

Dec 1, 2021

New York State Department  
of Environmental Conservation  
Division of Materials Management  
Pesticide Product Registration



# REGALIA®

## BIOFUNGICIDE

A plant extract to boost the plants' defense mechanisms to protect against certain fungal and bacterial diseases, and to improve plant health.

Active ingredient: Extract of *Reynoutria sachalinensis* ..... 5 %

Other ingredients: ..... 95 %

Total ..... 100 %

EPA Reg. No. 84059-3

GROUP P5 FUNGICIDE

### 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.

  
**CAN BE USED  
IN ORGANIC  
PRODUCTION**

  
**OMRI  
LISTED**  
For Organic Use

Manufactured by:  
 **Marrone®  
Bio Innovations**  
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REG\_201912\_20191220v7

LOT#: PRINTED ON CONTAINER

Job 190505

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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.

### 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.

## DIRECTIONS FOR USE

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

### AGRICULTURAL USE REQUIREMENTS

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

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

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

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

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. The REI does not apply when this product is used for seed treatment at planting or in hopper box treatments.

### GENERAL INFORMATION

REGALIA® Biofungicide is an extract from the plant *Reynoutria sachalinensis* for use on ornamental plants, turf, row, and edible and field crops. REGALIA® Biofungicide applied to actively growing plants (see DIRECTIONS FOR USE) will help protect treated portions from certain plant diseases and will improve plant health. Plant health benefits often result in greater yields at harvest, especially when crops are stressed by pathogens or environmental conditions. Use REGALIA® Biofungicide as a preventative rather than a curative application. Apply prior to disease infestation to protect the growing leaf tissue, flowers and above ground fruit and vegetables. See specific information below for diseases controlled and use rates on ornamental plants, row, field and edible crops.

REGALIA® Biofungicide can be used in multiple application methods to control or suppress certain soil-borne or foliar diseases and to promote healthy plant growth. See below for specific information on diseases controlled and use rates.

### MODE OF ACTION

The extract obtained from *Reynoutria sachalinensis* plant material contains bioactive compounds. The extract, when applied to the host plant, activates the plant's defense system to increase phenolics and antioxidants, and strengthen cell walls. This mode of action is classified as induced systemic resistance.

When applied at rates and timing for disease control, the induced resistance against important diseases provides translaminar activity, which takes place within one to two days of application. Repeat foliar applications per label instructions. Use REGALIA® Biofungicide, therefore, as a preventative treatment. In addition to foliar applications, REGALIA® Biofungicide can be used in multiple application methods as a plant dip, soil drench, in-furrow spray, or applied through drip irrigation to control or suppress certain soil-borne diseases and to promote healthy root growth.

When applied at rates and timing for plant health effects, the improved plant defense responses minimize the impacts of stress and disease, resulting in optimized yields at harvest. Applying Regalia® Biofungicide has been shown to increase leaf chlorophyll content and increase soluble protein content in some crops. These effects often lead to improved crop quality and/or yields.

### MIXING AND APPLICATION INSTRUCTIONS

#### – SHAKE WELL PRIOR TO USE –

**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 REGALIA® Biofungicide mixtures.

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

**REGALIA® Biofungicide + tank mixtures:** Add 1/2–3/4 of the required amount of water to the mix tank. Start the agitation before adding any tank mix ingredients. In general, tank mix ingredients should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as REGALIA® Biofungicide. Always allow each tank mix ingredient 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. REGALIA® Biofungicide cannot be mixed with another product with a prohibition against mixing. Use of the tank mix must be in accordance with the most restrictive label limitations and precautions. **Do not pre-mix REGALIA® Biofungicide with any other tank mix component prior to adding to the spray tank.**

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

**Compatibility:** Do not combine REGALIA® 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. REGALIA® 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.

**Application Instructions:** REGALIA® Biofungicide is a micro-emulsion concentrate consisting of certain ingredients extracted from *Reynoutria sachalinensis*. Use 50-mesh nozzle screens or larger. Use higher water volumes with larger sized crops and extensive foliage to obtain thorough coverage.

See **FOLIAR AERIAL and FOLIAR GROUND APPLICATION** section for use directions.

See **BACKPACK/HANDHELD SPRAYER** section for use directions.

See **CHEMIGATION** section for use directions.

See **PRE-PLANT DIP** section for use directions.

See **SOIL TREATMENT** section for use directions.

#### **FOLIAR AERIAL APPLICATION INSTRUCTIONS**

##### **0.5–1 quart per acre for FOLIAR (AERIAL) applications**

- For aerial applications, apply this product in a minimum of 5 gallons of water per acre.
- Tank mix this product with other registered fungicides for improved disease control under high disease pressure.
- Repeat applications at 5-14 day intervals depending upon crop growth and disease pressure
- Consult your local Extension Specialist or Crop Consultant regarding the optimum timing of fungicide applications

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

**GENERAL:** 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.

### FOLIAR (GROUND) APPLICATION USE DIRECTIONS

REGALIA® Biofungicide can be applied in most commonly-used ground application equipment, such as tractor-mounted boom, airblast, high clearance, hose-end, backpack, and other pressurized sprayers; or hand-held sprayers; foggers or mist blowers; water wheel and other drench applicators; and shank or other soil injection method. Thorough coverage is necessary to provide good disease control.

#### 1–4 quarts per acre for FOLIAR GROUND applications

- For ground applications in 15–100 gallons of water per acre.
- Avoid excessive amounts of water that result in the runoff of spray material
- Repeat applications at 7–10 day intervals depending upon crop growth and disease pressure.
- Under moderate to heavy disease pressure, tank-mix this product with another fungicide
- For trees and vines: Dilute applications: this product can be applied by ground equipment to vine and tree crops in dilute applications of 100–400 gallons of water per acre Apply this product at a rate of 2–4 quarts per acre when applied alone, or at 1–4 quarts per acre when tank mixed with another fungicide. Avoid excessive amounts of water that result in the runoff of spray material.
- Consult your local Extension Specialist or Crop Consultant regarding the optimum timing of fungicide applications.
- For plant health applications, apply two to three weeks prior to cutting
- This product may be used to control certain diseases of field-grown ornamentals

### BACKPACK/HAND-HELD SPRAYER USE DIRECTIONS

The use rate for REGALIA® Biofungicide when applied alone or as an alternate spray in a backpack or hand-held sprayer is 1.5 – 2.5 tablespoons (Tbsp.) (0.75 – 1.25 fluid ounces [fl. oz.] per gallon of water (0.5 – 1.0% v/v dilution of REGALIA® Biofungicide) applied at 0.5 – 2.5 gallons per 1000 square feet (sq. ft.) (25 – 100 gallons of water per acre). When tank mixed with another fungicide, the use rate for REGALIA® Biofungicide in a backpack or hand-held sprayer is 0.5 – 2.5 tablespoons (0.25 – 1.25 fluid ounces) per gallon of water applied at 0.5 – 2.5 gallons per 1000 square feet (25 –100 gallons of water per acre). Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. 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 REGALIA® Biofungicide

	Tablespoons REGALIA® Biofungicide per Gallon of Water	Fluid Ounces REGALIA® Biofungicide per Gallon of Water	v/v Dilution of REGALIA® Biofungicide	Applied (diluted) Gallons per 1,000 sq. ft.
Applied alone or as an alternate spray	1.5 – 2.5	0.75 – 1.25	0.5 – 1.0% v/v	1 – 2.5
Tank mixed with another fungicide	0.5 – 2.5	0.25 – 1.25	0.25 – 1.0% v/v	1 – 2.5

### CHEMIGATION USE DIRECTIONS

For control of foliar diseases and plant health apply this product through sprinkler center pivot sprinkler systems, lateral move, end tow, side (wheel) roll, traveler, solid set, hand moved. Do not use reclaimed water for application of this product.

For control of soil-borne or below ground diseases and plant health apply this product through injection into water stream, border or drip (trickle) irrigation systems. Do not use reclaimed water for application of this product.

**1–4 quarts per acre (1.5 – 6 tbsp. per 1000 sq. ft.) for CHEMIGATION applications**

- For chemigation applications apply this product through irrigation immediately after transplant and at 14-day intervals or begin 14 days after transplant when soil drench applications are used.

**Spray preparation**

First prepare a suspension of REGALIA® Biofungicide in a mix tank. Fill tank 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of REGALIA® Biofungicide, and then the remaining volume of water. Then set the irrigation system to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start irrigation system and uniformly inject the suspension of REGALIA® Biofungicide into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of REGALIA® Biofungicide with a positive displacement pump into the main line after the filter, and ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine REGALIA® Biofungicide with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. REGALIA® Biofungicide has not been fully evaluated for compatibility with all adjuvants or surfactants. Conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

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**CHEMIGATION**

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**General Requirements –**

- 1) Apply this product only through a drip or trickle system or center pivot sprinkler system, lateral move, end tow, side (wheel) roll, traveler, solid set, hand move, border or drip (trickle) irrigation systems.
- 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 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.

**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
- 4) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 5) 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.
- 6) 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.

- 7) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

**Specific Requirements for 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) 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 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.
- 3) Do not apply when wind speed favors drift beyond the area intended for treatment.

**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 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.

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**PRE-PLANT DIP USE DIRECTIONS**

Apply REGALIA® Biofungicide as a pre-plant dip for improved plant health and suppression of certain soil-borne diseases.

**1–2 quarts per 100 gallons of water for PLANT DIP (bare root) applications**

- For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–0.5 % v/v suspension 1–2 quarts of this product per 100 gallons of water as a pre-plant dip immediately prior to transplanting.

**SOIL TREATMENT USE DIRECTIONS**

REGALIA® Biofungicide can be applied by soil drench or in-furrow spray to improve plant health and to protect against certain soil-borne diseases.

In general, REGALIA® Biofungicide can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

**Soil Drench Applications:**

**1–3 quarts per 100 gallons of water for SOIL DRENCH applications**

- For soil drench applications, apply this product at a concentration of 1–3 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 10–14 day interval.



**In-Furrow, Shanked-In and Injected Applications:**

(REGALIA® Biofungicide can be shanked-in or injected into the soil alone, or with most types of liquid nutrients.)

**1–4 quarts per acre or 1–10 fluid ounces per 1000 ft. row for IN-FURROW applications**

- For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1–4 quarts per acre or 1–10 fluid ounces per 1000 feet of row according to the chart below. 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.

Rate Per Acre	In-Furrow Application Rates Product per 1000 ft. row (fl. oz.)														
	12" Rows	14" Rows	16" Rows	18" Rows	20" Rows	22" Rows	24" Rows	26" Rows	28" Rows	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
1 quart	0.73	0.86	0.98	1.1	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.4
2 quart	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.7	3.9	4.2	4.4	4.7	4.9
3 quart	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.1	5.9	6.2	6.6	7.0	7.3
4 quart	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.3	7.8	8.3	8.8	9.3	9.8

12" = 43,560 row ft./acre, 14" = 37,337 row ft./acre, 16" = 32,670 row ft./acre, 18" = 29,040 row ft./acre, 20" = 26,136 row ft./acre, 22" = 23,760 row ft./acre, 24" = 21,780 row ft./acre, 26" = 20,105 row ft./acre, 28" = 18,689 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.

**FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF THE  
FOLLOWING DISEASES**

The use rate for REGALIA® Biofungicide when applied alone or as an alternate spray is 2–4 quarts per 100 gallons of water (0.5–1.0% v/v dilution of REGALIA® Biofungicide) applied at 15–100 gallons of water per acre. When tank mixed with another fungicide, the use rate for REGALIA® Biofungicide is 1–4 quarts in 100 gallons of water applied at 15–100 gallons of water per acre. Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. 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.

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**Pre-harvest Interval (PHI) = 0 days**

**ROOT, TUBER AND CORM CROPS**

**Potato, Beet, Carrot, Cassava, Ginger, Ginseng, Horseradish, Radish, Sugar beet, Sweet Potato, Turnip (including those for seed production) and other root and tuber crops**

Bacterial Leaf Blight (*Xanthomonas campestris*)

*Fusarium* spp.

Leafspots and Blotches (*Cercospora* spp.)

Powdery Mildew (*Erysiphe betae*) (*Erysiphe polygoni*)

*Pythium* spp.

*Rhizoctonia* spp.

*Verticillium* spp.

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**LEAVES OF ROOT AND TUBER VEGETABLES**

**Beet, Chervil, and other leaves of roots and tubers**

Bacterial Leaf Blight (*Xanthomonas campestris*)

Leafspots and Blotches (*Cercospora* spp.)

Powdery Mildew (*Erysiphe betae*) (*Erysiphe polygoni*)

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**BULB VEGETABLES**

**Onion (Bulb and Green), Garlic, Leek, Shallot and other bulb vegetables**

Botrytis Leaf Blight (*Botrytis squamosa*)

Botrytis Neck Rot (*Botrytis* spp.)

Downy Mildew (*Peronospora destructor*)

Onion Purple Blotch (*Alternaria porri*)

Powdery Mildew (*Erysiphe* spp.)

*Pythium* spp.

*Rhizoctonia* spp.

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**LEAFY VEGETABLE CROPS (except *Brassica* vegetables)**

**Arugula, Celery, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip, Watercress and other leafy vegetable crops**

Bacterial Blight/Rot (*Xanthomonas* spp.)

Downy Mildew (*Bremia lactucae*) (*Peronospora* spp.)

Early Blight of celery (*Cercospora apii*)

Late Blight (*Septoria apiicola*)

Powdery Mildew (*Erysiphe cichoracearum*)

Sclerotinia Head and Leaf Drop (*Sclerotinia minor*) (*Sclerotinia sclerotiorum*)

- West of the Rocky Mountains – For aerial applications, apply this product at 0.5–1.5 quarts per acre in a minimum of 10 gallons of water per acre
- East of the Rocky Mountains – For aerial applications, apply this product at 0.5–1 quarts per acre in a minimum of 5 gallons of water per acre.
- For California – For aerial application apply REGALIA® Biofungicide at 1–3 pints per acre in 10–25 gallons of water per acre.

**Restrictions:**

Do not apply REGALIA® Biofungicide when extended/unseasonably cold or cold and cloudy conditions are expected. Regalia should **not** be applied when night-time temperatures will fall below 45°F and relative humidity is predicted to be above 80%. Applications during daylight hours are preferred over night-time applications.

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**BRASSICAS (COLE) LEAFY VEGETABLES**

**Broccoli, Broccoli Rabe, Brussels Sprouts, Cabbage, Chinese 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, and other cole crops**

Alternaria Leaf Spot (*Alternaria* spp.)

Downy Mildew (*Peronospora parasitica*)

Pin Rot Complex (*Alternaria/ Xanthomonas*)

Powdery Mildew (*Erysiphe cruciferarum*) (*Erysiphe polygoni*)

Xanthomonas Leaf Spot (*Xanthomonas campestris*)

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**LEGUME VEGETABLES, succulent or dried (not including soybeans and peanuts)  
Chick Peas, Dry Beans, Green Beans, Lentils, Lima Beans, Peas, Shell Beans, Snap Beans, Split Peas  
(including those grown for seed or oil production), (and other legume vegetables)**

Aerial Web Blight (*Rhizoctonia solani*)  
Alternaria Leafspot (*Alternaria* spp.)  
Anthracnose (*Colletotrichum truncatum*)  
Bacterial Blight (*Xanthomonas campestris*)  
Brown Spot (*Septoria glycines*)  
Cercospora Blight (*Cercospora kikuchii*)  
Frog-eyed Leaf Spot (*Cercospora sojina*)  
Gray Mold (*Botrytis cinerea*)  
Pod and Stem Blight (*Diaporthe* spp.)  
Powdery Mildew (*Erysiphe* spp.)  
*Phytophthora* spp.  
*Pythium* spp.  
*Rhizoctonia* spp.  
Septoria Brown Spot (*Septoria glycines*) White Mold (*Sclerotinia sclerotiorum*)

Repeat applications on 7–10 day intervals depending upon crop growth and disease pressure.

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**Soybeans**

Aerial Web Blight (*Rhizoctonia solani*)  
Alternaria Leafspot (*Alternaria* spp.)  
Anthracnose (*Colletotrichum truncatum*)  
Asian Soybean Rust (*Phakopsora pachyrhizi*)  
Bacterial Blight (*Xanthomonas campestris*)  
Brown Spot (*Septoria glycines*)  
Cercospora Blight (*Cercospora kikuchii*)  
Frog-eyed Leaf Spot (*Cercospora sojina*)  
Gray Mold (*Botrytis cinerea*)  
*Phytophthora* spp.  
Pod and Stem Blight (*Diaporthe* spp.)  
Powdery Mildew (*Erysiphe* spp.)  
*Pythium* spp.  
Septoria Brown Spot (*Septoria glycines*)  
*Rhizoctonia* spp.  
White Mold (*Sclerotinia sclerotiorum*)

To maximize activity against *Sclerotinia* white mold in soybeans, the best timing would be V3 to R3 and should be tank mixed with a fungicide partner also labeled for white mold activity.

Repeat applications on 7–10 day intervals depending upon crop growth and disease pressure.

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## **FOLIAGE OF LEGUME VEGETABLES**

### **Garden peas and other foliage of legume vegetables**

Aerial Web Blight (*Rhizoctonia solani*)  
Alternaria Leafspot (*Alternaria* spp.)  
Anthracnose (*Colletotrichum truncatum*)  
Bacterial Blight (*Xanthomonas campestris*)  
Brown Spot (*Septoria glycines*)  
Cercospora Blight (*Cercospora kikuchii*)  
Frog-eyed Leaf Spot (*Cercospora sojina*)  
Gray Mold (*Botrytis cinerea*)  
*Phytophthora* spp.  
Pod and Stem Blight (*Diaporthe* spp.)  
Powdery Mildew (*Erysiphe* spp.)  
*Pythium* spp.  
*Rhizoctonia* spp.  
Septoria Brown Spot (*Septoria glycines*)  
White Mold (*Sclerotinia sclerotiorum*)

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## **FRUITING VEGETABLES**

### **Tomato, Pepper, Eggplant, Ground Cherry, Okra, Tomatillo and other fruiting vegetables**

Bacterial Speck (*Pseudomonas syringae*)  
Bacterial Spot (*Xanthomonas* spp.)  
Black Mold (*Alternaria alternata*)  
Damping-off (*Fusarium* spp.), (*Pythium* spp.), (*Rhizoctonia solani*)  
Early Blight (*Alternaria solani*)  
*Fusarium* spp.  
Gray Mold (*Botrytis cinerea*)  
Late Blight (*Phytophthora infestans*)  
Phytophthora Blight (*Phytophthora capsici*)  
*Phytophthora* spp.  
Powdery Mildew (*Erysiphe* spp.) (*Leveillula taurica*) (*Oidopsis taurica*) (*Sphaerotheca* spp.)  
*Pythium* spp.  
*Rhizoctonia* spp.  
Target Spot (*Corynespora cassiicola*)

- Phytophthora Blight – Apply this product in combination with labeled rates of a copper fungicide (or with another fungicide labeled for Phytophthora Blight control).

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## CUCURBITS

Includes all types and hybrids of: Acorn squash, Balsam apple, Balsam pear, Bitter melon, Butternut squash, Calabaza, Cantaloupe, Casaba, Chayote, Chinese cucumber, Chinese okra, Chinese waxgourd, Citron melon, Crenshaw melon, Crookneck squash, Cucumber, Cucuzza, Gherkin, Golden pershaw melon, Honeydew melon, Honey balls, Hubbard squash, Hyotan, Mango melon, Persian melon, Pineapple melon, Pumpkin, Santa Claus melon, Scallop squash, Snake melon, Spaghetti squash, Straightneck squash, Vegetable marrow, Watermelon, Zucchini and other cucurbits

Anthracoise (*Colletotrichum lagenarium*)

Alternaria Blight (*Alternaria cucumerina*)

Downy Mildew (*Pseudoperonospora cubensis*)

Bacterial Spot (*Xanthomonas cucurbitae*)

Cercospora Leaf Spot (*Cercospora citrullina*)

Gummy Stem Blight (*Didymella bryoniae*)

Phytophthora Blight (*Phytophthora capsici*)

*Phytophthora* spp.

Powdery Mildew (*Erysiphe cichoracearum*) (*Sphaerotheca fuliginea*)

*Pythium* spp.

*Rhizoctonia* spp.

- Downy Mildew – Tank mix this product with another fungicide labeled for Downy Mildew control and re-apply at a 7-day interval or according to the label directions of the tank mix (ingredient) (partner)
- Phytophthora Blight – Apply this product in combination with labeled rates of a copper fungicide or with another fungicide labeled for Phytophthora Blight control.

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## CITRUS CROPS

**Orange, Grapefruit, Kumquat, Lemon, Tangelo, Tangerine, Pummelo and other citrus crops**

Alternaria Brown spot (*Alternaria alternata*)

Bacterial Blast (*Pseudomonas syringae*)

Bacterial Canker (*Xanthomonas* spp.)

Greasy Spot (*Mycosphaerella citri*)

Melanose (*Diaporthe citri*)

Postbloom Fruit Drop (*Colletotrichum acutatum*)

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## POME FRUITS

### Apple, Crabapple, Loquat, Oriental Pear, Pear, Quince, Mayhaw and other pome fruits

Alternaria Blotch (*Alternaria mali*)

Bitter Rot (*Colletotrichum* spp.)

Cedar-Apple Rust (*Gymnosporangium juniperi-virginianae*) Suppression only

Fire Blight (*Erwinia amylovora*)

Flyspeck (*Zygothia jamaicensis*)

Powdery Mildew (*Podosphaera leucotricha*)

Sooty Blotch (*Geastrumia polystigmati*) (*Leptodontium elatius*) (*Peltaster fructicola*)

White Rot (*Botryosphaeria dothidea*)

- Use caution when selecting spray adjuvants. Select only those adjuvants which through prior experience do not affect fruit finish when combined with this product.
- **Fire Blight** – For suppression, apply 1-2 quarts of this product in 50–100 gallons of water per acre at green tip through bloom. Do not exceed 0.5% v/v. Following bloom, this product can be applied at 2–4 quarts per acre. 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 copper or antibiotics registered for Fire Blight control such as but not limited to oxytetracycline or streptomycin.
- Proper orchard cultural practices are essential to eliminate Fire Blight-infected tissue from the orchard to assure good performance of any crop protection product. Remove and destroy dead and diseased wood from the orchard prior to and during the growing season.

Some sensitive tree fruit varieties have exhibited petal staining and/or necrosis after application of higher use rates.

To minimize petal staining and/or necrosis:

- Use adjuvants that improve coverage, not penetration; follow the manufacturer's mixing instructions.
- Use adjuvants that through prior experience do not affect petal integrity when combined with this product.
- Apply 1-2 quarts of this product in 50–100 gallons (1 – 2.5 tbsps. per gallon) of water per acre (1.5 tbsps. in 1 gallon to 2.5 gallons of water per 1000 sq. ft.) in Pome Fruit, from 10% bloom to full bloom. Do not exceed 0.5% v/v.

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## STONE FRUITS

### Cherry (sweet and tart), Nectarine, Peach, Plum, Plumcot, Prune and other stone fruits

Bacterial Blight (*Xanthomonas campestris* pv. *pruni*) (*Xanthomonas campestris*)

Bacterial spot (*Xanthomonas* spp.)

Brown Rot Blossom Blight (*Monilinia laxa*)

Brown Rot Fruit Rot (*Monilinia fruticola*)

Powdery Mildew (*Podosphaera* spp.) (*Sphaerotheca pannosa*)

Shot Hole (*Wilsonomyces carpophilus*)

- **Bacterial Blight** – Apply this product in 50–100 gallons of water per acre (1 – 2.5 gallons of water per 1000 square feet) postharvest before fall rains.
- **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 or as needed.
- **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 or as needed. For improved performance, use this product in a tank mix or rotational program with other registered fungicides for powdery mildew control.
- **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 7–10 day interval or as needed. Use in a tank mix or rotational program when disease conditions are severe.

Some sensitive tree fruit varieties have exhibited petal staining and/or necrosis after application of higher use rates.

To minimize petal staining and/or necrosis:

- Use adjuvants that improve coverage, not penetration; follow the manufacturer's mixing instructions.
- Use adjuvants that through prior experience do not affect petal integrity when combined with this product.
- Apply 1 quart of this product in 50–100 gallons of water per acre in:
  - Cherries, from white bud (first white, popcorn) to full bloom,
  - Stone fruit, from 10% bloom to full bloom.



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## BERRIES AND SMALL FRUIT

**Blueberry<sup>†</sup>, Blackberry (all varieties), Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Ligonberry, Loganberry, Raspberry (red and black), Salal and cultivars and/or hybrids of these and other berries and other smallfruit**

Alternaria Fruit Rot (*Alternaria* spp.)

Anthracnose Fruit Rot (*Colletotrichum acutatum*)

Botrytis Blight (*Botrytis cinerea*)

Cranberry Cottonball (*Monilinia oxycocci*)

Cranberry Early Rot (*Phyllosticta vaccinii*)

Downy Mildew (*Plasmopara viticola*)

Mummy Berry (*Monilinia vaccinii-corymbosi*)

Powdery Mildew (*Microsphaera alni*) (*Sphaerotheca macularis*) (*Uncinula necator*)

Ripe Rot (*Colletotrichum gloeosporioides*)

Sour Rot (*Alternaria tenuis*) (*Aspergillus* spp.) (*Botrytis cinerea*) (*Cladosporium herbarum*) (*Penicillium* spp.) (*Rhizopus arrhizus*)

- Mummy Berry – Initiate application at bud break stage of development. Apply this product preventatively and repeat on a 7–10 day interval or as needed. For best performance, tank mix this product with other registered fungicides for Mummy Berry control.
- Botrytis Blight – Apply this product preventatively or when the first disease symptoms are visible and reapply every 7–14 days.
- Anthracnose Fruit Rot and Alternaria Fruit Rot on blueberries – Initiate application at green tip and continue applications on a 7–10 day interval.

<sup>†</sup> Some sensitive blueberry varieties have exhibited fruit spotting as a result of application. Spray a test strip to confirm your variety is not susceptible to spotting before spraying. Do not exceed 1% v/v.

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## Grape

Botrytis Bunch Rot (*Botrytis cinerea*)

Downy Mildew (*Plasmopara viticola*)

Powdery Mildew (*Uncinula necator*)

Ripe Rot (*Colletotrichum gloeosporioides*)

Sour Rot (*Alternaria tenuis*) (*Aspergillus* spp.) (*Botrytis cinerea*) (*Cladosporium herbarum*) (*Penicillium* spp.) (*Rhizopus arrhizus*)

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## Strawberry

Anthracnose (*Colletotrichum* spp.) Suppression only

Botrytis (*Botrytis cinerea*)

Powdery Mildew (*Sphaerotheca macularis*)

Phytophthora Root Rot and Crown Rot (*Phytophthora* spp.)

Ripe Rot (*Colletotrichum gloeosporioides*)

Sour Rot (*Alternaria tenuis*) (*Aspergillus* spp.) (*Botrytis cinerea*) (*Cladosporium herbarum*) (*Penicillium* spp.) (*Rhizopus arrhizus*)

Verticillium Wilt (*Verticillium* spp.)

- Anthracnose on strawberry– For suppression, apply this product preventatively in 50–100 gallons of water per acre (1 – 2.5 gallons of water per 1000 square feet) and repeat on a 7-day interval or as needed. For best performance, tank mix this product with other registered fungicides for Anthracnose control.

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## TREE NUT CROPS

**Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut (Black and English)**

Alternaria Leaf Spot (*Alternaria* spp.)

Anthracnose (*Colletotrichum* spp.) (*Gnomonia leptostyla*)

Bacterial Canker (*Erwinia nigrifluens*) (*Pseudomonas syringae*)

Botryosphaeria Blight (*Botryosphaeria dothidea*)

Brown / Hull Rot (*Monilinia* spp.)

Eastern Filbert Blight (*Anisogramma anomala*)

Green Fruit Rot (*Botrytis cinerea*)

Leaf Rust (*Tranzschelia discolor*)

Shot Hole (*Wilsonomyces carpophilus*)

Walnut Blight (*Xanthomonas campestris*)

Some tree nut varieties have exhibited petal staining and/or necrosis after application of higher use rates.

To minimize petal staining and/or necrosis:

- Use adjuvants that improve coverage, not penetration; follow the manufacturer's mixing instructions.
- Use adjuvants that through prior experience do not affect petal integrity when combined with this product.
- Apply 1 quart in 50 gallons or 2 quarts in 100 gallons of water per acre (1.5 tbsp. in 1 gallon or 3 tbsp. in 2.5 gallons of water per 1000 sq. ft.) from pink bud through bloom.

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**CEREAL GRAINS**

**Barley, Buckwheat, Grain Amaranth, Milo, Oat, Millets, Rice, Rye, Sorghum, Triticale, Wheat and other cereal grains**

Anthraxnose Leaf Blight (*Colletotrichum graminicola*)  
Bacterial Blight and Streak (*Xanthomonas* spp.)  
Bacterial leaf streak (*Xanthomonas campestris* pv. *Holcicola*)  
Brown rot, Leaf Spots and Smuts (*Cercospora* spp., *Drechslera* spp., *Cochliobolus* spp., *Ceratobasidium* spp.)  
Eye Spot (*Aureobasidium zeae*)  
Gray leafspot (*Cercospora zeae-maydis*) (*Cercospora sorghi*)  
Northern Leaf Blight (*Exserohilum turcicum*)  
Northern Leaf Spot (*Cochliobolus carbonum*)  
Powdery Mildew (*Erysiphe graminis*)  
Rice Blast (*Pyricularia grisea*)  
Rusts (*Puccinia* spp.)  
Septoria Leaf/ Speckled Leaf Spot/Blotch (*Septoria* spp.)  
Sheath Spot and Blight (*Rhizoctonia oryzae*) (*Thanatephorus cucumeris*)  
Smut (*Tilletia barclayana*)  
Southern Leaf Blight (*Cochliobolus heterostrophus*)  
Stem Rot (*Sclerotium oryzae*)  
Tan Spot (*Pyrenophora tritici-repentis*)

It is important to apply this product at the Feekes 4 to Feekes 10.5 stage to maximize yield. Apply this product preventatively or when the first disease symptoms appear. Repeat applications in 7–14-day intervals depending upon crop growth and disease pressure

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**Corn (Sweet Corn, Field Corn, Popcorn, Silage Corn, Seed Corn)**

Anthraxnose Leaf Blight (*Colletotrichum graminicola*)  
Bacterial leaf streak (*Xanthomonas campestris* pv. *Holcicola*)  
Brown rot, Leaf Spots and Smuts (*Cercospora* spp., *Drechslera* spp., *Cochliobolus* spp., *Ceratobasidium* spp.)  
Eye Spot (*Aureobasidium zeae*)  
Gray leafspot (*Cercospora zeae-maydis*)  
Northern Leaf Blight (*Exserohilum turcicum*)  
Northern Leaf Spot (*Cochliobolus carbonum*)  
Powdery Mildew (*Erysiphe graminis*)  
Rice Blast (*Pyricularia grisea*)  
Rusts (*Puccinia* spp.)  
Septoria Leaf/ Speckled Leaf Spot/Blotch (*Septoria* spp.)  
Sheath Spot and Blight (*Rhizoctonia oryzae*) (*Thanatephorus cucumeris*)  
Southern Leaf Blight (*Cochliobolus heterostrophus*)  
Stem Rot (*Sclerotium oryzae*)

Apply this product preventatively starting at V1-V10 or VT or when the first disease symptoms appear. (Repeat applications on 7–10 day intervals depending upon crop growth and disease pressure.)

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**FORAGE, FODDER AND STRAW OF CEREAL GRAINS****Corn, Wheat, and any other cereal grain crop**

Anthrachnose Leaf Blight (*Colletotrichum graminicola*)  
Bacterial Blight and Streak (*Xanthomonas* spp.)  
Bacterial leaf streak (*Xanthomonas campestris* pv. *Holcicola*)  
Brown rot, Leaf Spots and Smuts (*Cercospora* Spp., *Drechslera* spp., *Cochliobolus* spp., *Ceratobasidium* spp.)  
Eye Spot (*Aureobasidium zeae*)  
Gray leafspot (*Cercospora zeae-maydis*) (*Cercospora sorghi*)  
Northern Leaf Blight (*Exserohilum turcicum*)  
Northern Leaf Spot (*Cochliobolus carbonum*)  
Powdery Mildew (*Erysiphe graminis*)  
Rice Blast (*Pyricularia grisea*)  
Rusts (*Puccinia* spp.)  
Septoria Leaf/ Speckled Leaf Spot/Blotch (*Septoria* spp.)  
Sheath Spot and Blight (*Rhizoctonia oryzae*) (*Thanatephorus cucumeris*)  
Smut (*Tilletia barclayana*)  
Southern Leaf Blight (*Cochliobolus heterostrophus*)  
Stem Rot (*Sclerotium oryzae*)  
Tan Spot (*Pyrenophora tritici-repentis*)

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**GRASS FORAGE, FODDER, AND HAY****Bermuda grass, Bluegrass, Bromegrass, Fescue, Pasture and range grasses grown for hay or silage, Sudangrass, Timothy and other grass forage, fodder, and hay**

Powdery Mildew (*Erysiphe graminis*) (*Oidium* spp.) (*Podosphaera* spp.) (*Sphaerotheca* spp.)

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**NON-GRASS ANIMAL FEED****Alfalfa, Clover, Kudzu, Lespedeza, Lupin, Sainfoin, Trefoil, Vetch and other non-grass animal feed**

Aerial Web Blight (*Rhizoctonia solani*)  
Alternaria Leafspot (*Alternaria* spp.)  
Anthrachnose (*Colletotrichum truncatum*)  
Anthrachnose and Black Stem Rot (*Colletotrichum trifolii*)  
Brown Spot (*Septoria glycines*)  
Cercospora Blight (*Cercospora kikuchii*)  
Downy Mildew (*Peronospora trifoliorum*)  
Frog-eyed Leaf Spot (*Cercospora sojina*)  
*Phytophthora* spp.  
Pod and Stem Blight (*Diaporthe* spp.)  
Powdery Mildew (*Erysiphe polygoni*)  
*Pythium* spp.  
Sclerotinia stem and crown rot (*Sclerotinia sclerotiorum*)  
Septoria Brown Spot (*Septoria glycines*)  
*Rhizoctonia* spp

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**HERBS/SPICES (FIELD)**

Downy Mildew (*Peronospora* spp.)

Powdery Mildew (*Erysiphe* spp.)

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**OIL SEED CROPS (not including peanut or soybean)**

**Canola, Castor, Flax, Jojoba, Rapeseed, Safflower, Sesame, and Sunflower and other oil seeds**

Alternaria Leaf Spot, Boll Rot (*Alternaria* spp.)

Anthrachnose, Boll Rot (*Glomeria* spp.)

Bacterial Pustule (*Xanthomonas* spp.)

Bacterial Speck (*Pseudomonas syringae* pv. *glycinea*)

Brown Spot (*Septoria glycines*)

Cercospora Blight and Leaf Spot (*Cercospora* spp.)

Cercospora Leaf Spot (*Cercospora* spp.)

Diplodia Boll Rot (*Diplodia* spp.)

Downy Mildew (*Peronospora mansherica*)

Leaf Spot (*Corynespora cassicola*)

Phoma Blight, Boll Rot (*Phoma* spp.)

Pod and Stem Blight (*Diaporthe phaseolorum* var. *soiae*), (*Phomopsis longicola*)

Powdery Mildew (*Erysiphe* spp.)

Stemphyllium Leaf Spot (*Stemphyllium* spp.)

White Mold/Sclerotinia Stem Rot (*Sclerotinia sclerotiorum*)

For white mold disease control: apply at 10% bloom with a second application 7-10 days later.

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**Cotton**

For ground applications for foliar and boll rot disease control, apply this product preventatively in 15–40 gallons of water per acre (0.5 – 1 gallon of water per 1000 square feet) prior to disease development using sufficient volume for thorough coverage

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**STALK, STEM, AND LEAF PETIOLE VEGETABLES**

**Asparagus, Celery and other stalk, stem and leaf petiole vegetables**

Bacterial Blight/Rot (*Xanthomonas* spp.)

Downy Mildew (*Bremia lactucae*) (*Peronospora* spp.)

Early Blight of celery (*Cercospora apii*)

Late Blight (*Septoria apiicola*)

Powdery Mildew (*Erysiphe cichoracearum*)

Sclerotinia Head and Leaf Drop (*Sclerotinia minor*) (*Sclerotinia sclerotiorum*)

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**TROPICAL AND SUBTROPICAL FRUITS, EDIBLE**

**Olive and other tropical and subtropical fruits with edible peel**

Anthrachnose (*Colletotrichum gloeosporioides*)

Bacterial Canker (*Xanthomonas campestris*)

Botrytis Fruit Rot (*Botrytis cinerea*)

Olive leaf spot (*Cercospora cannabidis*) (*Pseudocercospora cannabina*)

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## TROPICAL AND SUBTROPICAL FRUITS, INEDIBLE

**Avocado, Banana, Kiwi, Mango, Papaya, Plantain, Pineapple, Pomegranate and other tropical and subtropical fruits with inedible peel**

Anthracoise (*Colletotrichum gloeosporioides*)

Bacterial Canker (*Xanthomonas campestris*)

Botrytis Fruit Rot (*Botrytis cinerea*)

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## ARTICHOKE

Powdery Mildew (*Erysiphe cichoracearum*) (*Leveillula taurica*)

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## HOPS

Downy Mildew (*Pseudoperonospora humuli*)

Powdery Mildew (*Sphaerotheca macularis*)

- Minimum spray volumes for hop growth stages are as follows:
  - Emergence to Training: Apply 1–2 quarts this product per acre (1.5 – 3 tbsp. per 1000 sq. ft.) using a minimum spray volume of 20 gallons per acre (0.5 gallon per 1000 sq. ft.). Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.
  - Training to Wire-Touch: Apply 1–2 quarts this product per acre (1.5 – 3 tbsp. per 1000 sq. ft.) using a minimum spray volume of 50 gallons per acre (1 gallon of water per 1000 sq. ft.). Coverage will vary with the size of the vines and the type of spray equipment. Apply adequate spray volume to achieve complete spray coverage.
  - Wire-Touch through Harvest: Apply 2–4 quarts (3 – 6 tbsp.) of this product using a minimum of 100 gallons of water per acre (2.5 gallons of water per 1000 sq. ft.). Higher water volumes may be necessary to achieve thorough coverage after side arms develop. Do not apply more than 4 quarts of product per acre (6 tbsp. per 1000 sq. ft.) per application. Apply adequate spray volume to achieve complete spray coverage. Use the higher rates when moderate to high disease pressure is present or expected.
  - For control of downy mildew, tank mix this product with another fungicide labeled for Downy Mildew control and re-apply at a 7-day interval or according to the label directions of the tank mix (ingredient partner).

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**HEMP**

Anthrachnose (*Colletotrichum coccodes*)(*Colletotrichum dematium*)  
Botrytis Bud Rot (*Botrytis cinerea*)  
Brown blight (*Alternaria alternata*) (*Alternaria tenuis*)  
Damping off (*Botrytis cinerea*)( *Fusarium oxysporum*) (*Fusarium solani*)  
Downy mildew (*Pseudoperonospora cannabina*)(*Pseudoperonospora humuli*)  
Fusarium foot rot and root rot (*Fusarium solani*)  
*Fusarium oxysporum*  
*Fusarium proliferatum*  
Fusarium root and stem rot  
*Fusarium solani*  
Fusarium stem canker (*Fusarium sulphureum*)(*Gibberella cyanogena*)(*Gibberella saubinetii*)  
Fusarium wilt (*Fusarium oxysporum f.sp. cannabis*)(*Fusarium oxysporum f.sp. vasinfectum*)  
Gray mold (*Botrytis cinerea*)  
Powdery Mildew (*Golovinomyces*)(*Erysiphe cichoracearum*)(*Leveillula taurica*)(*Oidiopsis taurica*)  
(*Sphaerotheca macularis*)(*Sphaerotheca humuli*)(*Oidium spp.*)  
White mold/Hemp canker (*Sclerotinia sclerotiorum*)

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**QUINOA**

Downy Mildew (*Peronospora farinosa*)

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**SUGARCANE**

Red Rot (*Glomerella tucumanensis*, also known as *Colletotrichum falcatum*) (Suppression Only)

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**FLOWERING PLANTS**

Anthrachnose (*Colletotrichum spp.*)  
Bacteria (*Erwinia spp.*), (*Pseudomonas spp.*), (*Xanthomonas spp.*)  
Blossom Blight (*Monilinia spp.*)  
Downy Mildew (*Peronospora spp.*), (*Plasmopara viburni*)  
Gray Mold (*Botrytis cinerea*)  
Leaf Spot (*Alternaria spp.*), (*Cercospora spp.*), (*Entomosporium spp.*), (*Myrothecium spp.*), (*Septoria spp.*)  
Powdery Mildew (*Erysiphe spp.*), (*Oidium spp.*), (*Podosphaera spp.*), (*Sphaerotheca spp.*)

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**BEDDING PLANTS**

Anthrachnose (*Colletotrichum spp.*)  
Bacteria (*Erwinia spp.*), (*Pseudomonas spp.*), (*Xanthomonas spp.*)  
Blossom Blight (*Monilinia spp.*)  
Downy Mildew (*Peronospora spp.*), (*Plasmopara viburni*)  
Gray Mold (*Botrytis cinerea*)  
Leaf Spot (*Alternaria spp.*), (*Cercospora spp.*), (*Entomosporium spp.*), (*Myrothecium spp.*), (*Septoria spp.*)  
Powdery Mildew (*Erysiphe spp.*), (*Oidium spp.*), (*Podosphaera spp.*), (*Sphaerotheca spp.*)

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**GRASS GROWN FOR SEED**

Powdery Mildew (*Erysiphe graminis*) (*Oidium spp.*) (*Podosphaera spp.*) (*Sphaerotheca spp.*)

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## ORNAMENTALS

Anthraxnose (*Colletotrichum* spp.)

Bacteria (*Erwinia* spp.), (*Pseudomonas* spp.), (*Xanthomonas* spp.)

Blossom Blight (*Monilinia* spp.)

Downy Mildew (*Peronospora* spp.), (*Plasmopara viburni*)

Gray Mold (*Botrytis cinerea*)

Leaf Spot (*Alternaria* spp.), (*Cercospora* spp.), (*Entomosporium* spp.), (*Myrothecium* spp.), (*Septoria* spp.)

Powdery Mildew (*Erysiphe* spp.), (*Oidium* spp.), (*Podosphaera* spp.), (*Sphaerotheca* spp.)

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## TOBACCO

Blue Mold (*Peronospora tabacina*)

Target Spot (*Rhizoctonia solani*)

For Target Spot: Apply this product at a rate of 2 quarts per acre in a minimum of 50 gallons of water per acre.

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## TURFGRASS AND ORNAMENTAL GRASSES

**Bluegrass, Bentgrass, Bermudagrass, Dichondra, Fescue, Orchardgrass, *Poa annua*, Ryegrass, St. Augustine, Zoysia, mixture**

Powdery Mildew (*Erysiphe graminis*) (*Oidium* spp.) (*Podosphaera* spp.) (*Sphaerotheca* spp.)

- Apply 1–3 fluid ounces per 1000 square feet in a minimum of 1.5 gallons of water for FOLIAR applications, or
- Apply 3–8 pints per acre in a minimum of 50 gallons of water for FOLIAR applications

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 with other registered fungicides.

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## INTEGRATED PEST MANAGEMENT (IPM)

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

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

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



## STORAGE AND DISPOSAL

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

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

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

**Container Handling (5 gallons or less):** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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. Do not burn unless allowed by state and local ordinances.

**Container Handling (over 5 gallons):** Non-refillable container. Do not reuse or refill this container Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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. Do not burn unless allowed by state and local ordinances.

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 permitted by applicable law, the user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

Made in the U.S.A.

REGALIA® is a trademark of Marrone Bio Innovations, Inc.

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

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# REGALIA<sup>®</sup>

BIOFUNGICIDE

PULL HERE TO OPEN ▲

A plant extract to boost the plants' defense mechanisms to protect against certain fungal and bacterial diseases, and to improve plant health.

Active ingredient: Extract of *Reynoutria sachalinensis* ..... 5 %  
Other ingredients: ..... 95 %  
Total ..... 100 %

EPA Reg. No. 84059-3

GROUP P5 FUNGICIDE

## 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.	

  
**CAN BE USED  
IN ORGANIC  
PRODUCTION**



Manufactured by:  
 **Marrone<sup>®</sup>  
Bio Innovations**  
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LOT#: PRINTED ON CONTAINER

- EPA Est. No. 085970-FL-001
- EPA Est. No. 84059-MI-001

NET CONTENTS:  1 gallon  
 2.5 gallons  
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PNG1860

PF 162206-1