UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 24, 2022

Catherine Holmes
Product Registration Manager
AFS009 Plant Protection, Inc.
104 T.W. Alexander Dr.
Research Triangle Park, NC 27709

Subject: PRIA (Pesticide Registration Improvement Act) Labeling and Formulation Amendment – Remove Alternate CSFs 2, 3 and 4, Update Basic CSF and Alternate CSF #1; Add Aerial Application Use, Revise Crop Table, Remove Pollinator Restriction Language; and Add Seed Treatment, Postharvest, and Aerial Application Methods.to Label.
Product Name: Howler
EPA Registration Number: 91197-3
EPA Receipt Date: 04/30/2021
Action Case Number: 00299762

Dear Ms. Holmes:

The amended labeling and Confidential Statements of Formula (CSFs) referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable.

You must submit and/or cite all data required for registration or registration review of your product when the U.S. Environmental Protection Agency (EPA) requires all registrants of similar products to submit such data.

Please note that the record for this product currently contains the following acceptable CSFs:

- Basic CSF dated 12/20/2021
- Alternate CSF #1 dated 01/31/2022

Any CSFs other than those listed above are superseded/no longer valid.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Jennifer Odom via email at odom.jennifer@epa.gov.

Sincerely,

Susanne Cerrelli

Digitally signed by Susanne Cerrelli
Date: 2022.02.24 11:34:48 -05'00'

Susanne Cerrelli, Risk Manger
Microbial Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)
Office of Pesticide Programs

Enclosure (3): 1. EPA Stamped Label
2. EPA Science Reviews (2) (Dated November 16, 2021, and January 31, 2022)

MASTER LABEL

Sublabel A: Agricultural Crop Use
Sublabel B: Turf & Ornamental Use
Sublabel C: Home & Garden Use
Optional Label Claims

EPA Registration No. 91197-3

Note: Curly brackets indicate optional text.

ACCEPTED

Feb 24, 2022

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 91197-3

Manufactured by:
AFS009 Plant Protection, Inc.
104 T.W. Alexander Drive
Research Triangle Park, NC 27709

Sublabel A: Agricultural Crop Use

HOWLER fungicide

{dry flowable} {fungicide}

{For Organic Production} {For Use in Organic Production} {Can Be Used in Organic Production}

OMRI LISTED For Organic Use

{ }

Active Ingredient: *Pseudomonas chlororaphis* strain AFS009†	50.0%
Other Ingredients:	50.0%
Total:	100.0%

† Contains not less than 1 X 10^6 CFU/g of product.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE INSIDE FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

FIRST AID	
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for 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.
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 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 by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOTLINE NUMBER Have the product container or label with you when calling a poison control center or doctor. You may also contact 1-800-262-8200 for emergency medical treatment information.	

EPA Reg. No.: 91197-3
Net Weight: XX
({Batch}/{Lot}) No: XXXX

EPA Est. No.: XXXXX-XX-XXX

Manufactured by:
AFS009 Plant Protection, Inc.
104 T.W. Alexander Drive
Research Triangle Park, NC 27709

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if inhaled, absorbed through the skin, or swallowed. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The PPE requirements below pertain to both Worker Protection Standard (WPS uses (in general, agricultural plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Applicators and other handlers must wear:

- Long pants and long-sleeved shirt
- Protective eyewear
- Waterproof gloves
- Shoes plus socks

Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH approved elastomeric particulate respirator with any R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter. (Repeated exposures 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 are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS

When handlers use closed systems, or enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.607(d) and (e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

USER SAFETY RECOMMENDATIONS

- Users should remove clothing/PPE immediately if pesticide is gets inside. The user should wash thoroughly and put on clean clothing.
- Users should 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.

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 hight water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

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 exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. 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.

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.

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) includes:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

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.

Product Information: Howler® is a biological fungicide containing the active ingredient *Pseudomonas chlororaphis* strain AFS009 for use on growing plants and crops to control or suppress a wide range of foliar, soil borne, and post-harvest diseases. Howler may be mixed with water and applied in field, greenhouse, or nursery use sites as a foliar spray, soil drench, in furrow spray, transplant spray or dip, cuttings or bare root dip, or hydroponic or chemigation application. It may be mixed with potting mix or applied dry in furrow. Howler may be used as a seed treatment or a seed piece treatment and may be applied post-harvest. Product can only be applied to whole fruits and vegetables.

PREVENTATIVE APPLICATIONS FOR PLANT HEALTH AND OPTIMUM DISEASE CONTROL

Howler® provides benefits that can result in healthier plants. Howler colonizes plants preventing the establishment of disease-causing fungi and bacteria. Improved plant health may help the treated plant tolerate environmental stresses such as drought, heat and cold temperatures and ozone damage. Overall increased plant health may improve crop vigor, yield and quality especially under stressful conditions.

- Apply Howler as a soil application or foliar spray alone, in alternating spray programs or in tank mixes with other registered crop protection products.
- Apply Howler with spray equipment commonly used for making ground, aerial and chemigation applications.
- Adjust the spray intervals of Howler according to the Crop-Specific Use Directions tables depending upon disease pressure and environmental conditions. Heavy rainfall or irrigation shortly after application may require retreatment.
- To enhance performance, consider adding a surfactant that is known to be safe to the target crop to the spray tank to improve penetration and coverage of above-ground portions of the plant.
- Howler is most effectively used in a preventative disease management program.

FUNGICIDE RESISTANCE MANAGEMENT AND IPM:

The PPE requirements below pertain to both Worker Protection Standard (WPS uses (in general, agricultural plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Howler is classified as a FRAC group BM02 Fungicide (multiple modes of action and low resistance risk).

Howler can be used in tank mixes or rotations to reduce the risk of resistance to other fungicides.

Integrate Howler into an overall disease and pest management strategy. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your location and crop(s).

USE INSTRUCTIONS:

Howler® has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating the entire crop, test a small portion of the crop for sensitivity.

Howler can be applied as a foliar spray, soil drench, soil incorporation, banded spray, broadcast, in-furrow, transplant water or tray drench. Howler may be used as a seed treatment or a seed piece treatment and may be applied post-harvest only to whole fruits and vegetables. Howler can be applied through various types of chemigation application as described in the Chemigation section of this label.

Mixing Directions:
Always add a sufficient volume of water to the mix before adding Howler. Constant agitation during mixing and application is necessary to maintain uniform suspension.

For foliar applications, good coverage of the foliage is needed to ensure performance.

Refer to the crop specific portions of the label for proper application instructions for each crop/disease combination. Under light disease pressure, use lower rates and longer intervals. When conditions are conducive to severe disease pressure, use higher rates and shorter intervals. Repeat applications at the intervals specified in the label and use an appropriate Integrated Pest Management program.

Not all tank mixtures with Howler have been tested. Before using any tank mix, test the combination on a small portion of the crop to ensure that the tank mixture is not phytotoxic to the crop. It is the responsibility of the user to ensure all components of the tank mixture are registered for use on the crop. When applying a tank mixture, the user must follow the instructions of the product with the most restrictive label.

FOLIAR APPLICATION DIRECTIONS:

GROUND:

This product can be applied by commonly used ground equipment such as hose-end and pressurized sprayers. Consult spray nozzle and accessory documentation for specific information on proper equipment calibration. Maintain agitation during mixing and application to assure uniform product suspension. Thorough coverage of all foliage and/or soil surfaces is essential for effective disease control or suppression. Use the application rate indicated for the crop in the Crop-Specific Use Directions tables of this label in sufficient water to achieve thorough coverage. Overall, to achieve good coverage, use proper spray pressure, gallonage per acre, nozzles, nozzle spacing and ground speed.

AERIAL:

This product can be applied by aerial application. Refer to the Spray Drift Management section of this label for additional directions and precautions. Use the appropriate application rate as indicated for the crop in the Crop-Specific Use Directions tables of this label. To ensure thorough coverage use a minimum of 10 GPA. Reduced spray volumes used in aerial applications may result in physical incompatibility, reduced disease control or crop injury, especially when Howler is tank mixed with other products.

CHEMIGATION:

This product can be applied through sprinklers including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, big gun or hand move irrigation systems. Application through drip irrigation systems is permitted in specific crops if specified on the Crop-Specific Use Directions tables. Refer to the Chemigation Application Directions portion of this label for additional directions and precautions. Maintain agitation during mixing and application to ensure uniform product suspension. Use the appropriate application rate as indicated for the crop in the Crop-Specific Use Directions tables of this label. Use sufficient water to achieve thorough coverage.

GENERAL FOLIAR APPLICATION USE RESTRICTIONS:

- Do not apply when wind speed favors drift beyond the area intended for treatment.
- 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 that is void of scale or residues may cause Howler® to lose effectiveness or strength.
- Do not combine Howler with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination to be physically compatible, effective and non-injurious under conditions of use. Howler has not been fully evaluated for compatibility with all agricultural products.
- Unless prior experience with a specific product, conduct a spray compatibility test if tank mixing with other pesticides, surfactants or fertilizers is planned.

POST HARVEST APPLICATION DIRECTIONS:

Howler can be used as a post-harvest dip, drench, fog, or spray application. Product can only be applied to whole fruits and vegetables. Mix Howler to a concentration of 5.0-7.5 lbs/100 gallons of water, wax/emulsion, or an aqueous dilution of wax/oil emulsion, appropriate for the crop being treated. For processing line spray applications apply 0.9 – 1.35 lb per 100,000 lb of fruit in a minimum of 18 gallons of water, wax/emulsion or aqueous dilution of wax oil emulsion.

Maintain agitation after mixing to ensure that Howler remains in suspension. Ensure complete coverage of treated fruit. Fruit coatings can be applied separately after fungicide treatment.

For dip and drench applications, dip fruit into the solution for at least 30 seconds. Allow the fruit to properly drain and dry before proceeding with packing.

CHEMIGATION APPLICATION DIRECTIONS:

TYPES OF IRRIGATION SYSTEMS

Apply this product only through the following types of equipment:

- Sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, big gun or hand move. Drip-type and micro-jet irrigation systems also allowed.

Do not apply this product through any other type of irrigation system.

Maintain agitation during mixing and application to ensure uniform product suspension. Use the application rate indicated in the Crop-Specific Use Directions of this label. Use sufficient water to achieve thorough coverage.

UNIFORM WATER DISTRIBUTION AND SYSTEM CALIBRATION

The chemigation system must provide uniform distribution of treated water. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. The chemigation system must be calibrated to uniformly apply the rates specified in the crop-specific label sections. If you have questions about calibration, you should contact local State Extension Service specialists, equipment manufacturers or other experts.

CHEMIGATION MONITORING

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.

REQUIRED SYSTEM SAFETY DEVICES

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

USING WATER FROM PUBLIC WATER SYSTEMS

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.

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. Chemigation systems connected to public water systems must contain a functional reduced-pressure zone (RPZ) backflow preventer 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 waste 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 quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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. 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. 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. Do not apply when wind speed favors drift beyond the area intended for treatment.

INJECTION FOR CHEMIGATION

Inject the specified dosage of Howler® into the irrigation main water stream: (1) through a constant flow meter device; (2) into the center of the main line flow via a pivot tube or equivalent; (3) at a point ahead of at least one right-angle turn in the mainstream flow such that thorough mixing with the irrigation water is ensured.

CENTER PIVOT, LATERAL MOVE, END TOW, BIG GUN AND TRAVELER IRRIGATION EQUIPMENT (USE ONLY WITH ELECTRIC OR OIL HYDRAULIC DRIVE SYSTEMS THAT PROVIDE A UNIFORM WATER DISTRIBUTION)

- Determine the size of area to be treated.
- Determine the time required to apply no more than ¼ inch of water (6,750 gallons water per acre) over the area to be treated when the system and injection equipment are operated at normal pressures specified by the equipment manufacturer. Run system at 80 to 95% of manufacturer's rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Howler required to treat area.
- Add required amount of Howler and sufficient water to meet the injection time requirements of the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until Howler solution has cleared the sprinkler head.

SOLID SET, SIDE (WHEEL) ROLL AND HAND MOVE IRRIGATION EQUIPMENT

- Determined acreage covered by sprinkler
- Fill injector solution tank with water and adjust flow rate to use contents over a 10 to 30 minute interval
- Determine the amount of Howler® required to treat area.

- Add the required amount of Howler into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures specified by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Howler at the end of the irrigation cycle or as a separate application to maximize foliar fungicide retention.
- Stop injection equipment after treatment is completed. Continue to operate the system until Howler solution has cleared the last sprinkler head.

FLUSHING AND CLEANING THE CHEMICAL INJECTION SYSTEM

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

In order to apply pesticides accurately, the chemical injection system must be dept clean and free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

SPRAY DRIFT MANAGEMENT:

The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Consult the local Cooperative Extension for additional information. Avoiding spray drift is the responsibility of the applicator.

DROPLET SIZE

Use the largest droplet size that provides sufficient control and coverage. Higher flow nozzles and lower pressures will product larger droplets and minimize drift. Low drift and air induction nozzles will provide lower drift potential. Use larger droplet size when applying in hot, dry conditions (droplet evaporation is higher under these conditions thus reducing the effective droplet size and increasing drift potential).

WIND SPEED

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. Applications during gusty or calm wind conditions should be avoided. However, factors including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. For applications made in-furrow or below soil-level, wind speed restrictions are not applicable.

TEMPERATURE INVERSIONS

Drift potential is high during temperature inversions and applications should be avoided under these conditions. Temperature inversions are common on nights with limited cloud cover and light to no wind. Temperature inversions begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog. If fog is not present, inversions can also be identified by the movement of smoke or dust from a ground source – smoke or dust that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion.

SENSITIVE AREAS
When applying adjacent to residential areas, bodies of water, habitats known to have threatened or endangered species or non-target crops, drift can be minimized to these areas by making the application when the wind direction is away from these areas.

Where states or local authorities have more stringent regulations, they should be observed.

AIRBLAST (AIR ASSIST) APPLICATIONS FOR TREE CROPS AND VINEYARDS
Airblast sprayers carry droplets into the canopy of trees/vines via a radially or laterally directed air stream. Use the following specific drift management practices:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow the spray to go beyond the edge of the cultivated area (i.e. turn off sprayer when turning at end rows).
- Only spray inward toward the orchard or vineyard for applications to outside rows.

AERIAL APPLICATIONS

- Mount the spray boom on the aircraft to minimize drift caused by wing tip vortices.
- The minimum practical boom length should be used and should not exceed 75% of the wingspan or rotor diameter.
- Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety.

SEED TREATMENT USE:

Follow the manufacturer's application instructions for the seed treatment equipment being used.

PRODUCT INFORMATION
Howler® is a fungicide seed dressing for protection against listed soil-borne, seed-borne and early season post-emergence diseases of listed crop plants.

APPLICATION INSTRUCTIONS

- Apply using commercial slurry or mist-type seed treatment equipment.
- Uniform application on seed is necessary to ensure seed safety and best disease protection.
- Dilute product with sufficient water to ensure complete seed coverage.
- Continuous agitation or mixing of the slurry mixture is necessary to prevent settling of the solution.
- Apply to high quality, properly cleaned seed.

USE RESTRICTIONS

- This product does not contain dye. All seed treated with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for humans or feed for animals.
- The Federal Seed Act requires that bags containing seed treated with this product shall be labeled with the following information: "This seed has been treated with *Pseudomonas chlororaphis* strain AFS009. Do not use for food, feed or oil purposes.
- Allow seed to dry before bagging.

Compatibility
It is essential that before using Howler® seed treatment in any tank mixture the compatibility of the mixture be established. Add Howler® at the labeled rate to a clean quart jar containing approximately one-half the amount of water intended for a final slurry application rate. Next, follow with all other tank mix components that will be used in the total slurry application. Add last the remaining balance of water. The total amount of volume is determined by the seed size and how much is necessary to ensure complete and uniform coverage and distribution on the seed, as well as the type of commercial seed treating application equipment that will be used.

Crop	Rate	Diseases Controlled
Brassica Vegetables Bulb Vegetables Cereal Grains Cotton Cucurbit Vegetables Fruiting Vegetables Herbs and Spices Leafy Vegetables Legume Vegetables Non-Grass Forages Oilseeds Peanuts Root and Tuber Vegetables Soybean Turf Ornamental Plants	0.25-7.5 lbs./100 lbs. of seed	Seed and soil-borne fungal diseases related to wilt, root rot, and damping off caused by *Fusarium* spp., *Pythium* spp., *Rhizoctonia* spp., and *Phytophthora* spp.

SOIL APPLICATION DIRECTIONS:

Howler® can be applied to soil either alone or mixed with various registered pest control products and fertilizers. Prior to making field applications of tank mixtures, determine the physical compatibility by mixing a test quantity as described in the Compatibility Testing and Tank Mix Partners section of this label. It is important to maintain agitation of the product mix throughout the application process.

SOIL DRENCH APPLICATIONS

Complete coverage of the root zone and crown are critical for optimum performance. Make a drench application with adequate water volume to drench through the root zone. Make the application prior to infection.

SHANKED-IN AND INJECTED APPLICATIONS

Howler can be applied before planting, at planting or after planting of seed or transplants when using shanked-in and injected application equipment.

TRANSPLANT WATER APPLICATIONS

Howler can be applied at transplanting by drenching the root ball and/or drenching the planting hole with a solution containing Howler.

TRAY DRENCH APPLICATIONS

Transplants can be tray drenched with a solution containing Howler prior to transplanting in the field. Tray drench applications can be made in the greenhouse prior to transplanting to allow root colonization of Howler.

APPLICATIONS IN HYDROPONIC GROWTH SYSTEMS

Howler can be applied in hydroponic growth systems. Follow instructions under greenhouse applications.

BANDED APPLICATIONS

Banded applications can be made after plant emergence. The width of the sprayed band and the width of the unsprayed portion of the row must be considered when calculating the appropriate rate Howler® to apply.

Use the following formula to determine the appropriate rate of Howler to use in a banded application:

$$\frac{\text{spray band width (inches)}}{\text{total row width (inches)}} \times \text{standard foliar rate/A} = \text{banded rate/A}$$

If a 7.5 inch band will be applied to 15 inch rows and the normal foliar application rate is 20 oz/A, use the following example calculation:

$$\frac{\text{7.5 inch band}}{\text{15 inch row}} \times \text{20 oz/A standard foliar rate} = \text{10 oz/A applied in the band.}$$

IN-FURROW APPLICATIONS

Howler can be applied at planting as an in-furrow treatment. Follow the instructions listed in Table 1. In-Furrow Soil Application Rates in the Field. Use the appropriate amount of water for the crop.

TABLE 1. IN-FURROW SOIL APPLICATION RATES IN THE FIELD

Rates for In-Furrow Applications of Howler® Fungicide										
	Row Spacing (inches)									
Product Rate/acre (lbs.)	**12**	**15**	**20**	**22**	**30**	**32**	**36**	**38**	**40**	**72**
	Rate per 1000 row feet (oz wt. of product)									
0.5	0.2	0.2	0.3	0.3	0.5	0.5	0.6	0.6	0.6	1.1
1	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.2	2.2
1.5	0.6	0.7	0.9	1.0	1.4	1.5	1.7	1.7	1.8	3.3
2	0.7	0.9	1.2	1.3	1.8	2.0	2.2	2.3	2.4	4.4
2.5	0.9	1.1	1.5	1.7	2.3	2.5	2.8	2.9	3.1	5.5
3	1.1	1.4	1.8	2.0	2.8	2.9	3.3	3.5	3.7	6.6
3.5	1.3	1.6	2.1	2.4	3.2	3.4	3.9	4.1	4.3	7.7
4	1.5	1.8	2.5	2.7	3.7	3.9	4.4	4.7	4.9	8.8
4.5	1.7	2.1	2.8	3.0	4.1	4.4	5.0	5.2	5.5	9.9
5	1.8	2.3	3.1	3.4	4.6	4.9	5.5	5.8	6.1	11.0
5.5	2.0	2.7	3.3	3.8	5.0	5.5	6.0	6.4	6.6	12.1
6.0	2.4	3.0	3.6	4.2	5.4	6.0	6.6	7.0	7.2	13.2
6.5	2.6	3.2	4.0	4.5	5.8	6.5	7.1	7.6	7.8	14.3
7.0	2.8	3.5	4.2	4.9	6.3	7.0	7.7	8.1	8.4	15.3
7.5	3.0	3.7	4.5	5.2	6.7	7.5	8.2	8.7	9.0	16.5

COMPATIBILITY TESTING AND TANK MIX PARTNERS

COMPATIBILITY AND ORDER OF MIXING

Howler® is physically and biologically compatible with many commonly used pesticides, fertilizers, adjuvants and surfactants, but has not been fully evaluated with all products. To ensure compatibility of tank-mix combinations evaluate them prior to use as follows: Using a suitable container, add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by 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 combination on a small portion of the crop to be treated to ensure that a phytotoxic response does not occur as a result of application.

Do not combine Howler with pesticides, surfactants or fertilizers where there has been no previous experience or use demonstrating they are physically compatible, effective and non-injurious under your specific use conditions. Conduct a compatibility test if no prior experience.

Howler may be tank-mixed with other registered pesticides to enhance plant disease control or suppression. This product cannot be mixed with any product with a prohibition against such mixing. When tank-mixing Howler with other registered pesticides, always read and follow all use directions, restrictions and precautions of both Howler

and the tank-mix partner(s). Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions. Do not exceed label dosage rates.

Product Mixing Instructions

1. Partially fill the spray tank with clean water and begin agitation.
2. Add the specified amount of Howler.
3. Add other appropriately labeled agricultural products if tank mixing.
4. Finish filling the tank to the volume necessary to obtain the proper spray concentration.

It is critical that the spray solution be agitated during mixing and application to assure a uniform suspension. Avoid allowing spray mixture to stand overnight or for prolonged periods of time.

Maintain a spray solution pH between 4.5 and 10.0.

RESTRICTIONS AND LIMITATIONS

- **Crop Rotation Restriction** – None
- **Preharvest Interval (PHI)** – 0 Day
- **Not registered for use in California** on crops marked with an asterisk (*) in **Crop-Specific Use Directions**
- **Do not apply to cut fruit or vegetables**

CROP-SPECIFIC DIRECTIONS

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Berry and small fruit group (for see Grape and Strawberry see Crop-Specific Use Direction Tables) Bayberry Bearberry Bilberry Blackberry Blueberry, highbush Blueberry, lowbush Cranberry, lowbush Cranberry, highbush Currant black Currant, red Elderberry Gooseberry Huckleberry Lingonberry Mulberry Native currant Raspberry, black and red Wild raspberry Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria fruit rot{*} (*Alternaria* spp.) Anthracnose fruit rot{*} (*Colletotrichum* spp.) Bacterial canker{*} (*Pseudomonas* spp.) (suppression) Botrytis blight{*} (*Botrytis* spp.) Charcoal rot{*} (*Macrophomina* spp.) Downy mildew{*} (*Peronospora* spp.) Mummy berry{*} (*Monilinia* spp.) Neopestilotiopsis{*} (*Neopestilotiopsis* spp.) Phomopsis{*} (*Phomopsis* spp.) Powdery mildew{*} (*Sphaerotheca* spp. *Microsphaera* spp. *Podosphaera* spp.) Rust{*} (*Pucciniastrum* spp.) Spur blight{*} (*Didymella* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial canker:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Berries and small fruit subgroups	**Soil Diseases** Armillaria Root Rot{*} (*Armillaria* spp.) Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lb./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Brassica (cole) leafy vegetables Arugula Broccoli, Chinese Broccoli raab Cabbage, Abyssinian Cabbage, Chinese, Bokchoy Cabbage, seakale Collards Cress, garden Cress, upland Kale Mustard greens Radish, leaves Rape greens Rocket, wild Shepherd's purse Turnip greens Watercress Cultivars, varieties, and hybrids of these	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bacterial leaf spot and Bacterial blight{*} (suppression) (*Pseudomonas* spp.) Black rot{*} (*Xanthomonas* spp.) (suppression) Cercospora leaf spot{*} (*Cercospora* spp.) Charcoal rot{*} (*Macrophomina* spp.) Downy mildew{*} (*Peronospora* spp.) Pin rot{*} (*Alternaria* spp.) Powdery mildew{*} (*Erysiphe* spp.) Southern blight{*} (*Sclerotium* spp.) Xanthomonas leaf spot{*} (*Xanthomonas* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Charcoal rot{*} (*Macrophomina* spp.) Clubroot{*} (*Plasmodiophora* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression) White mold{*} (*Sclerotinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Bulb vegetables Chive, fresh leaves Chive, Chinese, fresh leaves Daylily, bulb Elegans hosta Garlic, bulb Garlic, greatheaded, bulb Garlic, serpent, bulb Leek Leek, wild Lily, bulb Onion, Beltsville bunching Onion, bulb Onion, Chinese, bulb Onion, fresh Onion, green Onion, macrostem Onion, pearl Onion, potato bulb Onion, tree, tops Onion, Welsh, tops Shallot, bulb Shallot, fresh leaves Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Bacterial leaf streak{*} (*Pseudomonas* spp.) (suppression) Botrytis neck rot{*} (*Botrytis* spp.) Botrytis leaf blight{*} (*Botrytis squamosa*) Downy mildew{*} (*Peronospora* spp.) Pin rot{*} (*Alternaria* spp.) Powdery mildew{*} (*Erysiphe* spp.) Purple blotch{*} (*Alternaria porri*) Rust{*} (*Puccinia* spp.) Stemphyllium blight{*} (*Stemphyllium* spp.) White rot{*} (*Sclerotium* spp.) Xanthomonas leaf blight{*} (*Xanthomonas* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pink root{*} (*Phoma* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Cereal grains Barley Buckwheat Corn Millet, pearl Millet, proso Oats Popcorn Rice Rye Sorghum (milo) Teosinte Triticale Wheat Wild rice Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Bacterial blight{*} (*Xanthomonas* spp.) (suppression) Net blotch{*} (*Pyrenophora teres*) Powdery mildew{*} (*Blumeria* spp.) Scald{*} (*Rhynchosporium* spp.) Gray leaf spot{*} (*Cercospora* spp.) Northern corn leaf blight{*} (*Exserohilum* spp.) Southern corn leaf blight{*} (*Bipolaris* spp.) Rice blast{*} (*Pyricularia* spp.) Sheath blight{*} (*Rhizoctonia* spp.) Sheath spot{*} (*Rhizoctonia* spp.) Smut{*} (*Tilletia barclayena*) Stem rot{*} (*Sclerotium oryzae*) Stewart's wilt{*} (*Pantoea* spp.) (suppression) Powdery mildew{*} (*Blumeria* spp.) Rust{*} (*Puccinia* spp.) Tan spot{*} (*Pyrenophora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 80 oz. wt./100 gallons water	Begin foliar applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Citrus fruit group Citron Citrus hybrids Grapefruit Kumquat Lemon Lime Orange Pummelo Satsuma mandarin Tangelo Tangerine (mandarin) Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Alternaria decay{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bacterial blast{*} (*Pseudomonas* spp.) Blue and green mold{*} (*Penicillium* spp.) Brown rot{*} (*Phytophthora* spp.) Citrus canker{*} (*Xanthomonas* spp.) Gray mold{*} (*Botrytis* spp.) Greasy spot{*} (*Mycosphaerella* spp.) Melanose{*} (*Diaporthe* spp.) Post bloom fruit drop{*} (*Colletotrichum* spp.) Scab{*} (*Elsinoe* spp.) Septoria spot{*} (*Septoria* spp.) Stem end rot{*} (*Lasiodiplodia* spp.) Sour rot{*} (*Geotrichum* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Application**:** (Alternaria decay, Anthracnose decay, Blue and green molds, Brown rot, Gray mold, Stem end rot, and Sour rot) See instructions for post-harvest applications.

	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}
**Product can only be applied to whole fruits and vegetables.

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Coffee	**Foliar Diseases** Bacterial blight{*} (*Pseudomonas* spp.) (suppression) Coffee berry disease{*} (*Colletotrichum* spp.) Rust{*} (*Hemileia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 80 oz. wt./A (5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Cotton	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Boll rot{*} (*Colletotrichum* spp., *Diplodia* spp., *Physalospora* spp.) Rust{*} (*Puccinia* spp.) Target spot{*} (*Corynespora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin foliar applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Texas root rot{*} (*Phymatotrichum* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Cucurbit vegetables Chayote (fruit) Chinese waxgourd Cucumber Gherkin Gourds Momordica spp.(includes Balsam apple, Balsam pear, Bittermelon, Chinese cucumber) Muskmelon (includes True cantaloupe, Cantaloupe, Casaba, Crenshaw melon, Golden pershaw melon, Honeydew melon, Honey balls, Mango melon, Persian melon, Pineapple melon, Santa Claus melon and Snake melon) Pumpkin Squash, summer (Straightneck squash, Zucchini) Squash, winter (includes Butternut squash, Calabaza, Hubbard squash, Acorn squash, Spaghetti squash) Watermelon Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria leaf spot, rot{*} (*Alternaria* spp.) Angular leaf spot{*} (*Pseudomonas* spp.) (suppression) Anthracnose{*} (*Colletotrichum* spp.) Bacterial fruit blotch{*} (*Acidovorax avenae*) (suppression) Downy mildew{*} (*Pseudoperonospora* spp.) Gray mold{*} (*Botrytis* spp.) Gummy stem blight{*} (*Stagonosporopsis* spp.) Phomopsis fruit rot{*} (*Diaporthe* spp.) Phytophthora blight{*} (*Phytophthora* spp.) Powdery mildew{*} (*Erysiphe* spp. *Sphaerotheca* spp.) Target Spot{*} (*Corynespora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Southern blight{*} (*Athelia/Sclerotium* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression) Vine decline{*} (*Monosporascus* spp.)		

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Fruiting vegetables Bell pepper Cocona Eggplant Okra Pepino Non-bell pepper Tomatillo Tomato Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Anthracnose{*} (*Colletotrichum* spp.) Bacterial canker{*} (*Clavibacter* spp.) (suppression) Bacterial speck{*} (*Pseudomonas* spp.) (suppression) Bacterial spot{*} (*Xanthomonas* spp.) (suppression) Brown spot and Black pit{*} (*Alternaria* spp.) Buckeye rot{*} (*Phytophthora* spp.) Early blight{*} (*Alternaria* spp.) Gray mold{*} (*Botrytis* spp.) Late blight{*} (*Phytophthora* spp.) (suppression) Powdery mildew{*} (*Leveillula* spp.) Southern blight{*} (*Sclerotium* spp.) Target spot{*} (*Corynespora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin foliar applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix

	Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Southern blight{*} (*Sclerotium* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)		or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Grapes	**Foliar Diseases** Black rot{*} (*Guignardia* spp.) Downy mildew{*} (*Plasmopara* spp.) Eutypa{*} (*Eutypa* spp.) Gray mold{*} (*Botrytis* spp.) Phomopsis{*} (*Phomopsis* spp.) Powdery mildew{*} (*Uncinula* spp.) Sour rot complex{*} (Disease complex) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	**Black rot:** begin applications prior to infection and continue on a 5-14 day interval as needed. **Downy mildew:** begin applications before pre-bloom and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Sour rot complex:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Armillaria root rot/Oak root fungus{*} (*Armillaria* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Hemp Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Anthracnose{*} (*Colletotrichum* spp.) Botrytis gray mold{*} (*Botrytis* spp.) Brown blight{*} (*Alternaria* spp.) Charcoal rot{*} (*Macrophomina* spp.) Downy mildew{*} (*Pseudoperonospora* spp.) Hemp canker{*} (*Sclerotinia* spp.) Yellow leaf spot{*} (*Septoria* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Herbs and Spices Allspice Angelica Anise Annatto (seed) Balm (lemon balm) Basil Borage Burnet Chamomile Caper buds Caraway Caraway, black Cardamom Cassia Catnip Celery seed Chervil (dried) Chive Chive, Chinese Cinnamon Clary Clove buds Coriander leaf (cilantro or Chinese parsley) Coriander seed (cilantro) Culantro Cumin Curry (leaf) Dill Fennel (common) Fennel, Florence (seed) Fenugreek Juniper berry Lavender Lemongrass Lovage Mace Marigold Marjoram Mustard (seed) Nutmeg Parsley Pepper Poppy (seed) Rosemary Rue Saffron Sage	**Foliar Diseases** Alternaria leaf blight{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bacterial blight{*} (*Pseudomonas* spp.) (suppression) Gray mold{*} (*Botrytis* spp.) Sclerotinia wilt{*} (*Sclerotinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lb./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

Savory, summer and winter Sweet bay Tarragon Thyme Vanilla Wintergreen Cultivars, varieties, and/or hybrids of these			

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Hops	**Foliar Diseases** Downy mildew{*} (*Peronospora* spp.) Grey mold{*} (*Botrytis* spp.) Powdery mildew{*} (*Sphaerotheca* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Leafy vegetables (except Brassica) Amaranth Arugula Cardoon Celery Celery, Chinese Celtuce Chervil Chrysanthemum, edible-leaved Chrysanthemum, garland Corn salad cress, garden cress, upland Dandelion Dock (sorrel) Endive (escarole) Fennel, Florence Lettuce, head and leaf Orach Parsley Purslane, garden Purslane, winter Radicchio (red chicory) Rhubarb Spinach Spinach, New Zealand Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Anthracnose{*} (*Microdochium* spp.) Bacterial blight/bacterial leaf spot{*} (*Xanthomonas* spp.) (suppression) Botrytis gray mold{*} (*Botrytis* spp.) Cercospora leaf spot{*} (*Cercospora* spp.) Downy mildew{*} (*Bremia* spp., *Peronospora* spp.) Early blight{*} (*Cercospora* spp.) Late blight{*} (*Septoria* spp.) Powdery mildew{*} (*Erysiphe* spp.) Sclerotinia head and leaf drop/Pink rot{*} (*Sclerotinia* spp.) Septoria leaf spot{*} (*Septoria* spp.) Spinach bacterial leaf spot{*} (*Pseudomonas* spp.) White rust{*} (*Albugo* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Sclerotinia wilt{*} (*Sclerotinia* spp.) Southern blight{*} (*Athelia* spp.) Verticillium wilt{*} (*Verticillium* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Legume vegetables (succulent and dried beans and peas, except soybean) Asparagus Bean (Lupinus spp.) (includes Grain Lupin, Sweet lupin, White lupin, and White sweet upin) Bean (Phaseolus spp.) (includes Field bean, Kidney bean, Lima bean, Navy bean, Pinto bean, Runner bean, Snap bean, Tepary bean, Wax bean) Bean (Vigna spp.) (includes Adzuki bean, Asparagus bean, Blackeyed pea, Catjang, Chinese longbean, Cowpea, Crowder pea, Moth bean, Mung bean, Rice bean, Southern pea, Urd bean, Yardlong bean) Broad bean (fava bean) Chickpea (garbanzo bean) Lentil Pea (Pisum spp.) (includes Dwarf pea, Edible-pod pea, English pea, Field pea, Garden pea, Green pea, Snowpea, Sugar snap pea) Pigeon pea All above in both succulent and dry form. Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria blight{*} (*Alternaria* spp.) Angular leaf spot{*} (*Pseudocercospora* spp.) Anthracnose{*} (*Colletotrichum* spp.) Ascochyta blight{*} (*Ascochyta* spp.) Asian soybean rust{*} (*Phakospora* spp.) Bacterial brown spot/halo blight{*} (*Pseudomonas* spp.) (suppression) Bacterial pustule{*} (*Xanthomonas* spp.) (suppression) Botrytis gray mold{*} (*Botrytis* spp.) Cercospora leaf spot{*} (*Cercospora* spp.) Downy mildew{*} (*Peronospora* spp.) Gray mold{*} (*Botrytis* spp.) Powdery mildew{*} (*Erysiphe* spp.) Southern blight{*} (*Athelia* spp.) Rust{*} (*Uromyces* spp., *Puccinia* spp.) Web blight{*} (*Rhizoctonia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	White mold/Sclerotinia stem rot{*} (*Sclerotinia* spp.)		
	Soil Diseases Aphanomyces root rot{*} (*Aphanomyces* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Southern blight{*} (*Athelia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression) White mold/Sclerotinia stem rot{*} (*Sclerotinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Mint	**Foliar Diseases** Downy mildew{*} (*Peronospora* spp.) Powdery mildew{*} (*Erysiphe* spp.) Rust{*} (*Puccinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Nongrass Animal Feeds for forage, fodder, straw and hay Alfalfa Bean, velvet Clover (Trifolium spp., Melilotus spp.) Kudzu Lespedeza Lupin Sainfoin Trefoil Vetch Vetch, crown Vetch, milk	**Foliar Diseases** Anthracnose{*} (*Colletotrichum* spp.) Bacterial wilt{*} (*Clavibacter* spp.) (suppression) Common leaf spot{*} (*Leptosphaerulina* spp.) Downy mildew{*} (*Peronospora* spp.) Powdery mildew{*} (*Erysiphe* spp.) Rhizoctonia blight{*} (*Rhizoctonia* spp.) Rust{*} (*Puccinia* spp.) Spring black stem and Leaf spot{*} (*Phoma* spp.) White mold/Sclerotinia crown and stem rot{*} (*Sclerotinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Aphanomyces root rot{*} (*Aphanomyces* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Oilseed crops (except cotton and peanut) Castor oil plant Chinese tallowtree Cottonseed Crambe Cuphea Echium Euphorbia Evening primrose Flax seed Jojoba Milkweed Mustard seed Poppy seed Rapeseed Rose hip Safflower Sesame Sunflower Sweet rocket Tallowwood Tea oil plant Vernonia Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Bacterial black rot{*} (*Xanthomonas* spp.) (suppression) Bacterial leaf spot{*} (*Pseudomonas* spp.) (suppression) Blackleg{*} (*Leptosphaeria* spp.) Blackspot{*} (*Alternaria* spp.) Cercospora leaf spot{*} (*Cercospora* spp.) Pasmo{*} (*Septoria* spp.) Powdery mildew{*} (*Erysiphe* spp.) Rust{*} (*Puccinia* spp., *Uromyces* spp.) Septoria leaf spot{*} (*Septoria* spp.) White mold/Sclerotinia crown and stem rot{*} (*Sclerotinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Clubroot{*} (*Plasmodiophora* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Olives	**Foliar Diseases** Mycocentrospora{*} (*Mycocentrospora* spp.) Olive knot{*} (*Pseudomonas* spp.) (suppression) Peacock spot{*} (*Spilcaea* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Peanut	**Foliar Diseases** Alternaria leaf blight/leaf spot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Aspergillus crown rot{*} (*Aspergillus* spp.) Botrytis blight{*} (*Botrytis* spp.) Cylindrocladium black rot/leaf spot{*} (*Cylindrocladium* spp.) Early leaf spot{*} (*Cercospora* spp.) Late leaf spot{*} (*Cercosporidium* spp.) Rust{*} (*Puccinia* spp.) Southern blight/stem rot{*} (*Sclerotium* spp.) Web blotch{*} (*Phoma* spp.) White mold{*} (*Sclerotium* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 7-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Aspergillus crown rot{*} (*Aspergillus* spp.) Cylindrocladium black rot{*} (*Cylindrocladium* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Pythium damping off{*} (*Pythium* spp.) Rhizoctonia limb rot{*} (*Rhizoctonia* spp.) Southern blight/stem rot{*} (*Sclerotium* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression) White mold{*} (*Sclerotium* spp.)		

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Pome Fruits Apple Crabapple Loquat Mayhaw Pear Pear, oriental Quince	**Foliar Diseases** Alternaria blotch{*} (*Alternaria* spp.) Alternaria decay{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bitter rot{*} (*Colletotrichum* spp.) Bot rot{*} (*Botryosphaeria* spp.) Botrytis gray mold{*} (*Botrytis* spp.) Brooks spot{*} (*Mycosphaerella* spp.) Bull's eye rot{*} (*Neofabraea* spp.) Cedar apple rust{*} (*Gymnosporangium* spp.) Fire blight{*} (*Erwinia* spp.) Flyspeck{*} (*Schizothyrium* spp.) Penicillium decay{*} (*Penicillium* spp.) Powdery mildew{*} (*Podosphaera* spp.) Scab{*} (*Venturia* spp.) Sooty blotch{*} (*Gloeodes* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5–14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Post-Harvest Application**:** (Alternaria decay, Anthracnose, Bot rot, Bull's eye rot, Flyspeck, Gray mold, Penicillium decay, Sooty blotch). See instructions for post-harvest applications.)

	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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**Product can only be applied to whole fruits and vegetables.

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Pomegranate	**Foliar Diseases** Alternaria fruit rot/Black heart{*} (*Alternaria* spp.) Aspergillus fruit rot{*} (*Aspergillus* spp.) Botrytis gray mold{*} (*Botrytis* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	**Alternaria fruit rot/Black heart and Botrytis gray mold:** begin applications prior to infection and continue on a 7-10 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Application**:** (Alternaria rot, Aspergillus fruit rot, Gray mold) See instructions for post-harvest applications.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 80 oz. wt./A (5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Root and Tuber vegetables Arrowroot Artichoke, Chinese Artichoke, Jerusalem Beet, garden Beet, sugar Burdock, edible; Canna, edible Carrot Cassava, bitter and sweet Celeriac (celery root) Chayote (root) Chervil, turnip-rooted Chicory Chufa Dasheen (taro) Ginger Ginseng Horseradish Parsley, turnip-rooted Parsnip Potato Radish Radish, oriental (daikon) Rutabaga Salsify Sweet potato Tanier (cocoyam) Turmeric Turnip Yam Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Aerial stem rot{*} (*Erwinia* spp.) (suppression) Alternaria leaf spot{*} (*Alternaria* spp.) Bacterial leaf spot/Leaf blight{*} (*Xanthomonas* spp.) (suppression) Bacterial soft rot{*} (*Dickeya* spp.) Black dot{*} (*Colletotrichum* spp.) Black rot/Black crown rot{*} (*Alternaria* spp.) Gray mold{*} (*Botrytis* spp.) Brown spot and black pit{*} (*Alternaria* spp.) Cercospora leaf spot{*} (*Cercospora* spp.) Downy mildew{*} (*Peronospora* spp.) Early blight{*} (*Alternaria* spp.) Fusarium rot{*} *(Fusarium* spp.*)* Late blight{*} (*Phytophthora* spp.) (suppression) Penicillium rot{*} (*Penicillium* spp.) Powdery Mildew{*} (*Erysiphe* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Application**:** (Bacterial soft rot, Black rot Fusarium rot ,Penicillium rot, Rhizopus rot) See instructions for post-harvest applications.

	Rhizoctonia stem canker crown rot and rot {*} (*Rhizoctonia* spp.) White mold{*} (*Sclerotinia* spp.)		
	Soil Diseases Black rot of sweet potato{*} (*Ceratocystis* spp.) Black scurf{*} (*Rhizoctonia* spp.) Cavity spot{*} (*Pythium* spp.) Common scab{*} (*Streptomyces* spp.) Cottony soft rot{*} (*Sclerotinia* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Powdery scab{*} (*Spongospora* spp.) Pythium damping off{*} (*Pythium* spp.) Silver scurf{*} (*Helminthosporium* spp.) Sclerotium stem rot{*} (*Sclerotium* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Broadcast, Drip and Drench Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Potato seed Piece Treatment:** Apply 0.25 – 0.5 lb./CTW of seed pieces **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Soybean (including **Edamame)**	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Asian soybean rust{*} (*Phakospora* spp.) Bacterial pustule{*} (*Xanthomonas* spp.) (suppression) Botrytis gray mold{*} (*Botrytis* spp.) Brown spot{*} (*Septoria* spp.) Downy mildew{*} (*Peronospora* spp.) Charcoal rot{*} (*Macrophomina* spp.) Frogeye leaf spot{*} (*Cercospora* spp.) Powdery mildew{*} (*Erysiphe* spp., *Microsphaera* spp.) Rhizoctonia aerial blight and web blight{*} (*Rhizoctonia* spp.) Rust{*} (*Uromyces* spp., *Puccinia* spp.) Target spot{*} (*Corynespora* spp.) White mold{*} (*Sclerotinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Aphanomyces root rot{*} (*Aphanomyces* spp.) Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Sudden death syndrome{*} (*Fusarium* spp.) (suppression) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Stone Fruits Apricot Apricot, Japanese Capulin Cherry, black Cherry, Nanking Cherry, sweet Cherry, tart Jujube, Chinese Nectarine Peach Plum Plum, Plumcot Sloe Cultivars, varieties, and/or hybrids of these	**Foliar Diseases** Alternaria spot/Fruit rot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bacterial canker{*} (*Pseudomonas* spp.) Bacterial leaf spot/bacterial spot{*} (*Xanthomonas* spp.) (suppression) Blossom blight{*} (*Monilinia* spp.) Blue mold{*} (*Penicillium* spp.) Botrytis gray mold{*} (*Botrytis* spp.) Brown rot of fruit{*} (*Monilinia* spp.) Cherry leaf spot{*} (*Blumeriella* spp.) Gibertella rot{*} (*Gibertella* spp.) Powdery mildew{*} (*Sphaerotheca* spp., *Podosphaera* spp.) Rhizopus rot{*} (*Rhizopus* spp.) Rusty spot{*} (*Podosphaera* spp.) Scab{*} (*Cladosporium* spp.) Shot hole{*} (*Wilsonomyces* spp.) Sour rot{*}	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Application**:** (Blue mold, Botrytis gray mold, Brown rot, Gibertella rot, Rhizopus rot, Sour rot) See instructions for post-harvest applications.

	(*Geotrichum* spp.)		
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}
**Product can only be applied to whole fruits and vegetables.

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Strawberry	**Foliar Diseases** Alternaria fruit rot/black leaf spot{*} (*Alternaria* spp.) Angular leaf spot{*} (*Xanthomonas* spp.) (suppression) Anthracnose{*} (*Colletotrichum* spp.) Botrytis gray mold{*} (*Botrytis* spp.) Charcoal rot{*} (*Macrophomina* spp.) Common leaf spot{*} (*Mycosphaerella* spp.) Downy mildew{*} (*Peronospora* spp.) Leaf scorch{*} (*Diplocarpon* spp.) Leather rot{*} (*Phytophthora* spp.) Pestalotiopsis leaf spot, root and crown rot{*} (*Neopestalotiopsis* spp.) Powdery mildew{*} (*Sphaerotheca* spp., *Erysiphe* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Black root rot{*} (Disease complex) Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

*Not registered for use in California

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Sugarcane	**Foliar Diseases** Brown rust{*} (*Puccinia* spp.) Orange rust{*} (*Puccinia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pineapple set rot{*} (*Ceratocystis* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Tobacco	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp.) Angular leaf spot{*} (*Pseudomonas* spp.) (suppression) Anthracnose{*} (*Colletotrichum* spp.) Barnspot/Frogeye leaf spot{*} (*Cercospora* spp.) Brown spot{*} (*Alternaria* spp.) Blue mold{*} (*Peronospora* spp.) Botrytis gray mold{*} (*Botrytis* spp.) Collar rot{*} (*Sclerotinia* spp.) Powdery mildew{*} (*Erysiphe* spp.) Target spot{*} (*Rhizoctonia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

	Soil Diseases Black root rot{*} (*Thielaviopsis* spp.) Black shank{*} (*Phytophthora* spp.) Charcoal rot{*} (*Macrophomina* spp.) Fusarium wilt{*} (*Fusarium* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Southern blight{*} (*Sclerotium* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

{*Not registered for use in California}

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Tree Nuts Almond Beechnut Brazil nut Butternut Candlenut Cashew Chestnut Coconut Ginkgo Hazelnut (filbert) Hickory nut Japanese horse-Chestnut Macadamia nut Pecan Pine nut Pistachio Walnut Cultivars varieties, and/or hybrids of these	**Foliar Diseases** Almond scab{*} (*Cladosporium* spp.) Alternaria leaf spot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bacterial canker{*} (*Pseudomonas* spp.) (suppression) Bacterial spot{*} (*Xanthomonas* spp.) (suppression) Botryosphaeria blight{*} (*Botryosphaeria* spp.) Botrytis gray mold{*} (*Botrytis* spp.) Blossom blight/Brown rot{*} (*Monilinia* spp.) Hull rot{*} (*Sclerotinia* spp.) Pecan scab{*} (*Cladosporium* spp.) Shot hole{*} (*Wilsonomyces* spp.) Walnut blight{*} (*Xanthomonas* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Watercress	**Foliar Diseases** Cercospora leaf spot{*} (*Cercospora* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

TROPICAL FRUITS

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Avocado and Mango	**Foliar Diseases** Alternaria leaf spot{*} (*Alternaria* spp) Anthracnose{*} (*Colletotrichum* spp.) Branch canker{*} (*Botryosphaeria* spp.) Cercospora spot{*} (*Pseudocercospora* spp.) Fruit rot{*} (*Botrytis* spp.) Powdery mildew{*} (*Oidium* spp.) Rusty spot{*} (*Colletotrichum* spp.) Bacterial canker{*} (*Xanthomonas* spp.) (suppression) Scab{*} (*Sphaceloma* spp.) Stem end rot{*} (*Lasiodiplodia* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5–14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Applications**:** (*Anthracnose,* Stem and end rot) See instructions for post-harvest applications
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot/crown rot{*} (*Phytophthora* spp.) Pythium damping off/root rot{*} (*Pythium* spp.) Rhizoctonia seed/root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

**Product can only be applied to whole fruits and vegetables.

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Bananas and Plantains	**Foliar Diseases** Anthracnose{*} (*Colletotrichum* spp.) Black sigatoka{*} (*Mycosphaerella* spp.) Blood disease{*} (*Pseudomonas* spp.) (suppression) Brown blotch{*} (*Pestalotiopsis* spp.) Brown blotch{*} (*Neopestilotiopsis* spp.) Yellow Sigatoka{*} (*Mycosphaerella* spp.) Fruit rot{*} (*Thelaviopsis* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Applications**:** (*Anthracnose* and fruit rot) See instructions for post-harvest applications.
	Soil Diseases Bacterial wilt{*} (*Pseudomonas* spp.) (suppression) Fusarium wilt / Panama disease{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Kiwifruit	**Foliar Diseases** Bacterial blight{*} (*Pseudomonas* spp.) (suppression) Botrytis fruit rot / Gray mold{*} (*Botrytis* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Applications**:** (Botrytis Grey mold) See instructions for post-harvest applications
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

**Product can only be applied to whole fruits and vegetables.

CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Papaya	**Foliar Diseases** Alternaria fruit rot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Bacterial leaf spot{*} (*Pseudomonas* spp.) (suppression) Botrytis Gray mold{*} (*Botrytis* spp.) Black rot / Bacterial canker{*} (*Erwinia s*pp.) (suppression) Chocolate spot{*} (*Colletotrichum* spp.) Powdery mildew{*} (*Erysiphae, Oidium, Sphaerotheca* spp.) Fruit rots caused by *Ascochyta, Aspergillus, Fusarium, Penicillium,* and *Rhizopus* spp.{*}	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Applications****: *Anthracnose*, Botrytis Gray mold, and fruit rots caused by *Ascochyta*, *Aspergillus, Colletotrichum Fusarium, Penicillium*, Rhizopus rots. See instructions for post-harvest applications.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

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CROP-SPECIFIC DIRECTIONS *(CONTINUED)*

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Pineapple	**Foliar Diseases** Anthracnose{*} (*Colletotrichum* spp.) Black rot{*} (*Ceratocystis* spp.) Bacterial heart rot{*} (*Erwinia* spp.) (suppression) Penicillium rots{*} (*Penicillium* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. **Bacterial diseases:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases. **Post-Harvest Applications**:** Black rot, Penicillium rots See instructions for post-harvest applications.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root and heart rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

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TURF AND ORNAMENTALS

ORNAMENTAL-SPECIFIC DIRECTIONS

GREENHOUSE, LATHHOUSE, SHADEHOUSE, NURSERY AND FIELD			
CROP	**TARGET DISEASES**	**PRODUCT USE RATE PER APPLICATION**	**APPLICATION DIRECTIONS**
All types of Ornamental Trees, Shrubs, Flowers, Bedding Plants and other Ornamentals Annuals and Perennials Bedding Plants Container Grown Plants Deciduous Trees and Shrubs Evergreen Trees and Shrubs Foliage Plants Ground Covers Palms Potted Flowers Tropical Foliage Woody Ornamentals	**Foliar Diseases** Alternaria Leaf Spot{*} (*Alternaria* spp.) Anthracnose{*} (*Colletotrichum* spp.) Aerial Shoot Blight{*} (*Phytophthora* spp.) Black Spot of Rose{*} (*Diplocarpon* spp.) Downy mildew{*} (*Peronospora* spp. *Plasmopara* spp., *Bremiella* spp., *Bremia* spp.) Grey mold{*} (*Botrytis* spp.) Powdery Mildew{*} (*Erysiphe* spp., *Microsphaera* spp., *Sphaerotheca* spp., *Oidium* spp., *Podosphaera* spp., *Uncinula* spp.)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt{*} (*Fusarium* spp.) Phytophthora root rot{*} (*Phytophthora* spp.) Pythium damping off{*} (*Pythium* spp.) Rhizoctonia root rot{*} (*Rhizoctonia* spp.) Verticillium wilt{*} (*Verticillium* spp.) (suppression)	**Field Applications** 40-120 oz. wt./A (2.5-7.5 lbs./A) **Greenhouse Applications** 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. Begin applications at planting and continue on a 5-14 day interval. **Verticillium wilt:** Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.

{*Not registered for use in California}

ORNAMENTAL-SPECIFIC DIRECTIONS (*CONTINUED*)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Grasses grown for seed and sod production Bluegrass Bromegrass Fescue Orchard grass Ryegrass Switchgrass	Anthracnose{*} (*Colletotrichum* spp.) Brown Patch{*} (*Rhizoctonia* spp.) Dollar Spot{*} (*Sclerotinia* spp.) Ergot{*} (*Claviceps* spp.) Powdery mildews{*} (*Erysiphe* spp.) Pythium Blight{*} (*Pythium* spp.) Pythium Root Rot{*} (*Pythium* spp.) Rusts{*} (*Puccinia* spp.) Septoria leaf spots{*} (*Septoria* spp.) Selenophoma stem eyespot{*} (*Selenophoma* spp.)	**Field Applications** 40-120 oz wt./A (2.5-7.5 lbs./A)	Begin foliar applications prior to infection and continue on a 5–14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.

{*Not registered for use in California}

TURF-SPECIFIC DIRECTIONS

TURF AND TURF PRODUCTION APPLICATIONS:

Apply Howler® on all warm and cool season turfgrass species including Bentgrass, Bermudagrass, Bluegrass, Centipedegrass, Fescue, Ryegrass, Saint Augustinegrass, Zoysia grass, Seashore Paspalum and *Poa annua*. Howler® can be applied on greens, tees, fairways and roughs, sports turf, parks cemeteries, commercial turf, roadsides, sod farms, seed production grasses and all ornamental grass species.

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Turf Bentgrass Bermudagrass Bluegrass Centipedegrass Fescue Ryegrass St. Augustinegrass Zoysiagrass	Anthracnose{*} (*Colletotrichum* spp.) Brown Patch{*} (*Rhizoctonia* spp.) Dollar Spot{*} (*Clariredia* spp.) Pythium Blight{*} (*Pythium* spp.) Pythium Root Rot{*} (*Pythium* spp.)	1.8 oz wt./ 1000 sq. ft.	Begin foliar applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.

{*Not registered for use in California}

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in original containers only. Store in a cool, dry place and avoid excess heat. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

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

CONTAINER HANDLING

For Plastic Drums/Totes: Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into formulation equipment. Recycle if facilities for recycling are available, otherwise, dispose of in a sanitary landfill or by incineration. If drum/tote is contaminated and cannot be reused, dispose of it in the manner required for its liner.

For Bags/Pouches: Nonrefillable container. Do not reuse or refill this container. Completely empty bag or pouch into formulation equipment. Recycle if facilities for recycling are available, otherwise, 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.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the unopened product at once, and the purchase price will be refunded.

The Directions for Use of this product are believed to be adequate and must be followed carefully. It is impossible to eliminate all risk inherently associated with the use of this product. Plant injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, plant conditions, presence of other materials or other unknown factors, all of which are beyond the control of {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or Seller. All such risks shall be assumed by the Buyer or User. To the extent consistent with applicable law, Buyer and User agree to hold {AFS009 Plant Protection, Inc.} and Seller harmless for any claims relating to such factors.

{AFS009 Plant Protection, Inc.} warrants that this product conforms to the description on this label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal use conditions. To the extent consistent with applicable law, (1) this warranty does not extend to the use of this product contrary to this label or under conditions not reasonably foreseeable to or beyond the control of the {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or Seller, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, {AFS009 PLANT PROTECTION, INC.} MAKES NO 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, THE EXCLUSIVE REMEDY OF THE BUYER OR USER AND THE EXCLUSIVE LIABILITY OF {AFS009 PLANT PROTECTION, INC.} {AGBIOME INNOVATIONS, INC.} AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF {AFS009 PLANT PROTECTION, INC.} {AGBIOME INNOVATIONS, INC.} OR SELLER, THE REPLACEMENT OF PRODUCT.

To the extent consistent with applicable law, {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or the Seller shall not be liable for consequential, special, or indirect damages resulting from the use, handling, application, storage, or disposal of this product or for damages in the nature of penalties, and the Buyer and the User waive any right that they may have to such damages.

To the extent consistent with applicable law, {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or Seller must have prompt notice of any claims so that an immediate inspection of Buyer's or User's growing crops can be made. Buyer and User shall promptly notify {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or Seller of any claims, whether based on contract, negligence, strict liability, or other tort or otherwise be barred from any remedy.

{AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability.

No agent or employee of {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or Seller is authorized to make any warranties beyond those contained herein, to modify the warranties contained herein, to amend the terms

of this Conditions of Sale and Limitation of Warranty and Liability or the product's label or to make a presentation or recommendation different from or inconsistent with the label of this product.

{AFS009 Plant Protection, Inc.} 104 T.W. Alexander Drive, Research Triangle Park, NC 27709 manufactures this product for AgBiome Innovations, Inc.}

Sublabel B: Turf & Ornamental Use

HOWLER fungicide

{dry flowable fungicide} {fungicide}

{For Use in Organic Lawn Care} {Can Be Used in Organic Lawn Care}

OMRI LISTED For Organic Use

{ }

Active Ingredient: *Pseudomonas chlororaphis* strain AFS009†	50.0%
Other Ingredients:	50.0%
Total:	100.0%

† Contains not less than 1 X 10^6 CFU/g of product.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE INSIDE FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

FIRST AID	
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for 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.
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 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 by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOTLINE NUMBER Have the product container or label with you when calling a poison control center or doctor. You may also contact 1-800-262-8200 for emergency medical treatment information.	

EPA Reg. No.: 91197-3
Net Weight: XX
({Batch}/{Lot}) No: XXXX

EPA Est. No.: XXXXX-XX-XXX

Manufactured by:
AFS009 Plant Protection, Inc.
104 T.W. Alexander Drive
Research Triangle Park, NC 27709

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if inhaled, absorbed through the skin, or swallowed. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- protective eyewear
- waterproof gloves
- shoes plus socks

Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH approved elastomeric particulate respirator with any R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter. (Repeated exposures 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 are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS

When handlers use closed systems, or enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.607(d) and (e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

USER SAFETY RECOMMENDATIONS

- Users should remove clothing/PPE immediately if pesticide is gets inside. The user should wash thoroughly and put on clean clothing.
- Users should 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.

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 hight water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

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 exceptions pertaining to the statements on the label about personal protective equipment (PPE), and restricted-entry interval. 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.

Exception: If the product is soil incorporated or soil injected, 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.

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

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.

Product Information: Howler® is a biological fungicide containing the active ingredient *Pseudomonas chlororaphis* strain AFS009 for use on growing plants and crops to control or suppress plant diseases a wide range of foliar, soil borne, and post-harvest diseases. Howler® may be mixed with water and applied in field, greenhouse, interiorscape, lathhouse, nursery, or shadehouse use sites as: a foliar spray; soil drench; in furrow spray; transplant spray or dip; or chemigation application. It may also be mixed with potting mix or applied dry in furrow. Product can only be applied to whole fruits and vegetables.

PREVENTATIVE APPLICATIONS FOR PLANT HEALTH AND OPTIMUM DISEASE CONTROL

Howler® provides benefits that can result in healthier plants. Howler colonizes plants preventing the establishment of disease-causing fungi and bacterial. Improved plant health may help the treated plant tolerate environmental stresses such as drought, heat and cold temperatures and ozone damage. Overall increased plant health may improve crop vigor, yield and quality especially under stressful conditions.

- Apply Howler as a soil application or foliar spray alone, in alternating spray programs or in tank mixes with other registered crop protection products.
- Apply Howler with spray equipment commonly used for making ground, aerial and chemigation applications.
- Adjust the spray intervals of Howler according to the Crop-Specific Use Directions tables depending upon disease pressure and environmental conditions favorable for disease development. Heavy rainfall or irrigation shortly after application may require retreatment.
- To enhance performance, consider adding a surfactant that is known to be safe to the target crop to the spray tank to improve penetration and coverage of above-ground portions of the plant.
- Howler is most effectively used in a preventative disease management program.

FUNGICIDE RESISTANCE MANAGEMENT AND IPM:

The PPE requirements below pertain to both Worker Protection Standard (WPS uses (in general, agricultural plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Howler is classified as a FRAC group BM02 Fungicide (multiple modes of action and low resistance risk).

Howler can be used in tank mixes or rotations to reduce the risk of resistance to other fungicides.

Integrate Howler into an overall disease and pest management strategy. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your location and crop(s).

USE INSTRUCTIONS:

Howler® has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

Mixing directions:
Important: Do not add Howler® to the mix tank before introducing the correct amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding Howler®. Maintain circulation while loading and spraying. Do not mix more Howler® than can be used in 24 hours.

Spray volume
For in furrow spray applications, use at least 5 gallons of total volume per acre in water-based sprays.

Tank mixing
Do not combine Howler® in the spray tank with other pesticides, surfactants, 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. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

To ensure compatibility of tank-mix combinations, they must be evaluated prior to use. To determine the physical compatibility of this product with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

CHEMIGATION APPLICATION DIRECTIONS:

TYPES OF IRRIGATION SYSTEMS

Apply this product only through the following types of equipment:

- Sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, big gun or hand move. Drip-type and micro-jet irrigation systems also allowed.

Do not apply this product through any other type of irrigation system.

Maintain agitation during mixing and application to ensure uniform product suspension. Use the application rate indicated in the Crop-Specific Use Directions of this label. Use sufficient water to achieve thorough coverage.

UNIFORM WATER DISTRIBUTION AND SYSTEM CALIBRATION

The chemigation system must provide uniform distribution of treated water. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. The chemigation system must be calibrated to uniformly apply the rates specified in the crop-specific label sections. If you have questions about calibration, you should contact local State Extension Service specialists, equipment manufacturers or other experts.

CHEMIGATION MONITORING

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.

REQUIRED SYSTEM SAFETY DEVICES

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

USING WATER FROM PUBLIC WATER SYSTEMS

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.

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. Chemigation systems connected to public water systems must contain a functional reduced-pressure zone (RPZ) backflow preventer 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 waste 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 quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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. 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. 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.

INJECTION FOR CHEMIGATION

Inject the specified dosage of Howler® into the irrigation main water stream: (1) through a constant flow meter device; (2) into the center of the main line flow via a pivot tube or equivalent; (3) at a point ahead of at least one right-angle turn in the mainstream flow such that thorough mixing with the irrigation water is ensured.

CENTER PIVOT, LATERAL MOVE, END TOW, BIG GUN AND TRAVELER IRRIGATION EQUIPMENT (USE ONLY WITH ELECTRIC OR OIL HYDRAULIC DRIVE SYSTEMS THAT PROVIDE A UNIFORM WATER DISTRIBUTION)

- Determine the size of area to be treated.
- Determine the time required to apply no more than ¼ inch of water (6,750 gallons water per acre) over the area to be treated when the system and injection equipment are operated at normal pressures specified by the equipment manufacturer. Run system at 80 to 95% of manufacturer's rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Howler required to treat area.
- Add required amount of Howler and sufficient water to meet the injection time requirements of the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until Howler solution has cleared the sprinkler head.

SOLID SET, SIDE (WHEEL) ROLL AND HAND MOVE IRRIGATION EQUIPMENT

- Determined acreage covered by sprinkler
- Fill injector solution tank with water and adjust flow rate to use contents over a 10 to 30 minute interval
- Determine the amount of Howler® required to treat area.

- Add the required amount of Howler into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures specified by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Howler at the end of the irrigation cycle or as a separate application to maximize foliar fungicide retention.
- Stop injection equipment after treatment is completed. Continue to operate the system until Howler solution has cleared the last sprinkler head.

FLUSHING AND CLEANING THE CHEMICAL INJECTION SYSTEM

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

In order to apply pesticides accurately, the chemical injection system must be dept clean and free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

SPRAY DRIFT MANAGEMENT:

The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Consult the local Cooperative Extension for additional information. Avoiding spray drift is the responsibility of the applicator.

DROPLET SIZE

Use the largest droplet size that provides sufficient control and coverage. Higher flow nozzles and lower pressures will product larger droplets and minimize drift. Low drift and air induction nozzles will provide lower drift potential. Use larger droplet size when applying in hot, dry conditions (droplet evaporation is higher under these conditions thus reducing the effective droplet size and increasing drift potential).

WIND SPEED

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. Applications during gusty or calm wind conditions should be avoided. However, factors including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. For applications made in-furrow or below soil-level, wind speed restrictions are not applicable.

TEMPERATURE INVERSIONS

Drift potential is high during temperature inversions and applications should be avoided under these conditions. Temperature inversions are common on nights with limited cloud cover and light to no wind. Temperature inversions begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog. If fog is not present, inversions can also be identified by the movement of smoke or dust from a ground source – smoke or dust that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion.

SENSITIVE AREAS

When applying adjacent to residential areas, bodies of water, habitats known to have threatened or endangered species or non-target crops, drift can be minimized to these areas by making the application when the wind direction is away from these areas.

Where states or local authorities have more stringent regulations, they should be observed.

AERIAL APPLICATIONS

- Mount the spray boom on the aircraft to minimize drift caused by wing tip vortices.
- The minimum practical boom length should be used and should not exceed 75% of the wingspan or rotor diameter.
- Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety.

TARGET PLANT DISEASES

Aerial Blight{*} *(Rhizoctonia* spp., *Sclerotinia*)
Anthracnose{*} *(Colletotrichum graminicola)*
Botrytis Blight{*}; Gray Mold{*}(*Botrytis* spp.)
Brown Patch{*} *(Rhizoctonia spp.)*
Damping Off{*} (*Fusarium nivale*)
Dollar Spot {*}** *(Sclerotinia)*
Fusarium Patch{*} *(Fusarium nivale)*
Pythium Blight{*}
Pythium Root Rot{*}
Pythium Crown Rot{*} *(Pythium* spp.)
Stem and Root Rot{*} (*Phytophthora*)

{* Not for use in California.}
**Suppression of Dollar Spot requires preventative applications and better suppression is noted in moderate to low disease pressure.

Ornamental {Production} {Plants} {Crops} {Greenhouse, Lathhouse, Shadehouse, Nursery, and Field} Applications:

APPLICATION RATES

Repeat at 7- to 14-day intervals as needed. Thoroughly cover plant foliage until runoff and soil surfaces with spray solution. Pre-harvest Interval (PHI) = 0 days.

ORNAMENTAL	APPLICATION METHOD	APPLICATION RATE
***Flowers, Bedding Plants, and Ornamentals*{*}**	Greenhouse Soil Drench	67 – 100 oz Howler®/100 gal water
	Nursery Soil Drench	67 – 100 oz Howler®/100 gal water
	Greenhouse Chemigation	{67 – 100 oz Howler®/100 gal water or} 6.7 – 10 oz Howler®/gal water Apply diluted solution at 1000-8000 gal/acre
	Foliar Spray	{5 – 15 lb Howler®/acre or} 6.7 – 10 oz Howler®/gal water Apply diluted solution at 200-400 gal/acre
	Field Chemigation or Drench	{5 – 15 lb Howler®/acre or} 6.7 – 10 oz Howler®/gal water Apply diluted solution at 1000-8000 gal/acre
	Greenhouse Soil Incorporation	1.75 – 8.5 lb Howler®/cubic yard soil
	In Furrow Spray or Transplant Starter Solution	5 – 15 lb Howler®/acre or 67 – 100 oz Howler®/100 gal water
***Shadehouse and Outdoor Nursery Crops*{*},** including Deciduous Trees (e.g., Maples and Oaks), Ornamentals, and Pine	Greenhouse Soil Drench	67 – 100 oz Howler®/100 gal water
	Nursery Soil Drench	67 – 100 oz Howler®/100 gal water
	In Furrow Spray or Transplant Starter Solution	5 – 15 lb Howler®/acre or 67 – 100 oz Howler®/100 gal water
	Greenhouse Chemigation	{67 – 100 oz Howler®/100 gal water or} 6.7 – 10 oz Howler®/gal water Apply diluted solution at 1000-8000 gal/acre
	Foliar Spray	5 – 15 lb Howler®/acre or 6.7 – 10 oz Howler®/gal water Apply diluted solution at 200-500 gal/acre {or 67 – 100 oz Howler®/100 gal water}
	Field Chemigation or Drench	5 – 15 lb Howler®/acre or 6.7 – 10 oz Howler®/gal water Apply diluted solution at 1000-8000 gal/acre

{* Not for Use in California}

Established Landscape and Interiorscape Applications:

Use Howler® on all ornamentals (e.g., landscape plants, trees, shrubs, annuals, perennials, ground covers, and tropical plants) outdoors and in interiorscapes for control or suppression of a broad spectrum of plant diseases.

Established Landscape and Interiorscape Application Timing:
Apply Howler® throughout the growing season on all types of woody ornamentals, trees, shrubs, flowering plants, and other landscape and interiorscape plants. Apply when ground temperature has reached 45°F (7°C) or above until late fall prior to light frost. Begin applications prior to when environmental conditions are conducive to disease development and throughout periods of disease and stress.

ORNAMENTAL APPLICATIONS			
Plant	**Target Disease**	**Application Rate & Directions**	**Application Interval**
All Types of Ornamentals, Trees, Shrubs, and Flowering Plants, including Annuals, Perennials, Bedding Plants, Ground Covers Potted Flowers, Foliage Plants, Woody Ornamentals, Deciduous Trees & Shrubs, Evergreen Trees & Shrubs, Tropical Foliage, Palms, and Container Grown Plants *{Indoors, Outdoors, Fields, and Landscape Areas}*	**Anthracnose{*}** (*Colletotrichum graminicola*) **Aerial Blight{*}** (*Rhizoctonia* spp.) (*Sclerotinia*) **Damping Off{*}** (*Fusarium* spp.) **Pythium Blight{*}** **Pythium Root Rot{*}** **Pythium Crown Rot{*}** (*Pythium* spp.) **Stem and Root Rot{*}** (*Phytophthora*) **Botrytis Blight{*}** **Grey Mold{*}** (*Botrytis* spp.)	**Soil Drench:** 67 to 100 oz Howler® per 100 gallons of water. Thoroughly drench soil around plug, planting hole, tree canopy, root ball, or container. **Foliar Spray:** 67 to 100 oz Howler® per 100 gallons of water {or 6.7 – 10 oz Howler® per gallon of water} {or 5 – 15 lb Howler® per acre}. Thoroughly spray foliage until run-off. **Transplant Spray or Dip:** 6.7 – 10 oz Howler® per 10 gallons of water {or 67 – 100 oz Howler® per 100 gallons of water}.	**New Plantings and Transplants:** Apply at time of planting to prevent disease. Reapply every 7-14 days through growing season. **Established Plantings:** Apply prior to disease pressure and every 7-14 days while disease conditions persist.

{* Not for Use in California}

Established Turf and Turf Production Applications:
Use on all cool and warm season turfgrass varieties including Bentgrass, Bluegrass, Bermudagrass (common and hybrid), Fescue, Ryegrass, St. Augustine, Zoysia, Paspalum and Poa Annua. Use in or on greens, tees, fairways and roughs, sports turf, parks, cemeteries, commercial turf, roadsides, {residential} lawns, sod farms, seed production grasses and all ornamental grass varieties.

Established Turf and Turf Production Application Timing:
Apply Howler® throughout the growing season on all types of turfgrass varieties. Apply when ground temperature has reached 45°F (7°C) or above until late fall prior to light frost. Begin applications prior to when environmental conditions are conducive to disease development and throughout periods of disease and stress.

TURF APPLICATIONS				
Target Disease	**Application Rate**	**Application Interval**	**Application Volume**	**Remarks**
Anthracnose{*} (*Colletotrichum graminicola*) **Brown Patch{*}** (*Rhizoctonia* spp.) **Dollar Spot** {*}** (*Sclerotinia* spp.) **Fusarium Patch{*}** (*Fusarium* spp.) **Pythium Blight{*}** **Pythium Root Rot{*}** **Pythium Crown Rot{*}** (*Pythium* spp.)	1.8 – 6 oz Howler® per 1000 square feet	7 – 21 days	**Root Diseases:** Spray at a rate of 2 – 4 gallons of tank mix per 1000 square feet of turf (7.5 – 15 liters of tank mix per 100 square meters of turf) to ensure soil penetration. **Foliar Diseases:** Spray at a rate of 1 – 6 gallons of tank mix per 1000 square feet of turf (3.78 – 22.7 liters of tank mix per 100 square meters of turf) to provide thorough coverage.	Begin applications prior to when conditions are conducive to disease development. Continue applications throughout periods of disease and stress.

{* Not for Use in California}

**Suppression of Dollar Spot requires preventative applications and better suppression is noted in moderate to low disease pressure.

TURF ESTABLISHMENT APPLICATIONS FOR PATHOGEN/DISEASE CONTROL OR SUPPRESSION		
Application	**Application Rate**	**Timing and Frequency**
New Seeding, Over Seeding, and Hydro Seeding	1.8 – 6 oz Howler® per 1000 square feet	Apply at time of seed germination. Repeat every 14 days during grow-in period.
Sod Installation	1.8 – 6 oz Howler® per 1000 square feet	Apply at time of installation and repeat in 14 – 28 days. Continue during disease and stress period.
Sod Production	1.8 – 6 oz Howler® per 1000 square feet	Begin applications at time of seeding, plugging, or newly cut ribbons. Continue monthly during disease and stress periods.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in original container in a cool, dry place. Avoid overheating.

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: Nonrefillable container. Do not reuse or refill this container.

Completely empty bag into application equipment. Then, offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

Uses of Howler® other than those specified on this label are not licensed or otherwise authorized through the purchase of this product and the use of this product for other purposes including research and/or experimental uses are expressly prohibited without the written consent of AFS009 Plant Protection, Inc.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the unopened product at once, and the purchase price will be refunded.

The Directions for Use of this product are believed to be adequate and must be followed carefully. It is impossible to eliminate all risk inherently associated with the use of this product. Plant injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, plant conditions, presence of other materials or other unknown factors, all of which are beyond the control of {AFS009 Plant Protection, Inc.} {AgBiome Innovations, Inc.} or Seller. All such risks shall be assumed by the Buyer or User. To the extent consistent with applicable law, Buyer and User agree to hold {AFS009 Plant Protection, Inc.} and Seller harmless for any claims relating to such factors.

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Sublabel C: Home & Garden Use

HOWLER fungicide

{dry flowable fungicide} {fungicide} [**ABN:** Howler® Lawn and Garden Fungicide]

{For Use in Organic Gardening} {Can Be Used in Organic Gardening} {For Use in Organic Lawn Care} {Can Be Used in Organic Lawn Care}

{ OMRI LISTED For Organic Use }

Active Ingredient: *Pseudomonas chlororaphis* strain AFS009†	50.0%
Other Ingredients:	50.0%
Total:	100.0%

† Contains not less than 1 X 10^6 total CFU/g of product.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE INSIDE FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

FIRST AID	
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for 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.
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 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 by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOTLINE NUMBER Have the product container or label with you when calling a poison control center or doctor. You may also contact 1-800-262-8200 for emergency medical treatment information.	

EPA Reg. No.: 91197-3
Net Weight: XX
({Batch}/{Lot}) No: XXXX

EPA Est. No.: XXXXX-XX-XXX

Manufactured by:
AFS009 Plant Protection, Inc.
104 T.W. Alexander Drive
Research Triangle Park, NC 27709

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if inhaled, absorbed through the skin, or swallowed. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

DIRECTIONS FOR USE – HOME AND GARDEN AND TURF

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

HOME AND GARDEN USE DIRECTIONS

Howler® is a biological fungicide for use to control or suppress diseases in bedding plants, annuals and perennials, home vegetable gardens, and ornamental trees and shrubs. Diseases controlled or suppressed include: Anthracnose (*Colletotrichum graminicola*), Botrytis (*Botrytis* spp.), Early Blight (*Alternaria solani*)*, Gray Mold (*Botrytis cinerea*), Late Blight (*Phytophthora infestans*), *Pythium, Fusarium**, and *Rhizoctonia*. Howler® must be mixed with water and may be applied as a soil drench or foliar spray.

{*Not for use in California.}

WHEN TO USE

For best results, apply Howler® at the time of planting and at the first sign of disease. Repeat applications for plant diseases every 7 – 14 days.

BEFORE YOU USE

Read and follow these directions when using.

Do not allow spray to drift from application site.

Use only with pressurized hand-held sprayers, backpack sprayers, spray trigger bottles, or hose-end sprayers

HOW TO USE FOR PRESSURIZED HAND-HELD SPRAYERS, BACKPACK SPRAYERS AND SPRAY TRIGGER BOTTLES

Fill sprayer or bottle with appropriate amount of water and Howler®.

Mix the spray solution thoroughly.

Keep the spray solution agitated during application.

HOW TO USE FOR HOSE-END SPRAYERS
Follow hose-end sprayer instructions to determine how to fill, set dial, clean and disconnect from hose. Set dial on sprayer to deliver rate as directed below.

HOW MUCH TO USE FOR ALL APPLICATIONS
3.5 - 5 tablespoons of Howler® per gallon of water.

TURF USE DIRECTIONS

Use on all cool and warm season turfgrass varieties including Bentgrass, Bluegrass, Bermudagrass (common and hybrid), Fescue, Ryegrass, St. Augustine, Zoysia, Paspalum and Poa Annua. Use in or on residential lawns and all ornamental grass varieties.

For target plant diseases see Turf Application Table.

WHEN TO USE
Apply Howler® throughout the growing season on all types of turfgrass varieties. Apply when ground temperature has reached 45°F (7°C) or above until late fall prior to light frost. Begin applications prior to when environmental conditions are conducive to disease development and throughout periods of disease and stress.

TURF APPLICATIONS				
Target Disease	**Application Rate**	**Application Interval**	**Application Volume**	**Remarks**
Anthracnose{*} (*Colletotrichum graminicola)* **Brown Patch{*}** (*Rhizoctonia* spp.) **Dollar Spot** {*}** (*Sclerotinia* spp.) **Fusarium Patch{*}** (*Fusarium* spp.) **Pythium Blight{*}** **Pythium Root Rot{*}** **Pythium Crown Rot{*}** (*Pythium* spp.)	3.5 – 5 tablespoons per gallon of water	7 – 21 days	**Root Diseases:** Spray at a rate of 2 – 4 gallons of diluted Howler per 1000 sq feet of turf to ensure soil penetration **Foliar Diseases:** Spray at a rate of 1 – 6 gallons of diluted Howler per 1000 square feet of turf. to provide thorough coverage.	Begin applications in the Spring around first mowing of grass and continue as needed through the Autumn until grass goes dormant. Continue applications throughout periods of disease and stress.

{* Not for Use in California}
**Suppression of Dollar Spot requires preventative applications and better suppression is noted in moderate to low disease pressure.

STORAGE AND DISPOSAL

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

- **Pesticide Storage:** Store in a cool, dry place. Avoid overheating.
- **Pesticide Disposal and Container Handling:** Nonrefillable container. Do not reuse or refill this container.
- **If empty:** Place in trash or offer for recycling, if available.
- **If partially filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

Uses of Howler® other than those specified on this label are not licensed or otherwise authorized through the purchase of this product and the use of this product for other purposes including research and/or experimental uses are expressly prohibited without the written consent of AFS009 Plant Protection, Inc.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the unopened product at once, and the purchase price will be refunded.

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Optional Label Claims

- Biological fungicide
- Fungicide for disease control on {turfgrass} {and} {or} {landscapes} {landscape and ornamental plants grown in greenhouses, nurseries, landscapes, interiorscapes, shadehouses and lathhouses}.
- Any or all listed pests may be represented graphically on Final Printed Labeling.
- Non-misleading icons depicting use sites, pests, or marketing claims may be optionally included.
- This graphic may be used on the label