



## Integrated Pest Management Program

Department of Plant Science and Landscape Architecture  
UConn Extension

### Some selected fungicides labeled for use on herb bedding plants

Fungicide	Targeted Pest	Comments
azoxystrobin (Heritage) 4 hr. REI Group 11	Basil: Downy mildew Herbs and spices: Alternaria leaf spot, downy mildew, Phoma blight, powdery mildew	Broad-spectrum, preventive, and curative systemic fungicide.
<i>Bacillus amyloliquefaciens</i> D747 (Triathlon BA) 4 hr. REI OMRI-certified product Group BM02	Powdery mildews, downy mildews, Damping-off & root and crown diseases ( <i>Rhizoctonia</i> , <i>Pythium</i> , and <i>Fusarium</i> ), fungal leaf spots, bacterial diseases, rusts	Broad-spectrum, preventative biological fungicide. Begin applications when conditions in the greenhouse favor disease development.
<i>Bacillus amyloliquefaciens</i> F727 (Stargus) 4 hr. REI OMRI-certified product Group BM02	Botrytis, downy mildew, aerial web blight, fungal leaf spots, bacterial leaf spots & blights, powdery mildew, damping-off fungi	Broad-spectrum, preventive biological fungicide for growing media or foliar applications. Activates ISR (induced systemic resistance).
<i>Bacillus subtilis</i> QST 713 (CEASE) 4 hr. REI OMRI-certified product Group BM02	Alternaria leaf blight, anthracnose, bacterial blight	Broad-spectrum, preventative biological fungicide. For maximum effectiveness, apply prior to or in the early stages of disease development.
<i>Bacillus amyloliquefaciens</i> ENV 503 (Bella Trove Companion Maxx WP) 4 hr. REI Group BM02	Alternaria, Crown Rot, Damping-off, Botrytis, Root rots ( <i>Pythium</i> , <i>Rhizoctonia</i> ), Leaf spots & blights, <i>Fusarium</i> wilt, downy mildew, rust, powdery mildew, and others	Broad-spectrum preventive biological fungicide. Activates ISR (induced systemic resistance).
<i>Bacillus subtilis</i> IAB/BS 03 (Aviv)	Downy mildew, powdery mildew, rust	Broad-spectrum preventive biological fungicide. Activates ISR (induced systemic resistance.)

4 hr. REI OMRI-certified product Group BM02		
<i>Clonostachys rosea</i> J1446 (LALSTOP G 46 WG) 4 hr. REI OMRI-certified product Group BM02	Botrytis, powdery mildew, damping-off and root rots ( <i>Pythium</i> , <i>Rhizoctonia</i> )	Preventive biological fungicide that can be incorporated into the growing media or applied as a drench or spray.
copper octanoate (Copper soap) (Camelot O) (Grotto) 4 hr. REI OMRI-certified products Group M01	Anthrachnose, Alternaria blight, bacterial blight, botrytis blight, downy mildew, leaf spot, Rhizoctonia leaf blight, Phoma leaf spot	Contact fungicide/bactericide. See label for plant safety information.
copper sulfate pentahydrate (Phyton 35) 48 hr. REI Group M01	Chives: Bacterial soft rot, downy mildew, botrytis blight Coriander, mint & rosemary: Botrytis, powdery mildew Dill: Leaf spots	Systemic bactericide and fungicide. See label for plant safety information. Thorough coverage is needed.
cyazofamid (Segway O) 12 hr. REI Group 21	Downy mildew, Phytophthora root rot	Locally systemic fungicide. See label for specific use instructions.
fludioxonil (Spirato GHN) 12 hr. REI Group 12	Alternaria leaf spot, botrytis blight, fusarium blight	Protectant fungicide.
fluopicolide (Adorn) 12 hr. REI Group 43	Greenhouse Basil: Downy mildew	Protectant, curative, eradivative fungicide with antispore activity. Is locally systemic, translaminar and moves systemically through xylem tissue. Must be tank-mixed with another fungicide with a different mode of action for resistance management
hydrogen peroxide & peroxyacetic acid	Anthrachnose, downy mildew, powdery mildew, Pythium root rot	Contact fungicide. Strong oxidizing agent. See label for plant safety information.

(ZeroTol 2.0) 0 hr. REI (drench) 1 hr. REI (spray) OMRI-certified product		
insecticidal soap (potassium salts of fatty acids) (Kopa Insecticidal Soap) (M-Pede) 12 hr. REI OMRI-certified products	Powdery mildew	Contact fungicides. See label for plant safety information.
mandipropamid (Micora) 4 hr. REI Group 40	Downy mildew on basil	Protectant fungicide with contact and translaminar activity. For use in enclosed greenhouses with permanent flooring for resale to consumers.
mefenoxam (Subdue Maxx) 48 hr. REI 0 hr. REI (drench) Group 4	Damping-off ( <i>Pythium</i> spp.), Downy mildew on basil	Systemic fungicide for damping-off: Irrigate lightly after application. For downy mildew on basil: Foliar spray must be used in a tank mix with other fungicides.
mineral Oil (Ultra-Pure Oil) 4 hr. REI	Powdery mildew	Contact fungicide. See label for plant safety information.
Neem oil (Triact 70) 4 hr. REI OMRI-certified product	Powdery mildew, downy mildew, anthracnose, rust, leaf spot, <i>Botrytis</i> .	Contact fungicide. See label for plant safety information.
oxathiapiprolin (Segovis) 4 hr. REI Group U15	Basil: Downy mildew	Foliar protectant fungicide. Begin foliar applications prior to disease development. For treatment prior to retail sale to residential consumers.
phosphorous acid (Kphite 7LP) 4 hr. REI Group P07	Alternaria, Anthracnose, Downy mildew, Powdery Mildew, Rust, Bacterial Leaf Spots Root Rots: <i>Fusarium</i> , <i>Phytophthora</i> , <i>Pythium</i> , and <i>Rhizoctonia</i>	Systemic fungicide. See label for plant safety information.

phosphorous acid & hydrogen peroxide (OxiPhos) 4 hr. REI 0 hr. REI (drench)	Bacterial leaf spot, downy mildew	Systemic fungicide and contact sanitizer. See label for plant safety information.
potassium bicarbonate (Milstop SP) 1 hr. REI (Kaligreen) 4 hr. REI OMRI-certified products	Powdery mildew & others	Broad-spectrum, contact fungicides. Thorough coverage is essential. Begin applications at first sign of disease and repeat as needed. MilStop SP: see label for specific herbs.
<i>Pseudomonas chloraphis</i> AFS009 (Howler) 4 hr. REI OMRI-certified product Group BM02	Alternaria leaf blight, anthracnose, Botrytis, fusarium wilt, phytophthora root rot, Pythium damping-off, rhizoctonia root rot	Preventive biological fungicide.
<i>Reynoutria sachalinensis</i> extract (Regalia GC) 4 hr. REI Group P05 OMRI-certified product	Downy mildew, powdery mildew	Formulation of an extract from the Giant Knotweed. Use preventatively to increase the natural defense system of plants.
<i>Streptomyces lydicus</i> WYEC 108 (Actinovate AG) 4 hr. REI OMRI-certified product	Anthracnose, Basil Downy Mildew, Botrytis, powdery mildew	Preventive biological fungicide that contains a beneficial microbe.
<i>Swinglea glutinosa</i> extract (EcoSwing) 4 hr. REI OMRI-certified product Group BM01	Alternaria leaf spot, Basil downy mildew, botrytis, powdery mildew	Preventive biological fungicide. Activates ISR (induced systemic resistance). Contact desiccant and cell wall disruptor for fungal hyphae. Thorough coverage is needed.
<i>Trichoderma asperellum</i> ICC 012	<i>Fusarium</i> , <i>Phytophthora</i> , <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Sclerotinia</i> , <i>Thielaviopsis</i>	Preventative biological fungicide.

<i>Trichoderma gamsii</i> ICC 080 (Obtego) 4 hr. REI. OMRI-certified product Group BM02		
<i>Trichoderma harzianum</i> T-22 (RootShield Granules) (RootShield WP) 4 hr. REI OMRI-certified products Group BM02	Root rots such as <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , and <i>Thielaviopsis</i>	Preventative biological fungicide.
<i>Trichoderma harzianum</i> T-22 & <i>Trichoderma virens</i> G-41 (RootShield Plus+ Granules) 4 hr. REI (RootShield Plus+ WP) 4 hr. REI OMRI-certified products, Group BMO2	Root rots: <i>Pythium</i> , <i>Phytophthora</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> , <i>Thielaviopsis</i>	Preventative biological fungicide

Fungicides are grouped by their mode of action (MoA) and each MoA group is assigned a Fungicide Resistance Action Committee (FRAC) code. To prevent the development of resistance, alternative applications among different FRAC codes and incorporation of preventative biological fungicides and cultural controls into your management plan. See <http://www.frac.info/home> <http://www.omafrac.org> is a non-profit organization whose mission is to publish information on lists of materials allowed for organic food production. Growers should always read and follow label instructions. Always follow label instructions regarding registered uses and note cautions. To avoid any phytotoxicity problems, spot test first before widespread use.

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