Double Nickel® LC

BIOFUNGICIDE

Aqueous Suspension Biofungicide/Bactericide

FOR ORGANIC PRODUCTION

OMRI LISTED

Active Ingredient:	
Bacillus amyloliquefaciens strain D747*	98.85%
Other Ingredients	1.15%
Total	100.00%

*Contains a minimum of 1×10^{10} colony-forming units (cfu) per milliliter of product

KEEP OUT OF REACH OF CHILDREN

See Inside Panels for Additional Precautionary Statements

MANUFACTURED BY:
Certis USA LLC
9145 Guilford Road, Suite 175
Columbia, MD 21046

CERTIS Biologicals

EPA Reg. No. 70051-107
EPA Est. No.

Lot Number:

Net Contents:

ESL20240923
Ver. 20241104

This is a Specimen Label. It may not reflect the most-recent approved label for use in your state. Always refer to the label on the product packaging for approved use instructions. Please contact your Certis sales representative for more information.

PRECAUTIONARY STATEMENTS

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Mixer/loaders and applicators must wear a NIOSH approved particulate filter with any N, R, P filter with NIOSH approval number prefix TC-84A; or a NIOSH- approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
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 §170.607 (d), (e), and (f)), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticides get 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.
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

ENVIRONMENTAL HAZARDS

For Terrestrial Uses: Do not apply directly to water or 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 washwaters or rinsate. Do not apply when weather conditions favor drift or runoff from treated areas.

PRODUCT INFORMATION

This product is a preventative biofungicide/bactericide for control or suppression of listed fungal and bacterial plant diseases in labeled crops. The active ingredient is a strain (D747) of the beneficial bacterium *Bacillus amyloliquefaciens*. When soil-applied, this product colonizes plant root hairs, preventing establishment of disease-causing fungi and bacteria.

This product can be applied alone or in combination and/or rotation with chemical fungicides as a tool for integrated disease management in labeled agricultural crops. This product also serves as a valuable tool for management of resistance to chemical fungicides through its multiple and unique modes of action.

This product can be applied up to and including the day of harvest.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

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.

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 pesticides. 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 intervals. 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 (REI) of 4 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, chemical resistant gloves (made of any waterproof material), shoes plus socks.

Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the 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 unprotected persons out of treated areas until sprays have dried.

MIXING AND HANDLING INSTRUCTIONS

Mix the required amount of product in water with sufficient agitation to maintain a uniform suspension in the spray or mixing tank. Tank should be cleaned prior to use. Do not use highly alkaline or highly acidic water to mix sprays. Use a buffering agent if necessary to maintain neutrality (pH 6 to 8) of water in the tank. Maintain agitation during application. Apply immediately after mixing; do not allow spray mix to stand overnight.

This product can be mixed and used with other agricultural chemicals for which such mixing is permitted by the product labels, in accordance with the most restrictive of those label limitations and precautions. If such a mixture is planned, a compatibility “jar test” should first be conducted by mixing the correct proportions of product and the other intended agricultural chemicals in a small volume of water.

Agricultural Crops

Berry and Small Fruit – Caneberries; Bushberries; Large Shrub/Tree Berries; Small Fruit, Vine Climbing (Crop Subgroups 13-07A, 13-07B, 13-07C, and 13-07D): **Blackberry** (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Orgeon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); **raspberry, black and red; wild raspberry; blueberry, highbush; mulberry; elderberry; grape; kiwifruit, fuzzy;** Amur river grape; aronia berry; bayberry; buffalo currant; buffaloberry; che; Chilean guava; chokecherry; cranberry, highbush; currant, black; currant, red; European barberry; gooseberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); kiwifruit, hardy; maypop; mountain pepper berries; native currant; phalsa; pincherry; riberry; salal; schisandra berry; sea buckthorn; serviceberry; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Except Grape	
Powdery mildew (*Erysiphe necator*; formerly *Uncinula necator*)	Start applications when new shoots are ½ to 1½ inches long. Repeat at 3-5 inches, 8-10 inches, and then at 7 to 14-day intervals until disease conditions no longer exist.
Mummy berry (*Monilinia vaccinii-corymbosi*)†	
Botrytis blight (*Botrytis cinerea*)	
Sclerotinia *(Sclerotinia sclerotiorum*)	
Bacterial canker (*Pseudomonas* spp.)	Apply before fall rains and again during dormancy before spring growth.
Anthracnose fruit rot (*Colletotrichum acutatum*)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
Grape	
Powdery mildew (*Erysiphe necator;* formerly *Uncinula necator*)	Start applications when new shoots are ½ to 1½ inches long. Repeat at 3-5 inches, 8-10 inches, and then at 7 to 14-day intervals until disease conditions no longer exist.
Gray mold (*Botrytis cinerea*)	Apply at bloom, before bunch closure, at veraison, and before harvest.
Sour rot complex	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Downy mildew (*Plasmopara viticola*)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Phomopsis (*Phomopsis viticola*)	Apply when shoots are ½ to 1 inch long and again when 6-8 inches long.
Eutypa (*Eutypa lata*)	Mix 2 fluid ounces of product per gallon of water and apply to pruning wounds.
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for “Root diseases” and “Collar rots.” † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Berry and Small Fruit – Low Growing Berries (Crop Subgroup 13-07G): **Strawberry;** bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Powdery mildew (*Sphaerotheca macularis*, *Erysiphe* spp.)†	Start applications at or just before flowering and repeat every 7 to 10 days as needed through harvest. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Berry and Small Fruit – Low Growing Berries (Crop Subgroup 13-07G): **Strawberry;** bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Gray mold (*Botrytis cinerea*)†	Begin applications at or before pistillate bloom, repeating every 7 to 10 days. Apply before rainfall if possible, and tank mix or rotate with a copper-based bactericide registered for such use for improved control. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Anthracnose (*Colletotrichum acutatum*)	
Angular leaf spot (*Xanthomonas fragariae*)‡	‡Tank mix or rotate with copper-based fungicides at label rates for improved control.
"Damping off" and root or crown diseases caused by *Rhizoctonia*, *Fusarium*, *Pythium*, *Phytophthora*, and/or *Verticillium*† spp. Charcoal rot (*Macrophomina phaseolina*)**	See instructions for "Soil application" and "Root dip." For treatment of roots immediately before transplanting: immerse bare roots (individually or in bunches) for 10 seconds in a suspension of 1 or 2 pints of product per gallon of water. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.

Brassica Head and Stem Vegetables (Crop Group 5-16): **Broccoli; cauliflower; cabbage;** Brussels sprouts; cabbage, Chinese, napa; cultivars, varieties, and hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Pin rot complex (*Alternaria/Xanthomonas*)† Leaf spots (*Alternaria* spp., *Xanthomonas* spp.) Downy mildew (*Peronospora* spp.) Powdery mildew (*Erysiphe polygoni*)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Bulb Vegetables – Onion, Bulb (Crop Subgroup 3-07A): **Onion, bulb;** daylily, bulb; fritillaria, bulb; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; lily, bulb; onion, Chinese, bulb; onion, pearl; onion, potato, bulb; shallot, bulb; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Neck rot, leaf blight (*Botrytis* spp.) Purple blotch (*Alternaria* spp.) Downy mildew (*Peronospora* spp.) Powdery mildew (*Erysiphe* spp.) Rust (*Puccinia pori*)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Cereal Grains (Crop Group 15-22): **Wheat; barley; corn, field; corn, sweet; rice; grain sorghum; millet, proso;** Amaranth, grain; amaranth, purple; baby corn; buckwheat; buckwheat, tartary; canarygrass, annual; Cañihua; chia; cram cram; fonio, black; fonio, white; huauzontle grain; Inca wheat; Job's tears; millet, barnyard; millet, finger; millet, foxtail; millet, little; millet, pearl; oat; oat, Abyssinian; oat, common; oat, naked; oat, sand; popcorn; prince's feather; psyllium; psyllium, blond; quinoa; rice, African; rye; teff; teosinte; triticale; wheat, club; wheat, common; wheat, durum; wheat, einkorn; wheat, emmer; wheat, macha; wheat, oriental; wheat, Persian; wheat, Polish; wheat, poulard; wheat, shot; wheat, spelt; wheat, timopheevi; wheat, vavilovi; wheat, wild einkorn; wheat, wild emmer; wheatgrass, intermediate; wild rice; wild rice, eastern; cultivars, varieties, and hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Except Corn**	
Powdery mildew (*Erysiphe graminis*) Rust (*Puccinia* spp.)† Rice blast (*Pyricularia oryzae)* Sheath spot/blight (*Rhizoctonia* and *Thanatephorus* spp.) Smut (*Tilletia barclayana*) Bacterial blight/streak (*Xanthomonas* spp.) Stem rots (*Magnaporthe* and *Sclerotium* spp.) Cercospora leaf spot Brown rot/leaf spots/smuts (*Ceratobasidium, Cochliobolus, Dreschlera,* and *Entyloma* spp.)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Corn Only	
Southern leaf blight (*Bipolaris maydis/Cochliobolus heterostrophus/Helminthosporium maydis*) Rusts (*Puccinia* spp.)	
Leaf spots (*Cercospora* and *Cercosporidium* spp.)† Common rust (*Puccinia sorghi*)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

** Not for use in California.

Citrus Fruit (Crop Group 10-10): **Orange,** sour; orange, sweet; **tangerine (mandarin); lemon; lime; grapefruit;** Australian desert lime; Australian finger-lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; Japanese summer grapefruit; kumquat; Mediterranean mandarin; mount white lime; New Guinea wild lime; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangor; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Greasy spot (*Mycosphaerella citri*)†	Apply at first new foliar flush and repeat with each new flush. Tank mix with spray oil or copper based fungicide at listed rates. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Citrus canker (*Xanthomonas campestris* pv. *citri*)‡	‡ Tank mix or rotate with copper-based fungicides at label rates for improved control.
Scab (*Elsinoe fawcetti*)†	Start applications at first new foliage flush and repeat at petal fall and when fruit are ½ inch in diameter. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Postbloom fruit drop (*Colletotrichum acutatum*)† Alternaria leaf spot (*Alternaria alternata*) Melanose (*Diaporthe citri*)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Citrus Fruit (Crop Group 10-10): **Orange,** sour; orange, sweet; **tangerine (mandarin); lemon; lime; grapefruit;** Australian desert lime; Australian finger-lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; Japanese summer grapefruit; kumquat; Mediterranean mandarin; mount white lime; New Guinea wild lime; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangor; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for "Root diseases" and "Collar rots." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Coffee	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Coffee berry disease (*Colletotrichum coffeanum*)‡ Coffee rust (*Hemileia vastatrix*)‡**	‡Tank mix or rotate with copper-based fungicides at label rates for improved control. ** Not for use in California.
Anthracnose (*Colletotrichum* spp.) Botrytis flower blight Cercospora leaf spot** and berry blotch**	** Not for use in California.
"Damping off" and root or crown diseases caused by *Rhizoctonia*, *Fusarium*, *Pythium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Cotton (Except Cottonseed; Cotton, Bark)	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Ascochyta blight (*Ascochyta gossypii*) Bacterial blights (*Xanthomonas* spp.) Boll rots (*Fusarium moniliforme, Colletotrichum capsici, Rhizopus nigricans, Nematosporanagpuri*, and *Botryodiplodia* spp.) Downy mildew (*Peronospora mansherica*)	Foliar application only. Target application prior to disease onset. For improved control, mix or rotate with chemical fungicide approved for such use. Additional application can be made during period when conditions favor disease development.
Cercospora leaf spot †	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Cucurbit Vegetables (Crop Group 9): **Cucumber; muskmelon** (includes true canteloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon); **squash, summer** (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); chayote (fruit); Chinese waxgourd (Chinese preserving melon); citron melon; gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); *Momordica* spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber); pumpkin; squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Powdery mildew (*Erysiphe* and *Sphaerotheca* spp.) Downy mildew (*Pseudoperonospora* spp.)† Gummy stem blight (*Didymella bryoniae* and *Phoma cucurbitacearum*)	† Suppression only.

Cucurbit Vegetables (Crop Group 9): **Cucumber; muskmelon** (includes true canteloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon); **squash, summer** (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); chayote (fruit); Chinese waxgourd (Chinese preserving melon); citron melon; gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); *Momordica* spp (includes balsam apple, balsam pear, bittermelon, Chinese cucumber); pumpkin; squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Vine decline (*Monosporascus cannonballus*)** Charcoal rot (*Macrophomina phaseoli*)** "Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, or *Verticillium*† spp.	See instructions for "Soil application." ** Not for use in California. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Fruiting Vegetables (Crop Group 8-10): **Tomato; bell pepper; non-bell pepper;** African eggplant; bush tomato; cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; roselle; scarlet eggplant; sunberry; tomatillo; tree tomato; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Bacterial spot (*Xanthomonas* spp.)†‡ Bacterial speck (*Pseudomonas syringae* pv. *tomato*)†‡ Gray mold (*Botrytis cinerea*) Powdery mildew† (*Leveillula, Oidiopsis, Erysiphe*, and *Sphaerotheca* spp.) Early blight (*Alternaria solani*)† Late blight (*Phytophthora infestans*)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ‡ Tank mix or rotate with copper-based fungicides at label rates for improved control.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, or *Verticillium*† spp. Southern blight (*Sclerotium rolfsii*)†**	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.

Globe Artichoke**	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Black root/crown rot (*Alternaria* spp.) Bacterial leaf blight (*Xanthomonas campestris*) Downy mildew (*Peronospora* spp.) Powdery mildew (*Erysiphe* spp.) Gray mold (*Botrytis* spp.) Black leg/bacterial soft rot (*Erwinia carotovora*) Early blight (*Alternaria solani*)† Late blight (*Phytophthora infestans*)† Bacterial crown rot (*Erwinia chrysanthemi)* Ramulana leaf spot *(Ramularia cynarae)* Verticillium wilt *(Verticillium dahlia)*	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Globe Artichoke**	
Target disease/pathogen (bacteria & fungi)	**Additional information**
White mold (*Sclerotinia sclerotiorum*)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist. Alternatively, apply at early flowering and again at petal fall.
Black scurf (*Rhizoctonia solani*) Cavity spot (*Pythium* spp.) "Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. For treatment of horseradish roots immediately before transplanting: immerse bare roots (individually or in bunches) for 10 seconds in a suspension of 1 to 2 pints of product per gallon of water.

** Not for use in California.

Hemp	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Anthracnose (*Colletotrichum* spp.) Brown blight (*Alternaria alternata*) Brown leaf spot and stem canker (*Ascochyta* spp.) Gray mold (*Botrytis cinerea*) Hemp leaf spot (*Bipolaris* spp.) Powdery mildew (Leveillula and *Sphaerotheca* spp.) White leaf spot (*Phomopsis ganjae*) Yellow leaf spot (*Septoria* spp.) Olive leaf spot (*Cercospora cannabis*) Stemphylium leaf and stem spot (*Stemphylium botryosum*) Bacterial blight (*Pseudomonas cannabina*) Xanthomonas leaf spot (*Xanthomonas campestris*)	
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, *Botrytis*, *Verticillium* spp. Charcoal rot (*Macrophomina phaseolina*) Fusarium wilt, foot rot, stem canker (*Fusarium* spp.) Hemp canker (*Sclerotinia sclerotiorum*) Southern blight/Southern stem blight (*Sclerotium rolfsii*) Verticillium wilt (*Verticillium* spp.)	See instructions for "Soil application."

Herbs – Fresh Leaves (Crop Subgroup 25A):

Basil, fresh leaves; Mint, fresh leaves; agrimony, fresh leaves; Amla, fresh leaves; Angelica, fresh leaves; Angelica, dahurian, fresh leaves; Applemint, fresh leaves; Avarum, fresh leaves; Balloon pea, fresh leaves; Balm, fresh leaves; Barrenwort, fresh leaves; Basil, American, fresh leaves; Basil, Greek, fresh leaves; Basil, holy, fresh leaves; Basil, lemon, fresh leaves; Basil, Russian, fresh leaves; Bay, fresh leaves; Bearberry, fresh leaves; Bisongrass, fresh leaves; Blue mallow, fresh leaves; Boneset, fresh leaves; Borage, fresh leaves; Borage, Indian, fresh leaves; Burnet, fresh leaves; Burnet, garden, fresh leaves; Burnet, salad, fresh leaves; Butterbur, fresh leaves; Calamint, fresh leaves; Calamint, large-flower, fresh leaves; Calamint, lesser, fresh leaves; Calendula, fresh leaves; Caltrop, fresh leaves; Camomile (Chamomile), fresh leaves; Camomile (Chamomile), German, fresh leaves; Camomile (Chamomile), Roman, fresh leaves; Caraway, fresh leaves; Cat's claw, fresh leaves; Catnip, fresh leaves; Catnip, Japanese, fresh leaves; Celandine, greater, fresh leaves; Celandine, lesser, fresh leaves; Centaury, fresh leaves; Chaste tree, fresh leaves; Chaste tree, Chinese, fresh leaves; Chinese blackberry, fresh leaves; Chinese foxglove, fresh leaves; Cicely, sweet, fresh leaves; Clary, fresh leaves; Coriander, Bolivian, fresh leaves; Coriander, Vietnamese, fresh leaves; Costmary, fresh leaves; Creat, fresh leavers; Culantro, fresh leaves; Curry leaf, fresh leaves; Curryplant, fresh leaves; Cut leaf, fresh leaves; Damiana, fresh leaves; Dokudami, fresh leaves; Echinacea, fresh leaves; Epazote, fresh leaves; Eucommia, fresh leaves; Evening primrose, fresh leaves; Eyebright, fresh leaves; Fennel, common, fresh leaves; Fennel, Spanish, fresh leaves; Fenugreek, fresh leaves; Feverfew, fresh leaves; Field pennycress, fresh leaves; Flowers, edible, fresh, multiple species; Fumitory, fresh leaves; Galbanum, fresh leaves; Galega, fresh leaves; Gambir, fresh leaves; Geranium, fresh leaves; Geranium, lemon, fresh leaves; Geranium, rose, fresh leaves; Germander, golden, fresh leaves; Goldenrod, European, fresh leaves; Goldenseal, fresh leaves; Gotu kola, fresh leaves; Greater periwinkle, fresh leaves; Guayusa, fresh leaves; Gumweed, fresh leaves; Gymnema, fresh leaves; Gypsywort, fresh leaves; Hawthorn, fresh leaves; Heal-all, fresh leaves; Hemp nettle, fresh leaves; Honewort, fresh leaves; Honeybush, fresh leaves; Horehound, fresh leaves; Horsemint, fresh leaves; Horsetail, fresh leaves; Hyssop, fresh leaves; Hyssop, anise, fresh leaves; Indian tobacco, fresh leaves; Ironwort, fresh leaves; Ivy, fresh leaves; Jamaica dogwood, fresh leaves; Jasmine, fresh leaves; Labrador tea, fresh leaves; Lavender, fresh leaves; Lemon verbena, fresh leaves; Lemongrass, fresh leaves; Lovage, fresh leaves; Love-in-a-mist, fresh leaves; Mamaki, fresh leaves; Marigold, fresh leaves; Marigold, African, fresh leaves; Marigold, Aztec, fresh leaves; Marigold, French, fresh leaves; Marigold, Irish lace, fresh leaves; Marigold, licorice, fresh leaves; Marigold, Mexican mint, fresh leaves; Marigold, signet, fresh leaves; Marjoram, fresh leaves; Marjoram, pot, fresh leaves; Marjoram, sweet, fresh leaves; Marshmallow, fresh leaves; Meadowsweet, fresh leaves; Mint, corn, fresh leaves; Mint, Korean, fresh leaves; Monarda, fresh leaves; Moringa, fresh leaves; Motherwort, fresh leaves; Mountainmint, fresh leaves; Mountainmint, clustered, fresh leaves; Mountainmint, hoary, fresh leaves; Mountainmint, Virginia, fresh leaves; Mountainmint, whorled, fresh leaves; Mugwort, fresh leaves; Mulberry, white, fresh leaves; Mullein, fresh leaves; Mustard, hedge, fresh leaves; Nasturtium, fresh leaves; Nasturtium, bush, fresh leaves; Nasturtium, garden, fresh leaves; Nettle, stinging, fresh leaves; Oregano, fresh leaves; Oregano, Mexican, fresh leaves; Oregano, Puerto Rico, fresh leaves; Oswego tea, fresh leaves; Pandan leaf, fresh leaves; Pansy, fresh leaves; Paracress, fresh leaves; Partridge berry, fresh leaves; Patchouli, fresh leaves; Pennyroyal, fresh leaves; Pepper leaf, black, fresh leaves; Peppermint, fresh leaves; Perilla, fresh leaves; Pill bearing spurge, fresh leaves; Pipsissewa, fresh leaves; Plantain, common, fresh leaves; Rooibos, fresh leaves; Rose, fresh leaves; Rosemary, fresh leaves; Sage, fresh leaves; Sage, Greek, fresh leaves; Sage, Spanish, fresh leaves; Sage, white, fresh leaves; Savory, summer, fresh leaves; Savory, winter, fresh leaves; Senna, fresh leaves; Siberian fir, fresh leaves; Skullcap, fresh leaves; Small flower willow head, fresh leaves; Sorrel, fresh leaves; Sorrel, French, fresh leaves; Sorrel, garden, fresh leaves; Southernwood, fresh leaves; Spearmint, fresh leaves; Spearmint, Scotch, fresh leaves; Spilanthes, fresh leaves; Spotted beebalm, fresh leaves; St. John's Wort, fresh leaves; Stevia, fresh leaves; Stoneroot, fresh leaves; Swamp leaf, fresh leaves; Tansy, fresh leaves; Tarragon, fresh leaves; Thuja, fresh leaves; Thyme, fresh leaves; Thyme, creeping, fresh leaves; Thyme, lemon, fresh leaves; Thyme, mastic, fresh leaves; Toon, Chinese, fresh leaves; Toothed clubmoss, fresh leaves; Trailing arbutus, fresh leaves; Vasaka, fresh leaves; Verbena, blue, fresh leaves; Veronica, fresh leaves; Violet, fresh leaves; Watermint, fresh leaves; Waterpepper, fresh leaves; Wild bergamot, fresh leaves; Wintergreen, fresh leaves; Wood betony, fresh leaves; Woodruff, fresh leaves; Wormwood, fresh leaves; Wormwood, Roman, fresh leaves; Yarrow, fresh leaves; Yellow gentian, fresh leaves; Yerba santa, fresh leaves; Yomogi, fresh leaves; Cultivars, varieties, and hybrids of these commodities.

Target disease/pathogen (bacteria & fungi)	Additional information
Powdery mildews (*Oidium* spp. and others) Bacterial diseases (*Erwinia*, *Xanthomonas*, and *Pseudomonas* spp.) Rusts (*Puccinia* spp. and others)	
Downy mildews (*Peronospora* spp. and others)† Leaf spots (*Alternaria*, *Septoria*, *Colletotrichum*, and *Cercospora* spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off" and root or crown diseases caused by *Rhizoctonia*, *Fusarium*, *Pythium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Hops	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Powdery mildew (*Sphaerotheca macularis*) Downy mildew (*Pseudoperonospora humuli*)	See instructions for "Foliar application" or "Chemigation."
Fusarium wilt, foot rot, stem canker (*Fusarium* spp.)**	See instructions for "Soil application" or "Chemigation."

** Not for use in California.

Leafy Vegetables (Crop Group 4-16): **Lettuce, head; lettuce, leaf; spinach; mustard greens;** amaranth, Chinese; amaranth, leafy; arugula; aster, Indian; blackjack; broccoli, Chinese; broccoli raab; cabbage, abyssinian; cabbage, Chinese, bok choy; cabbage, seakale; cat's whiskers; cham-chwi; cham-na-mul; chervil, fresh leaves; chipilin; chrysanthemum, garland; cilantro, fresh leaves; collards; corn salad; cosmos; cress, garden; cress, upland; dandelion, leaves; dang-gwi, leaves; dillweed; dock; dol-nam-mul; ebolo; endive; escarole; fameflower; feather cockscomb; Good King Henry; hanover salad; huauzontle; jute, leaves; kale; lettuce, bitter; maca, leaves; mizuna; orach; parsley, fresh leaves; plantain, buckhorn; primrose, English; purslane, garden; purslane, winter; radicchio; radish, leaves; rape greens; rocket, wild; shepherd's purse; spinach, Malabar; spinach, New Zealand; spinach, tanier; Swiss chard; turnip greens; violet, Chinese, leaves; watercress; cultivars, varieties, and hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Downy mildew (*Bremia lactucae*, *Peronospora* spp.)† Powdery mildew (*Golovinomyces cichoracearum; Erysiphe cichoracearum*)† Bacterial blights Leaf spots (*Cercospora* spp.) *Botrytis* spp. Rusts (*Puccinia* spp.)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Head and leaf drop (*Sclerotinia* spp.) Pink rot (*Sclerotinia sclerotiorum*) White mold (*Sclerotinia sclerotiorum*)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist. Alternatively, apply at early flowering and again at petal fall.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, or *Verticillium*† spp. Bottom rot (*Rhizoctonia solani*)	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Legume Vegetables (Crop Group 6-22): **Bean (*Phaseolus* spp.), edible podded** (including, but not limited to French bean, garden bean, green bean, kidney bean, navy bean, scarlet runner bean, snap bean, and wax bean); **Bean (*Phaseolus* spp.), succulent shelled** (including, but not limited to lima bean, scarlet runner bean, and wax bean); **Bean (*Phaseolus* spp.), dry seed** (including, but not limited to black bean, cranberry bean, dry bean, field bean, French bean, garden bean, great northern bean, green bean, kidney bean, lima bean, navy bean, pink bean, pinto bean, red bean, scarlet runner bean, tepary bean, and yellow bean); **Bean (*Vigna* spp.), edible podded** (including, but not limited to asparagus bean, catjang bean, Chinese longbean, cowpea, moth bean, mung bean, rice bean, urd bean, and yardlong bean); **Bean (*Vigna* spp.), succulent shelled** (including, but not limited to blackeyed pea, catjang bean, cowpea, crowder pea, moth bean, and southern pea); **Bean (*Vigna* spp.), dry seed** (including, but not limited to adzuki bean, asparagus bean, blackeyed pea, catjang bean, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, and yardlong bean); **Pea (*Pisum* spp.), edible podded** (including, but not limited to dwarf pea, green pea, snap pea, snow pea, and sugar snap pea); **Pea (*Pisum* spp.), succulent shelled** (including, but not limited to English pea, garden pea, and green pea); **Pea (*Pisum* spp.), dry seed** (including, but not limited to dry pea, field pea, garden pea, yellow pea, wrinkled pea, marrowfat pea, and green pea); **Soybean, seed;** African yam bean, dry seed; American potato bean, dry seed; Bean (*Lupinus* spp.), succulent shelled (including, but not limited to Andean lupin, blue lupin, grain lupin, sweet lupin, white lupin, white sweet lupin, and yellow lupin); Bean (*Lupinus* spp.), dry seed (including, but not limited to Andean lupin, blue lupin, grain lupin, sweet lupin, white lupin, white sweet lupin, and yellow lupin); Broad bean (fava bean), succulent shelled; Broad bean (fava bean), dry seed; Chickpea (garbanzo), edible podded; Chickpea (garbanzo), succulent shelled; Chickpea (garbanzo), dry seed; Goa bean, edible podded (asparagus pea and winged bean); Goa bean, succulent shelled (asparagus pea and winged bean); Goa bean, dry seed (asparagus pea and winged bean); Grass pea, edible podded; Grass pea, dry seed; Guar bean, edible podded; Guar bean, dry seed; Horse gram, dry seed; Jackbean, edible podded; Jackbean, succulent shelled; Jackbean, dry seed; Lablab bean (hyacinth bean), edible podded; Lablab bean (hyacinth bean), succulent shelled; Lablab bean (hyacinth bean), dry seed; lentil, edible podded; Lentil, succulent shelled; Lentil, dry seed; Morama bean, dry seed; Pigeon pea, edible podded; Pigeon pea, succulent shelled; Pigeon pea, dry seed; Sword bean, edible podded; Sword bean, dry seed; Vegetable soybean, edible podded (edamame); Vegetable soybean, succulent shelled (edamame); Velvetbean, edible podded; Velvetbean, succulent shelled; Velvetbean, dry seed; Winged pea, edible podded; Winged pea, dry seed; cultivars, varieties, and/or hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Gray mold (*Botrytis cinerea)* Powdery mildew (*Microsphaera diffusa*) Rusts†, including *Uromyces appendiculatus*, *Puccinia* spp., and Asian soybean rust (*Phayospora pachyrhizi*) Ascochyta blight (*Ascochyta rabiei)*** Halo blight *(Pseudomonas syringae* pv. *phaseolicola)*** Common bacterial blight *(Xanthomonas axonopodis* pv. *phaseoli)*** Bacterial brown spot *(Pseudomonas syringae)***	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.
White mold (S*clerotinia sclerotiorum*)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist. Alternatively, apply at early flowering and again at petal fall.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Non-Grass Animal Feeds (Forage, Fodder, Straw and Hay) (Crop Group 18):** **Alfalfa; clover** (*Trifolium* spp., *Melilotus* spp.); bean, velvet; kudzu; lespedeza; lupin; sainfoin; trefoil; vetch; vetch, crown; vetch, milk.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Powdery mildew (*Erysiphe graminis*) Rust (*Puccinia* spp.)† Rice blast (*Pyricularia oryzae)* Sheath spot/blight (*Rhizoctonia* and *Thanatephorus* spp.) Smut (*Tilletia barclayana*) Bacterial blight/streak (*Xanthomonas* spp.) Stem rots (*Magnaporthe* and *Sclerotium* spp.) Cercospora leaf spot Brown rot/leaf spots/smuts (*Ceratobasidium, Cochliobolus, Dreschlera,* and *Entyloma* spp.) Bacterial wilt (*Clavibacter michiganensis)* Spring black stem *(Ascochyta medicaginicola)* White mold (Sclerontinia stem rot; *Sclerotinia sclerotiorum*)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ** Not for use in California.
Aphanomyces spp. *Fusarium* spp. *Macrophomina* spp. *Phytophthora* spp. *Pythium* spp. *Rhizoctonia* spp. *Verticillium* spp.	See instructions for “Soil application.”

** Not for use in California.

Oilseed Crops (Crop Group 20):** **Rapeseed; sunflower, seed; cottonseed;** borage; calendula; castor oil plant; Chinese tallowtree; crambe; cuphea; echium; euphorbia; evening primrose; flax seed; gold of pleasure; hare’s ear mustard; jojoba; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; niger seed; oil radish; poppy seed; rose hip; safflower; sesame; stokes aster; sweet rocket; tallowwood; tea oil plant; vernonia; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
White mold/Stem rot (*Sclerotinia sclerotiorum*) Rusts†, including *Uromyces appendiculatus*, *Puccinia* spp., and Asian soybean rust (*Phayospora pachyrhizi*) Bacterial speck (*Pseudomonas syringae* pv. *glycinea*) Bacterial pustule (*Xanthamonas* spp.) Brown spot (*Septoria glycines*) Cercospora leaf spot Pod and stem blights (*Diaporthe* and *Phomopsis* spp.) Downy mildew (*Peronospora mansherica*)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

** Not for use in California.

Peanuts	
Target disease/pathogen (bacteria & fungi)	**Additional information**
White mold (*Sclerotinia sclerotiorum* and *Sclerotinia rolfsii***)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist. Alternatively, apply at early flowering and again at petal fall. ** Not for use in California
Botrytis spp. Rusts (*Puccinia* spp.)† Leaf spots (*Cercospora* and *Cercosporidium* spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Pome Fruit (Crop Group 11-10): **Apple; pear;** azarole; crabapple; loquat; mayhaw; medlar; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Powdery mildew (*Podosphaera leucotricha*)	Make first application at or before tight cluster if conditions favor disease development. Repeat at 7 to 10-day intervals through the second cover spray or longer on susceptible varieties or if environmental conditions favor rapid disease development.
Flyspeck (*Zygophiala jamaicensis*)** Sooty blotch disease complex** Brooks spot (*Mycosphaerella pomi*)** Bot rot/white rot (*Botryosphaeria dothidea*)** Bitter rot (*Colletotrichum* spp.) Cedar apple rust (*Gymnosporangium juniperi-virginianae*)**	Begin applications before bloom when environmental conditions favor disease development, repeating at 7 to 14-day intervals or as needed. Control may be enhanced by addition of a surfactant to improve spray coverage. Use only surfactants known to be safe for use on the crop and for which such use is allowed. ** Not for use in California.
Fire blight (*Erwinia amylovora*)†	Use as a rotation partner in a fire blight control program. Begin applications at 1-5% open blossoms and repeat every 3 to 7 days as necessary until petal fall, when intervals can be increased to 7 days. This product can also be used in summer "cover spray" applications to control the shoot blight phase of fire blight and summer diseases. Can be mixed with copper fungicides to improve control. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Scab (*Venturia* spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for "Root diseases" and "Collar rots." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Root and Tuber Vegetables (Crop Group 1): **Carrot; potato; radish; beet, sugar;** arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; beet, garden; burdock, edible; canna, edible; cassava, bitter and sweet; celeriac (celery root); chayote (root); chervil, turnip-rooted; chicory; chufa; dasheen (taro); ginger; ginseng; horseradish; leren; parsley, turnip-rooted; parsnip; radish, oriental (daikon); rutabaga; salsify (oyster plant); salsify, black; salsify, Spanish; skirret; sweet potato; tanier (cocoyam); turmeric; turnip; yam bean; yam, true.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Except Sugar Beets	
Black root/crown rot (*Alternaria* spp.) Bacterial leaf blight (*Xanthomonas campestris*) Downy mildew (*Peronospora* spp.) Powdery mildew (*Erysiphe* spp.) Gray mold (*Botrytis* spp.) Black leg/bacterial soft rot (*Erwinia carotovora*)** Early blight (*Alternaria solani*)† Late blight (*Phytophthora infestans*)†	** Not for use in California. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
White mold (*Sclerotinia sclerotiorum*)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist. Alternatively, apply at early flowering and again at petal fall.
Black scurf (*Rhizoctonia solani*) Cavity spot (*Pythium* spp.) "Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. For treatment of horseradish roots immediately before transplanting: immerse bare roots (individually or in bunches) for 10 seconds in a suspension of 1 to 2 pints of product per gallon of water.
Sugar Beets	
Leaf spots (*Cercospora* and *Ramularia* spp.) Powdery mildew (*Erysiphe* spp.) Root or crown diseases (Black rot, *Rhizoctonia,* and *Phytophthora*) Rust (*Uromyces betae*)	Foliar application only.

** Not for use in California.

Spices (Crop Group 26):
Dill, seed; Celery, seed; Ajowan, seed; Alder buckhorn; Allspice; Ambrette, seed; Amla, seed; Angelica, dahurian, seed; Angelica, seed; Angostura, bark; Anise pepper; Anise, seed; Anise, star; Annatto, seed; Asafoetida; Ashwagandha, fruit; Autumn crocus; Balsam, Peruvian; Barberry, bark; Batavia-cassia, bark; Batavia-cassia, fruit; Belleric myrobalan; Betel vine; Birch, bark; Bisnaga, seed; Bitterwood; Black bread weed; Bloodroot; Blue mallee; Blushwood, seed; Boldo, leaf; Buchu; Calamus root; Candlebush; Canella, bark; Caper buds; Caper spurge, seed; Caraway, black; Caraway, fruit; Cardamom, black; Cardamom, Ethiopian; Cardamom, green; Cardamom, Nepal; Cardamom-amomum; Cascara sagrada; Cassia, bark; Cassia, Chinese, bark; Cassia, Chinese, fruit; Cassia, fruit; Cat's claw, bark; Catechu, bark; Chaste tree, berry; Chaste tree, Chinese, roots; Chervil, seed; Chinese hawthorn; Chinese nutmeg tree; Chinese wineberry, fruit; Chinese-pepper; Cinnamon, bark; Cinnamon, fruit; Cinnamon, Saigon, bark; Cinnamon, Saigon, fruit; Clove buds; Clusterleaf; Comfrey; Copaiba; Coptis; Coriander, fruit; Coriander, seed; Cotton, bark; Crampbark; Cubeb, seed; Culantro, seed; Culvers root; Cumin; Cumin, black; Dorrigo pepper, berry; Dorrigo pepper, leaf; Dragon blood; Echinacea, seed; Epimedium; Eucalyptus; Eucommia, bark; European beech; Felty germander; Fennel flower, seed; Fennel, common, fruit; Fennel, common, seed; Fennel, Florence, fruit; Fennel, Florence, seed; Fenugreek, seed; Fingerroot; Flame lily, seed; Frankincense; Frankincense, Indian; Fringetree, bark; Galbanum, resin; Gambooge; Grains of paradise; Grains of Selim; Guaiac; Guarana; Guggul; Gum Arabic; Gum ghatti; Gum karaya; Gum tragacanth; Haw, black; Honewort, seed; Imperatoria; Indian tobacco, seed; Iva; Jalap; Jamaica dogwood, bark; Juniper berry; Kaffir lime, leaf; Kewra; Kokam; Linden, leaf; Lovage, seed; Mace; Magnolia, bark; Mahaleb; Malabar cardamom; Malabar-tamarind; Malabathrum; Mastic; Micromeria, white; Milk thistle; Mioga; Miracle fruit; Mistletoe; Mojave yucca; Muira puama; Mustard, black; Mustard, brown; Mustard, seed; Mustard, white; Myrrh; Myrrh, bisabol; Myrtle, anise; Myrtle, leaf; Myrtle, lemon; Nasturtium, bush, pods; Nasturtium, garden, pods; Nasturtium, pods; Nettle, stinging, seed; Nutmeg; Osha; Pepper, black; Pepper, Indian long; Pepper, Javanese long; Pepper, leaf; Pepper, pink; Pepper, Sichuan; Pepper, white; Pepperbush, berry; Pepperbush, leaf; Peppercorn, green; Peppertree; Peppertree, Peruvian; Perilla, seed; Phellodendron; Pine, maritime; Poppy, seed; Prickly ash, Chinese; Prickly ash, Southern, bark; Pygeum; Qing hua jiao; Quassia, bark; Quebracho, bark; Quillaja; Quinine; Rauwolfia, bark; Resin spurge; Rue; Saffron crocus; Sandalwood, seed; Sassafras, bark; Sassafras, leaf; Saunders, red; Saw palmetto; Sesame, seed; Silktree, bark; Simaruba, bark; Skunk cabbage, root; Slippery elm; Stemona, root; Suma; Sumac, fragrant; Sumac, smooth, leaf; Taheebo, bark; Tamarind, seed; Tasmanian pepper, berry; Tasmanian pepper, leaf; Threeleaf caper; Tsaoko; Vanilla; Wattleseed; White willow; Willow; Witch hazel; Yaw root; Yellow gentian, roots; Yohimbe; Cultivars, varieties, and hybrids of these commodities.

Target disease/pathogen (bacteria & fungi)	Additional information
Powdery mildews (*Oidium* spp. and others) Bacterial diseases (*Erwinia*, *Xanthomonas*, and *Pseudomonas* spp.) Rusts (*Puccinia* spp. and others)	
Downy mildews (*Peronospora* spp. and others)† Leaf spots (*Alternaria*, *Septoria*, *Colletotrichum*, and *Cercospora* spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off" and root or crown diseases caused by *Rhizoctonia*, *Fusarium*, *Pythium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Stalk and Stem Vegetables (Crop Subgroup 22A):
Asparagus; agave; aloe vera; bamboo, shoots; celtuce; fennel, Florence, fresh leaves, and stalk; fern, edible, fiddlehead; kale, sea; kohlrabi; palm hearts; prickly pear, pads; prickly pear, Texas, pads; cultivars, varieties, and hybrids of these commodities.

Target disease/pathogen (bacteria & fungi)	Additional information
White mold (*Sclerotinia sclerotiorum*)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist. Alternatively, apply at early flowering and again at petal fall.
Botrytis spp. Rusts (*Puccinia* spp.) Leaf spots (*Cercospora* and *Cercosporidium* spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, and/or *Verticillium*† spp.	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Stone Fruit (Crop Group 12-12): **Cherry, sweet; cherry, tart; peach; plum; plum, prune;** apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; Jujube, Chinese; nectarine; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plumcot; sloe; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Powdery mildew (*Sphaerotheca* and *Podosphaera* spp.)†	Make first application at popcorn stage and repeat every 7 days. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Bacterial canker (*Pseudomonas* spp.) Peach leaf curl (*Taphrina deformans*)	
Brown rot blossom blight (*Monilinia laxa*)	Start applying at early bloom stage and repeat every 7 days through petal fall.
Brown rot (*Monilinia fructicola*)†	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections. † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Gray mold (*Botrytis cinerea*)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
Bacterial leaf spot (*Xanthomonas arbicola* pv. *pruni*)‡ Rusty spot (*Podosphaera leucotricha*)‡	‡Tank mix or rotate with copper-based fungicides at label rates for improved control.
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for "Root diseases" and "Collar rots." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Sugarcane**	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Rusts† (including *Puccinia melanocephala, Puccinia kuehnii*) Red rot† (*Colletotrichum falcatum*)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

** Not for use in California.

Tobacco	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Angular leaf spot (*Pseudomonas* spp.) Anthracnose (*Colletotrichum* and *Glomerella* spp.) Blue mold or downy mildew (*Peronospora* spp.)† Brown spot (*Alternaria*) Gray mold (*Botrytis cinerea*) Powdery mildew (*Erysiphe cichoracearum*) Target spot (*Rhizoctonia solani*)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Barn spot/ frogeye leaf spot (*Cercospora nicotianae*)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.

Tobacco	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Collar rot (*Sclerotinia sclerotiorum*)	Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning or cultivation in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10 to 14-day intervals if conditions promoting disease persist.
"Damping off," seedling blights, and root or crown diseases caused by *Pythium*, *Rhizoctonia*, *Fusarium*, *Olpidium*, *Phytophthora*, or *Verticillium*† spp. Charcoal rot (*Macrophomina phaseolina*) Black root rot (*Thielaviopsis basicola*) Black shank (*Phytophthora* spp.)† Southern blight/Southern stem rot (*Sclerotium rolfsii*)†	See instructions for "Soil application." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Tree Nuts (Crop Group 14-12): **Almond; pecan;** African nut-tree; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Walnut blight (*Xanthomonas campestris*)	Begin applications at or before pistillate bloom, repeating every 7 to 10 days. Apply before rainfall if possible, and tank mix or rotate with a copper-based bactericide registered for such use for improved control.
Anthracnose (*Colletotrichum acutatum*)† Shot hole (*Wilsonomyces carpophilus*) † Brown rot (*Monilinia* spp.)†	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Bacterial canker (*Pseudomonas syringae*)	
Pecan scab (*Cladosprium caryigenum*)†‡**	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use. ‡Tank mix or rotate with copper-based fungicides at label rates for improved control. ** Not for use in California.
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for "Root diseases" and "Collar rots." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Tropical and Subtropical, Small Fruits, Edible Peel (Crop Subgroup 23A): **Olive;** acerola; African plum; agritos; almondette; appleberry; arbutus berry; bayberry, red; bignay; breadnut; cabeluda; carandas-plum; Ceylon iron wood; Ceylon olive; cherry-of-the-Rio-Grande; Chinese olive, black; Chinese olive, white; chirauli-nut; cocoplum; desert-date; false sandalwood; fragrant manjack; gooseberry, Abyssinian; gooseberry, ceylon; gooseberry, otaheite; governor's plum; grumichama; guabiroba; guava berry; guava, Brazilian; guava, Costa Rican; guayabillo; illawarra plum; Indian-plum; Jamaica-cherry; jambolan; kaffir-plum; kakadu plum; kapundung; karanda; lemon aspen; mombin, yellow; monos plum; mountain cherry; persimmon, black; pitomba; plum-of-Martinique; rukam; rumberry; sea grape; sete-capotes; silver aspen; water apple; water pear; water berry; wax jambu; cultivars, varieties, and hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
White mold/Stem rot (*Sclerotinia sclerotiorum*) Rusts†, including *Uromyces appendiculatus*, *Puccinia* spp., and Asian soybean rust (*Phayospora pachyrhizi*) Bacterial speck (*Pseudomonas syringae* pv. *Glycinea*) Bacterial pustule (*Xanthamonas* spp.) Brown spot (*Septoria glycines*) Cercospora leaf spot Pod and stem blights (*Diaporthe* and *Phomopsis* spp.) Downy mildew (*Peronospora mansherica*)	† Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

Tropical and Subtropical Fruits – Medium to Large Fruit, Smooth, Inedible Peel (Crop Subgroup 24B): **Avocado; pomegranate; banana;** abiu; akee apple; avocado, Guatemalan; avocado, Mexican; avocado, West Indian; bacury; banana, dwarf; binjai; canistel; cupuacu; etambe; jatoba; kei apple; langsat; lanjut; lucuma; mabolo; mango; mango, horse; mango, Saipan; mangosteen; paho; papaya; pawpaw, common; pelipisan; pequi; pequia; persimmon, American; plantain; poshte; quandong; sapote, black; sapote, green; sapote, white; sataw; screw-pine; star apple; tamarind-of-the-Indies; wild loquat; cultivars, varieties, and hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Except Pomegranate	
Anthracnose (*Colletotrichum* spp.) Scab (*Sphaceloma perseae*) Bacterial canker (*Xanthomonas campestris*)	For avocado and mango: Apply at budbreak and repeat on 14 to 21-day interval as needed through harvest. For papaya and pineapple: Apply at flowering and repeat on 14 to 21-day interval as needed through harvest.
Sigatoka (*Mycosphaerella fijiensis*)	Apply at first appearance of leaves and repeat at 7 to 21-day intervals as needed, in sufficient water to obtain thorough coverage of foliage. Tank mix with spray oil or other registered fungicides for improved control.
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for "Root diseases" and "Collar rots." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.
Pomegranate	
Leaf and fruit spots (*Cercospora, Gloeosporium* and *Pestalotia* spp.)‡	‡Tank mix or rotate with copper-based fungicides at label rates for improved control.
Fruit rots (*Alternaria, Botrytis*, and other spp.)	Pre-harvest applications in sufficient water to cover fruit or other harvested plant parts may improve control of postharvest infections.
Powdery mildew (*Sphaerotheca pannosa*)	

Tropical and Subtropical Fruits – Small Fruit, Inedible Peel; Medium to Large Fruit, Rough or Hairy, Inedible Peel; Cactus, Inedible Peel; Vine, Inedible Peel (Crop Subgroups 24A, C, D and E): **Atemoya; lychee**; dragon fruit**; passionfruit**; pineapple; prickly pear, fruit**; sugar apple;** Aisen**; bael fruit**; biriba; breadfruit; Burmese grape**; cat's-eyes**; champedak; cherimoya; custard apple; durian; elephant-apple; Granadilla**; granadilla, giant**; ilama; inga**; jackfruit; karuka; longan**; madras-thorn**; mammy-apple; manduro**; marang; marmaladebox; matisia**; mesquite**; mongongo, fruit**; monkey-bread tree; monstera**; nicobar-breadfruit; pandanus; passionflower**, winged-stem**; passionfruit, banana**; passionfruit, purple**; passionfruit, yellow**; pawpaw, small-flower**; pitahaya**; pitaya**; pitaya, amarillo**; pitaya, roja**; pitaya, yellow**; prickly pear**, Texas, fruit**; pulasan; rambutan; saguaro**; satinleaf**; sapodilla; sapote, mamey; Sierra Leone-tamarind**; soncoya; soursop; Spanish lime**; sun sapote; velvet tamarind**; wampi**; white star apple**; cultivars, varieties, and hybrids of these commodities.	
Target disease/pathogen (bacteria & fungi)	**Additional information**
Anthracnose (*Colletotrichum* spp.) Scab (*Sphaceloma perseae*) Bacterial canker (*Xanthomonas campestris*)	For pineapple: Apply at flowering and repeat on 14 to 21-day interval as needed through harvest.
Sigatoka (*Mycosphaerella fijiensis*)	Apply at first appearance of leaves and repeat at 7 to 21-day intervals as needed, in sufficient water to obtain thorough coverage of foliage. Tank mix with spray oil or other registered fungicides for improved control.
Root and collar rots† caused by *Phytophthora*, *Pythium*, *Fusarium*, *Rhizoctonia*, or *Armillaria*	See instructions for "Root diseases" and "Collar rots." † Suppression only. For improved control, mix or rotate with chemical fungicide approved for such use.

**Not for use in California

APPLICATION INSTRUCTIONS:

Field-grown (outdoor) crops:

Foliar application:

Apply to foliage through most commonly-used ground application equipment, such as (but not limited to): tractor-mounted boom, airblast, high clearance, hose-end, backpack, or other pressurized sprayers; hose-end or hand-held sprayers; foggers or mist blowers; water wheel and other drench applicators; and shank or other soil injection method. Use sufficient water volume to ensure thorough coverage of foliage, and take standard precautions to minimize spray drift.

For control of diseases on foliage, flowers, fruit, or other above-ground parts of plants: Mix product in water and apply as a spray at a rate of **1 to 3 quarts** of product per acre in sufficient water to achieve thorough coverage of the crop canopy with minimal runoff. Begin applications at crop emergence, transplanting, or when conditions are conducive to development of disease. Repeat application every 3 to 10 days as needed, for as long as conditions favor disease development. Lower rates (**1 quart** per acre) may be applied under light to moderate disease pressure, to smaller (e.g. newly-emerged) plants, or when this product is used in a tank mix with other fungicides whose labels allow such use.

For collar rots: Apply as drench or spray at the base of the trunk, covering the soil contact zone.

For root diseases: Apply **1 to 2 quarts** of product per acre as a banded soil spray or drench, or as chemigated injection via microsprinkler, drip (elevated, buried or ground-lay) or other irrigation systems. Apply in sufficient water or irrigate immediately after application to move the

product to the root zone. Begin applications in early spring, timed for root flush and early shoot growth. Continue applications at 4-6 week intervals through fall root flush.

Soil application:

Apply in-furrow/banded at planting, or alternatively, via "2 x 2" placement, using standard application equipment, in a minimum of 3 gallons of water or liquid fertilizer per acre. See below for use rate conversions based on row spacings. Alternatively, this product can be applied as a side-dress/layby treatment on applicable labeled row crops in a minimum of **3 gallons of water or liquid fertilizer per acre**.

For control of soil-borne diseases infecting seeds, seedlings, roots, crown, stems, or other plant parts below ground or in contact with soil: Apply product at **0.5 to 4.5 pints (8 to 72 fluid ounces) per acre**.

Mix the required amount in sufficient water to apply by one of the following methods:

- Soil drench applied to transplants in flats or pots in the greenhouse any time prior to transplanting (see additional drench instructions under "Greenhouses and shade houses" below).
- Soil drench at transplanting, using a "water wheel" injector, spray nozzles/hoses, or other method to drench each root ball and/or planting hole.
- Soil or seedline drench, or banded spray (in-furrow) at planting. See the section on "Banded (in-furrow) application" below for additional instructions.

Follow-up (post-planting) preventative applications can be made every 2-4 weeks by one or more of the following methods, if needed:

- Drip (trickle) or any type of sprinkler irrigation, any time after planting or transplanting. See Chemigation Instructions for additional information.
- Spray directly onto the soil surface and/or lower plant parts. If targeting root disease, follow immediately with sufficient overhead sprinkler irrigation to move product to the root zone.
- Injection directly into the rooting zone using shanks or similar equipment.

Lower rates **(0.5 to 1 pints (8 to 16 fluid ounces))** of product per acre may be applied under light disease pressure, to smaller plants, or when this product is used in a tank mix with other fungicides whose labels allow such use. Under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, use higher label rates **2 - 4.5 pints per acre (32 to 72 fluid ounces)),** apply more frequently (every 2 weeks), and mix or rotate this product with other fungicides for improved performance.

*For suppression of soil-borne nematodes**:* Apply at a rate of **1 to 2 quarts (32 to 64 fluid ounces) per acre** as a part of a soil disease management program for nematode suppression.

Mix the required amount in sufficient water to apply by one of the following methods:

- Soil drench applied to transplants in flats or pots in the greenhouse or nursery any time prior to transplanting (see additional drench instructions under "Greenhouses and shade houses" below).
- Soil drench at transplanting, using a "water wheel" injector, spray nozzles/hoses, or other method to drench each root ball and/or planting hole.
- Soil or seedline drench, or banded spray (in-furrow) at planting. See the section on "Banded (in-furrow) application" below for additional instructions.

Follow-up (post-planting) preventative applications can be made every 2-4 weeks by one or more of the following methods, if needed:

- Drip (trickle) or any type of sprinkler irrigation, any time after planting or transplanting. See Chemigation Instructions for additional information.
- Spray directly onto the soil surface and/or lower plant parts. If targeting root disease, follow immediately with sufficient overhead sprinkler irrigation to move product to the root zone.
- Injection directly into the rooting zone using shanks or similar equipment.

*** Not for use in California.*

Banded (in-furrow) application: Use the table below (rate of product per acre) to determine the correct application rate in fluid ounces per 1,000 row feet based on row spacing and desired rate per acre. Mix the required amount of product in water and apply as banded spray (4" to 6" wide) or seedline drench centered over the planting furrow. Apply directly over seeds in the furrow just before they are covered with soil. The volume of water required per acre or per 1,000 row feet will depend on the application equipment used. Consult your local cooperative extension service if you need assistance calibrating band spraying equipment.

Rates for banded (in-furrow) application: Find desired application rate of product per acre in the left column. Read across that line to the correct row spacing indicated at the top to find the number of fluid ounces per 1,000 row feet that will provide the desired application rate per acre.

Product rate/acre		Space between rows (inches)														
Pt	fl oz	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
0.5	8	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6
0.75	12	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9
1.0	16	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.2
1.25	20	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.5
1.5	24	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.8
1.75	28	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
2.0	32	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.4
2.25	36	0.8	1.0	1.1	1.2	1.4	1.5	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.8
2.5	40	0.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8	2.9	3.1
2.75	44	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.2	2.4	2.5	2.7	2.9	3.0	3.2	3.4
3.0	48	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.7
3.25	52	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0
3.5	56	1.3	1.5	1.7	1.9	2.1	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.9	4.1	4.3
3.75	60	1.4	1.6	1.8	2.1	2.3	2.5	2.8	3.0	3.2	3.4	3.7	3.9	4.1	4.4	4.6
4.0	64	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.7	3.9	4.2	4.4	4.7	4.9
4.25	68	1.6	1.8	2.1	2.3	2.6	2.9	3.1	3.4	3.6	3.9	4.2	4.4	4.7	4.9	5.2
4.5	72	1.7	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.9	4.1	4.4	4.7	5.0	5.2	5.5

*Hopper Box application***:* Apply at a rate of 1 quart per acre of seed in the planter or auger hopper-box. To mix, fill hopper-box to ½ full of seed. Spread ⅓ of the total amount of product evenly over the surface of the seed. Next, fill the hopper-box to ⅔ full of seed and spread ⅓ of the total amount of product evenly over the surface of the seed. Next, fill the hopper-box with the remaining seed and apply the remaining ⅓ of the total amount of product evenly over the surface of the seed. Thoroughly mix seed, being cautious that you do not damage the seed. Alternatively, apply at a rate of 1 quart per acre of seed as seed is augured from auger hopper box to planter hopper box.

*For suppression of soil-borne fungi colonizing soil or soil-less media for nursey plant cultivation**:* For drench or spray applications to soil/soil-less media, apply at **0.18 to 1.65 fluid ounces per 1000 square feet** (5.3 mL to 48.8 mL per 92 square meter) of soil-less trays, micropropagation, or planting beds. Prepare a sufficient volume of aqueous preparation to uniformly distribute the product per unit area. Use lower rates for low disease pressure and higher rates for high disease pressure.

*For incorporation to soil/soil-less media**:* Apply at **0.18 to 1.65 fluid ounces per cubic yard** (5.3 mL to 48.8 mL per cubic meter). Prepare a sufficient volume of aqueous preparation to uniformly distribute the product in the soil volume. Use lower rates for use within 1 week and higher rates for soil or soil-less media to be stored for greater than 1 week.

*** Not for use in California.*

Aerial:

Apply to foliage by fixed or rotary winged aircraft in a minimum of **3 gallons of water per acre.** Use standard precautions to minimize spray drift.

Chemigation:

Apply through drip (trickle) or typical overhead sprinkler-type irrigation equipment, such as (but not limited to): microjet, overhead boom, solid set, center pivot. Refer to the section entitled “Chemigation Instructions” for detailed instructions.

Greenhouses and shadehouses

Spray application: Mix **1 to 3 quarts of product per 100 gallons of water** and apply as a foliar spray of sufficient volume to wet the entire plant with minimal runoff. Use standard precautions to minimize spray drift. Begin preventative applications at plant emergence and repeat every 3 to 28 days as needed (every 3 to 7 days if disease pressure is high or environmental conditions are highly favorable to disease outbreak, 10 to 28 days under low pressure or less conducive conditions).

Chemigation: Mix **0.5 to 4.5 pints of product per 100 gallons of water** and apply to growing media via drip (trickle), handheld, or typical overhead sprinkler-type irrigation systems, such as (but not limited to): microjet, overhead boom, solid set, center pivot. Refer to "Chemigation Instructions" for more details.

Cutting or root dip application: Dip basal end of cuttings or bare roots (individually or in bunches) and seedlings or transplants in flats, plugs, or trays in a suspension of **1 to 2 pints of product per gallon of water.** Immerse for 5-10 seconds immediately before planting.

Drench application: Mix **0.5 to 4.5 pints of product per 100 gallons of water** and apply as a drench or coarse spray to soil or other growing media in pots, flats, plugs, trays, or planting beds, for control or suppression of soil-borne diseases of seedlings, cuttings, bedding plants, and transplants (including vegetables and other transplanted food crops). Make first application at or immediately before seeding, sticking, germination, or transplanting. Repeat applications every 14 to 28 days as needed. Transplants can be treated immediately before transplanting into field soils to protect against damping-off and other diseases that reduce plant establishment.

CROPS/USE SITES	DISEASES/PATHOGENS
Shade- or other cover-grown forestry seedlings, fruit trees, vegetables and other crops grown in greenhouses or other cover	Powdery mildews caused by *Erysiphe, Podosphaera, Sphaerotheca, Oidium,* and *Golovinomyces* spp. Anthracnose (*Colletotrichum* spp.) Bacterial leaf spots caused by *Erwinia, Pseudomonas,* and *Xanthomonas* spp. Damping-off disease (*Rhizoctonia, Pythium, Fusarium* spp.) Late blight, blackeye, and root rots caused by *Phytophthora* spp. Gray mold and blight caused by *Botrytis cinerea* Black root rot (*Aspergillus* spp.) Black spot of roses (*Diplocarpon rosae*) Downy mildew (*Peronospora* spp.) Leaf spots caused by *Alternaria, Septoria, Cercospora, Entomosporium, Helminthosporium,* and *Myrothecium* spp.) Rust (*Puccinia* spp.) Scab (*Venturia* spp.) Root rot, bottom rot, or stem rot caused by *Rhizoctonia solani* Sclerotinia blight Fusarium wilts

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a dry area inaccessible to children. Store in original containers only. Keep container closed when not in use.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of onsite or at an approved waste disposal facility.

Container Handling:

{Containers ≤5 gallons}

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ 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, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

{Containers >5 gallons}

Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

{Bulk refillable containers}

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. When empty, return to point of sale or to the manufacturer.

CHEMIGATION INSTRUCTIONS

General information:

1. Apply product only through drip (trickle) irrigation (including micro-irrigation through spaghetti tubes or individual tubes) or sprinkler irrigation (including impact or microsprinklers, microjet, overhead boom, water gun, solid set, lateral move, end tow, side-roll, center pivot, or hand move, including mist-type systems); or with hand-held calibrated irrigation equipment (such as a hand-held wand with injector). Do not apply this product through any other type of irrigation system.
2. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.

3. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
5. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Public water system chemigation:

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

1. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
3. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
5. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
6. Do not apply when wind speed favors drift beyond the area intended for treatment.
7. Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and injector system and flush with clean water before use. Failure to provide a clean tank, free of scale or residues may reduce effectiveness of this product.
8. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer, or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Application should be continuous in sufficient water to apply the specified rate evenly to the entire treated area.

Drip (trickle) and micro-irrigation chemigation:

1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system

interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (i.e., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer, or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.

Sprinkler chemigation:

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (i.e., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer, or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.
8. Do not apply when wind speed favors drift beyond the area intended for treatment.

WARRANTY

Certis USA LLC warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purpose referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the pest problem, condition of the crop, incompatibility with other chemical(s) not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. To the extent permitted by applicable law, buyer assumes all risks of use, storage, or handling of this material not in strict accordance with directions given herein. TO THE EXTENT PERMITTED BY APPLICABLE LAW, NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.