

Selected Fungicides and Bactericides Labeled for Greenhouse Use

Fungicide	Target Diseases	Labeled Crops	Comments
BASIC COPPER SULFATE (Cuprofix Disperss) 24 hr. REI	Many diseases including angular leaf spot, downy mildew, <i>Alternaria</i> blight, <i>Anthracnose</i> , bacterial blight, etc.	Vegetables including cucumbers, eggplant, peppers, tomatoes, etc.	Crops grown in the greenhouse may be more sensitive to copper injury so the user should determine plant sensitivity. Some formulations are OMRI approved, see labels for details.
BACILLUS PUMILUS (Sonata) 4 hr. REI	Early blight, late blight, downy mildew, powdery mildew	Many vegetables including brassicas, bulb vegetables, cucurbits, fruiting vegetables, leafy vegetables and root and tuber crops	OMRI approved.
BACILLIUS SUBTILLIS , QST, 713 Strain (Serenade MAX, Rhapsody) 4 hr. REI	Many diseases including downy mildew, powdery mildew, bacterial spot, early blight, etc.	Many greenhouse vegetables including broccoli, leafy vegetables, cucurbits, peppers, tomatoes and others	Applied as a protectant fungicide. OMRI approved.
CONIOTHYRIUM MINITANS (Contans) 4 hr. REI	<i>Sclerotinia sclerotiorum</i> , <i>Sclerotinia minor</i>	Many vegetables including leafy vegetables, brassicas, legumes, fruiting vegetables and bulb vegetables	OMRI approved. Contains a beneficial fungus. Do not allow to stand in tank overnight following mixture. Acts as a preventative.
COPPER HYDROXIDE (Kocide 101, Kocide 3000, Kocide 4.5LF, Kocide DF) 24 hr. REI	Leaf spots, <i>Anthracnose</i> and bacterial spots	See labels for specific crops	See labels for specific usage instructions.
COPPER SALTS of fatty and rosin acids (Camelot) 12 hr. REI	<i>Alternaria</i> blight, downy mildew, angular leaf spot, powdery mildew, scab, gray mold, bacterial soft rot, bacterial spot, <i>Cercospora</i> leaf spot, etc.	Vegetables such as broccoli, cabbage, cucurbits, tomato, etc.	The user should determine if coppers can be used safely prior to application. Observe for 7 to 10 days for symptoms of injury.
DICLORAN (Botran) 12 hr. REI	Pink rot, gray mold, <i>Sclerotinia</i> and <i>Sclerotium</i> rots, leaf blight and neck rot	Many vegetables including celery, lettuce, onions, garlic and shallots	May cause leaf bronzing on lettuce. Use adequate volume of water.
HARPIN PROTEIN (Messenger) 4 hr. REI	Increases vigor and aids in the management of disease	Vegetables including cucurbits, fruiting vegetables, and leafy and cole crops	Do not use chlorinated water when mixing this product. Activates natural defense mechanism in plants. Has no direct effect on pests or pathogens.
HORTICULTURAL OIL (Ultra-Fine Oil) 4 hr. REI	Powdery mildew	Cucurbits, melons and squash	Application should be made when disease is first noticed. See label for information on plant safety. Use lower label rates in the greenhouse. OMRI approved.
HYDROGEN DIOXIDE (Oxdate, ZerotoI) 0 hr. REI	<i>Anthracnose</i> , downy mildew, powdery mildew, <i>Pythium</i> root rot	Many vegetables including cole crops, cucurbits, leafy vegetables, peppers and tomatoes	Strong oxidizing agent. Contact, oxidizing sanitizer. OMRI approved

Fungicide	Target Diseases	Labeled Crops	Comments
MANCOZEB (Dithane F-45, DF) 24 hr. REI	Leaf spot diseases, seed treatment for damping off, seed rots and seedling blights	Tomatoes and others	Broad-spectrum protectant fungicide.
PENTACHLORO-NITROBENZENE PCNB (Terraclor 75 WP, Terraclor Flowable, Terraclor 15G) 12 hr. REI	Root and stem rot, damping off (<i>Rhizoctonia solani</i> , <i>Pellicularia filamentosa</i>)	Vegetable bedding plants. Limited to container-grown beans, broccoli, Brussels sprouts, cabbage, cauliflower, peppers and tomatoes.	Flowable and 75WP: Apply as a soil drench. 15G: Used as growing media mix. See label for additional information.
POTASSIUM BICARBONATE (Armicarb 100, Milstop, Kaligreen) 4 hr. REI	Powdery mildew and others	Many vegetables including cabbage, cucumber, eggplant, broccoli, cauliflower, lettuce, peppers, tomatoes and squash	Works by contact. Potassium bicarbonate disrupts the potassium ion balance in the fungus cell, causing the cell walls to collapse. Some formulations are OMRI approved. See label for details.
PROPAMOCARB HYDROCHLORIDE (Previcur Flex) 12 hr. REI	<i>Pythium</i> root rot and damping off	Tomatoes, leaf lettuce, cucurbits and peppers	See label for specific usage instructions.
PYRIMETHANIL (Scala) 12 hr. REI	Early blight and gray mold	Tomatoes	Use in well-ventilated houses only and ventilate two hours after application.
STREPTOMYCES GRISEOVIRIDIS strain K 61 (Mycostop, Mycostop Mix) 4 hr. REI	<i>Fusarium</i> , <i>Alternaria</i> , <i>Phomopsis</i> , suppression of <i>Botrytis</i> , and root rots of <i>Pythium</i> , <i>Phytophthora</i> , and <i>Rhizoctonia</i>	Many vegetables including lettuce, cole crops, cucumbers, melons, peppers, tomatoes and others	Contains a beneficial bacterium. Repeat applications may be needed. Use as a soil spray or drench.
STREPTOMYCIN SULFATE (Agri-mycin 17) 12 hr. REI	Bacterial spot	Tomatoes and peppers	Repeated applications can result in resistant bacteria. Do not apply through any irrigation system.
SULFUR (Microthiol Disperss) 24 hr. REI	Powdery mildew	Brassicas, cucurbits, peppers and tomatoes	Crops grown in greenhouses may be more sensitive to sulfur injury, so the lowest label rate should be tried initially. Do not use within two weeks of an oil spray treatment. Some formulations are OMRI approved, see label for details.
TRICHODERMA HARZIANUM (PlantShield, Rootshield) 0 hr. REI	<i>Pythium</i> , <i>Rhizoctonia</i> , and <i>Fusarium</i> . When applied as a foliar spray, suppresses <i>Botrytis</i> and powdery mildew.	Greenhouse vegetables	Contains a beneficial fungus. Avoid applications of fungicides at least one week before or after application. Acts as a preventative. Will not cure diseased plants. OMRI approved.
TRICHODERMA VIRENS GL-21 (formerly known as <i>Gliocladium virens</i>) (SoilGard 12G)	Damping off and root rot, pathogens <i>Pythium</i> and <i>Rhizoctonia</i>	Food crop plants in greenhouse	Acts as a preventative and will protect noninfected plants. Will not cure already diseased plants. Allow treated soil to incubate for one day prior to planting for best results. Do not use other soil fungicides at time of incorporation. OMRI approved.

Adapted from NE Region Vegetable Management Guide. If any information in these tables is inconsistent with the label, follow the label.