acre; however, thorough coverage is essential for best results. The stage of growth and size are major factors in determining spray volume required to obtain thorough coverage. For question regarding spray volumes needed, consult the local cooperative extension service for spray volumes applicable to your particular crop.

Optimum Spray Volume (Gallons Per Acre) When Applying MASTERCOP			
	Aerial	**Ground**	
		Dilute	**Concentrate**
Citrus	10	800	100*
Field Crops	3	20	—
Small Fruits	5	150	50
Tree Crops	10	400	50
Vegetables	3	20	—
Vines	5	150	50
Miscellaneous	10	150	50
*Pesticide application equipment such as "Curtec" or other similar sprayers which are capable of obtaining thorough coverage at low volumes may be used at as low as 20 gallons per acre of spray volume.			

MASTERCOP is a formulated bactericide/fungicide in aqueous solution, which dilutes in water to be applied by direct spray for controlling following diseases:

CITRUS

Crop	**Disease**	**Season**	**Use Rates in pints per acre**	**Maximum Application Rate (pints per acre)**	**Maximum Annual Rate (pints per acre)**	**Minimum Retreatment Interval**	**Use Notes**
Citrus: Grapefruit, Kumquat, Lemon, Lime, Oranges, Pummelo, Tangelo, Tangerine	Citrus Canker (Suppression)	Growing Season	1.0 -3.0	3.0	51.0	7 days	Spray flushes 7 to 14 days after shoots begin to grow. Young fruit may require an additional application. Number and timing of applications will be dependent upon disease pressure. Under heavy pressure, each flush of new growth should be sprayed.
	Algal Spot, Melanose, Scab	Early Season	1.5 -5.0	5.0		14 days	Apply as pre-bloom and post bloom sprays. Use higher rates when conditions favor disease.
	Alternaria Brown Rot	Early Season	1.5 – 3.5	3.5		14 days	On susceptible varieties, apply when the first spring flush appears and each following flush. Application to fruit should start after 2/3 of the petals have fallen and be repeated on a 21 day schedule or as needed. Use the higher rates when conditions favor disease.
	Greasy Spot, Pink Pitting	Growing Season	0.5 -2.5	2.5		14 days	Apply in summer on expanded new flush. Repeat on subsequent flushes where disease pressure is severe. Use the higher rates when conditions favor disease.
	Phytophthora Brown Rot, Septoria Spot	Fall and Winter	1.5 -3.5	3.5		7 days	Begin application in fall before or just after the first rain and continue as needed. For Brown Rot, only apply to skirts of trees to a height of at least 4 feet. For control of Septoria Sport or where fruit have already been infected with Brown Rot, apply to entire tree. Apply to bare ground one foot beyond skirt. Use the higher rates when conditions favor disease. Do not use in areas subject to copper injury.

FIELD CROPS

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Alfalfa	Cercospora Leaf Spot, Leptosphaerulina Leaf Spot	Growing Season	0.5 -1.0	1.0	4.0	30 days	Apply 10 to 14 days before each harvest or earlier if disease threatens. **NOTE:** Spray injury may occur with sensitive varieties such as Lahontan
Corn (Field Corn, Popcorn, Sweet Corn)	Bacterial Stalk Rot	Growing Season	0.5 -1.5	1.5	6.0	7 days	Begin treatment when disease first appears and every 7 to 10 days or as needed. Use the higher rates and shorter spray intervals when conditions favor disease.
Peanut	Cercospora Leaf Spot	Growing Season	0.75-1.25	1.25	8.75	7 days	Begin spraying at 35 to 40 days after planting or when disease symptoms first appear and repeat at 10 to 14 day intervals or as needed. Reduce sprays to 7 day intervals during humid weather. Use the higher rates when conditions favor disease. Flowable sulfur may be added.
Potato	Early Blight, Late Blight	Growing Season	0.5 -1.5	1.5	22.0	5 days	Apply 0.5 to 1.5 pints at 7 to 10 day intervals or as needed starting when plants are 2 to 6 inches high in locations where disease is light. Apply up to 1.5 pints per acre when disease is more severe. Under conditions of severe disease, control with MASTERCOP will be improved by tank mixing with other compatible fungicides registered for use on potatoes. Read and follow all label instructions of tank mix partners.
Sugar Beet	Cercospora Leaf Spot	Growing Season	0.5-1.5	1.5	7.5	10 days	Begin application when conditions favor disease development and repeat at 10 to 14 day intervals or as needed. Use the higher rates when conditions favor disease. Addition of as spreader/sticker is recommended.
Wheat, Barley, Oats	Helminthosporium Spot, Blotch, Septoria Leaf Blotch	Growing Season	0.5 -1.5	1.5	1.5	10 days	Make first application at early heading and follow with second spray 10 days later. Use the higher rates when conditions favor disease. For wheat, MASTERCOP can be applied as a foliar application for early season disease control and again at early heading and followed with another application 10 days later.

SMALL FRUITS

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Blackberry (Aurora, Boysen, Cascade, Chehalem, Logan, Marion, Santiam, Thornless Evergreen)	Anthracnose, Cane Spot, Leaf Spot, Pseudomonas Blight, Purple Blotch, Yellow Rust	Fall, Late Dormant	1.0-2.0	2.0	4.0	7 days	Make fall applications after harvest. Apply delayed dormant spray after pruning/training in the spring. If needed, agricultural-type spray oil may be added.
	Anthracnose, Cane Spot, Leaf Spot, Purple Blotch, Yellow Rust	Growing Season	0.5 - 1.0	1.0			Apply when leaf buds begin to open and repeat when flower buds show white. If needed, agricultural-type spray oil may be added. **NOTE:** Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.

SMALL FRUITS (continued)

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Blueberries	Bacterial Canker	Fall, Late Dormant	1.5-3.0	3.0	6.0	30 days	Make first application before fall rains and a second application 30 days later. Use the higher rates when conditions favor disease.
	Fruit Rot, Phomopsis Twig Blight	Late Dormant	1.0 -2.0	2.0		10 days	**Dormant Application:** Begin applications when bloom buds begin to swell. Make additional applications at 10 to 14 day intervals or as needed before blooms open.
Cranberry	Fruit Rot	Growing Season	3.0	3.0	9.0	10 days	Make first application in late bloom. Apply one or two additional applications at 10 to 14 day intervals or as needed depending on disease severity.
	Rose Bloom	Growing Season					Apply three sprays on 10 to 14 day schedule or as needed as soon as symptoms are observed.
	Bacterial Stem Canker	Post Harvest /Dormant					Apply post harvest and again in spring at bud swell. Apply one or two additional applications at 10 to 14 day intervals or as needed depending on disease severity.
	Leaf Blight, Red Leaf Spot Stem Blight, Tip Blight	Late Dormant					Apply delayed dormant spray in the spring. Repeat at 10 to 14 day intervals or as needed through pre-bloom.
Currant, Gooseberry	Anthracnose, Leaf Spot	Growing Season	3.0	3.0	9.0	10 days	Make initial application after first leaves have expanded. Continue on a 10 to 14 day schedule or as needed during wet conditions in the spring. Make an additional application after harvest.
Raspberry	Anthracnose, Cane Spot, Leaf Spot, Pseudomonas Blight, Purple Blotch, Yellow Rust	Fall, Late Dormant	1.0 – 2.0	2.0	4.0	7 days	Make fall application after harvest. Apply delayed dormant spray after training in the spring. If needed, agricultural-type spray oil may be added.
	Anthracnose, Cane Spot, Leaf Spot, Purple Blotch, Yellow Rust	Growing Season	0.5 1.0	1.0			Apply when leaf buds begin to open and repeat when flower buds show white. If needed, agricultural-type spray oil may be added. **NOTE:** Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist periods. Discontinue applications if sign of crop injury appear.
Strawberry	Angular Leaf Spot (*Xanthomonas*) Leaf Blight, Leaf Scorch, Leaf Spot	Growing Season	0.5 -1.0	1.0	22.0	7 days	Begin application when plants are established and continue on a weekly schedule throughout the season. Apply in at least 20 gallons of water. Use the higher rates when conditions favor disease. **NOTE:** Discontinue applications if signs of crop injury appear.

TREE FRUIT AND TREE NUTS

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Almonds only	Bacterial Blast	Growing Season	0.5	0.5	1.5	14 days	**Almond Only:** For bacterial blast control in sprinkler irrigated orchards or where disease is severe, apply 0.5 pts per acre post-bloom at 2 week intervals or as needed or just before sprinkling. **NOTE:** Foliar injury may occur from post-bloom sprays on almonds, especially on NePlus Varieties

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Almonds, Apricots, Cherry, Plum, Prune	Bacterial Blast (*Pseudomonas*), Bacterial Canker, Coryneum Blight (Shot Hole)	Fall, Late Dormant	3.0-6.0	6.0	12.0	7 days	Make first application before fall rains and a second at late dormant. Use the higher rates when conditions favor disease. If needed, agricultural-type spray oil may be added. **For Cherries**: Where disease is severe, an additional application shortly after harvest may be required.
	Blossom Brown Rot, Coryneum Blight (Shot hole)	Bloom, Growing Season (Early Spring)	2.0-4.0	4.0		5 days	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.
	Black Knot (Plum)	Growing Season	1.5 -3.0	3.0		7 days	Make an application at bud swell up to early bloom for early season disease suppression. Apply before full bloom. Use the higher rates when rainfall is heavy and disease pressure is high. **NOTE:** To avoid plant injury, do not use after full bloom.
	Cherry Leaf Spot	Growing Season	2.0 3.0	3.0		7 days	Apply at petal fall as well as 1 to 2 times after petal fall. Use the lower rates where disease infection is light and use the higher rates for a dormant application or where disease infection is moderate to heavy. As cherry varieties (such as sweet cherry and English Morello) differ in sensitivlty to copper, always evaluate injury potential to MASTERCOP prior to treating orchards.
Apple	Anthracnose, Blossom Blast, European Canker (*Nectria*) Shoot Blast (*Pseudomonas*)	Fall	4.0-6.0	6.0	15.0	Only 1 application per season permitted	Apply before fall rains. Use the higher rates when conditions favor disease. **NOTE:** Use on yellow varieties may cause discoloration. To avoid discoloration pick before spraying.
	Apple Scab, Fire Blight	Fall, Late Dormant	3.0-6.0	6.0		Only 1 application per season permitted	Make application between silver-tip and green tip. Apply as a full cover spray for early season disease suppression. **NOTE:** Moderate to severe crop injury may occur from late application. After green tip reaches ½ inch, use only on varieties not prone to fruit russeting. Do not tank mix with acidifying surfactants or non-buffered phosphite fungicides. Do not apply MASTERCOP just prior to predicted frosts.
	Apple Scab	Growing Season	0.5 -1.5	1.5		5 days	**Extended spray schedule where fruit finish is not a concern:** Continued applications may be made at 5 to 7 day intervals or as needed between ½ inch green-tip and first cover spray. The addition of spray oil may enhance coverage of the wood in dormant sprays. **NOTE:** Moderate to severe crop injury may result from this extended spray schedule depending on variety. Caution should be taken on varieties prone to fruit russetting.
	Fire Blight	Growing Season	0.5 -1.5	1.5		5 days	
	Collar Rot, Crown Rot	Dormant Spring /Fall	1.5	1.5		Only 1 application per season permitted	Mix in 100 gallons of water. Apply 4 gallons of suspension as a drench on the lower trunk area of each tree. Apply in early spring or in fall after harvest for best results. Do not apply to foliage or fruit. **NOTE:** Do not use if soil pH is below 5.5 since copper toxicity may result.

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Avocado	Anthracnose, Blotch, Scab	Growing Season	2.0-4.0	4.0	24.0	14 days	Apply when bloom buds begin to swell and continue application at monthly intervals for five to six applications. Use the higher rates when conditions favor disease.
Banana	Sigatoka (Black and Yellow)	Growing Season	1.5	1.5	15.0	7 days	Apply by air in 3 gallons of water. If needed, an agricultural-type spray oil may be added. Apply on a 14 day schedule or as needed throughout the wet season. Apply at 21 day intervals or as needed during dry periods.
	Black Pitting						Mix in 100 gallons of water. Apply to the fruit stem and the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.
Cacao	Black Pod	Growing Season	0.5 -3.0	3.0	15.0	14 days	Begin applications at the start of the rainy season and continue while infection conditions persist. Apply 0. 5 to 3.0 pts. at 14 to 21 day intervals or as needed depending on disease severity. For drier areas, make two to four applications using 2.5 to 3.75 pts. per acre according to disease incidence and planting density.
Coffee	Coffee Berry Disease (*Colletotrichum coffeanum*)	Growing Season	2.0 - 3.0	3.0	15.0	21 days	Apply first spray after flowering and before onset of long rains and then at 21 to 28 day intervals or as needed until picking. Use the higher rates when conditions favor disease.
	Bacterial Blight (*Pseudomonas syringae*)	Growing Season	2.0 - 3.0	3.0		14 days	Begin spray program before the onset of long rainy periods and continue through the rainy season at 14 to 21 day intervals or as needed. The critical time for spraying to control this disease is just before, during and after flowering(s), especially when coinciding with wet weather. Use the higher rates when rainfall is heavy and disease pressure is high.
	Leaf Rust (*Hemileia vastatrix*)	Growing Season	0.5 -1.5	1.5		21 days	Apply before the onset of rain and then at 21 day intervals or as needed while the rains continue. Use the higher rates when rainfall is heavy and disease pressure is high.
	Iron Spot (*Cercospora coffeicola*), Pink Disease (*Corticium salmonicolor*)	Growing Season	0.5 1.0	1.0		30 days	Use concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for three applications.
Filbert	Bacterial Blight	Post Harvest	6.0 -9.0	9.0	36.0	14 days	Apply as a post harvest spray. In seasons of heavy rainfall, apply a second spray when 3/4 of the leaves have dropped. Use the higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added.
	Eastern Filbert Blight	Growing Season					Apply as a dilute spray in adequate water for thorough coverage. Make applications starting at bud swell to bud break and continue at 2-week intervals or as needed until early May. Thorough coverage is essential. Use the higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added.

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Mango	Anthracnose	Growing Season	1.5 - 3.0	3.0	9.0	30 days	Apply monthly after fruit set until harvest. Use the higher rates when rainfall is heavy and disease pressure is high.
Olives	Peacock Spot, Olive Knot	Fall, Late Dormant	3.0 - 5.0	5.0	10.0	30 days	Make first application before winter rains begin. A second application in early spring should be made if disease is severe. Apply the higher rates for heavy disease pressure or when conditions favor disease development.
Peach, Nectarine	Bacterial Blast (*Pseudomonas*), Bacterial Canker, Bacterial Spot (*Xanthomonas*), Coryneum Blight (Shot Hole), Leaf Curl	Fall Dormant	3.0 - 6.0	6.0	20.0	21 days	Make first application before fall rains and a second at late dormant. For peach leaf curl, late dormant application must be made before leaf buds swell. Use the higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added.
	Blossom Brown Rot, Coryneum Blight (Shot Hole), Leaf Curl	Growing Season	2.0-4.0	4.0		5 days	Full cover spray at pink bud. Use the higher rates when conditions favor disease. Evaluate fruit finish impact on susceptible varieties prior to use.
	Bacterial Spot	Growing season	0.25 -0.5	1.0		7days	**NOTE:** Spotting of leaves and defoliation may occur from use in cover sprays - varietal differences occur.
Pear	Fire Blight	Growing season	0.5	0.5	12.0	5 days	Apply at 5 day intervals or as needed throughout the bloom period. **NOTE:** Russetting may occur in copper sensitive varieties. Excessive dosages may cause fruit russet on any variety.
	Blossom Blast (*Pseudomonas*)	Fall, Late Dormant	4.0 -6.0	6.0		only one application	Apply before fall rains and again during dormancy before spring growth starts. Use the higher rates when disease pressure is high or when conditions favor disease development.
Pecan	Kernel Rot and Shuck Rot (*Phytophthora cactorum*), Zonate Leaf Spot (*Cristulariella pyramidalis*)	Growing season	0.5 - 1.5	1.5	6.0	14 days	For suppression, apply in sufficient water to ensure complete spray coverage at 2 to 4 week intervals or as needed, starting at kernel growth and continue until shucks open. Use the higher rates and shorter spray intervals if frequent rainfall occurs.
	Ball Moss, Spanish Moss	Late dormant	2.0 – 3.0	3.0			Apply in 100 gallons of water in the spring when ball moss is actively growing, using 1 ½ gallons of spray per foot of tree height. Make sure to wet ball moss tufts thoroughly. A second application may be required after 12 months.
Pistachio	Botryosphaeria Panicle and Shoot Blight, Botrytis Blight, Late Blight (*Alternaria alternata*), Septoria Leaf Blight	Growing season	1.5 -3.0	3.0	9.0	14 days	Make initial application at bud swell and repeat on a 14 to 28 day schedule or as needed. If disease conditions are severe, use the higher rates and shorter spray intervals.
Quince	Fire Blight	Growing season	0.5	0.5	4.0	5 days	Apply at 5 day intervals or as needed throughout the bloom period. Apply in adequate water for thorough coverage.

TREE FRUIT AND TREE NUTS (continued)

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Walnuts	Walnut Blight	Early Season	3.0-6.0	6.0	30.0	7 days	Apply first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage or as needed when frequent rainfall or extended periods of moisture occur. Thorough coverage of catkins, leaves, and nutlets is essential for effective control. **NOTE:** Adequate control may not be obtained when copper tolerant species of *Xanthomonas* bacteria are present.

VEGETABLES

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Bean (Dry, Green)	Brown Spot, Common Blight, Halo Blight	Growing season	0.5-1.0	1.0	15.0	7 days	For protective sprays, make first application when plants are 6 inches high; repeat on a 7 to 14 day schedule or as needed depending on environmental conditions. Use the higher rates for more severe disease.
Beet (Table Beet, Beet Greens)	Cercospora Leaf Spot	Growing season	0.5 -1.5	1.5	6.0	10 days	Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed. Use higher rates when conditions favor disease.
Carrot	Alternaria Leaf Spot, Cercospora Leaf Spot	Growing season	0.5-1.5	1.5	15.0	7 days	Begin applications when disease first threatens and repeat at 7 to 14 day intervals or as needed depending on disease severity.
Celery, Celeriac	Bacterial Blight, Cercospora Early Blight, Septoria Late Blight	Growing season	0.5 -1.0	1.0	6.0	7 days	Begin applications as soon as plants are first established in the field, repeating at 7 day intervals or as needed depending on disease severity and environmental conditions.
Crucifers (Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collard Greens, Mustard Greens, Turnip Greens)	Black Leaf Spot (*Alternaria*), Black Rot (*Xanthomonas*), Downy Mildew	Growing season	0.5-1.0	1.0	6.0	7 days	Begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development. Apply at 7 to 10 day intervals or as needed. Use the higher rates when conditions favor disease. **NOTE:** Reddening of older leaves may occur on broccoli and a flecking of wrapper leaves may occur on cabbage.
Cucurbits (Cantaloupe, Cucumber, Honeydew, Muskmelon, Pumpkin, Squash, Watermelon)	Alternaria Leaf Spot, Angular Leaf Spot, Anthracnose, Downy Mildew, Gummy Stem Blight, Powdery Mildew, Watermelon Bacterial Fruit Blotch (suppression)	Growing season	0.5-1.0	1.0	15.0	5 days	Begin applications prior to disease development and continue while conditions are favorable for disease development. Repeat at 5 to 7 day intervals or as needed. Use the higher rates when conditions favor disease. **NOTE:** Crop injury may occur from application at higher rates and shorter intervals. Discontinue use if injury occurs.

VEGETABLES (continued)

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Eggplant	Alternaria Blight, Anthracnose, Phomopsis	Growing season	0.5 -1.5	1.5	9.0	7 days	Begin applications prior to development of disease symptoms. Repeat spray at 7 to 10 day intervals or as needed depending on disease severity.
Okra	Anthracnose, Bacterial Leaf Spot, Leaf Spots, Pod Spot, Powdery Mildew	Growing season	0.5 -1.5	1.5	9.0	5 days	Begin treatment when disease first threatens and repeat every 5 to 10 days or as needed depending on disease severity. Use the higher rates and shorter spray intervals when conditions favor disease.
Onion, Garlic	Bacterial Blight, Downy Mildew, Purple Blotch	Growing season	0.5 -1.5	1.5	15.0	7 days	Begin when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals or as needed depending on disease severity. Can cause phytotoxicity to leaves.
Pea	Powdery Mildew	Growing season	0.5-1.0	1.0	7.0	7 days	Begin applications when disease symptoms first appear and repeat at weekly intervals or as needed. Use the higher rates when conditions favor disease.
Pepper	Anthracnose, Bacterial Spot, Cercospora Leaf Spot	Growing season	0.5 -3.0	3.0	30.0	3 days	Begin applications when conditions first favor disease development and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use the higher rates when conditions favor disease.
Spinach	Anthracnose, Blue Mold, Cercospora Leaf Spot, White Rust	Growing season	0.5-1.0	1.0	5.0	7 days	Begin application when disease first appears or when conditions favor disease development. Repeat at 7 to 10 day intervals or as needed. Use the higher rates when conditions favor disease. **NOTE:** Flecking may occur in spinach leaves.
Tomato	Anthracnose, Bacterial Speck, Bacterial Spot, Early Blight Gray Leaf Mold, Late Blight, Septoria Leaf Spot	Growing season	0.5 -3.0	3.0	40.0	3 days	Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity. Use the higher rates when conditions favor disease.
Watercress	Cercospora Leaf Spot	Growing season	0.5 -1.0	1.0	4.0	7 days	Begin applications when plants are first established in the field, repeating at 7 to 14 day intervals or as needed depending on disease severity. Do not exceed 4 applications per crop. Apply using ground spray equipment at no less than 50 gallons of spray solution per acre.

VINES

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Grapes	Black Rot, Downy Mildew, Phomopsis	Bloom, Growing Season	1.0-3.0	3.0	30.0	3 days	Begin applications at bud break with subsequent applications throughout the season depending on disease severity. Use the higher rates when conditions favor disease. **NOTE:** Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara and Rosette.
	Powdery Mildew	Fall, Late Dormant	2.0-3.0				

VINES (continued)

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Hops	Downy Mildew	Late dormant	0.5 -1.0	1.0	6.0	10 days	Make crown treatment after pruning, but before training. After training, additional treatments are needed at about 10 day intervals. **NOTE:** Discontinue use 2 weeks before harvest.
Kiwi	*Erwinia herbicola, Pseudomonas fluorescens, Pseudomonas syringae*	Growing season	1.5 -3.0	3.0	9.0	30 days	Apply in 200 gallons of water per acre. Make applications on a monthly basis. A maximum of three applications may be made.

MISCELLANEOUS

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Atemoya	Anthracnose	Growing season	0.5 -1.0	1.0	7.0	7 days	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.
Carambola	Anthracnose	Growing season	2.0 -3.0	3.0	9.0	7 days	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.
Chives	Downy Mildew	Growing season	0.5 -1.0	1.0	5.0	7 days	Begin applications when plants are established in the field. Repeat applications every 7 to 10 days or as needed depending on disease conditions.
Dill	Phoma Leaf Spot, Rhizoctonia Foliage Blight	Growing season	0.5 - 1.0	1.0	5.0	7 days	Begin applications when plants are first established in the field and repeat at 7 to 10 day intervals or as needed depending upon disease severity and environmental conditions. Use the higher rates when conditions favor disease.
Ginseng	Alternaria Leaf Blight, Stem Blight	Growing season	0.5 -1.5	1.5	6.0	7 days	Use as a tank mix with 2 pounds "Rovral" 50W in 100 gallons of water. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Begin MASTERCOP -"Rovral" applications as soon as plants have emerged in spring. Applications should be repeated every 7 days or as needed until plants become dormant in fall. Apply fungicides at least 8 hours before rain. Use of a spread-sticker or sticker is advised. **NOTE:** Alternaria Leaf and Stem Blight is most severe in humid conditions such as those found in the dense canopies of 2 to 4 year old Ginseng. It is very important that the stems be thoroughly covered with fungicide; therefore, use a spray apparatus which distributes the fungicide throughout the canopy.

Crop	Disease	Season	Use Rates in pints per acre	Maximum Application Rate (pints per acre)	Maximum Annual Rate (pints per acre)	Minimum Retreatment Interval	Use Notes
Guava	Anthracnose, Red Algae	Growing season	0.5 – 1.5	1.5	6.0	7 days	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.
Litchi	Anthracnose	Growing season	0.5 -1.5	1.5	6.0	7 days	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.
Macadamia	Anthracnose	Growing season	1.5 – 3.0	3.0	12.0	7 days	Initiate sprays at first sign of flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates when conditions favor disease.
	Phytophthora Blight (*P. capsici*), Raceme Blight (*Boytrytis cinerea*)	Growing season	1.0- 2.0	2.0	10.0	7 days	Apply during aceme development and bloom periods. Apply in sufficient water for thorough coverage. Use the higher rates when conditions favor disease.
Mamey Sapote	Algal Leaf Spot, Anthracnose	Growing season	2.0 – 3.0	3.0	9.0	14 days	Apply when conditions favor disease development. Repeat on 14 to 30 day schedule or as needed as disease severity and environmental conditions dictate. Use the higher rates when conditions favor disease.
Papaya	Anthracnose	Growing season	1.5 -3.0	3.0	12.0	7 days	Apply before disease appears. Apply at 10 to 14 day intervals under light disease pressure and 7 day intervals or as needed under heavy disease pressure. The addition of an approved spreader is desirable. Use the higher rates when conditions favor disease.
Parsley	Bacterial Blight (*Pseudomonas sp.*)	Growing season	0.5 -1.5	1.5	6.0	10 days	Begin applications when plants are first established in the field and repeat at 10 day intervals or as needed depending on disease severity and environmental conditions.
Passion Fruit	Anthracnose	Growing season	2.0 -3.0	3.0	12.0	7 days	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.
Sugar Apple (*Annona*)	Anthracnose	Growing season	3.0 -6.0	6.0	24.0	7 days	Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.
Sycamore	Anthracnose	Growing season	0.5 -1.0	1.0	6.0	7 days	Apply as a full cover spray in 100 gallons of water or sufficient volume for thorough coverage. Make first application at bud crack and second application 7 to 10 days later at 10% leaf expansion. Use the higher rates when conditions favor disease.

PHYTOTOXICITY: MASTERCOP is not phytotoxic if used according to label instructions.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE:

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area.

Do not store above 100°F for extended periods of time. Storage below 20°F can result in formation of crystals. If product crystallizes, store at 50°F to 70°F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

PESTICIDE DISPOSAL:

Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. 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 CONTAINERS:

Rigid, Nonrefillable containers small enough to shake (i.e. with capacities equal to less than five gallons).

Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure 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 offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

RECYCLE OR DISPOSAL OF CONTAINERS:

End users are authorized to remove tamper evident cable as required to remove the product from the container unless the container is equipped with one way valves and refilling or returning is planned. Instructions for container rinsing and either recycling or disposal are as follows:

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS**, **DISCLAIMER OF WARRANTIES,** and **LIMITATIONS OF LIABILITY**.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

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