

2016-2013  
2016-06-01

<b>GROUP</b>	<b>P5</b>	<b>FUNGICIDE</b>
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**Marrone Bio Innovations**

**Regalia<sup>®</sup> Maxx**  
**Biofungicide Liquid Concentrate**  
**COMMERCIAL**

A plant extract to induce the plants' natural defense mechanisms against certain fungal and bacterial diseases.

GUARANTEE: Extract of *Reynoutria sachalinensis* .....20 %

**WARNING: EYE IRRITANT**  
**CAUTION: SKIN IRRITANT**

**KEEP OUT OF REACH OF CHILDREN**

**READ THE LABEL BEFORE USING**

**REGISTRATION NO: 30199 PEST CONTROL PRODUCTS ACT**

**NET CONTENTS: 1L to 50L**

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1 (877) 664-4476

Date of Manufacture:

Made in U.S.A.

**NOTICE TO USER:**

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

**PRECAUTIONS:**

**KEEP OUT OF REACH OF CHILDREN.** Causes moderate eye irritation. DO NOT get in eyes. May irritate the skin. Avoid contact with skin or clothing. May cause irritation of the respiratory tract. Avoid inhaling/breathing spray mist. Wear a long-sleeved shirt, long pants, water-proof gloves, shoes plus socks, and goggles or face shield when handling, mixing/loading or applying the product, and during all clean-up/repair activities. DO NOT re-enter or allow entry into treated areas until the spray is dried. Handling and loading of Regalia® Maxx Biofungicide Liquid Concentrate, as well as the clean-up and maintenance activities should be performed in a well-ventillated area. Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools, and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

When using high pressure sprayers or entering a treated area of the greenhouse before thorough ventilation and clearing of spray mist, applicators/workers must wear a NIOSH approved respirator, protective clothing, shoes plus socks, water-proof gloves, and goggles.

Keep unprotected persons out of the treated areas of the greenhouse for the duration of the treatment period.

Allow entry or re-entry to greenhouse only after thorough ventilation and spray mist or fog has cleared and the treated surface has dried.

**FIRST AID:**

If swallowed: Call a poison control centre 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 a poison control centre 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 centre or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15—20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

**STORAGE AND DISPOSAL:**

**STORAGE:** Store in a dry area inaccessible to children. Store product only in the original container. Keep container closed when not in use. To prevent contamination store this product away from food or feed.

**DISPOSAL:**

1. Triple-or pressure-rinse the empty container. Add the rinsate to the spray mixture in the tank.
2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**ENVIRONMENTAL HAZARDS:**

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wash water. DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters

**GENERAL USE RECOMMENDATION:**

Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate contains an extract from the plant *Reynoutria sachalinensis* for use on ornamental plants and edible crops. Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate applied to actively growing tissues will induce plant resistance reactions to certain diseases in the treated leaf area, buds and fruit. Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate may be applied as a foliar spray alone, or in an alternating spray program with other registered crop protection products. When conditions are conducive to heavy disease pressure, use Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides. Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate may be applied with ground application equipment. Because the mode of action of Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate is dependent on plant-specific resistance reactions, activity of the product may vary among different crop species and varieties and should only be applied to crops listed on the label.

**INTEGRATED PEST MANAGEMENT (IPM):**

Integrate Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate into an overall disease and pest management strategy whenever fungicide use is necessary. Follow practices known to reduce disease development. Consult local authorities for specific IPM strategies developed for your crop(s) and location.

**USE RATE DETERMINATION:**

Carefully read and follow all label directions, use rates and restrictions. Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate should be applied prior to or in the early stages of disease development. Use maximum label rates and shortened spray intervals for conditions conducive to rapid disease development. For proper application, determine the number of hectares to be treated, the recommended label use rate and select appropriate water volumes to give good canopy penetration and coverage of plant parts to be protected. Prepare only the amount of spray solution required to treat the measured acreage. Accurate spray equipment calibration is essential prior to use.

**PREHARVEST INTERVAL:**

Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate can be applied up to and including the day of harvest.

### **APPLICATION INSTRUCTIONS-Agricultural Use:**

**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/treatment coordinator are responsible for considering all of these factors when making decisions. Where provinces/territories have more stringent regulations, they should be observed.

This product is not registered for the control of pests in aquatic systems. **DO NOT** use to control aquatic pests.

**DO NOT** apply by air.

**DO NOT** allow effluent or runoff from greenhouses or mushroom houses containing this product to enter lakes, streams, ponds or other waters.

**GROUND:** Thorough coverage is essential for optimum disease control. To achieve good coverage, use the appropriate spray pressure, litres per hectare, nozzles, nozzle spacing and ground speed. Consult spray nozzle and accessory catalogues for specific information on proper equipment calibration.

### **MIXING INSTRUCTIONS:**

**MIXING:** Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate must be diluted with water for spray applications and may be used in spray equipment commonly used for making ground applications. Partially fill the spray tank with clean water and begin agitation. Add the specified amount of Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate to the tank. Finish filling the tank to the desired volume to obtain proper spray concentration. Maintain agitation continuously while spraying. Do not allow spray mixture to stand overnight or for prolonged periods.

### **DIRECTIONS FOR USE:**

When applied as directed (see below), Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate will suppress or partially suppress the indicated diseases. Under conditions of moderate to high disease pressures, use the higher rate and shorter application interval indicated. Apply in sufficient water carrier volume to ensure good coverage. For most applications, Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate should be applied in 400 – 1000 L/HA. For greenhouse applications, mix Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate in water at the rate indicated in the instructions for selected crops and apply as a full coverage spray to the foliage to obtain maximum coverage. Avoid the use of water volumes and/or adjuvants that results in drip accumulation or runoff of spray material. See specific crop instructions for further directions.

Ground Application Only. Shake well prior to use. Use 50-mesh nozzle screens or larger. Plant resistance reactions are induced only in treated green tissues and buds and although there is some translaminar movement, thorough coverage of foliage is important.

## **APPLICATION RATES AND INSTRUCTIONS FOR SELECTED CROPS**

### **Hops**

Partial suppression of downy mildew (*Pseudoperonospora humili*).

**Rate: 0.25 – 0.50% v/v (2.50 – 5.00ml/L or 1.875 – 3.75 litres of product in 750 litres of water).**  
Apply a maximum of 750 litres of spray solution per hectare.

Apply this product preventatively when environmental conditions are conducive for disease development. Continue sprays at a minimum 7-day interval. Maximum of 8 applications per season.

Configure spray equipment to achieve thorough coverage of all foliage as crop growth progresses. Actual spray volume will vary depending on the size of the plants being treated.

### **Tomato, Pepper, Eggplant, and Okra Outdoor grown and greenhouse grown**

Suppression of powdery mildew (*Oidium neolycopersici*, *Leveillula taurica* and *Erysiphe cichoracearum*)

Greenhouse grown - Rate: 0.125 – 0.25% v/v (1.25 – 2.50 ml/L or 500 – 1000 ml per 400 L water)

Begin applications at the first sign of disease, or when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

### **Tomato and Pepper Outdoor grown and greenhouse grown**

Suppression of bacterial spot (*Xanthomonas campestris*)

Outdoor grown - apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively beginning soon after transplant at a concentration of 0.125 – 0.25% v/v in 400-1000 litres water per hectare. Repeat applications in 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered bacteriacides.

Greenhouse grown - Rate: 0.125 – 0.25% v/v (1.25 – 2.50 ml/L or 500 – 1000 ml per 400 L water)

Begin applications when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

### **Tomato Outdoor grown and greenhouse grown**

Suppression of gray mold (*Botrytis cinerea*)

Outdoor grown - apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear at a concentration of 0.25% v/v in water volume sufficient to provide thorough coverage. Repeat applications in 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

Greenhouse grown - Rate: 0.25% v/v (2.50 ml/L or 1000 ml per 400 L water)

Begin applications at the first sign of disease, or when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

When environmental conditions and plant stage are conducive to rapid disease development, use Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

Suppression of late blight (*Phytophthora infestans*)

Outdoor grown - apply Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate preventatively beginning soon after transplant at a concentration of 0.125 – 0.25% v/v in 400-1000 litres water per hectare. Repeat applications in 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate in a rotational program with other registered bacteriacides.

Greenhouse grown - Rate: 0.125 – 0.25% v/v (1.25 – 2.50 ml/L or 500 – 1000 ml per 400 L water)

Begin applications when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

### **Cantaloupe, Cucumber, Pumpkin, Zucchini, Watermelon, Melon, Muskmelon, and Squash Outdoor grown and greenhouse grown**

Suppression of powdery Mildew (*Sphaerotheca fuliginea* and *Erysiphe cichoracearum*)

Outdoor grown - apply Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear at a concentration of 0.125 – 0.25% v/v in 500-1000 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

Greenhouse grown - Rate: 0.125 – 0.25% v/v (1.25 – 2.50 ml/L or 500 – 1000 ml per 400 L water)

Begin applications at the first sign of disease, or when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

When environmental conditions and plant stage are conducive to rapid disease development, use Regalia<sup>®</sup> Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides. When greenhouse cucurbits are under high disease conditions, use the shorter spray interval.

Suppression of downy mildew (*Pseudoperonospora cubensis*)

Greenhouse grown - Rate: 0.25% v/v (2.50 ml/L or 1000 ml per 400 L water)

Begin applications when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides. When greenhouse cucurbits are under high disease conditions, use the shorter spray interval.

## **Apples and Pears**

Suppression of powdery mildew (*Podosphaera leucotricha*), sooty blotch disease complex, flyspeck (*Zygothia jamaicensis*) and post-harvest rots alternaria (*Alternaria* spp.), white rot (*Botryosphaeria dothidea*) and bitter rot (*Colletotrichum* spp.)

Begin application of Regalia® Maxx Biofungicide Liquid Concentrate preventatively at pink bud at a concentration of 0.125% v/v in 1000 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. Beginning at petal fall apply Regalia® Maxx Biofungicide Liquid Concentrate at a concentration of 0.125 – 0.25% v/v in 1000 litre water per hectare at 10 – 14 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides

## **Apples**

Suppression of white rot (*Botryosphaeria dothidea*)

Begin application of Regalia® Maxx Biofungicide Liquid Concentrate preventatively at pink bud at a concentration of 0.125% v/v in 1000 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. Beginning at petal fall apply Regalia® Maxx Biofungicide Liquid Concentrate at a concentration of 0.125 – 0.25% v/v in 1000 litre water per hectare at 10 – 14 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides

## **Cherry, Peach, Plum and Apricot**

Suppression of powdery mildew (*Podosphaera* spp. and *Sphaerotheca pannosa*), blossom blight and brown rot (*Monilinia fructigena*, *Monilinia fructicola*).

Rate: 0.125-0.25% v/v in 500-1000 litres per hectare. Begin application of Regalia® Maxx Biofungicide Liquid Concentrate at popcorn stage, and repeat on a 7 day interval or as needed.

## **Cherry**

Suppression of cherry leaf spot (*Blumeriella jaapii*)

Rate: 0.125-0.25% v/v in 500-1000 litres per hectare. Begin application of Regalia® Maxx Biofungicide Liquid Concentrate at popcorn stage, and repeat on a 7-day interval as needed.

## **Highbush Blueberry**

### Suppression of mummyberry (*Monolinia vaccinii-corymbosi*)

Initiate application of Regalia® Maxx Biofungicide Liquid Concentrate preventatively at bud break at a concentration of 0.125 - 0.25% v/v in 400-800 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides

Suppression of fruit rots including botrytis (*Botrytis cinerea*), anthracnose (*Colletotrichum acutatum*) and alternaria (*Alternaria* spp.).

Initiate application of Regalia® Maxx Biofungicide Liquid Concentrate preventatively at green tip at a concentration of 0.125 - 0.25% v/v in 400-800 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides

## **Grapes**

Suppression of powdery mildew (*Uncinula necator*)

Apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear at a concentration of 0.125 – 0.25% v/v in 500-1500 litres water per hectare after shoot emergence and new shoots are approximately 1-3 cm in length. Repeat applications at 7-14 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

Suppression of botrytis bunch rot (*Botrytis cinerea*)

Apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively at a concentration of 0.25% v/v in 500-1500 litres water per hectare beginning at bloom. Repeat applications at bunch closure, veraison and preharvest. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

## **Strawberry**

### **Outdoor grown and greenhouse grown**

Suppression of powdery mildew (*Sphaerotheca macularis*)

Apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear at a concentration of 0.125 – 0.25% v/v in 500-1000 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

Suppression of gray mold (*Botrytis cinerea*)

Apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear at a concentration of 0.25% v/v in 500-1000 litres water per hectare. Repeat applications at 7-10 day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides

## **Wheat**

Partial suppression of septoria leaf spot (*Septoria tritici*)

Apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear after initial jointing at a concentration of 0.25% v/v in 400-600 litres water per hectare. Repeat applications in 7-14-day intervals depending upon crop growth and disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides.

## **Ornamental plants**

### **Annual and Perennial Flowering Plants**

#### **Outdoor grown and greenhouse grown**

Regalia® Maxx Biofungicide Liquid Concentrate can be used to suppress powdery mildew of container, bench, flat, plug, bed, or field-grown ornamentals in greenhouses, shade-houses, outdoor nurseries, retail nurseries, and other landscape areas. Not all ornamental species have been tested for tolerance to Regalia® Maxx Biofungicide Liquid Concentrate. A small lot of plants should be tested first before using for commercial scale production.

Suppression of powdery mildew, *Oidium* spp.

Rate: 0.125 – 0.25% v/v (1.25 – 2.50 ml/L or 500 – 1000 ml per 400 L water)

Suppression of downy mildew, *Plasmopora* spp. and *Peronospora* spp.

Partial suppression of foliar bacterial diseases, *Xanthomonas* spp. and *Pseudomonas* spp.

Rate: 0.25% v/v (2.50 ml/L or 1000 ml per 400 L water)

For outdoor grown and greenhouse grown-Begin applications at the first sign of disease, or when conditions become conducive for disease development. Repeat as necessary on a 7-10 day interval. Wait for two weeks after transplanting prior to first application. Spray until just prior to runoff. Actual spray volume will vary depending on the size of the plants being treated. Do not apply in a spray volume of more than 1500 L/HA.

## **Turf**

Partial suppression of brown patch (*Rhizoctonia solani*), dollar spot (*Sclerotinia homoeocarpa*) and foliar anthracnose (*Colletotrichum cereal*)

Apply Regalia® Maxx Biofungicide Liquid Concentrate preventatively or when disease symptoms first appear at a concentration of 0.25% v/v in 1000- 1500 litres water per hectare. Repeat applications at 7-10 day intervals depending upon disease pressure. When environmental conditions and plant stage are conducive to rapid disease development, use Regalia® Maxx Biofungicide Liquid Concentrate in a rotational program with other registered fungicides

## **Product Specific Precautions**

Read and understand the entire label before opening this product. If you have questions, call the manufacturers at 1 (877) 664-4476 or obtain technical advice from the distributor or your provincial agricultural or forestry representative.

US Patents No. 4,863,734 and No. 5,989,429

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