

BACIX

ACTIVE INGREDIENT:

Bacillus subtilis strain IAB/BS03* 2.0%

OTHER INGREDIENTS: 98.0%

TOTAL: 100.0%

*Contains not less than 2×10^8 cfu/g of product.

EPA Reg. No.: 93505-1-70506

EPA Est. No.: 93505-ESP-1

**KEEP OUT OF REACH OF CHILDREN
CAUTION**



FIRST AID

If swallowed

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

If on skin or clothing

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 - 20 minutes.
- Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

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

FOR 24-HOUR MEDICAL EMERGENCY ASSISTANCE CALL ROCKY MOUNTAIN POISON AND DRUG SAFETY:
1-866-673-6671.

FOR 24-HOUR CHEMICAL EMERGENCY (Spill, leaks, fire, exposure or accident) CALL CHEMTREC: 1-800-424-9300
or +1-703-527-3887.

See label booklet for complete, additional First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

Not for sale or use after date stamped is 24 months after the date of manufacture.

Batch No. / Lot No.:

Net Weight: 5 Pounds

Made in Spain

Distributed by: **UPL NA Inc.** • 630 Freedom Business Center
Suite 402, King of Prussia, PA 19406 U.S.A. • 1-800-438-6071



PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals - CAUTION. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE): Applicators and other handlers must wear a long-sleeved shirt, long pants, waterproof gloves, shoes, and socks. Mixer/loaders and applicators must wear a NIOSH-approved particulate respirator with any N, R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with a HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, 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 170.607 (d) (e) and (f))], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations: Users should remove clothing/PPE immediately if 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: This product may harm beneficial insects and honey bees. Do not apply this product when bees or other pollinating insects are actively foraging.

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

Agricultural Use Requirements

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is: coveralls, waterproof gloves, shoes, and socks.

Product Information: BACIX is a broad-spectrum biological fungicide for the prevention, control or suppression of soil-borne and foliar diseases on labeled agricultural crops. BACIX contains the active ingredient *Bacillus subtilis* IAB/BS03 which is a plant growth-promoting rhizobacteria that quickly establishes beneficial colonies on the plant's roots and leaves. It stimulates healthier roots, accelerates plant growth and activates the defense system of the plant. BACIX is non-selective. BACIX is most effective when applied prior to the onset of disease. Use BACIX in combination and/or rotation with chemical fungicides to enhance disease control. For use on labeled outdoor field grown food crops, such as vegetables, herbs, small fruits, berries and fruit and nut trees. Also for use in greenhouse plug production and hydroponics operations.

Modes of Action: BACIX has multiple modes of action in preventing, controlling or suppressing plant diseases. It produces a broad-spectrum group of lipopeptides that disrupts pathogen cell-wall formation. It is a competitive and fast colonizing rhizosphere bacterium, which occupies the plant's root hairs and leaves and prevents the growth and antagonistic effects of soil borne and foliar pathogens. *Bacillus subtilis* strain IAB/BS03 is known to stimulate phytohormones, which trigger the plant's systemic resistance to disease (Induced Systemic Resistance), the defense mechanisms of the plant for prolonged periods of time. It is non-selective to plant materials.

Integrated Pest Management: Integrating BACIX into an overall pest management strategy and following best management practices (or practices known to reduce disease development) makes it less likely that disease will be established. Specific IPM strategies developed for your crop and location may be available from the Extension Service or other local agricultural authorities.

Mixing and Application Instructions:

MIXING: Dilute BACIX with water and apply in conventional spray equipment or through sprinkler irrigation. Partially fill the spray tank with clean water and begin agitation. Add the specified amount of BACIX to the tank. Finish filling the tank to the desired volume to obtain the proper spray concentration. Use spray mixture immediately. Do not allow spray mixture to stand overnight or for prolonged periods.

Apply BACIX using conventional spray equipment to the point of saturation of the soil or growing media. Good coverage and wetting is required. The amount of spray solution to apply will vary depending on the type of crop. Most row crops will require up to 100 gallons of spray per acre. Apply in sufficient water to achieve thorough coverage.

COMPATIBILITY:

BACIX is compatible with many of commonly used pesticides, foliar fertilizers, and other adjuvants and surfactants commonly used in tank mixes. Do not mix BACIX with other products if there has not been previous experience or use of the combination to determine its physical compatibility, efficacy, and absence of phytotoxicity in the crop.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. It is always advisable to conduct a spray compatibility test to ensure compatibilities of tank mix combinations. To determine the physical compatibility of this product with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to approximately one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thorough mixing, allow this mixture to stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding products to the spray tank. BACIX has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

Foliar Application Use Directions - Ground and Aerial: Apply BACIX as a foliar spray by ground or by air. Mix 0.25 - 1 pound BACIX in 15 to 100 gallons of water using 0.5 pounds/100 gallons dilution as an optimum concentration rate. Apply at a sufficient spray volume to ensure complete coverage. Refer to the application table below for more information.

AERIAL DRIFT REDUCTION INFORMATION

GENERAL: Avoiding spray drift at the application site is the responsibility of the applicator (specifically, see **SENSITIVE AREAS** section for the requirement regarding spray drift and honey bees). 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. Do not apply directly to aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

INFORMATION ON DROPLET SIZE: Use only medium or coarser spray nozzles according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size. The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will 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: **Volume** - 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 specified 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.

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 to droplets to evaporation and wind. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

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: Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph. 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, blooming crops or weeds that bees are visiting, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

Soil Treatment Use Directions: Apply BACIX by soil drench, in-furrow spray, or soil injection to improve plant health and to protect against certain soil-borne diseases.

In general, BACIX can be applied by the following methods, unless specified differently in the **SELECTED CROPS** section:

Soil Drench Applications

Apply BACIX at a concentration of 0.25 - 1 pound per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application during or shortly after transplant to control soil-borne diseases, reduce transplant shock, induce disease resistance, and to promote root growth. Multiple drench applications can be made on a 10 - 14 day schedule.

Shanked-In and Injected Applications

Shank or inject BACIX at a concentration of 0.25 - 1 pound per 100 gallons of water into the soil alone, or with most types of liquid nutrients.

In-Furrow Applications

Apply BACIX at planting as an in-furrow spray. Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.

CHEMIGATION USE DIRECTIONS:

General Requirements -

- 1) Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or 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 backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (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 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 backflow.
 - 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 backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (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. The product will immediately go into suspension without any required agitation.

Application Rates for Selected Crops: Use BACIX to prevent, control and suppress a broad range of plant diseases, as well as induce the natural defense system of the treated plants listed below.

Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Artichoke	Powdery Mildew (<i>Erysiphe cichoracearum</i>) (<i>Leveillula taurica</i>), Ramularia Leaf Spot (<i>Ramularia cymarae</i>)	Foliar (Ground)	0.25 - 1 lb.	For ground applications, apply in 50 - 100 gallons of water per acre. Apply this product preventatively or at the first sign of disease symptoms are visible. Reapply every 7 - 14 days.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.
Asparagus	Botrytis Blight (<i>Botrytis cinerea</i>), Rust (<i>Puccinia asparagi</i>)	Foliar (Ground)	0.25 - 1 lb.	For ground applications, apply this product in 50 - 100 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and apply every 7 - 14 days.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.

(continued)

Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Berries and Small Fruits (Except Grape and Strawberry), including: Blackberry, Blueberry, Bushberry, Caneberry, Cranberry, Currants, Elderberry, Gooseberry, Huckleberry, Loganberry, Raspberry, Kiwifruit	Botrytis Blight (<i>Botrytis cinerea</i>), Mummy Berry (<i>Monilinia vaccinii-corymbosi</i>), Alternaria Fruit Rot (<i>Alternaria</i> spp.), Anthracnose Fruit Rot (<i>Colletotrichum acutatum</i>), Bacterial Canker (<i>Pseudomonas syringae</i>), Leaf Rust (<i>Pucciniastrum vaccinii</i>), Leaf Spot and Blotch (<i>Mycosphaerella</i> spp.) (<i>Septoria</i> spp.), Phomopsis Leaf Spot, Twig Blight, and Fruit Rot (<i>Phomopsis</i> spp.), Powdery Mildew (<i>Microsphaera alni</i>), Spur Blight (<i>Didymella</i> spp.) (<i>Phoma</i> spp.)	Foliar (Ground)	0.25 - 1 lb.	Apply in 50 - 100 gallons per acre. Mummy Berry - Begin applications at bud break stage of development. Apply preventatively and repeat on a 7 - 10 day interval or as needed. Botrytis Blight - Apply this product preventatively prior to or at first sign of disease symptoms. Reapply every 7 - 14 days or as needed. Bacterial Canker - Apply prior to Fall rains and repeat applications during dormancy before Spring growth. This product can be tank mixed with another registered fungicide for improved control of bacterial canker. Anthracnose Fruit Rot and Alternaria Fruit Rot on blueberries - Apply at green tip and continue on a 7 - 10 interval.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Bulb Vegetables, including: Garlic, Leeks, Onions (Bulb and Green), Shallots	Botrytis Leaf Blight (<i>Botrytis squamosa</i>), Botrytis Neck Rot (<i>Botrytis</i> spp.), Onion Purple Blotch (<i>Alternaria porri</i>), Downy Mildew (<i>Peronospora</i> spp.), Powdery Mildew (<i>Erysiphe</i> spp.), Rust (<i>Puccinia porri</i>), Stemphylium Leaf Blight (<i>Stemphylium vesicarium</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water per acre. Repeat applications at 7 - 14 day intervals.
		Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
		Plant Dip	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and use as a pre-plant dip immediately prior to transplant.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.

(continued)

Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Cereal Grains (Except Corn), including: Barley, Buckwheat, Sorghum (Milo), Oats, Millet, Rice, Rye, Triticale, Wheat	Powdery Mildew (<i>Erysiphe graminis</i>), Bacterial Blight and Streak (<i>Xanthomonas</i> spp.), Brown Rot, Leaf Spots and Smuts (<i>Ceratobasidium</i> spp.) (<i>Cercospora</i> spp.) (<i>Drechslera</i> spp.), Rice Blast (<i>Piricularia 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 (Ground)	0.25 - 1 lb.	To optimize disease control and to maximize yields, apply in 15 - 40 gallons of water per acre. Apply preventatively or when disease symptoms first appear. Repeat applications on a 7 - 14 day interval depending upon crop growth and disease pressure. When plants are under high disease pressure, tank mix this product with another registered fungicide for more effective control.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Citrus Fruits, including: Calamondin, Citrus Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin, Orange, sour and sweet, Pummelo, Satsuma mandarin	Bacterial Canker (<i>Xanthomonas</i> spp.), 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>), Melanose (<i>Diaporthe citri</i>), Post-bloom Fruit Drop (<i>Colletotrichum acutatum</i>), Scab (<i>Elsinoë australis</i>) (<i>Elsinoë fawcettii</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply in 50 - 100 gallons per acre. Begin application when conditions are conducive to disease development. Repeat on 7 to 10 day intervals or as needed. To treat Bacterial Canker (<i>Xanthomonas</i> spp.), tank mix this product with another registered fungicide for more effective control.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days. To treat Bacterial Canker (<i>Xanthomonas</i> spp.), tank mix this product with another registered fungicide for more effective control.
Brassica (Cole) Leafy Vegetables, including: Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens	Powdery Mildew (<i>Erysiphe cruciferarum</i>) (<i>Erysiphe polygoni</i>), Alternaria Leaf Spot (<i>Alternaria</i> spp.), Downy Mildew (<i>Peronospora parasitica</i>), Pin Rot Complex (<i>Alternaria</i> , <i>Xanthomonas</i>), Xanthomonas Leaf Spot (<i>Xanthomonas campestris</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply in 50 - 100 gallons per acre. Begin application when conditions are conducive to disease development. Repeat on 7 to 10 day intervals or as needed.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Corn, including: Sweet Corn, Field Corn, Popcorn, Silage Corn, Seed Corn	Anthracnose Leaf Blight (<i>Colletotrichum graminicola</i>), Eye Spot (<i>Aureobasidium zeae</i>), Gray Leaf Spot (<i>Cercospora zeae-maydis</i>), Rusts (<i>Puccinia</i> spp.), Northern Leaf Blight (<i>Cochliobolus carbonum</i>), Southern Leaf Blight (<i>Cochliobolus heterostrophus</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply in 15 - 40 gallons per acre. Begin application when conditions are conducive to disease development. Repeat on 7 to 10 day intervals or as needed.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.

(continued)

Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Cotton	Alternaria Leaf Spot, Boll Rot (<i>Alternaria</i> spp.), Anthracnose, Boll Rot (<i>Anthraco</i> spp.), Ascochyta Blight, Boll Rot (<i>Ascochyta</i> spp.), Cercospora Blight and Leaf Spot (<i>Cercospora</i> spp.), Diplodia Boll Rot (<i>Diplodia</i> spp.), Hard Lock, Boll Rot (<i>Fusarium</i> spp.), Leaf Spot (<i>Corynespora cassiicola</i>), Phoma Blight, Boll Rot (<i>Phoma</i> spp.), Rust (<i>Puccinia</i> spp.) (<i>Phakopsora</i> spp.), Stemphylium Leaf Spot (<i>Stemphylium</i> spp.)	Foliar (Ground)	0.25 - 1 lb.	Apply in 15 - 40 gallons per acre. Begin application when conditions are conducive to disease development. Repeat on 7 to 10 day intervals or as needed.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Cucurbit Vegetables, includes all types and hybrids of: Chayote, Chinese Waxgourd, Cucumber, Citron Melon, Gherkin, Pumpkin, Watermelon Edible Gourd: Chinese Okra, Cucurbit, Hyotan Momordica spp.: Balsam Apple, Balsam Pear, Bitter Melon, Chinese Cucumber Muskmelon: Cantaloupe, Casaba, Crenshaw Melon, Golden Pershaw Melon, Honeydew Melon, Honey Balls, Mango Melon, Persian Melon, Pineapple Melon, Santa Clause Melon, Snake Melon Summer Squash: Crookneck Squash, Scallop Squash, Straight Neck Squash, Vegetable Marrow, Zucchini Winter Squash: Acorn Squash, Butternut Squash, Calabaza, Hubbard Squash, Spaghetti Squash And other cucurbit vegetables	Powdery Mildew (<i>Erysiphe cichoracearum</i>) (<i>Sphaerotheca fuliginea</i>), Anthracnose (<i>Colletotrichum lagenarium</i>), Alternaria Leaf Spot (<i>Cercospora citrullina</i>), Downy Mildew (<i>Pseudoperonospora cubensis</i>), Gummy Stem Blight (<i>Didymella bryoniae</i>), Phytophthora Blight (<i>Phytophthora capsici</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 25 - 100 gallons of water per acre or at first sign of disease symptoms. Increase water volume as plant size increases. Reapply on a 7 - 14 day interval depending on plant growth and disease pressure. Use shorter spray intervals for greenhouse cucurbits when under high disease pressure.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
	<i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp.	Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
		Plant Dip	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and use as a pre-plant dip immediately prior to transplant.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Fruiting Vegetables, including: Eggplant, Okra, Pepper, Tomato, Tomatillo, Groundcherry	Bacterial Blight (<i>Xanthomonas</i> spp.), Bacterial Spot (<i>Xanthomonas</i> spp.), Bacterial Speck (<i>Pseudomonas syringae</i>), Black Mold (<i>Alternaria alternata</i>), Early Blight (<i>Alternaria solani</i>), Gray Mold (<i>Botrytis cinerea</i>), Late Blight (<i>Phytophthora capsici</i>), Powdery Mildew (<i>Erysiphe</i> spp.) (<i>Leveillula taurica</i>) (<i>Oidiopsis taurica</i>) (<i>Sphaerotheca</i> spp.), Target Spot (<i>Corynespora cassicola</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 25 - 100 gallons of water per acre or at first sign of disease symptoms. Increase water volume as plant size increases. Reapply on a 7 - 10 day interval depending on plant growth and disease pressure. Use shorter spray intervals for greenhouse cucurbits when under high disease pressure.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
	<i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Rhizoctonia</i> spp., <i>Verticillium</i> spp.	Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
		Plant Dip	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and use as a pre-plant dip immediately prior to transplant.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.
Grapes	Powdery Mildew (<i>Uncinula necator</i>), Angular Leaf Spot (<i>Mycosphaerella angulata</i>), Anthracnose (<i>Elsinoë ampelina</i>), Botrytis Bunch Rot (<i>Botrytis cinerea</i>), Black Rot (<i>Guignardia bidwellii</i>), Downy Mildew (<i>Plasmopara viticola</i>), Eutypa (<i>Eutypa lata</i>), Leaf Blight (<i>Pseudocercospora vitis</i>), Phomopsis Fruit Rot (<i>Phomopsis viticola</i>), Ripe Rot (<i>Colletotrichum gloeosporioides</i>), Sour Rot (<i>Alternaria tenuis</i>) (<i>Aspergillus</i> spp.) (<i>Botrytis cinerea</i>) (<i>Cladosporium herbarum</i>) (<i>Penicillium</i> spp.) (<i>Rhizopus arrhizus</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water per acre or the first signs of disease symptoms. Repeat applications at 7 - 14 day intervals depending on crop growth and disease pressure.
Grass Grown for Seed	Powdery Mildew (<i>Erysiphe graminis</i>) (<i>Oidium</i> spp.) (<i>Podosphaera</i> spp.) (<i>Sphaerotheca</i> spp.), Rust (<i>Puccinia</i> spp.)	Foliar (Ground)	0.25 - 1 lb.	Apply 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. Reapply on a 7-day interval or as needed.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Hops	Downy Mildew (<i>Pseudoperonospora humuli</i>), Powdery Mildew (<i>Sphaerotheca macularis</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water or when environmental conditions are conducive to rapid disease development. Reapply on a 7-day interval or as needed.
Leafy Vegetables (Except Brassica Vegetables), including: Arugula, Celery, Chervil, Corn Salad, Garden Cress, Dandelion, Dock, Edible-leaved Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Watercress	Downy Mildew (<i>Bremia lactucae</i>) (<i>Peronospora</i> spp.), Bacterial Blight/Rot (<i>Xanthomonas</i> spp.), Cercospora Leaf Spot (<i>Cercospora</i> spp.), Late Blight (<i>Septoria apicola</i>), Pink Rot (<i>Sclerotinia sclerotiorum</i>), Powdery Mildew (<i>Erysiphe cichoracearum</i>), Sclerotinia Head and Leaf Drop (<i>Sclerotinia minor</i>) (<i>Sclerotinia sclerotiorum</i>), White Rust (<i>Albugo occidentalis</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water or when environmental conditions are conducive to rapid disease development. Reapply on a 7 - 14 day interval or as needed. For concentrated ground applications, apply this product at 0.25 - 0.5 quart per acre in a minimum of 10 gallons of water per acre.
		In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
Legume Vegetables (Succulent or Dried) (Except Soybean), including: Chickpea, Dry Beans, Garbanzo Beans, Green Beans, Lentils, Lima Beans, Peas, Shell Beans, Snap Beans	Bacterial Blight (<i>Xanthomonas campestris</i>), Gray Mold (<i>Botrytis cinerea</i>), Pythium (Aerial Blight Phase) (<i>Pythium</i> spp.), Powdery Mildew (<i>Erysiphe</i> spp.), Rust (<i>Puccinia</i> spp.) (<i>Uromyces appendiculatus</i>), White Mold (<i>Sclerotinia sclerotiorum</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water or when environmental conditions are conducive to rapid disease development. Reapply on a 7-day interval or as needed.
	<i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp.	In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
Mint and other Herbs/Spices, including: Angelica, Balm, Basil, Borage, Burnet, Camomile, Catnip, Chervil, Chive, Clary, Coriander, Costmary, Culantro, Curry, Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage, Marjoram, Nasturtium, Parsley (dried), Rosemary, Sage, Savory (summer and winter), Sweet Bay, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood	Downy Mildew (<i>Peronospora</i> spp.), Powdery Mildew (<i>Erysiphe</i> spp.), Rust (<i>Puccinia menthae</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water per acre or at first sign of disease symptoms. Reapply on a 7 - 10 day interval depending on plant growth and disease pressure.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Oilseeds (Except Cotton), including: Canola, Castor Oil Plant, Flax Seed, Rapeseed, Safflower, Sesame, Sunflower	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.), Downy Mildew (<i>Peronospora manshurica</i>), Pod and Stem Blight (<i>Diaporthe phaseolorum</i> var. <i>sojae</i>) (<i>Phomopsis longicolla</i>), White Mold/Sclerotinia Stem Rot (<i>Sclerotinia sclerotiorum</i>)	Foliar (Ground)	0.25 - 1 lb.	To optimize disease control and maximize yields, apply this product preventatively in 15 - 40 gallons of water per acre. Consult your local Extension Specialist or Crop Consultant regarding the optimum timing of fungicide applications.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Olive	Olive Knot (<i>Pseudomonas savastanoi</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water per acre. Repeat application at 7 - 14 day intervals or as needed.
Ornamental Plants Herbaceous Ornamentals: Flowering Plants, Foliage Plants Woody Ornamentals: 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 viticola</i>), Gray Mold (<i>Botrytis cinerea</i>), Leaf Spot (<i>Alternaria</i> spp.) (<i>Cercospora</i> spp.) (<i>Entomosporium</i> spp.) (<i>Myrothecium</i> spp.) (<i>Septoria</i> spp.), Powdery Mildew (<i>Erysiphe</i> spp.) (<i>Oidium</i> spp.) (<i>Podosphaera</i> spp.) (<i>Sphaerotheca</i> spp.), Rust (<i>Puccinia</i> spp.), Scab (<i>Venturia</i> spp.)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water and repeat on 7 - 14 day intervals, or as needed. Use this product to control certain diseases of container, bench, flat, plug, bed, or field-grown ornamentals in greenhouses, shade houses, outdoor nurseries, retail nurseries, and other landscape areas.
	<i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp., <i>Verticillium</i> spp.	Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		Plant Dip	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and use as a pre-plant dip immediately prior to transplant.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.
Peanut	Aspergillus Crown Rot (<i>Aspergillus niger</i>), Rhizoctonia Foliar Blight, Peg, and Root Rot (<i>Rhizoctonia solani</i>), White Mold (<i>Sclerotium rolfsii</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water and repeat on 7 - 14 day intervals, or as needed.
	Aspergillus Crown Rot (<i>Aspergillus niger</i>), <i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp., <i>Verticillium</i> spp., White Mold (<i>Sclerotium rolfsii</i>)	Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Pome Fruits, including: Apple, Crabapple, Loquat, Mayhaw, Pear, Pear, oriental, Quince	Powdery Mildew (<i>Podosphaera leucotricha</i>), Alternaria Blotch (<i>Alternaria mali</i>), Apple Scab (<i>Venturia inaequalis</i>), Bitter Rot (<i>Colletotrichum</i> spp.), Black Rot/ <i>Botryosphaeria obtusa</i>), Bot Rot (<i>Botryosphaeria dothidea</i>), Brooks Spot (<i>Mycosphaerella pomii</i>), Bull's Eye Rot (<i>Neofabraea</i> spp.), Cedar-Apple Rust (<i>Gymnosporangium juniper-virginianae</i>), Fire Blight (<i>Erwinia amylovora</i>), Flyspeck (<i>Zygophiala jamaicensis</i>), Sooty Blotch (<i>Gaeasterium polystigmatis</i>) (<i>Leptodontium elatius</i>) (<i>Peltaster fructicola</i>), White Rot (<i>Botryosphaeria dothidea</i>)	Foliar	0.25 - 1 lb.	Apply in 50 - 100 gallons of water per acre. Begin applications when conditions are conducive to disease development. Repeat applications on 3 - 10 day intervals or as needed. Use high label rate and shorter spray intervals when conditions are conducive to rapid disease development. To treat Fire Blight (<i>Erwinia amylovora</i>), tank mix this product with another registered fungicide for more effective control.
Root and Tuber Vegetables (Except Sugar Beets), including: Garden Beets, Carrots, Cassava, Ginger, Ginseng, Horseradish, Potato, Radish, Sweet Potato, Yams, Turnip	Bacterial Leaf Blight (<i>Xanthomonas campestris</i>), Black Root Rot/Black Crown Rot (<i>Alternaria</i> spp.), Downy Mildew (<i>Peronospora</i> spp.), Early Blight (<i>Alternaria</i> spp.), Gray Mold (<i>Botrytis cinerea</i>), Late Blight (<i>Phytophthora infestans</i>), Powdery Mildew (<i>Erysiphe</i> spp.), White Mold (<i>Sclerotinia sclerotiorum</i>), Clubroot (<i>Plasmodiophora brassicae</i>), Common Scab (<i>Streptomyces scabies</i>), <i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp., <i>Verticillium</i> spp.	Foliar	0.25 - 1 lb.	Apply preventatively in 25 - 100 gallons of water and repeat on 5 - 10 day intervals, or as needed. Begin applications soon after emergence or transplant and when conditions are conducive to disease development. Use higher rates and shorter intervals when conditions favor rapid disease development.
		Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Soybean	Aerial Web Blight (<i>Rhizoctonia solani</i>), Alternaria Leaf Spot (<i>Alternaria</i> spp.), Anthracnose (<i>Colletotrichum truncatum</i>), Asian Soybean Rust (<i>Phakopsora pachyrhizi</i>), Brown Spot (<i>Septoria glycines</i>), Cercospora Blight (<i>Cercospora kikuchii</i>), Frogeye Leaf Spot (<i>Cercospora sojina</i>), Pod and Stem Blight (<i>Diaporthe</i> spp.), Septoria Brown Spot (<i>Septoria glycines</i>), White Mold (<i>Sclerotinia sclerotiorum</i>)	Foliar (Ground)	0.25 - 1 lb.	To optimize disease control and maximize yields, apply this product preventatively in 15 - 40 gallons of water per acre. Consult your local Extension Specialist or Crop Consultant regarding the optimum timing of fungicide applications. To treat Asian Soybean Rust (<i>Phakopsora pachyrhizi</i>), tank mix this product with another registered fungicide for more effective control.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days. To treat Asian Soybean Rust (<i>Phakopsora pachyrhizi</i>), tank mix this product with another registered fungicide for more effective control.
	<i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp	In-Furrow	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and apply at 5 - 15 gallons per acre, directing the spray into the seed furrow just before the seeds are covered.
Stone Fruits, including: Apricot, Cherry, sweet and tart, Nectarine, Peach, Plum, Plumcot, Prune (fresh)	Alternaria Spot/Fruit Rot (<i>Alternaria alternata</i>), Anthracnose (<i>Colletotrichum</i> spp.), Bacterial Canker (<i>Pseudomonas</i> spp.), Bacterial Spot (<i>Pseudomonas</i> spp.), Brown Rot Blossom Blight and Fruit Rot (<i>Monilinia</i> spp.), Cercospora Leaf Spot (<i>Cercospora</i> spp.), Cherry Leaf Rot (<i>Blumeriella jaapii</i>), Gray Mold (<i>Botrytis cinerea</i>), Jacket Rot, Green Fruit Rot (<i>Botrytis cinerea</i> , <i>Monilinia</i> spp., <i>Sclerotinia sclerotiorum</i>), Powdery Mildew (<i>Podosphaera</i> spp.) (<i>Sphaerotheca pannosa</i>), Rust (<i>Tranzschelia discolor</i>), Rusty Spot (<i>Podosphaera leucotricha</i>), Scab (<i>Cladosporium carpophilum</i>), Shot Hole (<i>Wilsonomyces carpophilus</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water when conditions are conducive to disease development. Apply on a 7 - 10 day spray interval or as needed. Bacterial Blight - Apply post-harvest before Fall rains. Brown Rot Blossom Blight - Apply at early bloom and repeat on a 7-day schedule through petal fall or as needed. Powdery Mildew - Begin applications at popcorn stage and repeat on a 7-interval or as needed. Scab - Begin applications at petal fall and repeat on a 7 - 10 day interval or as needed.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Strawberry	Anthraxnose (<i>Colletotrichum</i> spp.), Botrytis (<i>Botrytis cinerea</i>), Leaf Spot (<i>Mycosphaerella fragariae</i>), Phomopsis Leaf Blight (<i>Phomopsis obscurans</i>), Powdery Mildew (<i>Sphaerotheca macularis</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in 50 - 100 gallons of water when conditions are conducive to disease development. Apply on a 7 - 10 day spray interval or as needed.
		Soil Drench	0.25 - 1 lb.	Apply at a concentration of 0.25 - 1 pound per 100 gallons of water, thoroughly soaking the growing media and root zone. Apply during or shortly after transplant to reduce transplant shock, suppress soilborne disease and improve root growth. Multiple drench applications can be made on a 10 - 14 day interval.
		Plant Dip	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and use as a pre-plant dip immediately prior to transplant.
		Chemigation	0.25 - 1 lb.	Apply through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.
Sugar Beets	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	0.25 - 1 lb.	Apply preventatively in 15 - 40 gallons of water per acre by ground or air. Consult your local Extension Specialist or Crop Consultant for optimum timing of fungicide applications.
Sugarcane	Brown Rust (<i>Puccinia melanocephala</i>), Orange Rust (<i>Puccinia kuehnii</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventatively in 15 - 40 gallons of water per acre by ground or air. Consult your local Extension Specialist or Crop Consultant for optimum timing of fungicide applications.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Tobacco	Blue Mold (<i>Peronospora tabacina</i>)	Foliar	0.25 - 1 lb.	Apply preventatively in a minimum of 50 gallons of water per acre. Consult your local Extension Specialist or Crop Consultant for optimum timing of fungicide applications.
	<i>Fusarium</i> spp., <i>Phytophthora</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp., <i>Verticillium</i> spp.	Plant Dip	0.25 - 1 lb.	Mix 0.25 - 1 pound of BACIX in 100 gallons of water and use as a pre-plant dip immediately prior to transplant.

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Crops	Target Disease	Application Method	Use Rate per 100 Gallons of Water	Notes
Tree Nuts, including: Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia Nut, Pecan, Walnut, Black and English	Walnut Blight (<i>Xanthomonas campestris</i>), Alternaria Late Blight, Alternaria Leaf Spot (<i>Alternaria</i> spp.), Anthracnose (<i>Colletotrichum</i> spp.) (<i>Gnomonia leptostyla</i>), Bacterial Canker (<i>Erwinia nigritiens</i>), Botryosphaeria Blight (<i>Botryosphaeria dothidea</i>), Brown Rot (<i>Monilinia</i> spp.), Jacket Rot, Green Fruit Rot (<i>Botrytis cinerea</i> , <i>Monilinia</i> spp., <i>Sclerotinia sclerotiorum</i>), Eastern Filbert Blight (<i>Anisogramma anomala</i>), Leaf Rust (<i>Tranzschelia discolor</i>), Scab (<i>Cladosporium carpophilum</i>) (<i>Sphaceloma perseae</i>), Shot Hole (<i>Wilsonomyces carpophilus</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventively in 50 - 100 gallons of water when conditions are conducive to disease development. Apply on a 7 - 10 day spray interval or as needed.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.
Tropical and Subtropical Fruit, Inedible Peel Group, including: Avocado, Banana, Mango, Papaya, Plantain, Pineapple, Pomegranate	Anthracnose (<i>Colletotrichum gloeosporioides</i>), 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>Elsinoë mangiferae</i>), Sigatoka (<i>Mycosphaerella fijiensis</i>)	Foliar (Ground)	0.25 - 1 lb.	Apply preventively in 50 - 100 gallons of water when conditions are conducive to disease development. Apply on a 7 - 10 day spray interval or as needed.
		Foliar (Aerial)	0.25 - 1 lb.	For aerial applications, apply this product in a minimum of 5 gallons of water per acre. Apply preventatively or when the first disease symptoms are visible and reapply every 7 - 14 days.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place. Store in original container only. Keep container tightly closed when not in use.

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

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling, if available or dispose of empty bag in a sanitary landfill or by incineration or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT INFORMATION

READ BEFORE USING PRODUCT

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded. The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, UPL NA INC. AND SELLER MAKE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ON THIS LABEL. To the extent consistent with applicable law, UPL NA Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product and THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UPL NA INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UPL NA INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT. UPL NA Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by the duly authorized representative of UPL NA Inc.

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ESL093024-11334-120924

BACIX

ACTIVE INGREDIENT:

Bacillus subtilis strain IAB/BS03* 2.0%

OTHER INGREDIENTS: 98.0%

TOTAL: 100.0%

*Contains not less than 2×10^8 cfu/g of product.

EPA Reg. No.: 93505-1-70506

EPA Est. No.: 93505-ESP-1



KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID

If **swallowed** • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.

If **on skin or clothing** • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

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

**FOR 24-HOUR MEDICAL EMERGENCY ASSISTANCE
CALL ROCKY MOUNTAIN POISON AND DRUG SAFETY:**
1-866-673-6671.

**FOR 24-HOUR CHEMICAL EMERGENCY (Spill, leaks, fire,
exposure or accident) CALL CHEMTREC:** 1-800-424-9300
or 1-703-527-3887.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals - CAUTION. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Environmental Hazards: This product may harm beneficial insects and honey bees. Do not apply this product when bees or other pollinating insects are actively foraging.

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

STORAGE AND DISPOSAL

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

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

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling, if available or dispose of empty bag in a sanitary landfill or by incineration or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

See label booklet for complete, additional First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

Not for sale or use after date stamped is 24 months after the date of manufacture.

Batch No. / Lot No.:

Net Weight: 5 Pounds

Made in Spain

Distributed by: **UPL NA Inc.** • 630 Freedom Business Center, Suite 402
King of Prussia, PA 19406 U.S.A. • 1-800-438-6071

