



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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

April 10, 2018

Carolyn Link  
Regulatory Affairs Manager  
Marrone Bio Innovations  
1540 Drew Avenue  
Davis, CA 95618

Subject: Labeling Notification per Pesticide Registration Notice (PRN) 98-10 – Addition of Alternate Brand Names, Standardization of the Primary Brand Name Throughout the Labeling, Removal of a Claim, and Minor Formatting Changes  
Product Name: MBI-110 EP  
EPA Registration Number: 84059-28  
Application Date: February 22, 2018  
OPP Decision Number: 538739

Dear Ms. Link:

The U.S. Environmental Protection Agency (EPA) is in receipt of your application for notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Biopesticides and Pollution Prevention Division (BPPD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The labeling submitted with this application has been stamped “Notification” and will be placed in our records. The alternate brand names Amplitude ST and Stargus ST have been added to the product’s records. You must submit one (1) copy of the final printed labeling with the modifications.

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 the Federal Insecticide, Fungicide, and Rodenticide Act (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.

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If you have any questions, please contact Daniel Schoeff by phone at (703) 347-0143 or via email at [schoeff.daniel@epa.gov](mailto:schoeff.daniel@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'JKausch', with several overlapping strokes and a long horizontal tail.

Jeannine Kausch, Product Manager 92  
Microbial Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

# MBI-110 EP

Alternate Brand Names: Stargus, Stargus CG, Amplitude, MBI-110 ST, Amplitude ST, Stargus ST

**MASTER LABEL, containing:**

**Sublabel A: Agricultural Crop Use**

**Sublabel B: Turf & Ornamental Use**

**Sublabel C: Home & Garden Use**

EPA Reg. No.: ~~(pending as File Symbol~~ 84059-28)

**Manufactured by:** Marrone Bio Innovations, Inc.  
1540 Drew Ave  
Davis, CA 95618 USA  
1-877-664-4476; info@marronebio.com

## NOTIFICATION

84059-28

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:


04/10/2018

**Sublabel A: Agricultural Crop Use**

# MBI-110 EP

Broad-spectrum biofungicide/bactericide for control or suppression of fungal and bacterial plant diseases

**(Biological) (Microbial) (Fungicide) (Biofungicide)  
Aqueous Suspension**

 (Can Be Used in Organic Production) (For Organic Production)(OMRI Placeholder)(~~Biobased Placeholder~~)

**Active ingredient:** *Bacillus amyloliquefaciens* strain F727\* cells and spent fermentation media ..... 96.4%  
**Other ingredients:** ..... 3.6%  
**Total** ..... 100.0%

\*Contains a minimum of 1 X 10<sup>9</sup> cfu/ml of product

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

FIRST AID	
<b>IF SWALLOWED:</b>	Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>IF ON SKIN OR CLOTHING:</b>	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.
<b>IF INHALED:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>IF IN EYES:</b>	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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or if going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

**EPA Reg. No.:** 84059-28

**EPA Est. No.:** XXXXX-XX-XXX

**Net Contents:** XX

**(Batch)(Lot) No:** XXXX

Not for sale or use after 18 months from the date of manufacture. [manufacture date on packaging]

**Manufactured [for] [by]:** Marrone Bio Innovations, Inc.  
1540 Drew Ave.  
Davis, CA 95618 USA  
1-877-664-4476; info@marronebio.com

Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

## PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS- CAUTION:** Avoid contact with 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
- shoes plus socks
- waterproof gloves

Mixers/loaders and applicators must wear a NIOSH-approved particulate filter with any N, R, P filter with NIOSH approval number prefix TC-84A. ; or a NIOSH- approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), 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, including a spill or equipment break-down.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then 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 high-water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and the restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

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 wear:

**MBI-110 EP;** EPA Reg. No. 84059-28

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- Coveralls
- Chemical resistant gloves (made of any waterproof material)
- Shoes plus socks

**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.

### **Non-Agricultural Use Requirements**

The requirements in this box apply to uses of the 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 treatment area until seeds have dried or been packaged.

### **PRODUCT INFORMATION**

MBI-110 EP **Biofungicide** is a biological fungicide containing *Bacillus amyloliquefaciens* strain F727. Apply prior to disease infestation to protect the growing leaf tissue, flowers and above ground fruits and vegetables. MBI-110 EP **Biofungicide** can be used in multiple application methods to control or suppress certain foliar and soil-borne diseases. See specific information below for diseases controlled, use rates and application intervals.

MBI-110 EP can be used in either the field or greenhouse for the prevention of any labeled disease.

### **MODE OF ACTION**

The active ingredient in MBI-110 EP **Biofungicide** is a beneficial rhizobacterium that colonizes plant root hairs, leaves and other surfaces to prevent establishment of fungal and bacterial plant diseases. MBI-110 EP has a protective effect because it inhibits spore germination and a curative effect because it inhibits mycelial growth and sporulation of the fungus on the leaf surface. However, optimum disease control is achieved when MBI-110 EP is applied preventatively in a regularly scheduled protective spray program and used in rotation or tank mix program with other registered fungicides.

### **MIXING AND APPLICATION INSTRUCTIONS – SHAKE WELL PRIOR TO USE –**

MBI-110 EP **Biofungicide** is an aqueous suspension. Use 50-mesh nozzle screens or larger.

**See FOLIAR (AERIAL OR GROUND) APPLICATION section for foliar application use directions.**  
**See BACKPACK/HANDHELD SPRAYER section for use directions.**  
**See CHEMIGATION section for chemigation use directions.**  
**See PRE-PLANT DIP section for pre-plant dip use directions.**  
**See SEED TREATMENT section for seed treatment use directions.**  
**See SOIL TREATMENT section for soil application use directions.**  
**See TREE INJECTION section for tree injection application use directions.**  
**See POST-HARVEST SPRAY/ HUMIDIFICATION section for post-harvest application use directions.**

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

**MBI-110 EP Biofungicide alone:** Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-110 EP Biofungicide to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-110 EP Biofungicide has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

**MBI-110 EP Biofungicide + tank-mixtures:** Add ½ - ¾ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as MBI-110 EP Biofungicide. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process. After all components are completely dispersed add the remainder of the water. MBI-110 EP Biofungicide cannot be mixed with another product with a prohibition against mixing. Use of the tank mix must be in accordance with the more restrictive label limitations and precautions. **Do not pre-mix MBI-110 EP Biofungicide with any other tank-mix component prior to adding to the spray tank.**

**Compatibility:** Do not combine MBI-110 EP Biofungicide in the spray tank with pesticides, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions.

MBI-110 EP Biofungicide is compatible with many commonly used pesticides, fertilizers, adjuvants, and surfactants, but has not been evaluated with all potential combinations. To ensure compatibility of the tank mix combinations, evaluate prior to use as follows: Using a suitable container, add the proportional amounts of product to water. Add wettable powders first, then water dispersible granules, then liquid flowables, and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the mix on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of the application.

### FOLIAR (GROUND AND AERIAL) APPLICATION INSTRUCTIONS

Apply MBI-110 EP Biofungicide in ground and aerial application equipment to the crops listed at the rates specified in the SELECTED CROPS section. Increasing the amount of water applied per acre may improve product performance. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

#### Row Crop Application

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. Unless specified differently in the SELECTED CROPS section, a minimum of 10 gallons per acre by ground or 5 gallons by aerial application should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

#### Orchard Spraying

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all plant parts are uniformly covered with spray solution but not to the point of runoff as with a dilute spray. Instead, a lower spray volume is used to deliver the same application rate of product per acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

### **AERIAL DRIFT REDUCTION ADVISORY INFORMATION**

Unless specified differently in the SELECTED CROPS section, apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Disease control by aerial application may be less than control by ground application because of reduced coverage.

**SPRAY DRIFT** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment -and weather- related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**INFORMATION ON DROPLET SIZE:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply droplets large enough to provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

**CONTROLLING DROPLET SIZE:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**BOOM WIDTH:** For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**APPLICATION HEIGHT:** Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**SWATH ADJUSTMENT:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).



**WIND:** Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**TEMPERATURE AND HUMIDITY:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**TEMPERATURE INVERSIONS:** Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**SENSITIVE AREAS:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

### BACKPACK/HAND-HELD SPRAYER USE DIRECTIONS

The use rate for MBI-110 EP **Biofungicide** when applied in a backpack or hand-held sprayer is 0.73 – 2.94 fluid ounces (1.46 to 5.88 tablespoons) per 1000 square feet applied at 1.15-2.3 gallons per 1000 square feet (50-100 gallons of water per acre). Or apply MBI-110 EP at a dilution of 0.32 – 2.56 fluid ounces (0.64 to 5.12 tablespoons) per gallon. Apply sufficient volume to obtain thorough coverage but do not use carrier volumes and/or adjuvants that create spray runoff or drip-accumulation at the base of fruit or on the harvested commodity. See specific application recommendations pertaining to each crop for additional details.

Use rate for MBI-110 **EP Biofungicide**

	Tablespoons MBI-110 <b>EP</b> per Gallon of Water	Fluid Ounces MBI-110 <b>EP</b> per Gallon of Water	Applied (diluted) Gallons per 1,000 sq. ft.
Rates	0.64 – 5.12	0.32 – 2.56	1.15 – 2.3

### CHEMIGATION USE DIRECTIONS

Apply MBI-110 EP **Biofungicide** according to the instructions below unless specified differently in the **SELECTED CROPS** section.

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## CHEMIGATION

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### General Requirements -

- 1) Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) 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.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

### Specific Requirements for Sprinkler Chemigation -

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

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

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- 2) The systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
  - a. The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
  - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
  - c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
  - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
  - f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

**Specific Requirements for Drip (Trickle) Chemigation -**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

**Application Instructions for All Types of Chemigation -**

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

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### PRE-PLANT DIP USE DIRECTIONS

MBI-110 EP ~~Biofungicide~~ can be applied as a pre-plant dip for improved plant health and suppression of certain soil-borne diseases. Apply MBI-110 EP ~~Biofungicide~~ in 1 – 4 quarts of product per 100 gallons of water as a pre-plant dip immediately prior to transplanting, unless specified differently in the SELECTED CROPS section.

### SEED TREATMENT USE DIRECTIONS

MBI-110 EP ~~Biofungicide~~ can be applied as a seed dressing for suppression of soil-borne diseases to improve early-season root growth. MBI-110 EP ~~Biofungicide~~ may be applied as a water-based slurry with other registered seed treatment insecticides and fungicides through standard slurry- or mist-type commercial seed treatment equipment at the rate of 1-32 fluid ounces per 100 pounds of seed or as specified in the Application Rates For Selected Crops section.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-110 EP ~~Biofungicide~~ mixtures.

MBI-110 EP ~~Biofungicide~~ alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-110 EP ~~Biofungicide~~ to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-110 EP ~~Biofungicide~~ has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

**MBI-110 EP ~~Biofungicide~~+ tank-mixtures:** Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as MBI-110 EP ~~Biofungicide~~. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

**Note:** When using MBI-110 EP ~~Biofungicide~~ in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-110 EP ~~Biofungicide~~. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-110 EP ~~Biofungicide~~ in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product which prohibits such mixing.

**For Commercial Seed Treatment:** This product does not contain dye. All seed treated commercially 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 *Bacillus amyloliquefaciens* strain F727. Do not use for food, feed or oil purposes."

### **Non-Agricultural Use Requirements**

~~The requirements in this box apply to uses of the 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 treatment area until seeds have dried or been packaged.~~

### SOIL TREATMENT USE DIRECTIONS

MBI-110 EP-Biofungicide can be applied by soil drench, in-furrow and banded spray, or soil injection to improve plant health and to protect against certain soil-borne diseases.

In general, MBI-110 EP-Biofungicide can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

#### Soil Drench Applications:

Apply MBI-110 EP-Biofungicide at a concentration of 1– 4 quarts per acre in, sufficient water to thoroughly soak the growing media and root zone. Make an initial application of MBI-110 EP-Biofungicide during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10– to 21-day interval.

#### Shanked-In and Injected Applications:

MBI-110 EP-Biofungicide can be shanked-in or injected into the soil alone, or with most types of liquid nutrients. Refer to the In-Furrow and Banded Applications table below for rate instructions.

#### In-Furrow and Banded Applications:

At planting, apply MBI-110 EP-Biofungicide as an in-furrow or banded spray at the rate of 2 – 8 fluid ounces per 1000 feet of row according to the chart below. Apply MBI-110 EP-Biofungicide in 5 to 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered. For banded applications apply to the open seed furrow and lightly incorporate after the seed furrow is closed.

Rate	In-Furrow and Banded Application Rates Product per Acre (fl. oz.)								
	15" Rows	20" Rows	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows	Twin row 30" centers
2.0 fl. oz. per 1000 ft. row	69.7	52.2	34.8	32.6	30.7	29.0	27.5	26.1	69.7
4.0 fl. oz. per 1000 ft. row		104.5	69.7	65.3	61.5	58.1	55.0	52.3	
6.0 fl. oz. per 1000 ft. row			104.5	97.9	92.2	87.1	82.5	78.4	
8.0 fl. oz. per 1000 ft. row					123.0	116.2	110.0	104.5	

15" = 34,848 row ft./acre, 20" = 26,136 row ft./acre, 30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre. Twin row 30" centers = 34,848 row ft./acre.

### TRUNK INJECTION USE DIRECTIONS

MBI-110 EP-Biofungicide can be used for the prevention and treatment of Downy mildew, Sudden oak death (*Phytophthora ramorum*), root rots (*Phytophthora* spp.), *Pythium* and various other disease of agricultural trees, indoor and outdoor ornamentals and forestry applications including domestic trees, conifers, pines and oaks. This product may be applied up to the day of harvest.

### POST-HARVEST SPRAY/ HUMIDIFICATION

See specific application recommendations pertaining to each crop for additional details.

#### **APPLICATION RATES FOR SELECTED CROPS**

MBI-110 EP ~~Biofungicide~~ can be applied up to and including the day of harvest.

The general recommended use rate for MBI-110 EP ~~Biofungicide~~ applied alone or as an alternate spray is 1 - 4 quarts per 100 gallons of water (0.25 – 1.0% v/v dilution). When tank mixed with another fungicide, the use rate for MBI-110 EP is – 0.5 – 4 quarts in 100 gallons of water. Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. See specific application recommendations for additional details.

For greenhouse application, the recommended use rate for MBI-110 EP ~~Biofungicide~~ is 1 - 4 quarts in 100 gallons of water sprayed until just before point of runoff. When tank mixed with another fungicide, the use rate for MBI-110 EP ~~Biofungicide~~ is 0.5 – 4 quarts in 100 gallons of water. Repeat at 7- to 10-day intervals as needed. See specific application recommendations for additional details.

MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI) of 0 days**.

Do not enter (or allow worker entry) into treated areas during the **restricted-entry interval (REI) of 4 hours**. *(Statement can optionally appear after/below sections of the crop tables)*

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Artichoke	Powdery Mildew ( <i>Erysiphe cichoracearum</i> ) ( <i>Leveillula taurica</i> )  Ramularia Leaf Spot ( <i>Ramularia cynarae</i> )  Gray Mold ( <i>Botrytis</i> spp.)	Foliar (Ground)	1 – 4 quarts per acre	For ground applications, apply this product in 50-100 gallons of water per acre.  Apply this product preventatively or when the first disease symptoms are visible and reapply every 7 to 10 days.
		Foliar (Aerial)	1 – 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.  Apply this product preventatively or when the first disease symptoms are visible and reapply every 7 to 10 days.
	<i>Fusarium</i> , <i>Pythium</i> , <i>Phytophthora</i> , <i>Rhizoctonia</i>	Chemigation	1 - 4 quarts per acre	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation immediately after transplant and at 10– to 21-day intervals or begin 14 days after transplant when soil drench applications are used.
MBI-110 EP-Biofungicide has a pre-harvest interval (PHI) of 0 days.				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Asparagus</b>	Botrytis Blight ( <i>Botrytis cinerea</i> )	Foliar (Ground)	1 – 4 quarts per acre	For ground applications, apply this product in 25 -100 gallons of water per acre.
	Rust ( <i>Puccinia asparagi</i> )			Apply this product preventatively or when the first disease symptoms are visible and reapply every 7 to 10 days.
	Purple spot ( <i>Stemphylium vesicarium</i> )	Foliar (Aerial)	1 – 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.
	Cercospora blight ( <i>Cercospora asparagi</i> )			Apply this product preventatively or when the first disease symptoms are visible and reapply every 7 to 10 days.
<b>MBI-110 EP-Biofungicide has a pre-harvest interval (PHI) of 0 days.</b>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Bushberries and Caneberries</b>	Mummy Berry ( <i>Monilinia vaccinii-corymbosi</i> ),	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product in 25 - 100 gallons of water per acre.
Blueberry Blackberry (all varieties) Cranberry Currant Elderberry Gooseberry Huckleberry Juneberry Lingonberry Loganberry Raspberry (red and black) Salal and other berry crops	Alternaria Fruit Rot ( <i>Alternaria</i> spp.)			Mummy Berry – Initiate application at bud break stage of development. Apply this product preventatively and repeat on a 7- to 10-day interval.
	Anthraxnose Fruit Rot ( <i>Colletotrichum acutatum</i> )			Botrytis Blight – Apply this product preventatively when the first disease symptoms are visible and reapply every 7 to 10 days.
	Bacterial Canker ( <i>Pseudomonas syringae</i> )			Bacterial Canker – Apply this product prior to Fall rains and repeat applications during dormancy before Spring growth. This product can be tank mixed with another registered fungicide for
	Botrytis Blight			

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	( <i>Botrytis cinerea</i> )			improved control of bacterial canker.
	Leaf Rust ( <i>Pucciniastrum vaccinii</i> )			Anthracnose Fruit Rot and Alternaria Fruit Rot on blueberries – Initiate application at green tip and continue applications on a 7- to 10-day interval.
	Leaf Spot and Blotch ( <i>Mycosphaerella</i> spp.) ( <i>Septoria</i> spp.)	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.
	Phomopsis Leaf Spot, Twig Blight, and Fruit Rot ( <i>Phomopsis</i> spp.)			Don not apply when Cranberry fields are flooded for harvest.
	Powdery Mildew ( <i>Microsphaera alni</i> )			
	Spur Blight ( <i>Didymella</i> spp.) ( <i>Phoma</i> spp.)			
	Early Rot in Cranberry ( <i>Phyllosticta vaccinii</i> )			
	Late Rot in Cranberry			
	Cranberry cotton ball ( <i>Monilinia oxycocci</i> )			
<p>MBI-110 EP <del>Bio</del>fungicide has a <b>pre-harvest interval (PHI) of 0 days.</b></p>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Bulb Vegetables</b>  Onion (Bulb and Green) Garlic Leek Shallot and other bulb vegetable crops	Bacterial rots ( <i>Pantoea</i> spp.)  Botrytis Leaf Blight ( <i>Botrytis squamosa</i> )  Botrytis Neck Rot ( <i>Botrytis</i> spp.)  Downy Mildew ( <i>Peronospora</i> spp.)  Onion Downy Mildew ( <i>Peronospora destructor</i> )  Onion Purple Blotch ( <i>Alternaria porri</i> )  Powdery Mildew ( <i>Erysiphe</i> spp.)  Rust ( <i>Puccinia porri</i> )  Stemphyllium Leaf Blight ( <i>Stemphyllium vesicarium</i> )	Foliar	1 - 4 quarts per acre	For foliar applications, apply this product preventatively in 25 - 100 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.
	<i>Fusarium</i> spp.  <i>Pythium</i> spp.  <i>Rhizoctonia</i> spp.	Soil Drench Chemigation (drip)	1 – 4 quarts per acre	For soil drench applications, apply this product at a concentration of 1 - 4 quarts per acre in sufficient water thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root

				growth. Multiple drench applications can be made on a 10- to 21-day interval.
		In-Furrow	1 – 4 quart per acre  2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 – 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Chemigation (sprinkler)	1 – 4 quarts per acre	For chemigation applications, apply MBI-110 EP through overhead irrigation at the rate of 1 - 4 quarts per acre immediately after transplant and at 10- to 21-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.
		Plant Dip	1 - 4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
		Seed Treatment	1 – 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz per 100 lbs. seed.
MBI-110 EP <del>Biofungicide</del> has a <b>pre-harvest interval (PHI) of 0 days.</b>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Cereal Grains</b> Barley Buckwheat Grain Amaranth Milo Oat Millets Rice Rye Sorghum Triticale Wheat and other cereal grain crops	Powdery Mildew ( <i>Erysiphe graminis</i> )  Bacterial Blight and Streak ( <i>Xanthomonas</i> spp.)  Brown Rot, Leaf Spots & Smuts ( <i>Ceratobasidium</i> spp.) ( <i>Cercospora</i> spp.) ( <i>Cochliobolus</i> spp.) ( <i>Drechslera</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications to optimize disease control and to maximize yields, apply this product in 15 - 40 gallons of water per acre.  It is important to apply this product at the flag leaf stage to maximize yield. Apply this product preventatively or when the first disease symptoms appear. Repeat applications in 7- to 10-day intervals depending upon crop growth and disease pressure.  Do not apply to rice fields while flooded.
	Rice Blast ( <i>Pyricularia grisea</i> )  Rust ( <i>Puccinia</i> spp.)  Septoria Leaf Spot ( <i>Septoria</i> spp.)  Sheath Spot and Blight ( <i>Rhizoctonia oryzae</i> ) ( <i>Thanatephorus cucumeris</i> )  Stem Rot ( <i>Sclerotium oryzae</i> )  Smut ( <i>Tilletia barclayana</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.  It is important to apply this product at the flag leaf stage to maximize yield. Apply this product preventatively or when the first disease symptoms appear. Repeat applications in 7- to 10-day intervals depending upon crop growth and disease pressure.

	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Seed Treatment	1 – 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz per 100 lbs. seed.
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MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI)** of **0 days**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Citrus Crops</b> Orange Grapefruit Lemon Tangelo Tangerine Pummelo and other citrus crops	Bacterial Canker ( <i>Xanthomonas</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product preventatively in 50 - 100 gallons of water per acre.
	Alternaria Brown Spot ( <i>Alternaria alternata</i> ) Bacterial Blast ( <i>Pseudomonas syringae</i> ) Black Spot ( <i>Guignardia citricarpa</i> ) ( <i>Phyllosticta citricarpa</i> ) Greasy Spot ( <i>Mycosphaerella citri</i> )			For improved performance, use this product in a tank mix or rotational program with other registered fungicides. Repeat applications at 7- to 21-day intervals using higher rates with longer spray intervals Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100 - 400 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.
	Melanose ( <i>Diaporthe citri</i> ) Postbloom Fruit Drop ( <i>Colletotrichum acutatum</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with other registered fungicides.

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	Scab ( <i>Elsinoe australis</i> ) ( <i>Elsinoe fawcetti</i> )			Repeat applications at 7- to 21-day intervals using higher rates with longer spray intervals.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	Plant Dip	1 – 4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant root dip immediately prior to transplanting.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Xanthomonas campestris</i>	Trunk Injection	1 - 5 tsp/linear yard of canopy width or 2 in of trunk diameter at breast height (DBH)(1.0-5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.
	Root and collar rots ( <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> )	Soil drench	1 – 4 quarts/acre	Apply as a banded soil drench, or chemigate via microsprinkler, drip or other irrigation system in sufficient water to move product into the root zone. Begin applications in early spring during early shoot growth and continue applications on a 4- to 6-week interval until fall.
MBI-110 EP-Biofungicide has a pre-harvest interval (PHI) of 0 days.				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Brassica (Cole) Leafy Vegetables</b>  Broccoli Broccoli Rabe Brussels Sprouts Cabbage Chinese Cabbage Broccoli Chinese Cabbage (Bok Choy) Chinese Cabbage (Napa) Chinese Mustard Cabbage(Gai Choy) Cauliflower Cavalo Collards Kale Kohlrabi Mizuna Mustard Greens Mustard Spinach Rape Greens Turnip and other cole crops	Powdery Mildew ( <i>Erysiphe cruciferarum</i> ) ( <i>Erysiphe polygoni</i> )	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product at 1 – 4 quarts per acre in 25-100 gallons of water.
	Alternaria Leaf Spot ( <i>Alternaria</i> spp.)  Downy Mildew ( <i>Peronospora parasitica</i> )			Repeat applications at 7- to 10-day intervals.
	Pin Rot Complex ( <i>Alternaria/Xanthomonas</i> )  Xanthomonas Leaf Spot ( <i>Xanthomonas campestris</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.
	<i>Fusarium</i> spp.  <i>Phytophthora</i> spp.  <i>Pythium</i> spp.	Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 – 32 fl. oz per 100 lbs. seed.
	<i>Rhizoctonia</i> spp.  <i>Verticillium</i> spp.	Soil drench, shanked in, injected, chemigation (drip)	1 – 4 quarts/acre	For suppression of soil-borne diseases, apply MBI-110 EP at seeding or transplanting in sufficient water to soak the growing media throughout the root zone. Applications can be made in-season through sub-surface drip irrigation.
		In-furrow	1 – 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI)** of **0 days**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Corn</b> Sweet Corn Field Corn Popcorn Silage Corn Seed Corn and other corn crops (includes crops grown for seed)	Anthracnose Leaf Blight ( <i>Colletotrichum graminicola</i> )	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product preventatively in 15 - 40 gallons of water per acre prior to disease development using sufficient volume for thorough coverage.
	Eye Spot ( <i>Aureobasidium zeae</i> )  Gray leafspot ( <i>Cercospora zeae-maydis</i> )  Rusts ( <i>Puccinia</i> spp.)  Northern Leaf Blight ( <i>Exserohilum turcicum</i> )  Northern Leaf Spot ( <i>Cochliobolus carbonum</i> )  Southern Leaf Blight ( <i>Cochliobolus heterostrophus</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 3 gallons of water per acre prior to disease development.
	<i>Fusarium</i> spp.  <i>Phytophthora</i> spp.	Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.
	<i>Pythium</i> spp.  <i>Rhizoctonia</i> spp.  <i>Verticillium</i> spp.	In-furrow	2 - 8 fl. oz./1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI)** of **0 days**.



Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Cotton	<p>Alternaria Leaf Spot, Boll Rot (<i>Alternaria</i> spp.)</p> <p>Anthrachnose, Boll Rot (<i>Glomeria</i> spp.)</p> <p>Ascochyta Blight, Boll Rot (<i>Ascochyta</i> spp.)</p>	Foliar (Ground)	1 - 4 quarts per acre	<p>For ground applications for foliar and boll rot disease control, apply this product preventatively in 15 - 40 gallons of water per acre prior to disease development using sufficient volume for thorough coverage.</p> <p>Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.</p> <p>Repeat applications at 7- to 10-day intervals.</p>
	<p>Cercospora Blight and Leaf Spot (<i>Cercospora</i> spp.)</p> <p>Diplodia Boll Rot (<i>Diplodia</i> spp.)</p> <p>Hard Lock, Boll Rot (<i>Fusarium</i> spp.)</p> <p>Leaf Spot (<i>Corynespora cassicola</i>)</p> <p>Phoma Blight, Boll Rot (<i>Phoma</i> spp.)</p> <p>Rust (<i>Puccinia</i> spp.) (<i>Phykopsora</i> spp.)</p> <p>Stemphyllium Leaf Spot</p>	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 3 gallons of water per acre.

	( <i>Stemphyllium</i> spp.)			
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	In-Furrow	2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz per 100 lbs. seed.
<b>MBI-110 EP <del>Biofungicide</del> has a pre-harvest interval (PHI) of 0 days.</b>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Crotalaria, Sessbania, Kenaf</b>	Bacterial Pustule ( <i>Xanthomonas</i> spp.)  Bacterial Speck ( <i>Pseudomonas syringae</i> pv. <i>glycinea</i> )  Brown Spot ( <i>Septoria glycines</i> )  Cercospora Leaf Spot ( <i>Cercospora</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications for foliar and boll rot disease control, apply this product preventatively in 15 - 40 gallons of water per acre prior to disease development using sufficient volume for thorough coverage.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.  Repeat applications at 7- to 10-day intervals.
	Downy Mildew ( <i>Peronospora mansherica</i> )  Pod and Stem Blight ( <i>Diaporthe phaseolorum</i> var. <i>sojae</i> ), ( <i>Phomopsis longicola</i> )  White Mold/Sclerotinia Stem Rot ( <i>Sclerotinia sclerotiorum</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 3 gallons of water per acre.
	<i>Fusarium</i> spp.  <i>Phytophthora</i> spp.  <i>Pythium</i> spp.  <i>Rhizoctonia</i> spp.  <i>Verticillium</i> spp.	In-Furrow	2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz per 100 lbs. seed.
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MBI-110 EP **Biofungicide** has a **pre-harvest interval (PHI)** of **0 days**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Cucurbits</b> <b>Includes all types and hybrids of:</b> Chayote Chinese waxgourd Cucumber Citron melon Gherkin Pumpkin Watermelon  <b>Edible Gourd:</b> Chinese okra Cucuzza Hyotan  <b>Mormordica spp.:</b> Balsam apple Balsam pear Bitter melon Chinese cucumber  <b>Muskmelon:</b> Cantaloupe Casaba Crenshaw melon Golden pershaw melon	Powdery Mildew ( <i>Erysiphe cichoracearum</i> ) ( <i>Sphaerotheca fuliginea</i> )  Anthracnose ( <i>Colletotrichum lagenarium</i> )  Alternaria Blight ( <i>Alternaria cucumerina</i> )	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product preventatively in 25 -100 gallons of water per acre or when the first symptoms of disease are visible. Increase water volume as plant size increases.  Repeat applications in 7- to 10-day intervals depending upon crop growth and disease pressure.  When greenhouse cucurbits are under high disease conditions, use the shorter spray interval.
	Cercospora Leaf Spot ( <i>Cercospora citrulina</i> )  Damping-off ( <i>Fusarium</i> spp.) ( <i>Pythium</i> spp.) ( <i>Phytophthora</i> spp.) ( <i>Rhizoctonia solani</i> )  Downy Mildew ( <i>Pseudoperonospora cubensis</i> )  Gummy Stem Blight ( <i>Didymella bryoniae</i> )  Phytophthora Blight ( <i>Phytophthora capsici</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons of water per acre.  Repeat applications in 7- to 10-day intervals depending upon crop growth and disease pressure.

<p>Honeydew melon Honey balls Mango melon Persian melon Pineapple melon Santa Claus melon Snake melon</p> <p><b>Summer Squash:</b> Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini</p> <p><b>Winter Squash:</b> Acorn squash Butternut squash Calabaza Hubbard squash Spaghetti squash</p> <p>and other cucurbit crops</p>	<p><i>Fusarium</i> spp.</p>	Soil Drench	1 - 4 quarts per acre	For soil drench applications, apply this product at a concentration of 1 - 4 quarts per acre in sufficient water to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.
	<p>Phytophthora blight (<i>Phytophthora capsici</i>)</p>			
	<p><i>Phytophthora</i> spp.</p>			
	<p><i>Pythium</i> spp.</p>			
	<p><i>Rhizoctonia</i> spp.</p>	In-Furrow	2 - 8 fl oz per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
	<p><i>Verticillium</i> spp.</p>			
		Plant Dip	1 - 4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
		Chemigation through drip irrigation	1 - 4 quarts per acre or 2 - 8 fl. oz./1000 row ft.	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation at the rate of 1 - 4 quarts per acre or 2 - 8 fl. oz./1000 row ft. immediately after transplant and at 10- to 21-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.

		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz per 100 lbs. seed.
<b>MBI-110 EP - Biofungicide has a pre-harvest interval (PHI) of 0 days.</b>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Fruiting Vegetables</b>  Tomato Pepper Eggplant Ground Cherry Okra Tomatillo and other fruiting vegetable crops	Bacterial Blight ( <i>Xanthomonas</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product preventatively in 25 - 100 gallons of water per acre. Increase water volume as plant size increases.  Repeat applications at 7- to 10-day intervals.  For improved control of bacterial spot or speck tank-mix MBI-110 EP with a label rate of a copper-based or mancozeb fungicide or other fungicide labeled for control of bacterial spot or speck.
	Bacterial Spot ( <i>Xanthomonas</i> spp.)			
	Bacterial Speck ( <i>Pseudomonas syringae</i> )			
	Black Mold ( <i>Alternaria alternata</i> )			
	Damping-off ( <i>Fusarium</i> spp.) ( <i>Pythium</i> spp.) ( <i>Rhizoctonia solani</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.
	Early Blight ( <i>Alternaria solani</i> )			
	Gray Mold ( <i>Botrytis cinerea</i> )			
	Late Blight ( <i>Phytophthora infestans</i> )			
	Phytophthora Blight ( <i>Phytophthora capsici</i> )			
	Powdery Mildew ( <i>Erysiphe</i> spp.)			

<p>(<i>Leveillula taurica</i>) (<i>Oidopsis taurica</i>) (<i>Sphaerotheca</i> spp.)</p> <p>Target Spot (<i>Corynespora cassiicola</i>)</p>			
<p><i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.</p>	Soil Drench	1 - 4 quarts per acre	For soil drench applications, apply this product at a concentration of 1 - 4 quarts per acre in up to 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.
	In-Furrow	2 - 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in a minimum of 5 gallons of water per acre so as the spray is directed into the seed furrow just before the seeds are covered.
	Plant Dip	1 - 4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
	Chemigation through drip irrigation	1 - 4 quarts per acre or 2 - 8 fl. oz./1000 row ft.	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation at the rate of 1- 4 quarts per acre or 2 - 8 fl. oz./1000 row ft. immediately after transplant and at 10- to 21-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.

		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.
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MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI) of 0 days.**



Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Grape	<p>Powdery Mildew (<i>Uncinula necator</i>)</p> <p>Angular Leaf Spot (<i>Mycosphaerella angulata</i>)</p> <p>Anthracnose (<i>Elsinoe ampelina</i>)</p> <p>Botrytis Bunch Rot (<i>Botrytis cinerea</i>)</p> <p>Black Rot (<i>Guignardia bidwellii</i>)</p> <p>Downy Mildew (<i>Plasmopara viticola</i>)</p> <p>Diseases from pruning wounds including Eutypa (<i>Eutypa lata</i>), <i>Botryosphaeria rhodia</i>, <i>Phaeoacremonium aleophilum</i> and <i>P. chlamydospora</i></p> <p>Leaf Blight (<i>Pseudocercospora vitis</i>)</p> <p>Phomopsis Fruit Rot (<i>Phomopsis viticola</i>)</p> <p>Ripe Rot (<i>Colletotrichum gloeosporioides</i>)</p> <p>Sour Rot (<i>Alternaria tenuis</i>) (<i>Aspergillus spp.</i>) (<i>Botrytis cinerea</i>) (<i>Cladosporium herbarum</i>) (<i>Penicillium spp.</i>) (<i>Rhizopus arrhizus</i>)</p>	Foliar	1 - 4 quarts per acre	<p>For ground applications, apply this product preventatively in 25 - 100 gallons of water per acre or when the first disease symptoms are visible. Increase water volume as plant growth increases to maintain thorough coverage.</p> <p>Repeat applications in 7- to 10-day intervals depending upon crop growth and disease pressure.</p> <p>To protect pruning wounds from vine diseases apply MBI-110 EP at 1 – 4 quarts per 100 gallons of water per acre using ground application equipment that thoroughly wets all susceptible grapevine tissue. Apply as a directed spray immediately after pruning (within 24 hours). A second application is recommended approximately two weeks later. The addition of a registered spray dye is recommended to confirm thorough coverage of susceptible tissue.</p>

	<i>Phytophthora</i> spp. <i>Verticillium</i> spp.	Plant Dip	1 - 4 quarts per 100 gallons	For transplant applications for improved plant growth and suppression of soil-borne diseases, apply as a pre-plant dip immediately prior to transplanting.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Xanthomonas campestris</i>	Trunk Injection	1 - 5 tsp/linear yard of canopy width or 2 inches of trunk diameter at breast height (DBH)(1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.
	Root and collar rots ( <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> )	Soil drench	1 – 4 quarts/acre	Apply as a banded soil drench, or chemigate via microsprinkler, drip or other irrigation system in sufficient water to move product into the root zone. Begin applications in early spring during early shoot growth and continue applications on a 4- to 6-week interval until fall.
MBI-110 EP <b>Biofungicide</b> has a <b>pre-harvest interval (PHI)</b> of <b>0 days</b> .				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Grass Seed</b>	Powdery Mildew ( <i>Erysiphe graminis</i> ) ( <i>Oidium</i> spp.) ( <i>Podosphaera</i> spp.) ( <i>Sphaerotheca</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product preventatively in 25 – 100 gallons of water per acre when disease symptoms are first visible or when environmental conditions are conducive to rapid disease development. Continue sprays at 7- to 10-day intervals.
	Rust ( <i>Puccinia</i> spp.)	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.

	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz per 100 lbs. seed.
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MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI)** of **0 days**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Ornamentals</b> <b>Ornamentals</b> such as flowering plants, annual plants and bedding plants, potted flowers, cut flowers and tropical foliage <b>Woody Ornamentals</b> Broadleaves, Shrubs and Trees Conifers, Shrubs and Trees	Anthracnose ( <i>Colletotrichum</i> spp.) Bacteria ( <i>Erwinia</i> spp.) ( <i>Pseudomonas</i> spp.) ( <i>Xanthomonas</i> spp.) Black Spot of Rose ( <i>Diplocarpon rosae</i> ) Blossom Blight ( <i>Monilinia</i> spp.) Downy Mildew ( <i>Peronospora</i> spp.) ( <i>Plasmopara viburni</i> ) Gray Mold ( <i>Botrytis cinerea</i> ) Leaf Spot ( <i>Alternaria</i> spp.) ( <i>Cercospora</i> spp.) ( <i>Entomosporium</i> spp.)	Foliar	1 - 4 quarts per acre or 1 - 4 quarts per 100 gallons of water	For foliar applications, mix this product concentrate with water at a concentration of 1 - 4 quarts per 100 gallons of water. Begin applications preventatively (before disease symptoms become visible) at the 4 to 6-leaf stage and treat at 7- to 14-day intervals as needed prior to sale or harvest. Spray until just before point of runoff. This product may be used to control certain diseases of container, bench, flat, plug, bed, or field-grown ornamentals in <b>greenhouses, shade-houses, outdoor nurseries, retail nurseries</b> , and other <b>landscape areas</b> .

	<p>(<i>Myrothecium</i> spp.) (<i>Septoria</i> spp.)</p> <p>Powdery Mildew (<i>Erysiphe</i> spp.) (<i>Oidium</i> spp.) (<i>Podosphaera</i> spp.) (<i>Sphaerotheca</i> spp.)</p> <p>Rust (<i>Puccinia</i> spp.)</p> <p>Scab (<i>Venturia</i> spp.)</p>			
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p> <p><i>Verticillium</i> spp.</p>	Soil Drench	1-4 quarts per acre	<p>For soil drench applications, apply this product at a concentration of 1-4 quarts per acre in up to 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.</p>
		Plant Dip	1 - 4 quarts per 100 gallons of water	<p>For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.</p>

	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Xanthomonas campestris</i>	Trunk Injection	1-5 tsp/linear yard of canopy width or 2 inches of trunk diameter at breast height (DBH)(1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.
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Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Herbs/Spices/Mints</b> Angelica Balm Basil Borage Burnet Chamomile Catnip Chervil Chive Clary Coriander Costmary Cilantro Curry Dillweed Horehound Hyssop Lavender Lemongrass Lovage Marjoram Mint Nasturtium Parsley (dried) Peppermint Rosemary Sage	Downy Mildew ( <i>Peronospora</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre or 1 - 4 quarts per 100 gallons of water	For ground applications, apply this product preventatively in a minimum of 50 gallons of water per acre.
	Powdery Mildew ( <i>Erysiphe</i> spp.)			Rust ( <i>Puccinia menthae</i> )
	Anthracnose <i>Colletotrichum</i> spp. Alternaria Leaf Blight <i>Alternaria</i> spp. Botrytis <i>Botrytis</i> spp.	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.

Savory (summer and winter) Sweet Bay Tansy Tarragon Thyme Wintergreen Woodruff Wormwood and other herbs/spices				
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MBI-110 EP ~~Biofungicide~~ has a pre-harvest interval (PHI) of 0 days

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Hops</b>	Downy Mildew ( <i>Pseudoperonospora humuli</i> )  Powdery Mildew ( <i>Sphaerotheca macularis</i> )	Foliar	1 - 4 quarts per acre	<p>Apply this product preventatively when disease symptoms are first visible or when environmental conditions are conducive to rapid disease development. Continue sprays at 7- to 10-day intervals.</p> <p>Minimum spray volumes for hop growth stages are as follows:</p> <p>Emergence to Training: Apply this product using a minimum spray volume of 20 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.</p> <p>Training to Wire-Touch: Apply this product per acre using a minimum spray volume of 50 gallons per acre. Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.</p> <p>Wire-Touch through Harvest: Apply this product using a minimum of 100 gallons of water per acre. Higher water volumes may be necessary to achieve thorough coverage after side arms develop. Apply adequate spray volume to achieve complete spray coverage. Use the higher rates when moderate</p>

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				to high disease pressure is present or expected.
MBI-110 EP <del>Biofungicide</del> has a <b>pre-harvest interval (PHI) of 0 days.</b>				
Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Leafy Vegetable Crops</b> Arugula Beet Celery Chervil Cilantro Corn Salad Cress Dandelion Dock Edible Chrysanthemum Endive Fennel Garden Peas Head Lettuce Leaf Lettuce Parsley Purslane Radicchio Rhubarb Spinach Swiss Chard Watercress and other leafy vegetable crops	Downy Mildew ( <i>Bremia lactuca</i> ) ( <i>Peronospora</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product at 1 – 4 quarts in 10 - 100 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.
	Bacterial Blight/Rot ( <i>Xanthomonas</i> spp.)	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product at 1 – 4 quarts per acre in a minimum of 5 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.
	Cercospora leafspot ( <i>Cercospora</i> spp.)			
	Late Blight ( <i>Septoria apiicola</i> )			
Pink Rot ( <i>Sclerotinia sclerotiorum</i> )				
Powdery Mildew ( <i>Erysiphe cichoracearum</i> )				
Sclerotinia Head and Leaf Drop ( <i>Sclerotinia minor</i> ) ( <i>Sclerotinia sclerotiorum</i> )				
White Rust ( <i>Albugo occidentalis</i> )				
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp.	Seed Treatment	1 – 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.

	<i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Soil drench, chemigation	1 – 4 quarts per acre	For suppression of soil-borne diseases, apply this product as a soil drench following transplant or through chemigation. For application through sprinkler or sub-surface drip irrigation apply in sufficient water to move the product into the root zone. Multiple applications can be made via chemigation as needed on a 10- to 21-day interval.
		In-furrow	2-8 fluid ounces per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 – 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI) of 0 days.**

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Legumes/Vegetables</b> (excluding soybeans and peanuts)  Chick Peas Dry Beans Garbanzo Beans Green Beans Lentils Lima Beans Peas Shell Beans Snap Beans Split Peas and other legume crops (including those grown for seed or oil production)	Bacterial Blight ( <i>Xanthomonas campestris</i> )	Foliar (Ground)	1 - 4 quarts per acre	For foliar applications, apply this product preventatively in 20 - 100 gallons of water per acre. Repeat applications at 7- to 10-day intervals.
	Gray Mold ( <i>Botrytis cinerea</i> )			Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	Pythium (aerial blight phase) ( <i>Pythium</i> spp.)	Foliar (Aerial)	1 – 4 quarts per acre	For aerial applications, apply this product preventatively in a minimum of 5 gallons of water per acre. Repeat applications at 7- to 10-day intervals.
	Powdery Mildew ( <i>Erysiphe</i> spp.)			Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	Rust ( <i>Puccinia</i> spp.) ( <i>Uromyces appendiculatus</i> )			
	White Mold ( <i>Sclerotinia sclerotiorum</i> )			

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	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	In-Furrow	2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 – 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.

MBI-110 EP **Biofungicide** has a **pre-harvest interval (PHI)** of **0 days**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Oil Seed Crops (not including cotton, peanut, or soybean)</b>  Canola Castor Flax Rapeseed Safflower Sesame Sunflower And other oilseed crops	Bacterial Pustule ( <i>Xanthomonas</i> spp.)	Foliar (Ground)	1 - 4 quarts per acre	For ground applications to optimize disease control and to maximize yields, apply this product preventatively in 15 - 40 gallons of water per acre by ground application.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	Bacterial Speck ( <i>Pseudomonas syringae</i> pv. <i>glycinea</i> )			
	Brown Spot ( <i>Septoria glycines</i> )	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons per acre.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	Cercospora Leaf Spot ( <i>Cercospora</i> spp.)			
	Downy Mildew ( <i>Peronospora mansherica</i> )			
	Pod and Stem Blight ( <i>Diaporthe phaseolorum</i> var. <i>sojae</i> )			

	( <i>Phomopsis longicola</i> )  White Mold/Sclerotinia Stem Rot ( <i>Sclerotinia sclerotiorum</i> )			
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	In-furrow	2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 2 – 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.
MBI-110 EP <del>Biofungicide</del> has a <b>pre-harvest interval (PHI) of 0 days.</b>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Olive	Olive Knot ( <i>Pseudomonas savastanoi</i> )	Foliar	1 - 4 quarts per acre	Apply this product preventatively in 50 - 100 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.  Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100 - 400 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	Trunk Injection	1 - 5 tsp/linear yard of canopy width or 2 inch of trunk diameter at breast height	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.

	<i>Xanthomonas camestris</i>		(DBH)(1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	
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MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI) of 0 days.**

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Peanut	<p>Aspergillus crown rot (<i>Aspergillus niger</i>)</p> <p>Damping-off (<i>Aspergillus flavus</i>) (<i>Fusarium</i> spp.) (<i>Pythium</i> spp.) (<i>Rhizoctonia</i> spp.)</p> <p>Early Leaf Spot (<i>Cercospora arachidicola</i>)</p> <p>Late Leaf Spot (<i>Cerosporidium personatum</i>)</p>	Foliar (Ground)	1 - 4 quarts per acre	<p>For foliar applications, apply this product preventatively in 20 - 50 gallons of water per acre.</p> <p>Repeat applications at 7-day intervals.</p> <p>Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications</p>
	<p>Rhizoctonia Foliar Blight, Peg, and Root Rot (<i>Rhizoctonia solani</i>)</p> <p>White Mold (<i>Sclerotium rolfsii</i>, <i>Sclerotinia</i> <i>Sclerotiorum</i>)</p>	Foliar (Aerial)	1 – 4 quarts per acre	<p>For foliar applications, apply this product preventatively in a minimum of 10 gallons of water per acre.</p> <p>Repeat applications at 7-day intervals.</p> <p>Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications</p>
	<p>Aspergillus crown rot (<i>Aspergillus niger</i>)</p> <p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p> <p><i>Verticillium</i> spp.</p> <p>White Mold (<i>Sclerotium rolfsii</i>)</p>	In-Furrow	2 – 8 fl. oz. per 1000 ft. row	<p>For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.</p>

		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.
MBI-110 EP <b>Biofungicide</b> has a <b>pre-harvest interval (PHI)</b> of <b>0 days</b> .				
Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Pome Fruits</b> Apple Crabapple Loquat Oriental Pear Pear Quince Mayhaw and other pome fruit crops	Powdery Mildew ( <i>Podosphaera leucotricha</i> )	Foliar	1 - 4 quarts per acre	For foliar applications, apply this product at 1 - 4 quarts per acre in 50 - 100 gallons of water per acre. Begin applications when conditions are conducive to disease development. Repeat applications every 7-10 days. . Additional sprays beyond second cover may be needed on susceptible varieties, or when environmental conditions are conducive to rapid disease development. Use high label rate and use the shorter spray interval when conditions are conducive to rapid disease development.  Fire Blight – Apply this product at 1 – 4 quarts per acre in 50 - 100 gallons of water per acre beginning at green tip and continuing through petal fall. For maximum control, use this product prior to infection events. During periods of rapid development and frequent infection periods, use spray intervals of 3 - 7 days.  Apply in sufficient water to provide full coverage. For improved performance, use this product in a rotational program with antibiotics registered for fire blight control such as but not limited to oxytetracycline or streptomycin. Use caution when selecting spray adjuvants. Select only those adjuvants which through prior experience do not
	Alternaria Blotch ( <i>Alternaria mali</i> )			
	Apple Scab ( <i>Venturia inaequalis</i> ) Suppression only			
	Bitter Rot ( <i>Colletotrichum</i> spp.)			
	Black Rot/Frogeye Leaf Spot ( <i>Botryosphaeria obtusa</i> )			
	Bot Rot ( <i>Botryosphaeria dothidea</i> )			
	Brooks Spot ( <i>Mycosphaerella pomi</i> )			
	Bull's Eye Rot ( <i>Neofabraea</i> spp.)			
	Cedar-Apple Rust ( <i>Gymnosporangium juniperi-virginianae</i> )			
	Fire Blight ( <i>Erwinia amylovora</i> )			
Flyspeck ( <i>Zygophiala jamaicensis</i> )				
Scab ( <i>Venturia</i> spp.)				
Sooty Blotch				

	<p>(<i>Geastrum polystigmati</i>)  (<i>Leptodontium elatius</i>)  (<i>Peltaster fruticola</i>)</p> <p>White Rot  (<i>Botryosphaeria dothidea</i>)</p>			<p>affect fruit finish when combined with this product</p> <p>Proper orchard cultural practices are essential to eliminate fire blight-infected tissue from the orchard to assure good performance of any crop protection product. Care must be taken to remove and destroy dead and diseased wood from the orchard prior to and during the growing season.</p> <p>Scab – Apply 1 – 4 quarts of this product in 50 - 100 gallons of water per acre at green tip and through bloom when environmental conditions become favorable for primary scab development and repeat when conditions are conducive for ascospore release (Can be repeated up to every 7 days). . Use caution when selecting spray adjuvants. Select only those adjuvants which through prior experience do not affect fruit finish when combined with this product.</p> <p>Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100 - 400 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.</p>
	<p><i>Phytophthora</i> spp.  <i>Pythium</i> spp.</p>	<p>Plant Dip  (bare root)</p>	<p>1 – 4 quarts  per 100  gallons</p>	<p>For improved plant growth and suppression of soil-borne diseases, apply as a pre-plant root dip immediately prior to transplanting.</p>

	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Xanthomonas campestris</i>	Trunk Injection	1 - 5 tsp/linear yard of canopy width or 2 inches of trunk diameter at breast height (DBH)(1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.
	Root and collar rots ( <i>Phytophthora</i> , <i>Pythium</i> , <i>Fusarium</i> , <i>Rhizoctonia</i> )	Soil drench	1 – 4 quarts/acre	Apply as a banded soil drench, or chemigate via microsprinkler, drip or other irrigation system in sufficient water to move product into the root zone. Begin applications in early spring during early shoot growth and continue applications on a 4- to 6-week interval until fall.

MBI-110 EP **Biofungicide** has a **pre-harvest interval (PHI)** of **0 days**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Root, Tuber and Corm Crops</b>  Potato Beet Carrot Cassava Ginger Ginseng Horseradish Radish Sweet Potato	Aerial Stem Rot ( <i>Erwinia carotovora</i> )  Bacterial Leaf Blight ( <i>Xanthomonas campestris</i> )  Black Root Rot / Black Crown Rot ( <i>Alternaria</i> spp.)	Foliar	1 - 4 quarts per acre	For foliar applications, apply this product in 25 - 100 gallons of water per acre sufficient to provide thorough coverage. Begin application soon after emergence or transplant, and when conditions are conducive to disease development. Repeat on a 7- to 10-day interval. Use shorter intervals when conditions are conducive to rapid disease development.

Turnip and other root crops (including those for seed production)	Downy Mildew ( <i>Peronospora</i> spp.)			For control of Early Blight ( <i>Alternaria solani</i> ), Black Root Rot/Black Crown Rot ( <i>Alternaria</i> spp.), and Late Blight ( <i>Phytophthora infestans</i> ), begin application of this product in 25 - 100 gallons of water per acre soon after emergence when conditions are conducive to disease development. Repeat on a 7-day interval.
	Early Blight ( <i>Alternaria solani</i> )			
	Gray Mold ( <i>Botrytis</i> spp.)			
	Late Blight ( <i>Phytophthora infestans</i> )			
	Powdery Mildew ( <i>Erysiphe</i> spp.)			
	White Mold ( <i>Sclerotinia sclerotiorum</i> )			
	Clubroot ( <i>Plasmodiophora brassicae</i> )	Soil Drench	1 – 4 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1 - 4 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 14-day interval.
	Common Scab ( <i>Streptomyces scabies</i> ) Suppression only			
	<i>Fusarium</i> spp.			
	<i>Phytophthora</i> spp.			
	<i>Pythium</i> spp.	In-Furrow	2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
	<i>Rhizoctonia</i> spp.			
	<i>Verticillium</i> spp.			
	Pink Rot ( <i>Phytophthora erythroseptica</i> )			
		Potato Seed Piece Treatment	3.2 – 4.8 fl. oz. per 100 lbs. of seed pieces	For seed piece applications for improved plant growth and suppression of soil-borne diseases, apply this product to seed pieces immediately prior to planting.



		Chemigation (drip)	1 - 4 quarts per acre	For chemigation applications for improved plant growth and suppression of soil-borne diseases apply this product through drip irrigation at the rate of 1 – 4 quarts per acre at 14– to 21-day intervals. Or begin 14 days after transplant when plant dip or soil drench applications are used.
	Post-Harvest treatment of Potatoes for  Late blight ( <i>Phytophthora infestans</i> )  Pink rot ( <i>Phytophthora erythroseptica</i> )	Spray, rinse or inject into humidification water prior to or during storage	Dilute MBI-110 EP <b>Biofungicide</b> at 1:20 ratio with application water; 3.2 fl. oz./0.5 gal of water/ton of tubers	Inject concentrate into water used in humidification or process water used for post-harvest storage, rinses and associated tanks, flumes and lines. Do not use on cut potatoes.
MBI-110 EP <b>Biofungicide</b> has a <b>pre-harvest interval (PHI)</b> of <b>0 days</b> .				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Soybean	Aerial Web Blight ( <i>Rhizoctonia solani</i> )	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply 0.5 – 4 quarts of this product preventatively in 15 - 40 gallons of water per acre.
	Alternaria Leafspot ( <i>Alternaria</i> spp.)			For improved performance against Asian soybean rust and Cercospora blight and Frog-eyed leaf spot, apply 1 – 4 quarts of this product in a tank mix with another registered fungicide.
	Anthracnose ( <i>Colletotrichum truncatum</i> )			Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	Asian Soybean Rust ( <i>Phakopsora pachyrhizi</i> )			
	Brown Spot ( <i>Septoria glycines</i> ) Cercospora Blight	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.

	<p>(<i>Cercospora kikuchii</i>)</p> <p>Frog-eyed Leaf Spot (<i>Cercospora sojina</i>)</p> <p>Phomopsis</p> <p>Pod and Stem Blight (<i>Diaporthe</i> spp.)</p> <p>Septoria Brown Spot (<i>Septoria glycines</i>)</p> <p>White Mold (<i>Sclerotinia sclerotiorum</i>)</p>			<p>For improved performance, apply this product in a tank mix with another registered fungicide.</p> <p>Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.</p>
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p>	In-Furrow	2 - 8 fl. oz. per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.

MBI-110 EP ~~Bio~~fungicide has a pre-harvest interval (PHI) of 0 days.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<p><b>Stone Fruits</b></p> <p>Apricot</p> <p>Cherry (sweet and tart)</p> <p>Nectarine</p> <p>Peach</p> <p>Plum</p> <p>Plumcot</p> <p>Prune and other stone fruit crops</p>	<p>Alternaria Spot/Fruit Rot (<i>Alternaria alternata</i>)</p> <p>Anthracnose (<i>Colletotrichum</i> spp.)</p> <p>Bacterial Canker (<i>Pseudomonas</i> spp.)</p>	Foliar	1 - 4 quarts per acre	<p>For foliar applications, apply this product preventatively in 50 - 100 gallons of water per acre.</p> <p>Bacterial Blight – Apply this product in 50 - 100 gallons of water per acre postharvest before Fall rains.</p> <p>Brown Rot Blossom Blight – Begin application of this product in 50 - 100 gallons of water per acre at early bloom, and repeat through petal fall on a 7-day interval..</p>

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	<p>Bacterial Spot (<i>Xanthomonas pruni</i>)</p> <p>Brown Rot Blossom Blight (<i>Monilinia laxa</i>)</p> <p>Brown Rot Fruit Rot (<i>Monilinia fruticola</i>)</p> <p>Cercospora Leaf Spot (<i>Cercospora</i> spp.)</p> <p>Cherry Leaf Spot (<i>Blumeriella jaapii</i>)</p> <p>Gray Mold (<i>Botrytis cinerea</i>)</p> <p>Powdery Mildew (<i>Podosphaera</i> spp.) (<i>Sphaerotheca pannosa</i>)</p> <p>Rust (<i>Tranzschelia discolor</i>)</p> <p>Rusty Spot (<i>Podosphaera leucotricha</i>)</p> <p>Scab (<i>Cladosporium carpophilum</i>)</p> <p>Shot Hole (<i>Wilsonomyces carpophilus</i>)</p>			<p>Powdery Mildew – Begin application of this product in 50 - 100 gallons of water per acre at popcorn stage, and repeat on a 7-day interval. .</p> <p>Scab – Begin application of this product in 50 - 100 gallons of water per acre at petal fall, and repeat on a 7-day interval. .</p> <p>For all other diseases – Begin application prior to disease development when environmental conditions and plant stage are conducive to rapid disease development, and repeat on a 7day interval. .</p> <p>Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100 - 400 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.</p>
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	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Plant Dip (bare root)	1 – 4 quarts per 100 gallons of water	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply as a pre-plant root dip immediately prior to transplanting.
		Soil drench	1 – 4 quarts/acre	Apply as a banded soil drench, or chemigate via microsprinkler, drip or other irrigation system in sufficient water to move product into the root zone. Begin applications in early spring during early shoot growth and continue applications on a 4- to 6-week interval until fall.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Xanthomonas</i> <i>camestrtris</i>	Trunk Injection	1 - 5 tsp/linear yard of canopy width or 2 inches of trunk diameter at breast height (DBH)(1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.
MBI-110 EP <del>Biofungicide</del> has a pre-harvest interval (PHI) of 0 days.				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Strawberry	Angular leaf spot ( <i>Xanthomonas fragariae</i> )	Foliar	1 - 4 quarts	For foliar applications, apply this product preventatively in 50 - 100 gallons of water per acre at 7- to

	<p>Anthracnose (<i>Collectotrichum</i> spp.)</p> <p>Botrytis (<i>Botrytis cinerea</i>)</p> <p>Leaf Spot (<i>Mycosphaerella fragariae</i>)</p> <p>Phomopsis Leaf Blight (<i>Phomopsis obscurans</i>)</p> <p>Powdery Mildew (<i>Sphaerotheca macularis</i>)</p>		<p>per acre</p>	<p>10-day spray intervals as soon as first symptoms of disease appear.</p> <p>Angular leaf spot and Anthracnose - apply this product preventatively in 50 - 100 gallons of water per acre and repeat on a 7- to 10-day interval.</p> <p>Dilute applications: this product can be applied by ground equipment to strawberries in dilute applications of 100 - 200 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.</p>
	<p>Black Root Rot (<i>Rhizoctonia</i> spp.) (<i>Pythium</i> spp.) (<i>Fusarium</i> spp.) (<i>Cylindrocarpon</i> spp.)</p>	<p>Plant Dip</p>	<p>1 – 4 quarts per 100 gallons of water</p>	<p>For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply product as a pre-plant dip to strawberry plants, roots and crowns immediately prior to transplanting.</p>
	<p>Colletotrichum Crown Rot (<i>Colletotrichum</i> spp.)</p> <p>Phytophthora Root Rot and Crown Rot (<i>Phytophthora</i> spp.)</p> <p>Verticillium Wilt (<i>Verticillium</i> spp.)</p> <p><i>Fusarium</i> spp.</p>	<p>Soil Drench</p>	<p>1 – 4 quarts per acre</p>	<p>For soil drench applications, apply this product at a concentration of 1 – 4 quarts per acre in up to 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.</p>
	<p><i>Pythium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p> <p><i>Verticillium</i> spp.</p>	<p>Chemigation</p>	<p>1 – 4 quarts per acre</p>	<p>For chemigation applications for improved plant growth and suppression of foliar and soil-borne diseases, apply this product through overhead or drip irrigation at the rate of 1 – 4 quarts per acre immediately after transplant and at 7- to 10-day intervals for foliar applications or 10- to 21-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.</p>

MBI-110 EP <del>Biofungicide</del> has a <b>pre-harvest interval (PHI) of 0 days.</b>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Sugar Beets</b> (includes crop for seed production)	Powdery Mildew ( <i>Erysiphe betae</i> ) ( <i>Erysiphe polygoni</i> )  Leaf Spot ( <i>Cercospora beticola</i> )  Ramularia ( <i>Ramularia</i> spp.)  Rust ( <i>Uromyces betae</i> )	Foliar	1 – 4 quarts per acre	To optimize disease control and to maximize yields, apply this product preventatively in 15 - 40 gallons of water per acre by ground or aerial application.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	<i>Fusarium</i> spp.	Seed Treatment	1 - 32 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed.
	<i>Phytophthora</i> spp.  <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	In-furrow	2 - 8 fl. oz. per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI) of 0 days.**

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Sugarcane</b>	Brown Rust ( <i>Puccinia melanocephala</i> )  Orange Rust ( <i>Puccinia kuehnii</i> )	Foliar (Ground)	1 - 4 quarts per acre	For ground applications to optimize disease control and to maximize yields, apply this product preventatively in 15 - 40 gallons of water per acre by ground application.

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	Red Rot ( <i>Colletotrichum falcatum</i> )			Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.  For improved performance, apply this product in a tank mix program with another registered fungicide.
		Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons of water per acre.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.  For improved performance, apply this product in a tank mix program with another registered fungicide.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	In-Furrow	2 – 8 fl. oz. per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 2 - 8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Piece Treatment	1 - 32 fl. oz. per 100 lbs. seed-cane	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1 - 32 fl. oz. per 100 lbs. seed-cane.

MBI-110 EP ~~Bio~~fungicide has a pre-harvest interval (PHI) of 0 days.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Tobacco	Blue Mold ( <i>Peronospora tabacina</i> ) Target Spot ( <i>Rhizoctonia solani</i> )  Brown Spot ( <i>Alternaria</i> spp.)	Foliar	1 - 4 quarts per acre	For foliar applications, apply this product at a rate of 1 - 4 quarts per acre when applied alone, or when tank mixed with another fungicide preventatively in a minimum of 50 gallons of water per acre.  Avoid excessive amounts of water that result in spray material dripping from the foliage. If necessary, repeat applications at a 7- to 10-day interval.

	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Plant Dip	1 – 4 quarts per 100 gallons of water	For plant dip applications, for improved plant growth and suppression of soil-borne diseases, apply this as a pre-plant dip to tobacco roots and plants immediately prior to transplanting.
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MBI-110 EP ~~Biofungicide~~ has a pre-harvest interval (PHI) of 0 days.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Tree Nut Crops</b>  Walnut (Black and English) Almond Beech nut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert Hickory nut Macadamia nut Pecan Pistachio and other tree nut crops	Walnut Blight ( <i>Xanthomonas campestris</i> )	Foliar (Ground)	1 - 4 quarts per acre	For ground applications, apply this product in 50 - 100 gallons of water per acre.
	Alternaria Late Blight			This product can be tank mixed with another registered fungicide for improved control under heavy disease pressure.
	Alternaria Leaf Spot ( <i>Alternaria</i> spp.)			Walnut Blight - For preventative control, apply this product in 50-100 gallons of water per acre. Repeat applications at 7- to 10-day intervals. Under conditions of moderate to heavy disease pressure, tank mix this product with a copper-based fungicide/bactericide.
	Anthracnose ( <i>Collectotrichum</i> spp.)			Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100 - 400 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.
	( <i>Gnomonia leptostyla</i> )			
	Bacterial Canker ( <i>Erwinia nigrifluens</i> ) ( <i>Pseudomonas syringae</i> )			
	Botryosphaeria Blight ( <i>Botryosphaeria dothidea</i> )			
	Brown Rot ( <i>Monilinia</i> spp.)	Foliar (Aerial)	1 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons per acre.
	Eastern Filbert Blight ( <i>Anisogramma anomala</i> )			
	Green Fruit Rot ( <i>Botrytis cinerea</i> )			



	<p>Leaf Rust (<i>Tranzschelia discolor</i>)</p> <p>Scab (<i>Cladosporium carpophilum</i>) (<i>Sphaceloma perseae</i>)</p> <p>Shot Hole (<i>Wilsonomyces carpophilus</i>)</p>			
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p>	<p>Plant Dip (bare root)</p>	<p>1 – 4 quarts per 100 gallons of water</p>	<p>For applications for improved plant growth and suppression of soil-borne diseases, apply as a pre-plant dip immediately prior to transplanting.</p>
	<p><i>Rhizoctonia</i> spp.</p> <p><i>Verticillium</i> spp.</p>	<p>Soil drench</p>	<p>1 – 4 quarts/acre</p>	<p>Apply as a banded soil drench, or chemigate via microsprinkler, drip or other irrigation system in sufficient water to move product into the root zone. Begin applications in early spring during early shoot growth and continue applications on a 4- to 6- week interval until fall.</p>
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p> <p><i>Xanthomonas campestris</i></p>	<p>Trunk Injection</p>	<p>1 - 5 tsp/linear yard of canopy width or 2 inches of trunk diameter at breast height (DBH) (1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.</p>	<p>Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.</p>
<p>MBI-110 EP-Biofungicide has a pre-harvest interval (PHI) of 0 days.</p>				

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Tropical Fruits</b> Avocado Banana Kiwi Mango Papaya Plantain Pineapple Pomegranate and other tropical fruit crops	Anthracnose <i>(Colletotrichum gloeosporioides)</i>	Foliar (Ground)	1 - 4 quarts per acre	<p>For ground applications, apply this product preventatively in 50-100 gallons of water per acre.</p> <p>Repeat applications at 7- to 10-day intervals.</p> <p>Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100 - 400 gallons of water. Avoid excessive amounts of water that result in the runoff of spray material.</p> <p>Sigatoka - Initiate applications when leaves first appear and repeat on a 7- to 10-day schedule. Apply in sufficient water by ground or air to obtain thorough coverage of foliage. For improved disease control, this product may be tank-mixed with oil or other fungicides registered for Sigatoka control at label rates.</p>
	Bacterial Blight <i>(Pseudomonas syringae)</i> <i>(Pseudomonas viridiflava)</i> Bacterial Canker <i>(Xanthomonas campestris)</i> Botrytis Fruit Rot <i>(Botrytis cinerea)</i> Scab <i>(Elsinoe mangiferae)</i> Sigatoka <i>(Mycosphaerella fijiensis)</i> Sclerotinia <i>(Sclerotinia Sclerotiorum)</i>			Foliar (Aerial)
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Plant Dip	1 – 4 quarts per 100 gallons of water	<p>For improved plant growth and suppression of soil-borne diseases, apply as a pre-plant dip immediately prior to transplanting.</p>
	Root and collar rots <i>(Phytophthora,</i>	Soil drench	1 – 4 quarts/acre	<p>Apply as a banded soil drench, or chemigate via microsprinkler, drip or other irrigation system in</p>

	<i>Pythium,</i> <i>Fusarium,</i> <i>Rhizoctonia)</i>			sufficient water to move product into the root zone. Begin applications in early spring during early shoot growth and continue applications on a 4- to 6-week interval until fall.
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MBI-110 EP ~~Biofungicide~~ has a **pre-harvest interval (PHI) of 0 days.**

## STORAGE AND DISPOSAL

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

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

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

### Container Handling:

**For plastic containers less than or equal to 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

*and/or*

**For plastic containers greater than 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

*and/or*

**For plastic, refillable containers:** Refill this container with MBI-110 EP only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat rinsing procedure two more times.

Marrone Bio Innovations is a member of the Ag Container Recycling Council.  
Visit <http://www.acrecycle.org/contact.html> for information on how to arrange pick-up of this empty pesticide container.



#### **WARRANTY**

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

[Made in the U.S.A.]

US Patent No. 9,125,419

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1540 Drew Ave., Davis, CA 95618

1-877-664-4476

[info@marronebio.com](mailto:info@marronebio.com)

# Sublabel B: Turf & Professional Landscape Use

# MBI-110 EP

Broad-spectrum biofungicide/bactericide for control or suppression of fungal and bacterial plant diseases

**(Biological) (Microbial) (Fungicide)  
Aqueous Suspension**



(Can Be Used in Organic Gardening) (For Organic Gardening) (OMRI Placeholder) ~~(Biobased Placeholder)~~

**Active ingredient:** *Bacillus amyloliquefaciens* strain F727\* cells and spent fermentation media ..... 96.4%  
**Other ingredients:** ..... 3.6%  
**Total** ..... 100.0%

\*Contains a minimum of 1 X 10<sup>9</sup> cfu/ml of product

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
<b>IF SWALLOWED:</b>	Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>IF ON SKIN OR CLOTHING:</b>	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.
<b>IF INHALED:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>IF IN EYES:</b>	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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or if going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

**EPA Reg. No.:** 84059-28

**EPA Est. No.:** XXXXX-XX-XXX

**Net Contents:** XX

**(Batch)(Lot) No:** XXXX

Not for sale or use after 18 months from the date of manufacture. [manufacture date on packaging]

**Manufactured by:** Marrone Bio Innovations, Inc.  
1540 Drew Ave.  
Davis, CA 95618 USA  
1-877-664-4476; info@marronebio.com

**MBI-110 EP;** EPA Reg. No. 84059-28

MASTER LABEL - Label version (65) dated ~~February 22, 2018~~ ~~October 16, 2017~~

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**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Avoid contact with 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 use.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers/loaders and applicators must wear a NIOSH-approved particulate filter with any N, R, P filter with NIOSH approval number prefix TC-84A; or a NIOSH- approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then 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, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

**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 the restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

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 wear:

- Coveralls
- Chemical resistant gloves (made of any waterproof material)
- Shoes plus socks

**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.

**Non-Agricultural Use Requirements**

The requirements in this box apply to uses of the 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 treatment area until seeds have dried or been packaged.

## DIRECTIONS FOR USE

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

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

## PRODUCT INFORMATION

MBI-110 EP **Biofungicide** is a biological fungicide, containing *Bacillus amyloliquefaciens* strain F727. Use MBI-110 EP **Biofungicide** as a preventative rather than a curative application. Apply prior to disease infestation to protect the growing leaf tissue. See specific information for diseases controlled and use rates.

MBI-110 EP **Biofungicide** can be used as a seed treatment, plant dip, soil drench, in-furrow spray, foliar spray (ground and/or aerial), or applied through drip irrigation to control or suppress certain soil-borne diseases and to promote healthy root growth. See specific information for diseases controlled and use rates on treating seeds with MBI-110 EP **Biofungicide**.

MBI-110 EP can be used in either the field or greenhouse for the prevention of any labeled disease.

## MODE OF ACTION

The active ingredient in MBI-110 EP **Biofungicide** is a beneficial rhizobacterium that colonizes plant root hairs, leaves and other surfaces to prevent establishment of fungal and bacterial plant diseases.

## MIXING AND APPLICATION INSTRUCTIONS

### – SHAKE WELL PRIOR TO USE –

MBI-110 EP **Biofungicide** is an aqueous suspension. Use 50-mesh nozzle screens or larger.

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

**MBI-110 EP **Biofungicide** alone:** Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-110 EP **Biofungicide** to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-110 EP **Biofungicide** has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

**MBI-110 EP **Biofungicide** + tank-mixtures:** Add ½ - ¾ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as MBI-110 EP **Biofungicide**. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process. After all components are completely dispersed add the remainder of the water. MBI-110 EP **Biofungicide** cannot be mixed with another product with a prohibition against mixing. Use of the tank mix must be in accordance with the more restrictive label limitations and precautions. **Do not pre-mix MBI-110 EP **Biofungicide** with any other tank-mix component prior to adding to the spray tank.**

**Compatibility:** Do not combine MBI-110 EP **Biofungicide** in the spray tank with pesticides, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions.

MBI-110 EP **Biofungicide** is compatible with many commonly used pesticides, fertilizers, adjuvants, and surfactants, but has not been evaluated with all potential combinations. To ensure compatibility of the tank mix combinations, evaluate prior to use as follows: Using a suitable container, add the proportional amounts of product to water. Add wettable powders first, then water dispersible granules, then liquid flowables, and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the mix on a small



portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of the application.

### **CHEMIGATION USE DIRECTIONS**

Apply MBI-110 EP-Biofungicide at 1 – 4 quarts per acre according to the instructions below unless specified differently in the APPLICATION RATES section.

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## **CHEMIGATION**

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### **General Requirements -**

- 1) Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### **Specific Requirements for Chemigation Systems Connected to Public Water Systems -**

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) 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.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

### **Specific Requirements for Sprinkler Chemigation -**

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

- prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
  - 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.
  - 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

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

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- 2) Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
  - a. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
  - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
  - c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
  - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
  - f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

#### **Specific Requirements for Drip (Trickle) Chemigation -**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

#### **Application Instructions for All Types of Chemigation -**

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

#### PRE-PLANT DIP USE DIRECTIONS

MBI-110 EP-Biofungicide can be applied as a pre-plant dip suppression of certain soil-borne diseases. Apply MBI-110 EP-Biofungicide in 1 - 4 quarts of product per 100 gallons of water as a pre-plant dip immediately prior to transplanting, unless specified differently in the APPLICATION RATES section.

#### SEED TREATMENT USE DIRECTIONS

MBI-110 EP-Biofungicide can be applied as a seed dressing for suppression of soil-borne diseases to improve early-season root growth. MBI-110 EP-Biofungicide may be applied as a water-based slurry with other registered seed treatment insecticides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-110 EP-Biofungicide mixtures.

**MBI-110 EP-Biofungicide alone:** Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-110 EP-Biofungicide to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-110 EP-Biofungicide has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

**MBI-110 EP-Biofungicide+ tank-mixtures:** Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as MBI-110 EP-Biofungicide. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

**Note:** When using MBI-110 EP-Biofungicide in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-110 EP-Biofungicide. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-110 EP-Biofungicide in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product which prohibits such mixing.

**For Commercial Seed Treatment:** This product does not contain dye. All seed treated commercially 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 Bacillus amyloliquefaciens strain F727. Do not use for food, feed or oil purposes."

#### Non-Agricultural Use Requirements

~~The requirements in this box apply to uses of the 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 treatment area until seeds have dried or been packaged.~~

### SOIL DRENCH USE DIRECTIONS

Apply MBI-110 EP-Biofungicide at a concentration of 1 - 4 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of MBI-110 EP-Biofungicide during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 14-day interval.

### TRUNK INJECTION USE DIRECTIONS

MBI-110 EP-Biofungicide can be used for the prevention and treatment of Downy mildew, Sudden oak death (*Phytophthora ramorum*), root rots (*Phytophthora* spp.), *Pythium* and various other disease of agricultural trees, indoor and outdoor ornamentals, forestry applications including domestic trees, conifers, pines and oaks. This product may be applied up to the day of harvest.

### APPLICATION RATES

The general recommended use rate for MBI-110 EP-Biofungicide applied alone or as an alternate spray is 1 - 4 quarts per 100 gallons of water (0.25 - 1.0% v/v dilution). When tank mixed with another fungicide, the use rate for MBI-110 EP is - 0.5 - 4 quarts in 100 gallons of water. Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. See specific application recommendations for additional details.

For greenhouse application, the recommended use rate for MBI-110 EP-Biofungicide is 1 - 4 quarts in 100 gallons of water sprayed until just before point of runoff. When tank mixed with another fungicide, the use rate for MBI-110 EP-Biofungicide is 0.5 - 4 quarts in 100 gallons of water. Repeat at 7- to 10-day intervals as needed. See specific application recommendations for additional details.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Ornamentals</b>  <b>Ornamentals</b> such as flowering plants, annual plants, and bedding plants, potted flowers, cut flowers and tropical foliage	Anthracnose ( <i>Colletotrichum</i> spp.)  Bacteria ( <i>Erwinia</i> spp.) ( <i>Pseudomonas</i> spp.) ( <i>Xanthomonas</i> spp.)  Black Spot of Rose ( <i>Diplocarpon</i> <i>rosae</i> )	Foliar	1 - 4 quarts per acre	For foliar applications, mix this product concentrate with water at a concentration of 1 - 4 quarts per 100 gallons of water.  Begin applications preventatively (before disease symptoms become visible) at the 4 to 6-leaf stage and treat at 7- to 14-day intervals as needed prior to sale or harvest. Spray until just before point of runoff.  This product may be used to control certain diseases of

<p><b>Woody Ornamentals</b> Broadleaves, Shrubs and Trees Conifers, Shrubs and Trees</p>	<p>Blossom Blight (<i>Monilinia</i> spp.)</p> <p>Downy Mildew (<i>Peronospora</i> spp.) (<i>Plasmopara viburni</i>)</p> <p>Gray Mold (<i>Botrytis cinerea</i>)</p> <p>Leaf Spot (<i>Alternaria</i> spp.) (<i>Cercospora</i> spp.) (<i>Entomosporium</i> spp.) (<i>Myrothecium</i> spp.) (<i>Septoria</i> spp.)</p> <p>Powdery Mildew (<i>Erysiphe</i> spp.) (<i>Oidium</i> spp.) (<i>Podosphaera</i> spp.) (<i>Sphaerotheca</i> spp.)</p> <p>Rust (<i>Puccinia</i> spp.)</p> <p>Scab (<i>Venturia</i> spp.)</p>			<p>container, bench, flat, plug, bed, or field-grown ornamentals in <b>greenhouses, shade-houses, outdoor nurseries, retail nurseries</b>, and other <b>landscape areas</b>.</p>
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p> <p><i>Verticillium</i> spp.</p>	<p>Soil Drench</p>	<p>1 – 4 quarts per acre or 1 – 4 quarts per 100 gallons of water</p>	<p>For soil drench applications, apply this product in sufficient water to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.</p>

		Plant Dip	1 - 4 quarts per 100 gallons of water	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product as a pre-plant dip immediately prior to transplanting.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Xanthomonas campestris</i>	Trunk Injection	1-5 tsp/linear yard of canopy width or 2 inches of trunk diameter at breast height (DBH)(1.0 - 5.0 mL/linear meter of canopy width or 5 cm DBH). Inject directly into tree.	Apply according to injection equipment instructions. Adjust rate based on injection equipment suggestions for specific applications. Repeat 2 to 4 times a year until control is reached.

Crop	Target Disease	Application Method	Product Use Rate per Application (per 1,000 sq. ft.)	Product Use Rate per Application (per Acre)	Application Instructions
<b>Turfgrass</b>  Bluegrass Bentgrass Bermudagrass Dichondra Fescue Orchardgrasses <i>Poa annua</i> Ryegrass	Anthracnose ( <i>Colletotrichum graminicola</i> )  Bentgrass/Bermudagrass Dead Spot ( <i>Ophiosphaerella agrostis</i> )  Bermudagrass Decline	Foliar	0.73 – 2.92 fl. oz. per 1000 sq. ft. in a minimum of 1.72 gallons of water	1– 4 quarts per acre in a minimum of 75 gallons of water	This product aids in control of turf diseases and improves turf quality. For improved performance under moderate to severe disease pressure, reduce spray intervals or use this product in a tank mix or rotational program

St. Augustine Zoysia mixtures and other grasses	( <i>Gaeumannomyces graminis</i> var. <i>graminis</i> )  Brown patch ( <i>Rhizoctonia solani</i> )				with other registered fungicides.
<b>Ornamental Grasses</b>	Copper Spot ( <i>Gloeocercospora sorghii</i> )				Begin applications preventatively (before disease symptoms become visible) and treat at 7- to 14-day intervals as needed. Spray water volumes must be of at least 1.72 gallons of water per 1000 sq. ft. Under moderate to high disease pressure, tank mix with other registered fungicides.
	Dichondra Rust ( <i>Puccinia dichondrae</i> )				
	Dollar Spot ( <i>Lanzia</i> spp.) ( <i>Moellerodiscus</i> spp. formerly <i>Sclerotinia homeocarpa</i> )				
	Fusarium Patch ( <i>Fusarium nivale</i> )				
	Gray Leaf Spot ( <i>Pyricularia grisea</i> )				
	Melting Out Leaf Spot ( <i>Bipolaris</i> spp.) ( <i>Drechslera</i> spp.)				
	Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )				
	Pink Patch ( <i>Limonomyces roseipellis</i> )				
	Powdery Mildew ( <i>Erysiphe graminis</i> )				
	Pythium Blight Pythium Root Rot ( <i>Pythium aphanidermatum</i> ) ( <i>Pythium</i> spp.)				
	Red Thread ( <i>Laetisaria fuciformis</i> )				
	Rust ( <i>Puccinia</i> spp.)				
	Rhizoctonia Large Patch				

	<p>(<i>Rhizoctonia solani</i>)</p> <p>Snowmold, Gray (<i>Typhula</i> spp.)</p> <p>Snowmold, Pink (<i>Microdochium nivale</i>)</p> <p>Southern Blight (<i>Sclerotium rolfsii</i>)</p> <p>Spring Dead Spot (<i>Leptosphaeria korrae</i>) (<i>Leptosphaeria narmari</i>) (<i>Ophiosphaerella herpotricha</i>) (<i>Gaeumannomyces graminis</i>)</p> <p>Stripe Smut (<i>Ustilago striiformis</i>) (<i>Urocystis agropyri</i>)</p> <p>Summer Bentgrass Decline</p> <p>Summer Patch Poa Patch (<i>Magnaporthe poae</i>)</p> <p>Take-All Patch (<i>Gaeumannomyces graminis</i>)</p> <p>Yellow Patch (<i>Rhizoctonia cerealis</i>)</p> <p>Yellow Tuft/Downy Mildew (<i>Sclerophthora macrospora</i>)</p> <p>Zoysia Patch (<i>Rhizoctonia solani</i>)</p>				
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p>	Seed Treatment	1-32 fl. oz. per 100 lbs. seed		For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1-32 fl. oz per 100 lbs. seed.



	<i>Verticillium</i> spp.				
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## STORAGE AND DISPOSAL

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

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

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

### Container Handling:

**For plastic containers less than or equal to 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

*and/or*

**For plastic containers greater than 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

*and/or*

**For plastic, refillable containers:** Refill this container with MBI-110 EP only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat rinsing procedure two more times.

Marrone Bio Innovations is a member of the Ag Container Recycling Council.  
Visit <http://www.acrecycle.org/contact.html> for information on how to arrange pick-up of this empty pesticide container.

## WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

Made in the U.S.A.

US Patent No. 9,125,419

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1540 Drew Ave., Davis, CA 95618  
1-877-664-4476  
[info@marronebio.com](mailto:info@marronebio.com)

## Sublabel C: Home & Garden Use

# MBI-110 EP

Broad-spectrum biofungicide/bactericide for control or suppression of fungal and bacterial plant diseases

**(Biological) (Microbial) (Fungicide)  
Aqueous Suspension**



(Can Be Used in Organic Gardening) (For Organic Gardening)(OMRI Placeholder) ~~(Biobased Placeholder)~~

**Active ingredient:** *Bacillus amyloliquefaciens* strain F727\* cells and spent fermentation media ..... 96.4%  
**Other ingredients:** ..... 3.6%  
**Total** ..... 100.0 %

\*Contains a minimum of  $1 \times 10^9$  cfu/ml

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

FIRST AID	
<b>IF SWALLOWED:</b>	Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>IF ON SKIN OR CLOTHING:</b>	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.
<b>IF INHALED:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>IF IN EYES:</b>	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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or if going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

**EPA Reg. No.:** 84059-28

**EPA Est. No.:** XXXXX-XX-XXX

**Net Contents:** XX

**(Batch)(Lot) No:** XXXX

Not for sale or use after 18 months from the date of manufacture. [manufacture date on packaging]

**Manufactured by:** Marrone Bio Innovations, Inc.  
1540 Drew Ave.  
Davis, CA 95618 USA  
1-877-664-4476; info@marronebio.com

## PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION:** Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash 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 runoff to water bodies or drainage systems.

## DIRECTIONS FOR USE

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

MBI-110 EP ~~Biofungicide~~ is a broad spectrum fungicide used for the control or suppression of a broad range of foliar diseases. MBI-110 EP ~~Biofungicide~~ may be used on vegetable crops, roses, fruits, nuts, flowers, foliage, houseplants, trees and shrubs located in residential landscapes. MBI-110 EP ~~Biofungicide~~ can be applied up to and on the day of harvest on all fruits and vegetables.

### WHEN TO USE

For best results, apply MBI-110 EP ~~Biofungicide~~ prior to disease development or at the first sign of diseases and continue applying on a 7- to 10-day schedule until disease pressure subsides.

### 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 or spray trigger bottles.

Do not allow spray mixture to stand overnight or for prolonged periods.

MBI-110 EP ~~Biofungicide~~ can be applied in commonly used pressurized hand-held sprayers, spray trigger bottles and hose-end sprayers.

### HOW TO USE FOR HAND-HELD SPRAYERS AND SPRAY TRIGGER BOTTLES

Shake well before use.

Fill sprayer or bottle with appropriate amount of water and concentrate.

Mix the spray solution thoroughly.

Keep the spray solution agitated during application.

### HOW TO USE FOR HOSE-END SPRAYERS

Shake well before use.

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:

1 fluid ounce (2 TBSP) of MBI-110 EP ~~Biofungicide~~ per gallon of water.

Spray plants to complete wetness, covering both top and bottom leaf surfaces to ensure complete coverage.

Some pesticides can cause phytotoxic effects ranging from slight burning or browning of leaves to distorted leaves, fruit, flowers or stems. Damage symptoms may vary with the type of plant that has been treated. It is impossible to test all plant species for phytotoxicity. To assure that the plants to be treated are not sensitive to the treatment, apply a small amount of the product to a few leaves or the above ground portion of the plant and check back in 2 - 4 days for signs of phytotoxicity. Use product according to label directions.

**DISEASES CONTROLLED OR SUPPRESSED ON VEGETABLES, FRUITS, NUTS, ORNAMENTAL PLANTS, TOBACCO, TREES, SHRUBS, FLOWERS INCLUDING HOPS, FOLIAGE, GREEN, AND TROPICAL PLANTS**

Anthrachnose (*Colletotrichum* spp.)  
Bacteria (*Erwinia* spp., *Pseudomonas* spp., *Xanthomonas* spp.)  
Bacterial Leaf Blight (*Xanthomonas campestris*)  
Bacterial Speck (*Pseudomonas syringae* pv. Tomato)  
Bacterial Spot (*Xanthomonas* spp.)  
Bean Rust (*Uromyces appendiculatus*)  
Black Mold (*Alternaria alternata*)  
Black Rot/Black Crown Rot (*Alternaria* spp.)  
Black Spot of Rose (*Diplocarpon rosea*)  
Botrytis (*Botrytis* spp.)  
Botrytis Leaf Blight (*Botrytis squamosa*)  
Botrytis Neck Rot (*Botrytis* spp.)  
Downy Mildew (*Bremia lactucae*, *Peronospora* spp., and *Plasmopara viticola*) - suppression  
Early Blight (*Alternaria solani*)  
Fire Blight (*Erwinia amylovora*) – suppression  
Gray Mold (*Botrytis cinerea*)  
Greasy Spot (*Mycosphaerella citri*)  
Late Blight (*Phytophthora infestans*) – suppression  
Leaf Spots (*Alternaria* spp., *Cercospora* spp. *Septoria* spp.)  
Onion Downy Mildew (*Peronospora destructor*)  
Onion Purple Blotch (*Alternaria porri*)  
Pin Rot (*Alternaria/Xanthomonas* complex)  
Powdery Mildew (*Uncinula necator*, *Erysiphe* spp., *Sphaerotheca* spp., *Oidiopsis taurica*, *Leveillula taurica*, *Podosphaera leucotricha*, *Oidium* spp., *Podosphaera* spp.)  
Rust (*Puccinia* spp.)  
Scab (*Venturia* spp.) - suppression  
Sclerotinia Head and Leaf Drop (*Sclerotinia* spp.) – suppression  
Sour Rot (*Alternaria tenuis*, *Aspergillus* spp., *Botrytis cinerea*, *Cladosporium herbarum*, *Penicillium* spp., *Rhizopus arrhizus*)  
Target Spot (*Corynespora cassiicola*)  
Walnut Blight (*Xanthomonas campestris*)

## STORAGE AND DISPOSAL

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

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

**Pesticide Disposal and Container Handling:** ~~If empty:~~ 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 or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

## WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

[Made in the U.S.A.]

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## OPTIONAL CLAIMS

*The following claims may appear on any label panel*

1. Controls/Prevents common garden diseases
2. Controls/Prevents powdery mildew, leaf spot and rust
3. Controls/Prevents black spot on rose
4. Fungal and bacterial disease control
5. Defending gardens against diseases...one plant at a time!
6. Use on fruits, vegetables and ornamentals
7. Can be applied as a pre-plant dip [for improved plant health]
8. Can be applied as a soil drench application
9. For use on ornamental plants and edible crops/fruits/vegetables.
10. For use on vegetables, roses, fruits, berries, nuts, flowers, bedding plants, houseplants, (ornamental) trees and shrubs [located in residential landscapes].
11. MBI-110 EP can be used on vegetable(s) [crops], roses, fruits, berries, nuts, flowers, foliage, houseplants, (ornamental) trees and shrubs [located in residential landscapes].
12. MBI-110 EP is a broad spectrum fungicide used for the control or suppression of a broad range of foliar [fungal and bacterial] diseases.
13. MBI-110 EP can be applied up to and on the day of harvest [on all fruits and vegetables].
14. Made in the U.S.A.
15. This container is made with X% recycled material
16. Guaranteed results(\*)
17. Label date:
18. US Patents No. 4,863,734 and No. 5,989,429
19. Marrone Bio Innovations' name and logo are registered trademarks of Marrone Bio Innovations, Inc.
20. © insert company copyright information
21. World rights reserved
22. Distributed by: insert company name and address
23. company website
24. [For] questions/comments
25.  OMRI  
Listed
26.  Can be used for organic gardening
27.  For (use in) organic gardening
28. Optional Language: (\*) and (\*= Not labeled for this use in California)
29. Repackaging or relabeling of this product without express written permission from Marrone Bio Innovations is prohibited.
30. Do not enter into treated areas during the **restricted-entry interval (REI) of 4 hours.**
31. UPC code
32. Bio with Bite
33. FRAC code and logo