Guarda

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID

lf swallowed	 Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
If on skin or clothing	 Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.
If inhaled	 Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
If in eyes	 Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Have the proc	uct container or label with you when calling a poison control center or doctor

A botanical based product to protect against certain fungal and bacterial diseases

ACTIVE INGREDIENT:

Thyme oil	3%
OTHER INGREDIENTS	97%
TOTAL	.100%

BioSafe Systems

Distributed by: BioSafe Systems, LLC 22 Meadow Street East Hartford, CT 06108 1-888-273-3088

EPA Registration No. 92144-2-70299 EPA Establishment No. 082521-GA-001



or if going for treatment.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Avoid contact with skin, eyes, or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks

- Waterproof gloves
- Protective evewear

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

- User should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- User should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.
- Wash the outside of gloves before removing.

ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, 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 washwater or rinsate.

(Use the following additional statement for containers that hold 5 gallons or more: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.)

DIRECTIONS FOR USE

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

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 exemptions pertaining to the statements on this label about personal protective equipment (PPE) and the restricted-entry interval (REI). 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 restrictedentry interval (REI) of 0 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 Waterproof gloves Shoes plus socks • Protective eyewear

MIXING AND APPLICATION INSTRUCTIONS - SHAKE WELL PRIOR TO USE -

Guarda is an emulsifiable concentrate containing oil extracted from Thymus spp. Use 100-mesh nozzle screens or larger.

See CHEMIGATION section for chemigation use directions. See PRE-PLANT DIP section for pre-plant dip use directions. See SEED TREATMENT section for seed treatment use directions. See SOIL TREATMENT section for soil application use directions.

Use higher water volumes with larger sized crops and extensive foliage to secure thorough coverage.

Guarda alone: Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the Guarda to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the Guarda has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

Guarda + tank-mixtures: Add 1/2-3/4 of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as Guarda. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process. After all components are completely dispersed add the remainder of the water. Guarda cannot be mixed with another product with a prohibition against mixing. Use of the tank mix must be in accordance with the more restrictive label limitations and precautions. Do not pre-mix Guarda with any other tank mix component prior to adding to the spray tank.

Compatibility: Do not combine Guarda in the spray tank with pesticides, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions.

Guarda is compatible with many commonly used pesticides, fertilizers, adjuvants, and surfactants, but has not been evaluated with all potential combinations. To

GENERAL INFORMATION Guarda is formulated with thyme oil, a botanical extract. Guarda's proprietary formulation stabilizes the thyme oil, reducing its volatility, improving contact time

with plant surfaces, and improving efficacy against target fungal and bacterial pathogens. The product is for bacterial and fungal disease control on ornamen-

tal plants, turf, and edible crops. Guarda applied to actively growing plants (see

DIRECTIONS FOR USE) will reduce or control incidence of bacterial and fungal

disease and improve plant health. Plant health benefits often result in greater yields and improved crop quality at harvest, especially when crops are stressed

by pathogens or environmental conditions. Use Guarda as a curative application when disease is evident but preventative application is recommended when con-

ditions favor development of bacterial or fungal disease. Apply prior to disease

infestation to protect the growing leaf tissue. See specific information for diseases

MODE OF ACTION

Thyme oil extracted from Thymus spp. plant material is a powerful antifungal and

antibacterial agent. The extract, when applied to growing crops, controls fungal

and bacterial disease organisms by membrane disruption. Guarda is an improved

efficacy formulation using a proprietary stabilization technology to reduce the

volatility of the the botanical active, increasing contact time with target disease

The control of diseases is not systemic, but provides some translaminar protection.

Repeat foliar applications at 7-14 day intervals to maintain disease control and to

controlled and use rates on ornamental plants, turf, and edible crops.

organisms to reduce or control both bacterial and fungal diseases.

Use Guarda as a preventative or curative treatment.

protect new plant growth.

ensure compatibility of the tank mix combinations, evaluate prior to use as follows: Using a suitable container, add the proportional amounts of product to water. Add wettable powders first, then water dispersible granules, then liquid flowables, and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the mix on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of the application.

CHEMIGATION USE DIRECTIONS

Apply Guarda at 1 gallon per acre according to the instructions below unless specified differently in the SELECTED CROPS section.

CHEMIGATION

General Requirements -

- Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3. If you have questions about calibration, you should 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.

Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 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.
- 2. 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.
- The pesticide injection pipeline must contain a functional, automatic, quickclosing check valve to prevent the flow of fluid back toward the injection pump.
- 4. The pesticide injection pipeline must contain a functional, normally closed, sole-noid-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.
- 5. 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.
- 6. 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.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Sprinkler Chemigation -

- The system must contain a functional check valve, vacuum relief valve and lowpressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quickclosing 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, sole-noid-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.
- 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 (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Flood (Basin), Furrow and Border Chemigation -

- Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- The systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - a. 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.
 - b. The pesticide injection pipeline must contain a functional, automatic, quickclosing check valve to prevent the flow of fluid back toward the injection pump.
 - c. 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.
 - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
 - e. 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.
 - f. 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.

Specific Requirements for Drip (Trickle) Chemigation -

- The system must contain a functional check valve, vacuum relief valve and lowpressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quickclosing 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, sole-noid-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.
- 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 (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Application Instructions for All Types of Chemigation -

- Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- Determine the treatment rates as indicated in the directions for use and make proper dilutions. Product can be applied continuously or at any time during the water application.
- 3. Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required.

PRE-PLANT DIP USE DIRECTIONS

Guarda can be applied as a pre-plant dip for improved plant health and suppression of certain soil-borne diseases. Apply Guarda at (32-64 ounces) (1-2 quarts) product per 10 gallons of water as a pre-plant dip immediately prior to transplanting, unless specified differently in the SELECTED CROPS section.

SOIL TREATMENT USE DIRECTIONS

Guarda can be applied by soil drench, in-furrow spray, or soil injection to improve plant health and to protect against certain soil-borne diseases.

In general, Guarda can be applied by the following methods, unless specified differently in the SELECTED CROPS section: **Soil Drench Applications:** Apply Guarda at a concentration of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of Guarda during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10 -14 day interval.

Shanked-In and Injected Applications: Guarda can be shanked-in or injected into the soil alone, or with most types of liquid nutrients.

In-Furrow Applications: At planting, apply Guarda as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1000 feet of row according to the chart below. Apply Guarda in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

Rate	In-Furrow Application Rates Product per Acre (fl. oz.)						
Kate	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows	
8.8 fl. oz. per 1,000 ft. row	153.2	144.0	135.2	128.0	121.2	114.8	

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

APPLICATION RATES FOR SELECTED CROPS

Guarda used as specified will improve plant health and reduce or control incidence of the bacterial and fungal diseases listed below.

Guarda is exempt from tolerances and may be applied as directed to any food or non-food crop up to and including the day of harvest at a rate not exceeding 240 fl. oz. (7.2 oz. active ingredient) per acre per application.

The use rate for Guarda applied alone, tank mixed, or as an alternate spray is 1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution of Guarda) applied at a spray volume of 15-100 gallons per acre. Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. See specific application instructions pertaining to each crop for additional details.

For greenhouse application on the crops and diseases listed, the use rate for Guarda applied alone, tank mixed, or as an alternate spray is 1 gallon in 29-119 gallons of water (0.833%-3.3% v/v dilution of Guarda) sprayed until just before point of runoff. Repeat at 7-14 day intervals as needed. See specific application instructions for each crop for additional details.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
	Powdery Mildew (Erysiphe cichora- cearum) (Leveillula taurica) Ramularia Leaf Spot (Ramularia cynarae)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Artichoke		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation immediately after transplant and at 14 day intervals or begin 14 days after transplant when soil drench applications are used.
Asparagus	Botrytis Blight (Botrytis cinerea) Rust (Puccinia aspargi)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Bushberries and Caneberries Blueberry Blackberry (all varieties) Cranberry Currant Elderberry Gooseberry Huckleberry Juneberry Ligonberry Loganberry Raspberry (red and black) Salal and other berry crops	Mummy Berry (Monilinia vaccinii-corymbosi) Alternaria Fruit Rot (Alternaria spp.) Anthracnose Fruit Rot (Colletotrichum acutatum) Bacterial Canker (Pseudomonas syringae) Botrytis Blight (Botrytis cinerea) Leaf Rust (Pucciniastrum vaccinii) Leaf Spot and Blotch (Mycosphaer- ella spp.) (Septoria spp.) Phomopsis Leaf Spot, Twig Blight, and Fruit Rot (Phomopsis spp.) Powdery Mildew (Microsphaera alni) Spur Blight (Didymella spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days. Mummy Berry – Initiate application at bud break stage of develop- ment. Apply this product preventatively and repeat on a 7-10-day interval or as needed. For best performance, tank mix this product with other registered fungicides for Mummy Berry control. Botrytis Blight – Apply this product preventatively when the first disease symptoms are visible and reapply every 7-14 days. Bacterial Canker – Apply this product prior to Fall rains and repeat applications during dormancy before Spring growth. This product can be tank mixed with another registered fungicide for improved control of bacterial canker. Anthracnose Fruit Rot and Alternaria Fruit Rot on blueber- ries – Initiate application at green tip and continue applica- tions on a 7-10 day.

	Botrytis Leaf Blight (Botrytis squamosa) Botrytis Neck Rot (Botrytis spp.) Downy Mildew (Peronospora spp.) Onion Downy Mildew (Peronospora destructor) Onion Purple Blotch (Alternaria porri) Powdery Mildew (Erysiphe spp.) Rust (Puccinia porri) Stemphyllium Leaf Blight (Stemphylium vesicarium)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Bulb Vegetables Onion (Bulb and Green) Garlic Leek Shallot		Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a concentra- tion of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10-14 day interval.
and other bulb vegetable crops	Fusarium spp. Pythium spp. Rhizoctonia spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications, apply this product through irrigation at the rate of 1-4 quarts per acre immediately after transplant and at 14-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.
		Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4- 4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
Cereal Grains BarleyPowdery Mildew (Erysiphe graminis) Bacterial Blight and Streak (Xanthomonas spp.)Buckwheat Grain Amaranth Milo Oat Millets RiceBrown Rot, Leaf Spots & Smuts (Ceratobasidium spp.) (Cercospora spp.) (Cochliobolus spp.) (Drechslera spp.) Rice Blast (Pyricularia grisea)Rice Sorghum Triticale grain cropsRust (Puccinia spp.) Sheath Spot and Blight (Rhizoctonia oryzae) Stem Rot (Sclerotium oryzae) Stem Rot (Sclerotium oryzae)	Bacterial Blight and Streak (Xanthomonas spp.) Brown Rot, Leaf Spots & Smuts (Ceratobasidium spp.) (Cercospora spp.) (Cochliobolus spp.) (Drechslera spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications to optimize disease control and to maxi- mize yields, apply this product in 15-40 gallons of water per acre. It is important to apply this product at the flag leaf stage to maximize yield. Apply this product preventatively or when the first disease symptoms appear. Repeat applications in 7-14 day intervals depending upon crop growth and disease pressure. When the plants are under high disease pressure, tank mix this product with another fungicide for more effective control.
	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. It is important to apply this product at the flag leaf stage to maximize yield. Apply this product preventatively or when the first disease symptoms appear. Repeat applications in 7-14 day intervals depending upon crop growth and disease pressure. When the plants are under high disease pressure, tank mix this product with another registered fungicide for more effective control.	
Citrus Crops Orange Grapefruit Lemon Tangelo Tangerine Pummelo and other citrus crops	Bacterial Canker (Xanthomonas spp.) Alternaria Brown Spot (Alternaria alternata) Bacterial Blast (Pseudomonas syringae) Black Spot (Guignardia ciricarpa) (Phyllosticta citricarpa) Greasy Spot (Mycosphaerella citri)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications, apply this product preventatively in 50-150 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals. Avoid excessive amounts of water that result in the runoff of spray material.
	Melanose (Diaporthe citri) Postbloom Fruit Drop (Colletotrichum acutatum) Scab (Elsinoe australis) (Elsinoe fawcetti)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.

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(Bok Choy) Chinese Cabbage (Napa)	Powdery Mildew (Erysiphe cruci- ferarum) (Erysiphe polygoni) Alternaria Leaf Spot (Alternaria spp.) Downy Mildew (Peronospora parasitica)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Chinese Mustard Cabbage (Gai Choy) Cauliflower Cavalo Collards Kale Kohlrabi Mizuna Mustard Greens Mustard Spinach Rape Greens Turnip and other cole crops	Pin Rot Complex (Alternaria/Xanthomonas) Xanthomonas Leaf Spot (Xanthomonas campestris)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
Corn Sweet Corn Field Corn Popcorn Silage Corn Sand Corn	Anthracnose Leaf Blight (Colletotrichum graminicola) Eye Spot (Aureobasidium zeae) Gray leafspot (Cercospora zeae-maydis) Rusts (Purcipia spo.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications to optimize disease control and to maximize yields, apply this product preventatively in 15-40 gallons of water per acre prior to disease development using sufficient volume for thorough coverage. Consult your local Extension Specialist or Crop Consultant regarding the optimum timing of fungicide applications.
and other corn crops (includes crops grown for seed)	(includes crops (Exserohilum turcicum)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
	Alternaria Leaf Spot, Boll Rot (Alternaria spp.) Anthracnose, Boll Rot (Glomeria spp.) Ascochyta Blight, Boll Rot (Ascochyta spp.) Cercospora Blight and Leaf Spot (Cercospora spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications for foliar and Boll Rot disease control, apply this product preventatively in 15 gallons of water per acre prior to disease development using sufficient volume for thorough coverage. Repeat applications at 7-14 day intervals.
Cotton Cotton Leaf Spot (Corynespora cassicola) Phoma Blight, Boll Rot (Phoma spp.) Rust (Puccinia spp.) (Phykopsora spp.) Stemphyllium Leaf Spot (Stemphyllium spp.)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.	
	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

Cucurbits Includes all types and hybrids of: Chayote Chinese waxgourd Cucumber Citron melon Gherkin Pumpkin Watermelon Edible Gourd: Chinese alere	Powdery Mildew (Erysiphe cichoracearum) (Sphaerotheca fuliginea) Anthracnose (Colletotrichum lagenarium) Alternaria Blight (Alternaria cucumerina) Cercospora Leaf Spot (Cercospora citrulina) Damping-off (Fusarium spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Chinese okra Cucuzza Hyotan Mormordica spp.: Balsam apple Balsam pear Bitter melon Chinese cucumber Muskmelon: Cantaloupe Casaba	(Pythium spp.) (Pytophthora sp.) (Phytophthora sp.) (Rhizoctonia solani) Downy Mildew (Pseudoperonospora cubensis) Gummy Stem Blight (Didymella bryoniae) Phytophthora Blight (Phytophthora capsici)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
Crenshaw melon Golden pershaw melon Honeydew melon Honey balls Mango melon Persian melon		Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a con- centration of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, sup- press soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10-14 day interval.
Pineapple melon Santa Claus melon Snake melon Summer Squash: Crookneck squash Scallop squash	ineapple melon anta Claus melon nake melon <i>Fusarium</i> spp. ummer Squash: <i>Phytophthora</i> spp. callop squash <i>Rhizoctonia</i> spp. egetable marrow <i>Verticillium</i> spp. Zucchini <i>Jinter Squash</i> : corn squash	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
Straightneck squash Vegetable marrow Zucchini Winter Squash: Acorn squash Butternut squash		Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
Calabaza Hubbard squash Spaghetti squash and other cucurbit crops		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation immediately after transplant and at 14 day intervals or begin 14 days after transplant when soil drench applications are used.
Fruiting Vegetables Tomato Pepper Eggplant Ground Cherry Okra	Bacterial Blight (Xanthomonas spp.) Bacterial Spot (Xanthomonas spp.) Bacterial Speck (Pseudomonas syringae) Black Mold (Alternaria alternata) Damping-off (Fusarium spp.) (Pythium spp.) (Rhizoctonia solani) Early Blight (Alternaria solani) Gray Mold (Botrytis cinerea)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications, apply this product preventatively in 25-100 gallons of water per acre. Increase water volume as plant size increases. Repeat applications at 7-10 day intervals. Tank mix this product with other registered fungicides for improved disease control under heavy pressure. Phytophthora Blight – Apply this product in combination with labeled rates of a copper fungicide or with another fungicide labeled for Phytophthora Blight control.
Tomatillo and other fruiting vegetable crops continued on next page	Late Blight (Phytophthora infestans) Phytophthora Blight (Phytophthora capsici) Powdery Mildew (Erysiphe spp.) (Leveillula taurica) (Oidopsis taurica) (Sphaerotheca spp.) Target Spot (Corynespora cassiicola)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 10 gallons of water per acre. Repeat applications at 7-10 day intervals. Tank mix this product with other registered fungicides for improved disease control under heavy pressure. Phytophthora Blight – Apply this product in combination with labeled rates of a copper fungicide.

continued from previous page		Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a concentra- tion of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10-14 day interval.
Fruiting Vegetables Tomato Pepper Eggplant Ground Cherry	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
Okra Tomatillo and other fruiting vegetable crops	Verticillium spp.	Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4- 4.8% v/v dilution)	For plant dip applications for improved plant growth and sup- pression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications for improved plant growth and sup- pression of soil-borne diseases, apply this product through drip irri- gation immediately after transplant and at 14 day intervals or begin 14 days after transplant when soil drench applications are used.
Grape	Powdery Mildew (Uncinula necator) Angular Leaf Spot (Mycosphaerella angulata) Anthracnose (Elsinoe ampelina) Botrytis Bunch Rot (Botrytis cinerea) Black Rot (Guignardia bidwellii) Downy Mildew (Plasmopara viticola) Eutypa (Eutypa lata) Leaf Blight (Pseudocercospora vitis) Phomopsis Fruit Rot (Phomopsis viticola) Ripe Rot (Colletotrichum gloeosporioides) Sour Rot (Alternaria tenuis) (Aspergillus spp.) (Botrytis cinerea) (Cladosporium herbarum) (Penicillium spp.) (Rhizopus arrhizus)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
	Phytophthora spp. Verticillium spp.	Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and sup- pression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
	Powdery Mildew (Erysiphe graminis) (Oidium spp.) (Podosphaera spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Grass Seed	(Sphaerotheca spp.) Rust (Puccinia spp.)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
Hops continued on next page	Downy Mildew (Pseudoperonospora humuli) Powdery Mildew (Sphaerotheca macularis)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply this product preventatively when disease symptoms are first visible or when environmental conditions are conducive to rapid disease development. Continue sprays at 7 day intervals or as needed. Minimum spray volumes for hop growth stages are as follows: Emergence to Training: Apply this product using a minimum spray volume of 20 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.

continued from previous page Hops	Downy Mildew (Pseudoperonospora humuli) Powdery Mildew (Sphaerotheca macularis)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Training to Wire-Touch: Apply this product using a minimum spray volume of 50 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage. Wire-Touch through Harvest: Apply this product using a minimum of 100 gallons of water per acre. Higher water vol- umes may be necessary to achieve thorough coverage after side arms develop. Apply adequate spray volume to achieve complete spray coverage. Use the higher rates when moder- ate to high disease pressure is present or expected.
Leafy Vegetable Crops Arugula Beet Celery Chervil Cilantro Corn Salad Cress Dandelion	Downy Mildew (Bremia lactuca) (Peronospora spp.) Bacterial Blight/Rot (Xanthomonas spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Dock Edible Chrysanthemum Endive Fennel Garden Peas Head Lettuce Leaf Lettuce Parsley Purslane Radicchio Rhubarb Spinach Swiss Chard Watercress and other leafy vegetable crops	Cercospora leafspot (<i>Cercospora</i> spp.) Late Blight (<i>Septoria apiicola</i>) Pink Rot (<i>Sclerotinia sclerotiorum</i>) Powdery Mildew (<i>Erysiphe cichoracearum</i>) Sclerotinia Head and Leaf Drop (<i>Sclerotinia minor</i>) (<i>Sclerotinia sclerotiorum</i>) White Rust (<i>Albugo occidentalis</i>)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
Legumes/ Vegetables (not including soybeans and peanuts) Chick Peas Dry Beans Garbanzo Beans Gareen Beans Lentils Lima Beans Peas Shell Beans	Bacterial Blight (Xanthomonas campestris) Gray Mold (Botrytis cinerea) Pythium (aerial blight phase) (Pythium spp.) Powdery Mildew (Erysiphe spp.) Rust (Puccinia spp.) (Uromyces appendiculatus) White Mold (Sclerotinia sclerotiorum)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Snap Beans Split Peas and other legume crops (including those grown for seed or oil production)	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
Mint and Other Herbs/Spices Angelica Balm Basil Borage	Downy Mildew (<i>Peronospora</i> spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Burnet Chamomile Catnip Chervil Chive continued on next page	Powdery Mildew (<i>Erysiphe</i> spp.) Rust (<i>Puccinia menthae</i>)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.

continued from previous page Mint and Other Herbs/Spices Clary Coriander Costmary Cilantro Curry Dillweed Horehound Hyssop Lavender Lemongrass Lovage Marjoram Nasturtium	Downy Mildew (<i>Peronospora</i> spp.) Powdery Mildew (<i>Erysiphe</i> spp.) Rust (<i>Puccinia menthae</i>)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Parsley (dried) Peppermint Rosemary Sage Savory (summer & winter) Sweet Bay Tansy Tarragon Thyme Wintergreen Woodruff Wormwood and other herbs/spices		Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
Oil Seed Crops (not including cotton, peanut, or soybean) Canola Castor Flax	Bacterial Pustule (Xanthomonas spp.) Bacterial Speck (Pseudomonas syringe pv. glycinea) Brown Spot (Septoria glycines) Cercospora Leaf Spot (Cercospora spp.)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-50 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Industrial Hemp Rapeseed Safflower Sesame Sunflower and other oilseed crops	Downy Mildew (Peronospora mansherica) Pod and Stem Blight (Diaporthe phase- olorum var. sojae) (Phomopsis longicola) White Mold/Sclerotinia Stem Rot (Sclerotinia sclerotiorum)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
Olive	Olive Knot (Pseudomonas savastanoi)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications, apply this product preventatively in 50-150 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals. Avoid excessive amounts of water that result in the runoff of spray material.
Ornamentals Herbaceous Ornamentals Flowering Plants Foliage Plants Bedding Plants Woody Ornamentals Broadleaves, Shrubs and Trees Conifers, Shrubs and Trees continued on next page	Anthracnose (Colletotrichum spp.) Bacteria (Erwinia spp.) (Pseudomo- nas spp.) (Xanthomonas spp.) Black Spot of Rose (Diplocarpon rosae) Blossom Blight (Monilinia spp.) Downy Mildew (Peronospora spp.) (Plasmopara viburni) Gray Mold (Botrytis cinerea) Leaf Spot (Alternaria spp.) (Cercospora spp.) (Entomosporium spp.) (Myrothecium spp.) (Septoria spp.) Powdery Mildew (Erysiphe spp.) (Oidium spp.) (Podosphaera spp.) (Sphaerotheca spp.) Rust (Puccinia spp.) Scab (Venturia spp.)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough coverage to the point of runoff – generally 15-150 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days. Begin applications preventatively (before disease symptoms become visible) at the 4-6 leaf stage and treat at 7-14 day intervals as needed prior to sale or harvest. Spray until just before point of runoff. This product may be used to control certain diseases of container, bench, flat, plug, bed, or field-grown ornamentals in green- houses, shade-houses, outdoor nurseries, retail nurseries, and other landscape areas.

continued from previous page Ornamentals Herbaceous Ornamentals	Fusarium spp.	Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a concentra- tion of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applica- tions can be made on a 10-14 day interval.
Flowering Plants Foliage Plants Bedding Plants Woody Ornamentals	Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	Plant Dip	1-2 quarts (32-64oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
Broadleaves, Shrubs and Trees Conifers, Shrubs and Trees		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation immediately after transplant and at 14 day intervals or begin 14 days after transplant when soil drench applications are used.
	Aspergillus Crown Rot (Aspergillus niger) Damping-off (Aspergillus flavus) (Fusarium spp.) (Pythium spp.) (Rhizoctonia spp.) Early Leaf Spot (Cercospora arachidicola) Late Leaf Spot (Cercosporidium personatum) Rhizoctonia Foliar Blight, Peg, and Root Rot (Rhizoctonia solani) White Mold (Sclerotium rolfsii)	Foliar	1 gallon per 29-159 gallons of water (0.625% - 3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Peanut	Aspergillus Crown Rot (Aspergillus niger) Fusarium spp. Phytophthora spp.	Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a concentra- tion of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applica- tions can be made on a 10-14 day interval.
Pythium spp. Rhizoctonia spp. Verticillium spp. White Mold (Sclerotium rolfsii)	Rhizoctonia spp. Verticillium spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
Pome Fruits Apple Crabapple Loquat Oriental Pear Pear Quince Mayhaw and other pome fruit crops	Powdery Mildew (Podosphaera leucotricha) Alternaria Blotch (Alternaria mali) Apple Scab (Venturia inaequalis) Bitter Rot (Colletotrichum spp.) Black Rot/Frogeye Leaf Spot (Botryosphaeria obtusa) Bot Rot (Botryosphaeria dothidea) Brooks Spot (Mycosphaerella pomi) Bull's Eye Rot (Neofabraea spp.) Cedar-Apple Rust (Gymnosporangium juniperi-virginianae) Fire Blight (Erwinia amylovora) Flyspeck (Zygophiala jamaicensis) Scab (Venturia spp.) Sooty Blotch (Geastrumia polystig- mati) (Leptodontium elatius) (Peltaster fructicola) White Rot (Botryosphaeria dothidea)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications, apply this product preventatively in 50-100 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals. Avoid excessive amounts of water that result in the runoff of spray material.
	Phytophthora spp. Pythium spp.	Plant Dip (bare root)	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.

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	Bacterial Leaf Blight (Xanthomonas campestris) Black Root Rot / Black Crown Rot (Alternaria spp.) Downy Mildew (Peronospora spp.) Early Blight (Alternaria solani) Gray Mold (Botrytis spp.) Late Blight (Phytophthora infestans) Powdery Mildew (Erysiphe spp.) White Mold (Sclerotinia sclerotiorum)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Root, Tuber and Corm Crops Potato Beet Carrot Cassava Ginger Ginseng Horseradish		Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a con- centration of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, sup- press soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10-14 day interval.
Radish Sweet Potato Turnip and other root crops (including those for seed production)	Clubroot (Plasmodiophora brassicae) Common Scab (Streptomyces scabies) Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Piece Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For seed piece dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip to transplants or seed pieces immediately prior to transplanting.
		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation immediately after transplant and at 14 day intervals or begin 14 days after transplant when soil drench applications are used.
	Aerial Web Blight (<i>Rhizoctonia solani</i>) Alternaria Leafspot (<i>Alternaria</i> spp.) Anthracnose (<i>Colletotrichum truncatum</i>) Asian Soybean Rust (<i>Phakopsora pachyrhizi</i>) Brown Spot (<i>Septoria glycines</i>) Cercospora Blight	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Soybean	(Cercospora bilght (Cercospora kikuchii) Frog-eyed Leaf Spot (Cercospora sojina) Pod and Stem Blight (Diaporthe spp.) Septoria Brown Spot (Septoria glycines) White Mold (Sclerotinia sclerotiorum)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

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Stone Fruits Apricot Cherry (sweet and tart) Nectarine Peach Plum Plum Prune and other stone fruit crops	Alternaria Spot/Fruit Rot (Alternaria alternata) Anthracnose (Colletotrichum spp.) Bacterial Canker (Pseudomonas spp.) Bacterial Spot (Xanthomonas pruni) Brown Rot Blossom Blight (Monilinia laxa) Brown Rot Fruit Rot (Monilinia fruticola) Cercospora Leaf Spot (Cercospora spp.) Cherry Leaf Spot (Blumeriella jaapii) Gray Mold (Botrytis cinerea) Powdery Mildew (Podosphaera spp.) (Sphaerotheca pannosa) Rust (Tranzschelia discolor) Rusty Spot (Podosphaera leucotricha) Scab (Cladosporium carpophilum)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications, apply this product preventatively in 50-150 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals. Avoid excessive amounts of water that result in the runoff of spray material.
	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	Plant Dip (bare root)	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
Strawberry	Anthracnose (Collectotrichum spp.) Suppression only Botrytis (Botrytis cinerea) Leaf Spot (Mycosphaerella fragariae) Phomopsis Leaf Blight (Phomopsis obscurans) Powdery Mildew (Sphaerotheca macularis)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
	Black Root Rot (<i>Rhizoctonia</i> spp.) (Pythium spp.) (Fusarium spp.) (Cylindrocarpon spp.)	Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
	Colletotrichum Crown Rot (Colletotrichum spp.) Phytophthora Root Rot and Crown Rot (Phytophthora spp.) Verticillium Wilt (Verticillium spp.) Fusarium spp. Pythium spp. Phytophthora spp. Rhizoctonia spp. Verticillium spp.	Soil Drench	4 gallons per 100 gallons of water (3.84% v/v dilution)	For soil drench applications, apply this product at a con- centration of 4 gallons per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, sup- press soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10-14 day interval.
		Chemigation	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation immediately after transplant and at 14 day intervals or begin 14 days after transplant when soil drench applications are used.
Sugar Beets (includes crop for seed production)	Powdery Mildew (Erysiphe betae) (Erysiphe polygoni) Leaf Spot (Cercospora beticola) Ramularia (Ramularia spp.) Rust (Uromyces betae)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff - generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.

	Brown Rust (Puccinia melanocephela)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-25 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Sugarcane	Orange Rust (Puccinia kuehnii)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other reg- istered fungicides. Repeat applications at 7-14 day intervals.
	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp.	In-Furrow	1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row.	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 gallon per acre or 8.8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5-15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
	Blue Mold (Peronospora tabacina)	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough coverage to the point of runoff – generally 15-40 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
Tobacco	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
Tree Nut Crops Walnut (Black and English) Almond Beech nut Brazil nut Butternut	Walnut Blight (Xanthomonas campestris) Alternaria Late Blight, Alternaria Leaf Spot (Alternaria spp.) Anthracnose (Collectotrichum spp.) (Gnomonia leptostyla) Bacterial Canker (Erwinia nigrifluens) (Pseudomonas syringae) Botryosphaeria Blight (Botryosphaeria dothidea)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	For ground applications, apply this product preventatively in 50-150 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals. Avoid excessive amounts of water that result in the runoff of spray material.
Cashew Chestnut Chinquapin Filbert Hickory nut Macadamia nut Pecan Pistachio and other tree nut crops	Brown Rot (Monilinia spp.) Eastern Filbert Blight (Anisogramma anomala) Green Fruit Rot (Botrytis cinerea) Leaf Rust (Tranzschelia discolor) Scab (Cladosporium carpophilum) (Sphaceloma perseae) Shot Hole (Wilsonomyces carpophilus)	Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	Plant Dip (bare root)	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
Tropical Fruits Avocado Banana Kiwi Mango Papaya Plantain Pineapple Pomegranate and other tropical fruit crops	Anthracnose (Colletotrichum gloeosporioides) Bacterial Blight (Pseudomonas syringae) (Pseudomonas viridiflava) Bacterial Canker (Xanthomonas campestris) Botrytis Fruit Rot (Botrytis cinerea) Scab (Elsinoe mangiferae) Sigatoka (Mycosphaerella fijiensis)	Foliar (Ground)	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution)	Apply at a spray volume sufficient to ensure thorough cover- age to the point of runoff – generally 15-150 gallons per acre. Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.
		Foliar (Aerial)	1 gallon per 5-15 gallons of water (6.25-16.67% v/v dilution)	For aerial applications, apply this product in a minimum of 5 gallons water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7-14 day intervals.
	Fusarium spp. Phytophthora spp. Pythium spp. Rhizoctonia spp. Verticillium spp.	Plant Dip	1-2 quarts (32-64 oz.) per 10 gallons water (2.4-4.8% v/v dilution)	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.

Guarda has a pre-harvest interval (PHI) of 0 days. Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 0 hours.

Сгор	Target Disease	Application Method	Product Use Rate per Application (per 1,000 sq. ft.)	Product Use Rate per Application (per Acre)	Application Instructions
Turfgrass Bluegrass Bertgrass Bermudagrass Dichondra Fescue Orchardgrass Poa annua Ryegrass St. Augustine Zoysia mixtures and other grasses Ornamental Grasses	Anthracnose (Colletotrichum graminicola) Bentgrass/Bermudagrass Dead Spot (Ophiosphaerella EP #1stis) Bermudagrass Decline (Gaeumannomyces graminis var. graminis) Brown patch (Rhizoctonia solani) Copper Spot (Gloeocercospora sorghi) Dichondra Rust (Puccinia dichondorae) Dollar Spot (Lanzia spp.) (Moellerodiscus spp. formerly Sclerotinia homeocarpa) Fusarium Patch (Fusarium nivale) Gray Leaf Spot (Pyricularia grisea) Melting Out Leaf Spot (Bipolaris spp.) (Drechslera spp.) Necrotic Ring Spot (Leptosphaeria korrae) Pink Patch (Limonomyces roseipellis) Powdery Mildew (Erysiphe graminis) Pythium Blight Pythium Root Rot (Pythium aphanidermatum) (Pythium spp.) Red Thread (Laetisaria fuciformis) Rust (Puccinia spp.) Rhizoctonia Large Patch (Rhizoctonia solani) Snowmold, Gray (Typhula spp.) Snowmold, Gray (Typhula spp.) Snowmold, Pink (Microdochium nivale) Southern Blight (Sclerotium rolfsii) Spring Dead Spot (Leptosphaeria korrae) (Leptosphaeria narmari) (Ophiosphaerella herpotricha) (Gaeumannomyces graminis) Stripe Smut (Ustilago striiformis) (Urocystis EP #1pyri) Summer Patch Poa Patch (Magnaporthe poae) Take-All Patch (Gaeumannomyces graminis) Yellow Patch (Rhizoctonia colani) Snut (Ustilago striiformis) (Urocystis ZP #1pyri) Summer Rentgrass Decline	Foliar	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution), applied at a rate of 1 gallon of spray solution per 1,000 square feet of turf, sod, or ornamental turf.	1 gallon per 29-159 gallons of water (0.625%-3.3% v/v dilution). Apply at a spray volume sufficient to ensure thorough coverage to the point of runoff – generally 15-50 gallons per acre.	Apply this product preventatively or when the first disease symptoms are visible and reapply every 7-14 days.

INTEGRATED PEST MANAGEMENT (IPM)

Many conventional fungicides have been tested in an IPM regime with Guarda with very satisfactory results. One of the major objectives of IPM has been to reduce the probability of disease resistance development to a particular active ingredient.

The alternate use of (1-2 sprays) followed by a conventional, registered fungicide (1-2 sprays) has been successfully used in many crops. In addition, the use of tank mixes with a conventional fungicide has also been successful.

Follow label instructions of the particular registered product: Do not exceed amounts or treatment intervals on the label.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling (under 5 gallons): Non-refillable 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. Do not burn unless allowed by state and local ordinances.

Container Handling (over 5 gallons): Non-refillable 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 ¼ 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 other end and tip it back and forth several times. Turn the container or 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. Do not burn unless allowed by state and local ordinances.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, plant injury, other property damage, as well as other unintended consequences may result because of factors beyond the control of BioSafe Systems, LLC. Those factors include, but are not limited to, weather conditions, presence of other materials or the manner of use or application. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, BioSafe Systems, LLC. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. To the extent consistent with applicable law, BioSafe Systems, LLC. disclaims any liability whatsoever for special, incidental, or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid, or at Lidan Inc's election, the replacement of product.

BioSafe Systems

For additional information on Guarda[®] call us toll-free at 1.888.273.3088 or visit www.biosafesystems.com. Made in the U.S.A.

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ACTIVE INGREDIENT:

Thyme oil	3%
OTHER INGREDIENTS:	97%
TOTAL	100%

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Avoid contact with skin, eyes, or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

FIRST AID		
lf swallowed	 Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. 	
If on skin or clothing	 Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice. 	
If inhaled	 Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. 	
If in eyes	 Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. 	
Have the prov	duct container or label with you when calling a poison control	

Have the product container or label with you when calling a poison control center or doctor, or if going for treatment.

BioSafe Systems

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KEEP OUT OF REACH OF CHILDREN CAUTION

STORAGE AND DISPOSAL

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Pesticide Storage: Store in a cool, dry place. Avoid freezing.

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