



COPPER FUNGICIDES

Which Copper product do I need to use?
They all start with the same metallic copper. Then they are processed, reacted and formulated to make different products.

Copper products are labeled for different crop uses and disease controls.
UAP delivers 3 copper fungicides / bacteriacides.

COPPER 53W Tri-basic copper sulfate

COPPER SPRAY Fixed copper oxychloride

COPPERCIDE WP Copper hydroxide (Fixed)

Growers who use Copper know the benefits of preventing fungi and bacteria from attacking their crops. Fruit, vegetable, field and nut crops as well as ornamentals are labeled for use.

Copper provides a wide control spectrum with strong protective contact and residual action. Foliar applications are approved to control many fungal and bacterial diseases.

These products are formulated to provide the active ion copper form of ingredient. **Copper Spray** and **Coppercide** are the 'fixed' form that is safer to the plant and provides longer residual control. Adding lime to **Copper 53W** in the tank also 'fixes' and safens the Bordeaux mixture.

Copper products have a range of solubility's, **Copper 53W** being the most soluble, **Copper Spray** less soluble and **Coppercide** the least soluble. The less soluble the copper the more residual activity. The longer the copper ion release is provided over time, and the control is extended.

Copper fungicides are effective as part of a resistance management strategy. Copper is used in tank mixtures for improved disease control. Mancozeb conditions bacteria to better absorb the copper ion and denature the bacterium.

The following tips may help you make the best use of Copper.

- Choose the product that is registered for the crop/disease to be controlled. Coppers are registered at different crop stages for disease control and crop safety.
- Plan to use Copper at the crop stage it is labeled for. Copper fungicides / bacteriacides are protective by nature. This means they must be on the plant surface before the bacteria or fungus to be effective.
- Copper products are effective when they are in contact with the target disease organism. Therefore good control depends on good spray coverage. Use enough water and sprayer pressure to ensure coverage of the foliage.
- The pH of the spray solution should be 6.5 or higher to maintain efficacy and crop safety. The spray water should not be acidified.
- The efficacy of Copper fungicides is increased when tank mixed with certain other fungicides ex. **Coppercide** plus Mancozeb on potatoes.
- Follow the Copper and tank mix partner labels for complete use instructions. Consult with local agricultural extension specialists on timing, frequency and the number of sprays to be used in a season.
- Copper fungicides can be used up to 1 day to harvest in most crops.

Read the complete Copper and tank mix partner labels before using.



www.uap.ca

Ontario & the Maritimes: 1-800-265-5444 West: 1-800-561-5444 Quebec: 1-800-361-9369

COPPER PRODUCTS FROM UAP CANADA

| CROP | CONTROLS | COPPER 53W | COPPER SPRAY | COPPERCIDE |
|--|---|-----------------------|----------------------------|------------------------------|
| Beans | Anthracnose Downy Mildew Bacterial Leaf Spot Bacterial Blight | √ √ √ | | √ Halo,Common |
| Beet | Cercospora Leaf Spot | √ | | |
| Brussels Sprouts | Bacterial Leaf Spot Downy Mildew Black leaf Spot Grey Leaf Spot | √ √ √ √ | | |
| Carrot | Cercospora Leaf Spot | √ | | |
| Cabbage Broccoli Cauliflower | Downy Mildew Black Leaf Spot Grey Leaf Spot | √ √ √ | | |
| Celery | Early Blight Late Blight Anthracnose Leaf Mold Septoria Leaf Spot | √ √ √ √ √ | √ √ | |
| Cucumber (field) Squash Pumpkin Melon Watermelon | Alternaria Angular Leaf Spot Anthracnose Downy Mildew Scab Bacterial Wilt Septoria Leaf Spot | √ √ √ √ √ | √ √ √ √ √ √ | √ Field cucumber |
| Eggplant | Early Blight Late Blight | √ √ | | |
| Onion | Downy Mildew | | √ | |
| Peppers,field | Anthracnose Early Blight Late Blight Leaf Mold Septoria Leaf Spot Bacterial Spot | √ √ √ √ √ | | √ |
| Pepper, Greenhouse Seedlings | Bacterial Spot | | | √ |
| Potatoes | Early Blight Late Blight | √ √ | √ √ | √ + Mancozeb √ + Mancozeb |
| Spinach | Downy Mildew White Rust | √ √ | | |
| Sugar Beets | Cercospora Leaf Spot | | | √ |
| Tomatoes,field | Anthracnose Early Blight Late Blight Leaf Mold Septoria Leaf Spot Bacterial Spot Bacterial Canker | √ √ √ √ √ | √ √ √ √ | √ + Mancozeb √ GHSE |
| Tomato Greenhouse | Bacterial Spot | | | √ + Mancozeb |

| CROP | CONTROLS | COPPER 53W | Copper Spray | COPPERCIDE |
|---|--|------------------|------------------|------------|
| Hops | Downy Mildew | √ | | |
| Apples - Mutsu etc. | Fire Blight Bacteria Apple Blister Spot | √ √ | √ | |
| Pears | Fire Blight Bacteria | √ | BC | |
| Peaches | Leaf Curl Coryneum Blight Anthracnose | √ BC √ | √ BC | |
| Nectarines | Leaf Curl Coryneum Blight Anthracnose | √ BC √ | | |
| Apricots | Coryneum Blight | BC | BC | |
| Sour Cherry | Brown Rot Leaf Spot Bacterial Canker | √ √ | √ √ √ | |
| Sweet Cherry | Bacterial Canker | | √ | |
| Grapes | Dead Arm Black Rot Downy Mildew Powdery Mildew | √ √ √ | √ √ | |
| Strawberries | Leaf Spot | √ | | |
| Cranberries | Leaf Blight Twig Blight Fruit Rot Complex | | √ √ √ | |
| Currants and Gooseberries | Anthracnose Phyllostica Leaf Spot Powdery Mildew Septoria Leaf Spot | √ √ √ √ | | |
| Highbush Blueberry | Bacterial Blight | | √ | |
| Raspberries | Bacterial Blight | √ | √ | |
| Filberts and Hazelnuts | Bacterial Blight Eastern Filbert Blight | | √ √ | |
| Walnuts | Bacterial Blight | | √ | |
| Arbovitae, Cedar, Fir, Juniper, Pine, Spruce | Leafblight Needlecast Tip Blight Twig Blight | | √ √ √ √ | |
| Cotoneaster Crabapple Hawthorn Mountain Ash, Quince | Fire Blight | | √ | |
| Flowering Prunus Spp. | Coryneum Blight Bacterial Canker | | √ √ | |
| Forsythia Lilac, Rose | Bacterial Blight | | √ | |
| Rose | Powdery Mildew Downy Mildew Black Spot, Leaf Spot | √ √ √ √ | | |