

# **SPINACH**

## General Information

### 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.

## APPLICATION AND HANDLING

Do not spray this product 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 in the label 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.

## Limitations, Restrictions, and Exceptions

### SPINACH

Season: Growing season

Maximum Application Rate (pints per acre): 1.0

Maximum Annual Rate (pints per acre): 5.0

Minimum Retreatment Intervals: 7 days

### Use Notes

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.

Blue Mold - Not for use in California.

### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field rates 0](#)

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Restricted Entry Interval

48 hours

Timings

[When conditions first favor disease development.](#)