City of Santa Barbara
MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION

Dept: Parks Department IPM Coordinator: Jazmin LeBlanc Phone: 805.564.5513

Pesticide Applicator (employee or company) Name: Santa Barbara Pest Control Phone: 805.563.8888

Application Site: Moreton Bay Fig – Train Station Specific: Location: Underneath the tree's dripline

Date(s): Two treatements (2x) between August 2022 – June 2023

Product Name: Reliant Systemic Fungicide Active Ingredient: Mono and di-potassium salts of Phosphorous Acid

Number of Applications: ❑ One-time ❑ Other _____

- Type: ❑ Emergency ❑ Trial Programmatic ☑ Other (2x) Use Exemption

Product type: Herbicide ☐ Insecticide ☑ Fungicide ❑ Other _____

Application: ❑ Ornamental Turf ❑ Golf ☐ Vector Control ☑ Park Tree ❑ Street Tree

❑ Right of Way ❑ Vertebrate pest ❑ Other _____

Is the pesticide on the *Tiered Materials List*? ☑ No Yes ❑ If yes, provide the Tier _____

If the pesticide is not on the *Tiered Materials List*, provide the following screening information. See the IPM Strategy and the *Tiered Materials List* for instructions on screening the pesticide.

EPA Reg # 83416-1 Signal: Caution Estimated Tier: Yellow (**see attached MSDS)**

Restricted ☑ No ❑ Yes/Describe _____

P Waste _____ PBT _____ WA PBT _____ Persistant _____ Mobil _____

Cancer _____ Repro _____ Neuro _____ Endocrine _____

Bird _____ Fish _____ Bees _____ Wildlife _____

☒ Attach product label and MSDS to this form.

Describe the pest problem.
The tree has for many years tested positive for the presence of Phytopthora spp. – it causes fibrous root death, leading to canopy decline.

Describe the management goals and objectives for this site.
Staff is developing a long-term programmatic strategy to apply the fungicide at key intervals annually to suppress the presence of the pathogen. After consultation with a plant pathologist, they recommended rotating the use of Mefenoxam and Mono and di-potassium salts of Phosphorous Acid. Research in crop production has shown that Phytopthora can develop a resistance to fungicides and it is recommended to rotate treatments.

In addition to use of the fungicide, staff have been actively mulching the site to maintain a minimum of 4" organic wood chip mulch. This also includes allowing all debris generated from the tree to accumulate under the dripline. The long-term accumulation of organic materials will encourage more nutrient cycling and improve mycorrhizal potential to assist in maintain and improving the tree's vigor.

What is the damage threshold for this pest at this site?
Minimal, the tree is highly valued and loss of the tree would be a significant loss to the community.

Describe the monitoring of the pest and potential predators that was conducted and the control methods previously used at the site.
Staff are planning another round of both soil and tissue samples this fall to confirm presence of the pathogen. If no active presence of Phytophthora sp. is found staff will re-evaluate whether treatment is warranted. We expect to find it present in the soil since it is a soil born water mold.

Describe how the product would be applied including frequency, concentration, and method of application.
The material is applied via soil drench. The programmatic use exemption would allow staff to administer a treatment in the fall before the rainy season, a spring treatment after the rainy season, and a final summer treatment to continue to suppress the presence of the pathogen.

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What non-target impacts are anticipated?
There are no non-target impacts associated with the proposed application.

How does the use of this product help achieve the site management goals? Note if this is curative or preventative.
The use of this product will help achieve site goals by helping to suppress the presence of an existing known fungal pathogen. The application of this material is both curative and preventative.

How will the effectiveness of this product be monitored? Include expected results and indicators of success.
Staff will monitor the overall health of the tree through visual inspections. In addition, we plan to continue to test both roots and soil for the presence of Phytopthora.

Describe site conditions, for example consider the following: restricted access, distance from a creek or body of water, degree of runoff, site is a pesticide-free zone, etc.
The site is located directly under the dripline of the tree. The proposed method of application is soil drench so we anticipate no runoff, or any related issues with bodies of water of any type**.**

List alternatives considered, alternatives implemented and why they were eliminated.
There exists no functional alternatives for effective suppression of Phytopthora spp.

Justification: describe why is applying this pesticide is the best solution and why a less-hazardous chemical, non-chemical option or taking no action is not feasible.
The proposed material is a confirmed effective method in suppressing the presence of Phytopthora.

Was outside expertise utilized? ❑ No ❑ Yes / Describe
During the development of this strategy, we reviewed our approach with both Dr. Jim Downer, Ventura County Extension Agricultural Advisor, and Bruce Craig, owner of Santa Barbara Pest Control.

Describe future plans to prevent using the chemical again.
If the programmatic use of the proposed material proves successful, staff may be able to eliminate future use of the product. The pathogen is a naturally occurring water mold, and it may be difficult to eliminate its presence, it may be possible to reduce the frequency of treatment over time.

Signatures_____ _____
Department IPM Coordinator **City IPM Coordinator**

Completed by the City of Santa Barbara Staff IPM Committee

Vote Tally ____ Disposition: ❑ Approved ❑ Denied/Reason _____

If approved, follow the attached best management practices.

Comments:

Completed by the IPM Advisory Committee

Vote Tally ____ Disposition: ❑ Approved ❑ Denied/Reason _____

If approved, follow the attached best management practices.

Comments:

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

July 8, 2021

Ms. Kim Davis
Consultant/Agent
Quest Products LLC
c/o RegWest Company LLC
8209 West 20th Street, Suite B
Greeley, Col. 80634-4699

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment – Adding "Not for Use in California" to label; other minor revisions
Product Name: Reliant Systemic Fungicide
EPA Registration Number: 83416-1
Application Date: 4-28-21
OPP Submission Number: 1068814
OPP Case Number: 299279

Dear Ms. Davis:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the U.S. Environmental Protection Agency (EPA). If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims

made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

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

If you have any questions, please contact Nina Naimy via email at naimy.nina@epa.gov.

Sincerely,

Andrew Bryceland, Team Leader
Biochemical Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)
Office of Pesticide Programs

Enclosure

Sublabel A: Agricultural and Commercial Uses Label

Reliant® Systemic Fungicide

{Select Marketing Claims from the "Marketing Claims" section below}

Active Ingredients:

Mono- and di-potassium salts of Phosphorous Acid*	45.8%
Other Ingredients	54.2%
Total	100.0%

*Contains 5.17 lbs/gallon of the active ingredients mono- and di-potassium salts of Phosphorous Acid. Equivalent to 3.35 lbs Phosphorous Acid/gallon

Keep Out of Reach of Children
CAUTION

See Booklet for First Aid, additional Precautionary Statements and complete Directions for Use

[Batch No.:]
[Date of Manufacture:]

EPA Reg. No. 83416-1
EPA Est. 83416-KS-1

Net Contents:

- ☐ 1 Pint
- ☐ 1 Quart
- ☐ 1 Gallon
- ☐ 2.5 Gallons
- ☐ 30 Gallons
- ☐ 55 Gallons
- ☐ 250 Gallons
- ☐ _____ Gallons

Quest
Products LLC
Finding new ways to Improve the Treatment of Trees and Plants

Quest Products LLC
23611 Linwood Road
Linwood, KS 66052
Phone: 785-542-2577
Fax: 785-542-2531
www.questproducts.us

{Booklet}

First Aid

If Swallowed:	• Immediately call a poison control center or doctor 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 center or doctor. • Do not give anything by mouth to an unconscious person.
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	• Take off contaminated clothing. • Immediately rinse skin with plenty of water for 15-20 minutes. • Call a poison control center 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, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For non-emergency information on product usage call 785-542-2577, Monday through Friday, 9 am to 5 pm (Central time). For medical emergencies call the National Poison Control Center at 1-800-222-1222.	

{The First Aid statements may appear in a paragraph format if market label space does not permit the grid format.}

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed, absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist or vapors. Thoroughly wash with soap and water after handling. Remove and wash contaminated clothing before reuse. Wear the appropriate Personal Protective Equipment ("PPE").

Personal Protective Equipment (PPE)

Applicators, mixers, loaders and other handlers must wear:

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

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.

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside; then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

For Terrestrial Uses: Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

DIRECTIONS FOR USE

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

Read entire label before using this product.

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 registration.

Agricultural Use Requirements

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

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

PPE required for early entry to treated areas that are permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls worn over short-sleeved shirt and short pants; waterproof gloves; shoes plus socks; and protective eyewear.

Non-Agricultural Use Requirements

The requirements of this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Do not enter treated areas without protective clothing until sprays have dried.

Chemigation

Use of Reliant® Systemic Fungicide through chemigation is not permitted in California.

Apply this product only through center pivot, solid set or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts. 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. A person knowledgeable of the chemigation system and responsible for is operation or a person under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Sprinkler and Drip (Trickle) Irrigation Systems:

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

Sprinkler Chemigation: Do not apply when wind speed favors drift beyond the area intended for treatment.

Apply Reliant® Systemic Fungicide continuously for the duration of the water application. After treatment with Reliant® Systemic Fungicide has been completed, avoid further irrigation of the treated area until foliage is dry or for 24 to 48 hours.

Application Instructions

Apply Reliant® Systemic Fungicide (hereinafter "Reliant") by various application methods, including foliar spray, soil drench, soil incorporation, basal bark application and bare root dip. For foliar sprays, apply Reliant with sufficient water volumes for adequate coverage of foliage, according to crop and growth stage. To ensure good coverage, spray to wetness, but avoid runoff. When using Reliant with Pentra-Bark® Bark Penetrating Surfactant (hereinafter "Pentra-Bark") adhere to both products' label directions. Use Pentra-Bark with only basal bark applications. *{If the market label is not State Restricted in New York, the following must be included:}* Not for tree injection in New York State.

Mixing Instructions

1. Fill the spray tank with 1/4-1/2 of the volume of water required before adding Reliant.
2. Slowly add Reliant to the tank and agitate by mechanical or hydraulic means.
3. Continue agitating as tank fills with water to the desired volume.
4. Maintain agitation during application.

Injection Procedures

{If the market label is not State Restricted in New York, the following must be included:}

Not for tree injection in New York State

Guidelines:

Measure the tree diameter at check height (54" from ground) in inches to find the Diameter at Breast Height ("DBH"). If measuring circumference, divide this number by three to determine DBH. Locate drill holes low in tree, generally in or near the trunk flare, every 6" around the circumference of the tree. Do not inject into areas of obvious decay, canker or mechanical injury on the tree trunk.

Basic Injection Procedures:

Drill holes 7/32" (5 mm) for Stinger Tip, 9/32" (7 mm) for the #3 Arborplug™ or 3/8" (9 mm) in diameter (for #4 Arborplug) into live sapwood to a minimum depth of 5/8" (15 mm) to a maximum of 2" (5 cm) at a right angle into the trunk uniformly around the tree circumference, using a sharp, clean drill bit. Initially apply no pressure to the drill; the bit will naturally cut through the bark. It will stop penetrating when it meets the harder sapwood. Next, apply pressure to the drill to cut 5/8" to 2" into the sapwood. Insert an Arborplug and tap in using the set tool and mallet. Use the #3 (9/32" d) or #4 (3/8" d) Arborplug in hardwoods. Use the #4 Arborplug in conifers. Using the injection needle, pierce the internal septum to start the injection process. Shut off and remove the injection needle upon completion.

Resinous Conifers:

In resinous conifers, such as pine and spruce, insert the injection needle and immediately start liquid flow after inserting the Arborplug into the sapwood. A delay may reduce uptake due to resin flow. For trees exhibiting rapid resin flow (in spring during needle expansion) a deeper injection channel of 2" may assist in uptake.

Monocots:

Inject into the trunk into lignified (hardened, woody) tissues typically within 2 to 3 ft. of the soil. Drill into the stem 4" deep using a 3/8" drill bit. Insert a #4 Arborplug. Inject through the Arborplug. Only one injection site is typically needed. Refer to Table 2 for dose recommendations based on canopy spread.

When to Treat/Timing of Stem Injection Applications:

Tree Health and Growing Conditions: Apply prior to bud break in spring. Alternatively, make applications to trees in full leaf after elongation or after leaf senescence (coloration or drop) in fall. Moist soil conditions and moderate temperatures (i.e., >40ºF and <90ºF) favor transpiration and are optimal for injection uptake.

Best results are obtained when treatments are applied prior to infection. Treat trees early, when foliar symptoms (e.g., spot, blotch, blight) affect less than 10% of the canopy. Anticipate historical early season foliar infections by treating prior to bud break. For example, make application in late summer or early fall the year prior to infection.

Phytophthora root rot occurs most frequently in poorly drained and compacted soils. Susceptible species are at risk of infection following heavy precipitation or irrigation. Trees growing in low lying areas are also at risk of disease. Treat as early as possible in the infection cycle for best tree response.

For optimal uptake, apply when soil is moist, soil temperatures are above 40ºF, ambient temperatures are between 40ºF to 90ºF and during the 24-hour period when transpiration is greatest, typically before 2:00 pm. Applications to drought- or heat-stressed trees may result in injury to tree tissue, poor treatment and subsequent control. Watering the trees prior to injection may enhance the uptake of Reliant.

Trunk Injection Application Instructions:

This product is for use with the Reliant Tree Injection Systems or those systems that meet the label and dosage requirements. Follow system manufacturer's use directions.

Micro-Injection Applications for Use as Formulated (Non-Diluted):

Reliant may be applied undiluted by micro-injection. The Reliant dose rates are 3.5 to 7.0 milliliters ("mLs") per inch DBH. Use the 3.5 mL rate in trees less than 12" in diameter. For trees 12" to 24" in diameter, apply 3.5 to 5.0 mLs per inch DBH. Use the higher rates of 5.0 to 7.0 mLs in trees greater than 24" in diameter.

Calculating Application Rate:
The dosages and number of application sites are based on tree diameter. To determine the application/dose rate per tree:
Measure the tree diameter in inches at chest height (54" from ground) to find the Diameter at Breast Height ("DBH").
If measuring tree circumference, divide circumference by three to obtain the DBH in inches.
Calculate the number of injection sites by dividing the DBH in inches by two.
Multiply the tree DBH by the dosage rate (5.0 mL per inch DBH) to calculate the total dose in milliliters per tree.
Divide the total dose by the number of injection sites to determine required dosage per injection site.

Example: For a tree with a DBH of 10 inches (or circumference of 30 inches) and 3.5 mL dosage rate:
DBH = 10" (circumference 30" ÷ 3 = 10");
Divide DBH of 10" by 2 = 5 injection sites;
Multiply DBH" of 10 by 3.5 mL = 35 mL total dose per tree;
Divide 35 mL by 5 injection sites = 7 mL per injection site to deliver the required dosage.

Micro-Injection Applications for Use as a Dilute Injection:
Ornamental, Forest, Conifers/Narrow-Leaved Evergreens and Crop Trees
Calculating Application Rate and Mixing Instructions
To determine the application rate, refer to Table 1 for (1:3) dilution of Reliant. Identify plant size by determining tree diameter in inches at breast height (DBH) measured at 54" above the soil line. If measuring tree circumference divide by three to obtain the DBH.

In Table 1, one part of Reliant is diluted with two parts water. Determine the amount of Reliant needed by multiplying inch of DBH by the rate used (3.5 mLs). For example, to treat at 10" tree, 35 mLs of Reliant is required.

To prepare the injection solution, carefully add Reliant to the tank. In the example of the 10" tree, add 35 mLs of Reliant. Next, fill the tank with water to bring up to volume, close and agitate to mix. In the example of a 10" tree, 65 mLs of water is added. Therefore, to treat a 10" DBH tree using the standard dilution, use 35 mL of Reliant in 65 mLs of water for a total injection volume of 100 mLs. Inject 20 mLs of the solution every 6" of trunk circumference as directed. Refer to Table 1 for specific dose applications for inch diameter of tree.

Table 1
Tree Injection per Inch Diameter and Dilution for Micro Injection Use
To prepare 100 mLs of solution, measure 35 mLs of Reliant and add water to bring up to volume. Apply 20 mLs of solution per injection site every 4-8" of trunk circumference. For specific disease instructions see tables below.

Inch DBH	mLs Solution*
5-8	60-80
9-12	100-120
13-16	140-160
17-20	180-200
21-24	220-240
25-28	260-280
29-32	300-320
33-36	340-360
37-40	380-400
41-44	420-440
45-48+	460-480

*total dose per tree

Compatibility

Reliant is compatible with most products used in agriculture. However, individual crop sensitivity to these mixtures may vary. Mixtures of Reliant with some foliar fertilizers and copper products are not always compatible and may be phytotoxic to some plants. If these combinations or others have not been previously used, do not tank mix without first testing the compatibility of the tank mix. Do not apply tank mixture without first assessing phytotoxicity. Tank mix Reliant with fertilizers only if crop safety has been established and the Reliant use rates are carefully followed.

Due to Reliant acidic nature, do not use acidifying-type compatibility agents. Test spray adjuvants before use to confirm Reliant compatibility. Use a jar test to test compatibility: In a clean jar using the same water source that is normally used to fill the spray tank, add the same proportions of each product and the appropriate quantity of water, then mix thoroughly. Let stand for 3 minutes. The mixture is compatible if it remains in solution or is readily remixed in the jar. Spray the solution that results from the compatibility test onto a few plants and inspect 3-7 days later for visual effects of phytotoxicity.

Recirculating Hydroponic Systems Applications

Disease	Rate	Application Program
General root rots (*Pythium* and *Phytophthora* spp.) and root diseases	1-2 qts. of Reliant in 5,300 gal. of nutrient solution OR 1-2 L of Reliant in 20,000 L of nutrient solution	Apply every 4-6 weeks in the summer and every 8 weeks in the fall. Modify the application time interval depending on crop load, water quality and disease pressure.

Agricultural Applications

Apples, Crab Apples, Loquats, Pears and Quince

Disease	Application Method	Rate	Application Program
Apple black spot and Scab (*Venturia inaequalis*)	Foliar spray	3-4 pts. of Reliant in 30-100 gals. of water per acre OR Reliant at 0.5% solution v/v concentration Example: Spray volume of 50 gals. per acre, use 2-2 1/2 pts. Reliant	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply in combination with a mancozeb-containing product at 3 lbs/acre. Apply at 1/4-1/2 inch green tip through first cover at 7-10 day intervals or according to forecasted infection events. Continue with Reliant and mancozeb in the remaining applications. First application at open cluster. Last application at fifth cover or fruit at 2-2 1/2 inch diameter. Apply a total of 10 applications at 10-12 day intervals. Immediately apply Reliant when conditions are conducive to a black spot outbreak. Note: After 4 or 5 consecutive applications some yellowing of extension growth/leaves may be observed. If yellowing occurs use another fungicide until yellowing disappears.
	Basal bark spray	62.4 fl. oz. of Reliant + 62.4 fl. oz. of water + 3 fl. oz. of Pentra-Bark	Apply in early spring at bud swell or silver tip stage of growth. Spray mixture on the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control.
Root rot and Collar rot (*Phytophthora cactorum*) and	Foliar spray	1 1/4-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Start applications when conditions favor disease development. Apply at 1-2 month intervals between treatments. Use the low rate on the

Fire blight (*Erwinia amylovora*)			shorter interval and the high rate on the longer interval. Under high disease pressure use the higher application rate and shorter spray interval.
	Basal bark spray	62.4 fl. oz. of Reliant + 62.4 fl. oz. of water + 3 fl. oz. of Pentra-Bark	Apply in spring and fall for best results. Spray the mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control.

Asparagus

Disease	Application Method	Rate	Application Program
Crown rot and Asparagus spear slime (*Phytophthora* spp.)	Foliar spray	1 1/4-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply to ferns that have 2-3 inches of new growth. Do not apply to ferns that are starting to die down (senesce). For established plantings, start applications when conditions are favorable to disease (cool, wet conditions).

Avocados

Disease	Application Method	Rate	Application Program
Root rot (*Phytophthora cinnamomi*)	Tree injection (Not for tree injection in New York State) *{The above statement is not required if the market label is state restricted in New York State.}*	Skeletal trees 1st year: 1/4 fl. oz. of Reliant per yard of canopy diameter Other situations: 3/4 tsp. of Reliant with 1/2 fl. oz. of water per yard of canopy diameter	Inject trees at spring flush maturity. Repeat treatment in February or March. Drill holes in trunk 3/16 inch (5 mm) in diameter and 1-2 inches (25-50 mm) deep with a slight downward angle. Space injector holes evenly around the trunk circumference. Suitable for use with Ag-murf® gun, ARBORjet devices, Chemjet® tree injectors, Smart Shot® injector or hydraulic tree injection systems. Do not prune back trees before injection process as burning of new growth may occur. Do not inject trees in winter months. Do not cut back the canopy of injected trees. Do not add any materials, other than water, to Reliant by trunk injection. Do not inject more liquid in a lesser number of syringes than directed.
	Foliar spray	2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Spray to the point of runoff. Start applications in spring and apply up to 4 applications a year at 2 month intervals.
Canker (*Phytophthora citricola*)	Trunk spray	1 1/4-2 1/2 qts. of Reliant + 5 gals. of water + 6 fl. oz. of Pentra-Bark	Apply mixture to trunk lesions using sufficient spray volume to completely wet the trunk and lesions. If lesions are absent, apply to trunk from soil level up to 2 ft. up trunk. If lesions present use the higher rate.
Downy mildew	Foliar spray	3 3/4 pts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Spray to runoff, as required for disease control.

Berries

Use on bush and cane berries such as, but not limited to, bingleberries, blackberries, black satin berries, blueberries, boysenberries, Cherokee blackberries, Chester berries, Cheyenne blackberries, Cory berries, cranberries, Darrow berries,

dewberries, Dirksen thornless berries, elderberries, Himalaya berries, huckleberries, hullberries, lavacaberries, loganberries, lowberries, lucretiaberries, mammoth blackberries, marionberries, mulberries, nectarberries, olallieberries, Oregon evergreen berries, raspberries (black, hybrids/cultivars, red) and youngberries.

Disease	Application Method	Rate	Application Program
Root rot (*Phytophthora* spp.)	Foliar spray	1-3 qts. of **Reliant** per 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Completely wet foliage. New plantings: Start application when new growth is 2-3 inches long. Established plantings: Start applications when conditions (cool, wet) favor disease. West of Rocky Mountains: Autumn applications: Apply when conditions favor disease, repeat in 4 weeks. Spring applications: First application after bud break; then repeat in 4 weeks. East of Rocky Mountains: First application at spring post bud break (2-3 inches new growth) and repeat at 50-60 day intervals. Do not exceed 4 applications per crop cycle. For blueberries: First application in spring at pink bud and then on a regular application schedule at 2-3 week intervals.
Stem canker control*		4-6 pts. of **Reliant** per 30-100 gals. of water per acre	
General leaf and berry diseases such as those caused by *Septoria* spp. and suppression of Anthracnose spp., Fusicoccum canker and Phomopsis canker	Root dip	1 qt. of **Reliant** per 10 gals. of water (2.5% v/v solution)	Apply a pre-plant dip to roots for 2-3 minutes. Plant within 48 hours after dipping. Mix a fresh solution daily.
	Chemigation overhead	1-2 qts. of **Reliant** in 1000 gals. of water per acre	Apply with normal irrigation schedule. Do not apply more than 4 times per crop cycle.
	Low volume spray	2-3 qts. of **Reliant** in 100 gals. of water per acre	
Downy mildew	Foliar spray	1 1/2-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-3 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals. **Reliant** is best when used in combination with conventional registered fungicides to increase the disease control program performance.
Orange cane blotch* and Orange felt*		1-2 qts. of **Reliant** in 50-100 gals. of water per acre	Apply at primocane emergence every 14-21 days.

*Not for use in California

Brassicas

Use on brassicas such as, but not limited to, broccoli, Brussels sprouts, cabbage, cauliflower, cavolo broccolo, collards, Chinese cabbage, Chinese mustard cabbage, kale, kohlrabi, mizuna, mustard greens, mustard spinach and rape greens.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Pre-plant seedling nursery	1 qt. of **Reliant** in 100 gals. of water	Apply to nursery plants in seedling trays 1-7 days prior to planting.
	Transplant and furrow	3 pts. of **Reliant**	Apply at planting or to newly planted seedlings by side dressing or shank application.
Bacterial diseases	Chemigation overhead	1-2 qts. of **Reliant** in 1000 gals. of water per acre	Apply with normal irrigation schedule. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Low volume spray	2-3 qts. of **Reliant** in 20-100 gals. of water per acre	
Downy mildew (*Peronospora parasitica*)	Foliar spray	1 1/4-2 1/2 qts. of **Reliant** in 30-250 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease, when conditions favor disease development (cool, moist weather). Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Diseases caused by *Septoria, Colletotrichum* and *Alternaria* spp.; and Powdery mildew		1-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

Cereal Grains

Apply to crops such as, but not limited to, barley, corn (field, Indian, ornamental, sweet) oats, rye, sorghum (milo), triticale and wheat.

Disease	Application Method	Rate	Application Program
Damping-off and root diseases (*Phytophthora* and *Pythium* spp.)	Foliar spray	1 1/2-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Corn: Apply at 14-day intervals from 4-leaf stage, as needed. Other Grains: Apply at 14-21 day intervals, as needed.

Citrus-Mature Trees

Disease	Application Method	Rate	Application Program
Brown rot and Root rot (*Phytophthora*	Foliar spray	2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. When conditions favor disease, spray trees to

spp.)			runoff. Do not apply at high temperatures (above 95°F), particularly if humidity is low, or to moisture-stressed trees.
Root rot and Collar rot (*Phytophthora* and *Nicotianae* spp.; and *Phytophthora citrophthora*)	Trunk spray	1 1/4-2 1/2 qts. of **Reliant** + a minimum of 5 gals. of water + 1 to 3 fl. oz. of Pentra-Bark	Spray trunk lesions with enough spray volume to ensure lesions are completely wet. Use higher rate when disease levels are high.
	Soil spray	2 1/2-4 qts. of **Reliant** in a minimum 20 gals. of water per acre	

Coconuts

Disease	Application Method	Rate	Application Program
Bud rot (*Phytophthora palmivora*) and Nut fall	Injection (Not for tree injection in New York State) *{The above statement is not required if the market label is state restricted in New York State.}*	2 tsp. to 1 fl. oz. of **Reliant** + 1-2 fl. oz. of water per tree	Inject 1-2 fl. oz. of mixture into the trunk or root system.

Coffee, Okra, Papaya and Persimmon

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1 1/2-2 qts. of **Reliant** in 30-250 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply, as needed, at 14 day intervals after plant emergence.
		1-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Bacterial and leaf diseases such as coffee berry disease and various leaf spots (*Septoria* and *Cercospora* spp.); and suppression of Anthracnose (*Colletotrichum* spp.)	Root dip	1/3 fl. oz. of **Reliant** with 1 gal. of water (0.25% v/v solution)	Apply as a pre-plant dip to transplants immediately prior to planting. Dip plants momentarily and plant within 48 hours. Mix a fresh solution daily.
	Chemigation overhead	2-3 qts. of **Reliant** in 1000 gals. of water per acre	Apply with routine irrigation schedule. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
		2-4 qts. of **Reliant** in 100 gals. of water per acre	
	Transplant and furrow	3 pts. of **Reliant**	Apply at planting or to newly planted seedlings by side dressing or shank application.
Downy mildew and Powdery mildew	Foliar spray	1-3 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 week intervals
Rust*		4-6 pts. of **Reliant** in 30-100 gals. of water per acre	
Pseudomonas		2 qts. of **Reliant** with	Apply to the point of saturation/runoff prior to the onset

garcae		100 gals. of water (0.1% v/v solution)	of disease.

*Not for use in California

Cotton

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at crop emergence every 21 days or during wet conditions that favor pathogen development.
	Side dress or in furrow	1-1 1/2 qts. of Reliant per acre	Apply at planting either in furrow or side dress. May be applied with liquid row starter fertilizers after compatibility check.

Cucurbits

Use on field grown cucurbits such as, but not limited to, Chinese cucumber, Chinese waxgourd, citron melon, cucumber, gherkin rockmelon, honeydew melon, *Momordica* sp. balsam apple, balsam pear, bitter melon, pumpkin, squash (summer and winter), watermelon and zucchini.

Disease	Application Method	Rate	Application Program
Sudden wilt, Root rot and Fruit rot (*Phytophthora* spp.)	Foliar spray	1-3 qts. of Reliant per 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Do not exceed a total of 6 applications per crop cycle.
Gummy stem blight (*Mycosphaerella melonis*)			Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply when disease is evident. Continue applications at 21 day intervals until cure is apparent. Do not exceed a total of 6 applications per crop cycle.
Downy mildew (*Pseudoperonospora cubensis*)			Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply within 7-10 days of infection. Repeat as necessary. Do not exceed a total of 6 applications per crop cycle.
Powdery mildew and other leaf diseases such as Alternaria leaf blight; and suppression of Anthracnose		2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Bottom soft rot complex			Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply after fruit set and during bulking up to 3 times during the growing crop cycle.
Pumpkin and Watermelon: Bacterial blight*		4-6 pts. of Reliant per 30-100 gals. of water per acre.	Apply dilution to ensure thorough, uniform foliage and crop coverage. Do not exceed a total of 6 applications per crop cycle.

*Not for use in California

Cucurbits-Tank Mixtures

Product	Disease	Rate	Application Program
Reliant + mancozeb-containing	Downy mildew diseases	Light to medium foliage cover: 1 1/4-2 qts. of Reliant + label rate of mancozeb	Apply as a ground foliar spray. To ensure both pre- and post-infection activity, tank mix Reliant with protectant fungicides such as

fungicide		product per acre Heavy foliage cover: Apply 3 qts. of Reliant + label rate of mancozeb per acre	mancozeb, copper oxychloride, etc.

Fruiting Vegetables

Use on fruiting vegetables such as, but not limited to, eggplant, peppers (bell, chili, cooking, pimento and sweet), tomatillos and tomatoes.

Disease	Application Method	Rate	Application Program
Eggplant: *Pythium* and *Phytophthora* spp.; and Gummy stem blight (*Mycosphaerella melonis*)	Foliar spray	1 1/4 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Do not exceed a total of 6 applications per crop cycle. Apply when disease is evident. Continue applications at 21 day intervals until cure is apparent.
Peppers: Late blight (*Phytophthora infestans*) and Root rot (*Phytophthora* spp.)		1 1/2-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. First application at transplant or when direct seeded crops are at 2-4 true leaf, then at 1-2 week intervals as required to control disease. In high disease situations use higher rates and shorter spray intervals.
Tomatillos/Tomatoes: Late blight (*Phytophthora infestans*) and Root rot *Phytophthora* spp.)			
Tomatoes: Bacterial blight*		4-6 pts. of Reliant in 30-100 gals. of water per acre	
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)		1-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Bacterial diseases	Pre-plant seedling nursery	1 qt. of Reliant in 100 gals. of water	Apply to nursery plants in seedling trays 1-7 days prior to out planting.
	Transplant and furrow	3 pts. of Reliant	Apply at planting or to newly planted seedlings by side dressing or shank application.
	Chemigation overhead	1-2 qts. of Reliant in 1000 gals. of water per acre	For control of bacterial leaf spot of tomatoes, apply the higher rate of Reliant with registered bactericides.
Downy mildew	Foliar spray	1-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate
Powdery mildew and other leaf diseases such as Alternaria leaf blight; and suppression of Anthracnose			

			at 7-10 day intervals.

*Not for use in California

Garlic, Leeks, Onions and Shallots

Disease	Application Method	Rate	Application Program
Downy mildew (*Peronospora destructor*)	Foliar spray	2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. For best results, use as a regular preventative control program or when disease first appears.

Garlic, Onions and Shallots-Tank Mixtures

Product	Disease	Rate	Application Program
Reliant + mancozeb-containing fungicide	Downy mildew diseases	2 qts. of Reliant in 100 gals. of water + label rate of mancozeb product per acre	Apply as a foliar spray. For best results, apply Reliant as a tank mix with protectant fungicides such as mancozeb, copper oxychloride, etc. to ensure both pre- and post-infection activity.

Grapes

Disease	Application Method	Rate	Application Program
Downy mildew (*Plasmopara viticola*) and Black rot root rots (*Phytophthora* and *Pythium* spp.); and suppression of Armillaria	Foliar spray	Early season/small canopy: 1 1/4 qts. of Reliant in 30-100 gals. of water per acre Late season/large canopy: 2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. It is essential that the rate of Reliant be adjusted to the vine row volume, i.e., the volume of vine foliage per acre. Spray timing is critical. Apply Reliant at times of high disease risk, especially between the time that conditions are conducive to downy mildew and black rot infection and the appearance of oil spots. Ensure that the appropriate rate of Reliant is applied to match vine growth and water volume, particularly from mid-season onwards, and especially where grapes are grown on root stock. Use rotational fungicides such as captan, copper, mancozeb, etc. that also control black rot in combination with Reliant.
		1 1/2-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply to vines that have a stressed root system that can lead to root rots. Mitigating factors such as nematode pressure, water logging and compaction contribute to vine declines. Do not apply more than 4 times per crop cycle. Table Grapes: Begin application in the spring at the 4-6 inch shoot stage. Continue applications at 1-2 week intervals until flowering. Resume applications in the fall after harvest. Wine and Raisin Grapes: Begin applications in the spring at the 4-6 inch shoot stage. Continue applications at 1-2 week intervals through flowering.
Downy mildew			Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at bud break with additional applications at 7-10 day intervals in a rotational program with other registered fungicides. Use higher rate and volume based on disease severity and canopy density. Do not apply more than 6 times per crop cycle. Reliant is most effective against downy mildew when tank mixed with other registered fungicides.

Powdery mildew		2-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Rust*		4-6 pts. of **Reliant** in 30-100 gals. of water per acre	

*Not for use in California

Grapes-Tank Mixtures

Product	Disease	Rate	Application Program
Reliant + mancozeb-containing fungicide	Downy mildew and Black rot	Early season small/canopy: 1 1/4 qts. of **Reliant** in 50-100 gals. of water + label rate of mancozeb product per acre Late season/large canopy: 2-2 1/2 qts. of **Reliant** in up to 100 gals. of water + label rate of mancozeb product per acre	Apply as a foliar spray. To ensure both pre- and post-infection activity, tank mix **Reliant** with protectant fungicides such as mancozeb, copper oxychloride, etc.

Hemp*

For hemp (only non-food uses) grown indoors or outdoors.

Disease	Application Method	Rate	Application Program
Downy mildew, *Phytophthora* spp., Powdery mildew and *Pythium* spp. (damping off)	Foliar spray	4-6 pts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Recirculating hydroponic systems	1-2 qts. of **Reliant** in 5,300 gal. of nutrient solution OR 1-2 L of **Reliant** in 20,000 L of nutrient solution	Apply every 4-6 weeks in the summer and every 8 weeks in the fall. Modify the application time interval depending on crop load, water quality and disease pressure.

*Not for use in California

Herbs and Spices

Use on herbs and spices grown in fields, nurseries and greenhouses such as, but not limited to, anise, balm, basil, caraway, catnip, celery, chamomile, chives, coriander, cumin, curry leaf, dill, fennel, marjoram, mint, nasturtium, rosemary, sage, savory, sweet bay, tarragon, thyme and wintergreen. Apply before disease development and in conjunction with good agricultural management practices. Use higher application rate when disease pressure is severe. To avoid plant injury, do not exceed the following application or frequency rates. Do not apply to plants that are heat or moisture stressed.

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray	1 1/4-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre OR 1/2-1 1/8 fl. oz. of **Reliant** per gal. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. Repeat as required at 14-21 day intervals.
Phytophthora and *Pythium*		1-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Repeat as required at 14-21

spp. diseases		OR 2-4 tsp. of **Reliant** per gal. of water	day intervals. Note: Do not apply more than 500 gals. of spray solution per acre.
	Soil drench	6 1/4-12 3/4 fl. oz. of **Reliant** per 100 gals. of water	Apply 25 gals. of solution per 100 sq. ft. Follow application with irrigation. Repeat as required, but not more often than once per month.

Hops

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray only by ground equipment	1-3 qts. of **Reliant** in 30-100 gals. of water per acre	Provided conditions favor disease, apply when: A. Shoots are 1/2-1 foot long; or B. Post-training when vines are 6 feet high; or C. 21 days post-application (B); or D. During bloom. Apply dilution to ensure thorough, uniform foliage and crop coverage.

Leafy Vegetables

Use on leafy vegetables such as, but not limited to, amaranth, arugula, cardoon, celery, chervil, corn salad, endive, fennel, lettuce, parsley, radicchio, rhubarb, spinach and Swiss chard. Excludes Brassica vegetables.

Disease	Application Method	Rate	Application Program
Downy mildew (*Bremia lactucae*)	Foliar spray	1-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)			Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Pre-plant nursery	1 qt. of **Reliant** in 100 gals. of water	Apply to nursery plants in seedling trays 1-7 days prior to out planting.
	Chemigation overhead	1-2 qts. of **Reliant** in 1000 gals. of water per acre	Do not apply more than 6 times per crop cycle. Apply with routine irrigation schedule. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Chemigation low volume	1-2 qts. of **Reliant** in a minimum of 100 gals. of water per acre	
	Transplant and furrow	3 pts. of **Reliant**	Apply at planting or to newly planted seedlings by side dressing or shank application.
Powdery mildew and leaf diseases such as leaf blights (*Septoria* and *Cercospora* spp.)	Foliar spray	1 1/2-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle.

and bacterial rots (*Erwinia* spp.); and suppression of Anthracnose (*Colletotrichum* spp.)			Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

Legumes

Use on succulent and dried legumes such as, but not limited to, beans (broad, fava, field, green, kidney, lima, mung, navy, pinto and wax), lentils, peas (black-eyed, chick, cow, English, pigeon, snow and sugar snap) and soybeans.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1 1/2-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply, as needed, at 14 day intervals after plant emergence.
Phytophthora and *Pythium* spp.			Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Soybeans: Anthracnose* and rust*		4-6 pts. of Reliant in 30-100 gals. of water per acre	
Green beans: Anthracnose*			
Fusarium and Rhizoctonia	Pre-plant nursery	1 qt. of Reliant in 100 gals. of water	Apply to nursery plants in seedling trays 1-7 days prior to out planting.
	Transplant and furrow	3 pts. of Reliant	Apply at planting or to newly planted seedlings by side dressing or shank application.
Downy mildew	Foliar spray	1-3 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Powdery mildew and leaf diseases such as leaf blights (*Septoria* and *Cercospora* spp.) and bacterial rots (*Erwinia* spp.); and suppression of Anthracnose (*Colletotrichum* spp.)		2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	

*Not for use in California

Mangos

Disease	Application Method	Rate	Application Program
Suppression of Anthracnose (*Colletotrichum gloeosporoides*)	Foliar spray	3-4 pts. of Reliant in 30-100 gals. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. Spray tree to the point of runoff every 14 days during blossom period, then monthly until harvest.

Nongrass Animal Feed

Use on forage crops such as, but not limited to, alfalfa, clover and vetch.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot	Foliar spray	1 1/2-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply, as needed,

(*Phytophthora* and *Pythium* spp.)			at 14 day intervals after plant emergence.

Palms (Including Coconut Palms)*

Disease	Application Method	Rate	Application Program
Fusarium oxysporum	Injection (Not for tree injection in New York State) *{The above statement is not required if the market label is state restricted in New York State.}*	Between 4 tsp. and 2 fl. oz. of Reliant per tree. Small canopy (6-12 ft. spread: 4 tsp (20 mLs) Medium canopy (13-24 ft. spread: 1.3 fl. oz. (40 mLs) Large canopy (> 24 ft. spread): 2 fl. oz. (60 mLs)	Inject into trunk, drilling 4" deep, 3 ft. above soil level. To protect new spear growth, apply 10-15 weeks prior to expected initiation of new growth.

*Not for use in California

Peanuts

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1 1/2-2 qts. of Reliant in 30-250 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply, as necessary, at 14 day intervals.
Root rots, Pod rots, Damping-off and Wilt (*Phytophthora* and *Pythium* spp.)		2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Leaf and Crown diseases; and suppression of Anthracnose (*Colletotrichum*)	Transplant and furrow	3 pts. of Reliant	Apply at planting or to newly planted seedlings by side/top dressing or shank application.
White mold	Foliar spray	2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply preventatively at disease onset or during times when potential pathogen infection can occur.

Pineapples

Disease	Application Method	Rate	Application Program
Root and Heart rot (*Phytophthora cinnamomi* and *parasitica* spp.)	Foliar spray	2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply to tops 14 days prior to planting material harvest. Treats enough slips to plant one acre. Apply at 90 day intervals to established plantings when conditions favor disease.
	Pre-plant dip	1 1/4 qts. of Reliant in 30-100 gals. of water per acre	

Potatoes – Post-Harvest

Use Reliant only on russet-skinned potatoes intended for processing.

Disease	Application Method	Rate	Application Program
Suppression of Late blight (*Phytophthora infestans*) and Pink rot (*Phytophthora erythroseptica*)	Tuber spray	16.5 fl. oz. of Reliant in 1/2 gal. of water/ton of tubers	For best results, be sure tubers are completely and evenly covered.
	Foliar spray	2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals. Late blight management using Reliant requires the higher application rate and is most effective when tank mixed with other registered fungicides.
	Seed piece spray	0.3 qt. of Reliant with 2 qts. of water (0.15% v/v solution) at the rate of 2 tons of tubers per gal. of solution	Treat seed pieces with a full coverage spray.
Suppression of Powdery mildew	Foliar spray	1-3 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 4 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

Root and Tuber Vegetables

Disease	Application Method	Rate	Application Program
Ginseng: Foliar and root rot (*Phytophthora cactorum*)	Foliar spray	2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. In cool, wet conditions that favor *Phytophthora*, apply at 7 day intervals. Do not exceed a total of 8 applications per crop cycle.
Carrots and radishes: Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)		1 1/2-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply, as needed, at 14 day intervals after plant emergence.
Potatoes, Sweet Potatoes and Yams: Pink rot and Pythium leak (*Phytophthora erythroseptica* and *Pythium*	In-furrow spray	2-5 qts. of Reliant in 10 gals. water per acre	Apply in a band spray directly over top of potato seed just before row is closed.

spp.)			
Potatoes, Sweet Potatoes and Yams: Late blight, Pink rot and Pythium leak (*Phytophthora infestans*, *Phytophthora erythroseptica* and *Pythium* spp.)	Foliar spray	1 1/4 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at 5-14 day intervals subject to disease incidence.
Downy mildew		1-3 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

Stone Fruit

Use on stone fruit such as, but not limited to, apricots, cherries (sweet, tart), nectarines, peaches, plums and prunes (fresh).

Disease	Application Method	Rate	Application Program
Root and Collar rot (*Phytophthora* spp.)	Foliar spray	2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Three treatments are required: 1. Spring 2. Mid-summer 3. Fall, post-harvest. Apply dilution to ensure thorough, uniform foliage and crop coverage.
	Basal bark spray	62.4 fl. oz. **Reliant** + 62.4 fl. oz. of water + 3.2 fl. oz. of Pentra-Bark	Apply in spring and fall. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present.
Pruning wound cankers (*Phytophthora syringae*)	Foliar spray	1 1/4-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply to pruning wound and surrounding area; ensure area is thoroughly wet. Use the higher application rate in high disease situations.
	Paint	50:50 solution of **Reliant** and water	Paint wounds with concentrated solution.
Suppression of Armillaria root rot (*Armillaria luteobublina*)	Basal bark spray	1 1/2-2 qts. of **Reliant** + 2 qts. of water + 1% Pentra-Bark	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger than 18 inches DBH (Diameter at Breast Height, 4.5 feet above the ground) that have been previously attacked by Armillaria root rot, apply in fall prior to leaf senesce and again in spring. For trees less than 18 inches DBH, apply in early spring.

Strawberries

Disease	Application Method	Rate	Application Program
Red stele, Leather rot and Root rot	Pre-planting dip	1 1/4 qts. of **Reliant** in 100 gals. of water	Dip planting material in solution for 30 minutes, then plant within 1 day. Mix a fresh solution daily. Use for annual and perennial varieties.

(*Phytophthora* and *Pythium* spp.	Foliar spray	1-3 qts. of Reliant in 30-100 gals. of water per acre CA Only: 1 1/4-2 1/2 qts. of Reliant in 90-200 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Annual Crops: First treatment 14-21 days post planting; repeat at 1-2 month intervals when disease is evident. Perennial Crops: First treatment during spring growth flush; repeat at 1-2 month intervals when disease is evident. For susceptible varieties, use higher rates and shorter spray intervals. Gray mold and Anthracnose suppression requires use of higher application rates and is most effective when tank mixed with other registered fungicides.
Blackroot rot*		4-6 pts. of Reliant in 30-100 gals. of water per acre	
Foliar fungal and bacterial diseases (*Rhizopus* and *Xanthomonas* spp.) and Red stele (*Phytophthora fragararie*)	Transplant and furrow	3 pts. of Reliant	Apply at planting or to newly planted seedlings by side dressing or shank application.
Leather rot (*Phytophthora cactorum*)	Foliar spray	1-3 qts. of Reliant in 30-100 gals. of water per acre CA Only: 1-1/4-2 1/2 qts. of Reliant in 90-200 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at 10% bloom and early fruit set, then as required at 1-2 week intervals for disease control. In high disease situations use higher rates and shorter spray intervals.
Phytophthora spp.	Dip	1 qt. of Reliant in 100 gals. of water (0.25% v/v solution)	Dip runners in the solution for 1-2 minutes, then plant within 48 hours. Mix a fresh solution daily.
Suppression of Powdery mildew	Foliar spray	2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

*Not for use in California

Tree Nuts

Use on tree nuts such as, but not limited to, almonds, black walnuts, beech nuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapin, English walnuts, hazelnuts, hickory nuts, macadamia nuts, pecans, pistachios and walnuts.

Disease	Application Method	Rate	Application Program
Other than macadamia nuts: Root and Collar rot (*Phytophthora* spp.)	Foliar spray	1 1/4 qts. of Reliant in 30-100 gals. of water per acre	Three treatments are required: 1. Spring; 2. Mid-summer; 3. Fall, post-harvest. Apply dilution to ensure thorough, uniform foliage and crop coverage.
Other than macadamia nuts:	Paint or spray	2 1/2 qts. of Reliant in 100 gals. of water	Apply to pruning wound and surrounding area; ensure area is thoroughly wet.

Almond pruning wound canker (*Phytophthora syringae*)			
Macadamia nuts: Raceme blight (*Phytophthora* spp.)	Foliar spray	3 3/4 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply when disease is first seen and reapply at 3 week intervals. Spray to the point of runoff.
Root rot, Crown rot, trunk cankers and foliar blights (*Phytophthora* and *Pythium* spp.) Macadamia nuts: Foliar bacterial and fungal disease, Anthracnose (*Colletotrichum* spp.), hull rot (*Monilla* spp.), flower diseases (*Cladosporium* spp.), Alternaria leaf spots (*Alternaria* spp.) and raceme blight (*Phytophthora* spp.)		2-2 1/2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Do not apply more than 4 times per crop cycle. Begin application after plants are established and conditions favor disease development. Low Disease Pressure: Apply lower rate at 3 month intervals. High Disease Pressure: Apply higher rate at monthly intervals.
	Root dip	2 qts. of Reliant in 100 gals. of water (0.5% v/v solution)	Dip roots in the solution for 30 seconds and plant within 48 hours. Mix a fresh solution daily.
Pecan scab	Foliar spray	3 qts. of Reliant in 30-100 gals. of water per acre CA Only: 2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply preventatively with other products shown to be effective against pecan scab.
Pruning wound, crown and trunk cankers (*Phytophthora* spp.)	Trunk spray	2 qts. of Reliant + 2 qts. of water + 1% of Pentra-Bark	Apply higher rate when lesions are present. Clean wound sites and apply on and around the lesions using enough spray volume to thoroughly wet the lesions. Apply to the trunk from the soil line to 5 feet up the trunk. Apply one time in the spring, summer and fall.
Downy mildew and Powdery mildew	Foliar spray	1-2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Tree cankers and suppression of Armillaria	Basal bark spray	1 1/2-2 qts. of Reliant + 2 qts. of water + 1% of Pentra-Bark	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger 18 inches DBH (Diameter at Breast Height, 4.5 feet above the ground) that have been previously attacked by Armillaria root rot, apply in fall prior to leaf

			senesce and again in spring for best results. For trees less than 18 inches DBH, make an early spring application at or about bud swell.
Black walnut and English walnut: For prevention and control of Thousand Cankers Disease (*Geosmithia morbida*)	Foliar spray	2-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Spray every 60 days starting in early spring in combination with an insecticide that controls Walnut Twig Beetle (*Pityphthorus juglandis*) during insect flight times. Do not apply more than 6 times per year.
	Basal bark spray	32 fl. oz. of **Reliant** + 48 fl. oz. of water + 2 fl. oz. of Pentra-Bark per 18 inches of tree DBH	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present.

Tobacco

Use on all varieties, including, but not limited to, aromatic fire-cured, brightleaf ("flue-cured"), burley, dark, perique and shade.

Disease	Application Method	Rate	Application Program
Preventative and curative treatment for Damping off, Downy mildew, *Phytophthora* spp., Powdery mildew, Root rot and Stem diseases	Float beds	2-4 fl oz. in 100 gals. of float solution	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at 14-21 day intervals depending upon disease pressure. Spray to runoff.
	Chemigation (drench, drip (trickle), micro irrigation (spaghetti systems), ebb and flow systems, pot plant nursery systems)	4-32 fl. oz in 30-100 gals. per acre	
	Hand-held sprayer	1 qt. in 100 gals. of water	

Commercial Applications

Conifers (Including Christmas Trees) in Commercial Nurseries, Forests and Plantations

Apply in conjunction with good agricultural management practices on conifers including, but not limited to, Douglas fir, pines and spruce. Use higher application rate when disease pressure is severe. To prevent plant injury, do not exceed application or frequency rates stated below. Do not apply to conifers that are moisture or heat stressed. Do not graze livestock in treated areas of conifer nurseries or plantations. Do not feed forage from treated plantation/nursery areas.

Disease	Application Method	Rate	Application Program
Root rot (*Phytophthora* spp.)	Foliar spray	1-2 qts. of **Reliant** per 30-100 gals. of water OR 2-4 tsp. of **Reliant** per gal. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. Repeat as required at 14-21 day intervals.
	Soil drench	1-2 qts. of **Reliant** per 100 gals. of water OR 2-4 tsp. of **Reliant** per gal. of water	Apply 1 gal. of solution per square yard of soil. Follow application with irrigation. Repeat as required at 14-21 day intervals.
	Bare root dip	1 qt. of **Reliant** per 100 gals. of water OR 2 tsp. of **Reliant** per gal. of water	Immediately before transplanting, dip transplants for 2 minutes; keep roots submerged and ensure root mass is thoroughly wet.
Pine pitch canker	Basal bark spray	1 gal. of **Reliant** + 2 gals. of water +	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5

(*Fusarium subglutinans*		4 fl. oz. of Pentra-Bark	feet above the soil line.
	Injection (Not for tree injection in New York State) *{The above statement is not required if the market label is state restricted in New York State.}*	20 ml per tree of a mixture containing: 1 gal. of Reliant + 2 gals. of water	Drill holes in trunk 3/16 inch (5 mm) in diameter and 1-2 inches (25-50 mm) deep with a slight downward angle. Place syringe holes in the main tree trunk and space evenly around the trunk circumference. Suitable for use with Ag-murf gun, ARBORjet devices, Chemjet tree injectors or hydraulic tree injection devices. Trees must be at least 10" diameter at breast height.

Forestry, Golf Course, Landscape, Nursery and Park Applications

Use on various shade trees such as, but not limited to, Ash, Aspen, Azalea, Bald Cypress, Beech, Birch, Black Gum, Black Locust, Buckeye, Catalpa, Cedar, Cherry (Stonefruits), Chestnut, Coffee Tree, Cork Tree, Crab Apple, Dogwood (All), Elder, Elm, Fir, Golden Raintree, Hawthorne, Hazelnut, Honey Locust, Juniper, Lilac, Linden, London Plane tree, Magnolia, Maples (All), Mock Orange, Monterey Pine, Oaks (All), Olives, Ornamental Pear, Pine, Plum, Pyracantha, Red Bud, Smoke Tree, Sumac, Sweet Birch, Sweet Gum, Sycamore, Tulip Tree, Viburnum, Walnut, White Cedar, White Pine, Willow, Witch Hazel, Zelkova and various conifers in the landscape.

Apply before disease development and in conjunction with good agricultural management practices. Use higher rate of application when disease pressure is severe. To prevent tree injury, do not exceed application or frequency rates as stated below. Do not apply to trees that are heat or moisture stressed. Do not apply to trees that are in a state of dormancy. Apply to only target plants.

Disease	Application Method	Rate	Application Program
Phytophthora spp., *Pythium* spp. and Sudden Oak Death (*Phytophthora ramorum*)	Injection (Not for tree injection in New York State) *{The above statement is not required if the market label is state restricted in New York State.}*	11 fl. oz. of Reliant per 21 fl. oz. of water	Using a slow drill, drill holes in trunk 3/16 inch (5 mm) in diameter into live sapwood (hole depth is dependent upon age of tree) with slight downward angle. Space injector holes evenly around the trunk circumference. Do not inject into areas of obvious decay, canker or mechanical injury that appear on the tree trunk. Calculate the amount of product required by measuring the tree using one of the following 3 methods and use the highest calculated number of injections: 1) 1 injection per square yard of canopy; 2) 1 injection per yard of canopy diameter measured at the drip-line; 3) 1 injection per 6 inches of trunk circumference measured 4 feet above soil level. Use injection applicators that maintain positive pressure differential such as Ag-murf gun, ARBORjet devices, ChemJet, Marley® Injector, Sidewinder®, Smart Shot injector or other hydraulic injector type equipment that forces solution into the tree sapwood.
	Basal bark spray	62.4 fl. oz. of Reliant + 62.4 fl. oz. of water + 3 fl. oz. of Pentra-Bark	For best results apply in spring and fall. Best for thin bark trees such as dogwoods, lindens, maples and sycamores. Spray mixture around the complete trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present.
Phytophthora spp.*	Foliar spray	4-6 pts. of Reliant per 100 gals. of water	Spray to the point of runoff and ensure thorough coverage.
Pine pitch canker (*Fusarium subglutinans*)	Basal bark spray	1 gal. of Reliant + 2 gals. of water + 4 fl. oz. of Pentra-Bark	Pines: Apply uniformly to trunk circumference anytime active growth is observed. Spray from top down to ground level from either first branch or from as high (5-6 feet) as possible without exposing applicator to drift. Spray to saturation/runoff. Apply with hydraulic sprayers, handheld pump-type sprayers, backpack

			sprayers, etc.
Pine pitch canker (*Fusarium subglutinans*) and Sycamore Anthracnose (*Gnomonia platani*)	Injection (Not for tree injection in New York State) *{The above statement is not required if the market label is state restricted in New York State.}*	20 ml per tree of a mixture containing: 1 gal. of Reliant + 2 gals. of water	Using a slow drill, drill holes in trunk 3/16 inch (5 mm) in diameter and 1-2 inches (25-50 mm) deep with slight downward angle in the main tree trunk. Space injector holes evenly around the trunk circumference. Suitable for use with Ag-murf gun, ARBORjet devices, Chemjet tree injectors, Smart Shot injector or other positive pressure hydraulic tree injector equipment. Trees must be at least 10" diameter at breast height.
Apple black spot/scab (*Venturia inaequalis*) and suppression of Anthracnose	Basal bark spray	62.4 fl. oz. of Reliant + 62.4 fl. oz. of water + 3 fl. oz. of Pentra-Bark	Apply in early spring at bud swell or silver tip stage of growth. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control. Various types of application equipment can be used such as hydraulic sprayers, handheld pump-type sprayers, backpack sprayers, hose-end applicators with backflow prevention devices and other similar application devices. For severe infestation of Anthracnose in large trees, apply in fall (at leaf senesce) and spring (bud swell to green tip).
Various tree cankers		48 fl. oz. of Reliant with 62.4 fl. oz. of water and 1 fl. oz. of Pentra Bark	For severe canker infestations, apply at green tip or early spring (spring bud break) and repeat in fall prior to leaf senesce.
Fire blight	Foliar spray	1 1/2-2 qts. of Reliant in 30-100 gals. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. First application at pre-bloom (bud swell or silver tip stage). Apply at 7 day intervals until end of bloom period.
	Basal bark spray	50:50 solution of Reliant and water + 1% of Pentra-Bark	Apply at bud swell.
Suppression of Anthracnose	Foliar spray	2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at pre-bloom (bud swell or green tip stage) with a supplemental application 14 days later with Reliant or another fungicide effective against Anthracnose.
	Basal bark spray	62.4 fl. oz. of Reliant + 62.4 fl. oz. of water + 1 1/2-3 fl. oz. of Pentra-Bark	Apply in early spring at bud swell until green tip stage of growth. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger than 18 inches DBH (Diameter at Breast Height, 4.5 feet above ground) that have been previously attacked by Anthracnose, apply in fall prior to leaf senesce and again in spring for best results. For trees less than 18 inches DBH, apply in early spring.
Suppression of Verticillium wilt	Foliar spray	2 qts. of Reliant in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. For trees previously identified with infections, apply first application pre-bloom. Repeat applications at 21-30 day intervals.
Suppression of Verticillium wilt and Armillaria	Basal bark spray	1 1/2-2 qts. of Reliant + 2 qts. of water + 2 fl. oz. of Petra-Bark	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first

			scaffolding limbs, if present. For trees larger than 24 inches DBH (Diameter at Breast Height, 4.5 feet above ground) that have been previously attacked by Verticillium wilt, apply in fall prior to leaf senesce and again in spring for best results. For trees less than 24 inches DBH, apply in early spring.
Needle cast	Foliar spray	2-2 1/2 qts. of **Reliant** per 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Treat when symptoms first appear. Spray to runoff. Repeat application 30 days later.
Black walnut and English walnut: Thousand Cankers Disease (*Geosmithia morbida*)		2-2 1/2 qts. of **Reliant** in 50 gals. of water per acre or a 1% solution	Start spray program in spring and treat every 60 days in combination with an insecticide program to control Walnut Twig Beetle, *Pityphthorus juglandis*, during times of insect flight. Spray to runoff.
	Basal bark spray	32 fl. oz. of **Reliant** + 48 fl. oz. of water + 2 fl. oz. of Pentra-Bark per 18 DBH inches of tree circumference	Spray mixture, to saturation/runoff, on trunk circumference from ground level up 6 feet or to first scaffolding limbs, if present. Treat in spring at leaf out and fall prior to leaf senesce. Use in combination with an insecticide program to control Walnut Twig Beetle.
Phytophthora spp.* and Pythium spp.*; and Suppression of Fire blight*, Anthracnose*, Oak blight*, Oak wilt*, Apple scab*, and Stem* and twig blights*	Soil injection or drench	0.5% solution in water	Uniformly drench soil or inject solution into the soil around the base of the plant using 1 gallon of solution per diameter inch of landscape plant measured 6 inches above ground. For trees, uniformly drench soil or inject solution into the soil at the rate of 1 gallon of solution per diameter inch of tree trunk measured at DBH (4.5 feet from ground level).

*Not for use in California

Table 3
Dilution (1:30) for use with Tree I.V. for Sudden Oak Death
Apply 40 mLs of solution per injection site every 4-8" of trunk circumference
{If the market label is not state restricted in New York State, the following statement must be included:}
Not for Use in New York State

Inch DBH	mLs of Solution*
5-8	120-160
9-12	200-240
13-16	280-320
17-20	360-400
21-24	440-480
25-28	520-560
29-32	600-640
33-36	678-718
37-40	758-798
41-44	838-878
45-48+	918-958

*To prepare 1000 mLs of solution, measure 32.5 mLs of **Reliant** and add water to bring up to volume.

Grass Grown for Seed Production

Use on turf grasses such as, but not limited to, bent, Bermuda, blue, buffalo, fescue, poa annua, rye and zoysia.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1 1/2-2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply, as necessary, at 14-21 day intervals.

Nursery and Bedding Plants

Use on bedding plants grown in/on golf courses, greenhouses, interiorscapes, landscapes, nurseries and parks such as, but not limited to, ageratum, aglaonema, algerian ivy, anthurium, aphelandra, arborvitae, artemesia, aster, azaleas, baby's breath, begonia, bougainvillea, boxwood, caladium, carnation, cattleya skinneri, ceanothus, chrysanthemum, cissus, coleus, columbine, cotoneaster, daisy, delphinium, dieffenbachia, dogwood, Easter lily, English ivy, ficus, foxglove, gaillardia, geranium, gloxinia, hibiscus, impatiens, Japanese holly, juniper, lavender, leather fox fern, marigold, Monterey pink, pansy, peperomia, petunia, philodendron, phlox, photinia, pieris, pinks, poinsettia, pothos, pottosporum, primrose, prostrate rosemary, rhododendron, rosemary, salvia, schefflera, sedium, sempervivum, snapdragon, spathiphyllum, taxus media, verbena, vinca, white cedar, white pine, zinnia and zygocactus; and on vegetable transplants or cultivars grown in greenhouse, lath house or shade house sites.
Apply before disease development in conjunction with good agricultural management practices. Use higher application rate when disease pressure is severe. To prevent plant injury, do not exceed application or frequency rates as stated below. Do not apply to plants that are heat or moisture stressed. When applying to indoor plants do not overspray and apply only to target plants. If meeting these conditions is not possible, move plants to an outdoor location for treatment and drying before taking back indoors.

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray	1 1/4-2 1/2 qts. of **Reliant** per 30-100 gals. of water OR 1/2-1 1/8 fl. oz. of **Reliant** per gal. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. Thoroughly wet all foliage. Repeat as required at 14-21 day intervals.
Phytophthora spp. and *Pythium* spp. diseases		1-2 qts. of **Reliant** per 30-100 gals. of water OR 2-4 tsp. of **Reliant** per gal. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. Thoroughly wet all foliage. Repeat as required at 14-21 day intervals. Do not apply more than 500 gals. of spray solution per acre.
	Soil drench	6 1/4-12 3/4 fl. oz. of **Reliant** per 100 gals. of water	Apply 25 gals. per 100 sq. ft. Follow application with irrigation. Repeat as required at monthly intervals.
Lavender: *Phytophthora* spp.	Foliar spray	2 qts. of **Reliant** per acre	Apply in 20-60 gals. per acre.
	Hand gun	2 qts. of **Reliant** per 100 gals. of water	Thoroughly wet all foliage.

Ornamental Applications

Use on ornamentals in golf courses, greenhouses, interiorscapes, landscapes, nurseries and parks such as, but not limited to, aglaonema, anthurium, aphelandra, arborvitae, azaleas, bougainvillea, boxwood, cattleya skinneri, ceanothus, cissus, cotoneaster, dieffenbachia, English ivy, eucalyptus, ficus, hibiscus, Japanese andromeda, Japanese holly, leather leaf fern, peperomia, philodendron, photinia, pieris, pittosporum, pothos, rhododendron, roses (container, field, landscape and mini varieties), schefflera, sedum, sempervivum, Spathiphyllum, syngonium, taxus media and zygocactus.
Apply before disease development and in conjunction with good agricultural management practices. Use higher application rate when disease pressure is severe. To prevent plant injury, do not exceed application or frequency rates as stated below. Do not apply to plants that are heat or moisture stressed. Do not apply to plants that are in a state of dormancy.

Disease	Application Method	Rate	Application Program
Bacterial blight (*Xanthomonas campestris*) pathovars:	Foliar spray	2-4 pts. of **Reliant** per 30-100 gals. of water OR 2-4 tsp. of **Reliant** per gal. of	Apply dilution to ensure thorough, uniform foliage and crop coverage. Thoroughly wet all foliage. Repeat as required at 7-14 day intervals.

dieffenbachia, *fici*, *hederae* and *syngolini*		water	
Downy mildew		1 1/2-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Phytophthora spp. including Sudden Oak Death (*Phytophthora ramorum*) and *Pythium* spp.		1-2 qts. of **Reliant** per 30-100 gals. of water OR 2-4 tsp. of **Reliant** per gal. of water	Apply dilution to ensure thorough, uniform foliage and crop coverage. Thoroughly wet all foliage. Repeat as required, at 14-21 day intervals.
	Soil drench	6 1/4-12 3/4 fl. oz. of **Reliant** per 100 gals. of water	Apply 25 gals. of solution per 100 sq. ft. Follow application with irrigation. Repeat as required, at monthly intervals.
	Soil incorporation	1-2 pts. of **Reliant** per cubic yard of soil	Just prior to potting, mix into growing media. For high disease pressure, apply by foliar spray or soil drench.
	Root dip	2 pts. of **Reliant** per 100 gals. of water OR 2 tsp. of **Reliant** per gal. of water	Immediately before transplanting, dip transplants' bare roots for 2 minutes, keeping roots submerged. Thoroughly wet root mass.
Powdery mildew	Foliar spray	1 1/2-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply at the first onset of disease. Do not apply more than 6 times per crop cycle. Application amount depends upon plant type, maturity and application technique/method. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Suppression of Anthracnose		2-2 1/2 qts. of **Reliant** in 30-100 gals. of water per acre	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply prior to onset of disease. Apply spray to saturation/runoff.
Roses: Black spot		2 qts. of **Reliant** in 30-100 gals. of water OR 2 qts. of **Reliant** per gal. of water (0.5% solution v/v concentration)	Apply dilution to ensure thorough, uniform foliage and crop coverage. Apply when disease is present and spray to the point of runoff.
Phytophthora spp.* and *Pythium* spp.*; and Suppression of Fire blight*, Anthracnose*, Oak blight*, Oak wilt*,	Soil injection or drench	0.5% solution in water	Uniformly drench soil or inject solution into the soil around the base of the plant using 1 gallon of solution per diameter inch of landscape plant measured 6 inches above ground. For trees, uniformly drench soil or inject solution into the soil at the rate of 1 gallon of solution per diameter inch of tree trunk

Apple scab*, and Stem* and twig blights*			measured at DBH (4.5 feet from ground level).

*Not for use in California

Seed Treatment

Use on agricultural crop seeds from crops listed elsewhere on this label. Do not use treated seed for food, feed or oil. Dye used to color treated seed must be an EPA-approved dye (refer to 40 CFR § 153.155(c)). Seed treatment on agricultural establishments in hopper-box, planter box or other seed treatment application at or immediately before planting is within the scope of the WPS, while commercial treatment of seeds is not within the scope of the WPS.

Disease	Application Method	Rate
Phytophthora, *Pythium* and *Fusarium* spp.	Apply at planting or in commercial seed treatment operations	8-24 fl. oz. of **Reliant** per 100 lbs. of seed or 4-10 qts. of **Reliant** per ton of seed, depending on the size of the seeds to be treated.
Damping-off (*Phytophthora* spp. and *Pythrium* spp. prevention)		3.5 fl. oz. of **Reliant** per 220.5 lbs. of seed.

Turf

Use on turf grasses in/on commercial landscapes, commercial turf production sites, golf courses, parks and sod farms. Apply preventatively when conditions favor disease and repeat as directed below. Use higher application rate when disease pressure is severe.

Disease	Application Method	Rate	Application Program
Damping-off (*Pythium* spp.)	Foliar spray	5-10 fl. oz. of **Reliant** per 1000 sq. ft.	Apply in 1-2 gals. of water per 1000 sq. ft. Ensure grass is thoroughly wet. Repeat as required at 14-21 day intervals. Do not irrigate or mow treated areas until spray has completely dried.
Suppression of Anthracnose			Apply in 5 gals. of water per 1000 sq. ft. Ensure grass is thoroughly wet. Apply every 14-21 days in a rotational fungicide program. Do not irrigate or mow treated areas until spray has completely dried.
Suppression of Pink snow mold		5-10 fl. oz. of **Reliant** in 2 gals. of water per 1000 sq. ft.	Apply when temperatures and conditions favor disease outbreak; or apply in fall prior to onset of winter with other snow mold controlling fungicides.
Rhizoctonia			Repeat applications at 14-17 day intervals.

Turf-Tank Mixtures

Apply to turf grasses in/on commercial landscapes, commercial turf production sites, golf courses, parks and sod farms. Do not graze animals on treated turf areas. Do not feed treated turf clippings to poultry or livestock.

Product	Disease	Rate per 1,000 sq. ft.	Application Program
Reliant + mancozeb-containing fungicide	Summer stress complex (*Rhizoctonia* and *Pythium* spp.)	5-10 fl. oz. of **Reliant** + 4-8 fl. oz. of mancozeb-containing fungicide	Apply as a foliar spray in 1-5 gals. of water per 1000 sq. ft. Apply as a preventive spray and repeat as required at 2 week intervals. Do not irrigate or mow treated areas until spray has completely dried.
	Pink snow mold	5-10 fl. oz. per 1000 sq. ft.	Apply prior to disease development or when conditions favor disease outbreak.

Storage and Disposal

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

Pesticide Storage: Keep this product in containers stored upright and secured with the original closure. Do not store this product near any heat source or near strong oxidants. If transfer to another container becomes

necessary, ensure that the container is clearly labeled, the container is a type suitable for the product and is clean and free of other materials.

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

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

{Containers with a capacity equal to or less than 5 gallons:}

Triple rinse (or equivalent) or pressure rinse container 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.

{Containers with a capacity greater than 5 gallons:}

Triple rinse (or equivalent) container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip the 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. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning; if burned, keep out of smoke.

{Per PR Notice 2007-4 the batch code/lot number will appear on the label or container.}

Warranty and Disclaimer

To the extent permitted by applicable law, all conditions and warranties and statutory or other rights of action which buyer or any other user may have against Quest Products LLC are hereby excluded. To the extent permitted by applicable law, Quest Products LLC hereby gives notice to buyer and other users that it will not accept responsibility for any indirect or consequential loss arising from reliance on product information provided by Quest Products LLC or on its behalf unless it is established that such information or advice was provided negligently and that the product has been used strictly as directed. To the extent permitted by applicable law, Quest Products LLC's liability shall in all circumstances be limited to replacement of product or a refund of the purchase price thereof.

{Marketing Claims:}

Systemic Fungicide
For [effective] control of various plant diseases including {select from diseases/crops/sites in Directions for Use}
Controls {select diseases from crops/sites in Directions for Use}
For Use Against Sudden Oak Death [in California]
Arboriculture in Motion
Diverse Pest Control
Systemic Fungicide for Micro-Infusion
Plant Resistance Activator

{End of Marketing Claims:}

{Graphics:}

Quest Products LLC

Made in the USA [U.S.A.]

Quest Products LLC
Finding New Ways to Improve the Treatment of Trees and Plants.

ARBORjet
A Revolutionary Plant Injection System

Open Here for Complete Label

{End of Graphics:}

[ ] Indicates optional/alternate label language
{ } Indicates verbiage that does not appear on the market labeling

Sublabel B: Residential Uses Label

Reliant® Systemic Fungicide

{Select Marketing Claims from the "Marketing Claims" section below}

Active Ingredients:

Mono- and di-potassium salts of Phosphorous Acid*	45.8%
Other Ingredients	54.2%
Total	100.0%

*Contains 5.17 lbs/gallon of the active ingredients mono- and di-potassium salts of Phosphorous Acid. Equivalent to 3.35 lbs Phosphorous Acid/gallon

Keep Out of Reach of Children
CAUTION

See Booklet for First Aid, additional Precautionary Statements and complete Directions for Use

[Batch No.:]
[Date of Manufacture:]

EPA Reg. No. 83416-1
EPA Est. 83416-KS-1

Net Contents:
☐ 1 Pint
☐ 1 Quart
☐ 1 Gallon
☐ 2.5 Gallons

Quest
Products LLC
Finding new ways to Improve the Treatment of Trees and Plants

Quest Products LLC
23611 Linwood Road
Linwood, KS 66052
Phone: 785-542-2577
Fax: 785-542-2531
www.questproducts.us

{Booklet}

First Aid

If Swallowed:	• Immediately call a poison control center or doctor 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 center or doctor. • Do not give anything by mouth to an unconscious person.
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	• Take off contaminated clothing. • Immediately rinse skin with plenty of water for 15-20 minutes. • Call a poison control center 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, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For non-emergency information on product usage call 785-542-2577, Monday through Friday, 9 am to 5 pm (Central time). For medical emergencies call the National Poison Control Center at 1-800-222-1222.	

{The First Aid statements may appear in a paragraph format if market label space does not permit the grid format.}

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed, absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist or vapors. Thoroughly wash with soap and water after handling. Remove and wash contaminated clothing before reuse. Wear the appropriate Personal Protective Equipment ("PPE").

Applicators must wear:

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

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.

Environmental Hazards

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

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read entire label before using this product.

Application Instructions

Reliant® Systemic Fungicide (hereinafter "Reliant") is for use only in home gardens, on home lawns and ornamentals and related home plants. When using Reliant with Pentra-Bark® Bark Penetrating Surfactant (hereinafter "Pentra-Bark") adhere to both products' label directions. Use Pentra-Bark with only basal bark applications. Not for tree injection in New York State.

Apply Reliant by various application methods, including foliar spray, soil drench, soil incorporation, basal bark application and bare root dip. For foliar sprays, apply Reliant with sufficient water volumes for adequate coverage of foliage, according to plant type and growth stage. To ensure good coverage, spray to wetness, but avoid runoff. Harvest when dry. When applying Reliant to plant species for the first time, spray a limited number of plants first and wait for 3-7 days. Then check for signs of phytotoxicity (yellowing, leaf burn).

Mixing Instructions

1. Fill the spray tank with 1/4-1/2 of the volume of water required before adding Reliant.
2. Slowly add Reliant to the tank and agitate.
3. Fill tank with balance of water to the desired volume.
4. Agitate during application.

Conversion Table

1/8 fl. oz.	=	3/4 teaspoon (tsp.)
1/4 fl. oz.	=	1 1/2 tsp.
1/3 fl. oz.	=	2 tsp.
1/2 fl. oz.	=	3 tsp.
2/3 fl. oz.	=	4 tsp.
3/4 fl. oz.	=	4 1/2 tsp.

1 fl. oz. = 2 tablespoons (Tbs.) = 6 tsp.

Citrus, Fruit, Nut and Vegetable Applications

Apples, Crab Apples, Loquats, Pears and Quince

Disease	Application Method	Rate	Application Program
Apple black spot and Scab (*Venturia inaequalis*)	Foliar spray	3-4 tsp. of Reliant per gal. of water	Apply at 1/4-1/2 inch green tip through first cover at 7-10 day intervals or according to forecasted infection events. Continue with Reliant and mancozeb in the remaining applications. First application at open cluster. Last application at fifth cover or fruit at 2-2 1/2 inch diameter. Apply a total of 10 applications at 10-12 day intervals. Immediately apply Reliant when conditions are conducive to a black spot outbreak. Note: After 4 or 5 consecutive applications some yellowing of extension growth/leaves may be observed. If yellowing occurs use another fungicide until yellowing disappears.
	Basal bark spray	1 pt. of Reliant + 1 pt. of water + 1 fl. oz. of Pentra-Bark	Apply in early spring at bud swell or silver tip stage of growth. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control. Various types of application equipment may be used such as hydraulic sprayers, handheld pump-type sprayers, backpack sprayers, hose-end applicators with backflow prevention devices and other similar application devices.
Root rot and Collar rot (*Phytophthora cactorum*) and Fire blight (*Erwinia amylovora*)	Foliar spray	2 1/2-5 tsp. of Reliant per gal. of water	Thorough spray coverage of plant is required. Start applications when conditions favor disease development. Apply at 1-2 month intervals between treatments. Use the low rate on the shorter interval and the high rate on the longer interval. Under high disease pressure use the higher application rate and shorter spray interval.
	Basal bark spray	1 pt. of Reliant + 1 pt. of water + 1 fl. oz. of Pentra-Bark	Apply in spring and fall for best results. Spray the mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control.

Asparagus

Disease	Application Method	Rate	Application Program
Crown rot and Asparagus spear slime (*Phytophthora* spp.)	Foliar spray	1/3 fl. oz. of Reliant per gal. of water	Apply to ferns that have 2-3 inches of new growth. Do not apply to ferns that are starting to die down (senesce). For established plantings, start applications when conditions are favorable to disease (cool, wet conditions). Ensure thorough coverage.

Avocados

Disease	Application Method	Rate	Application Program
Root rot (*Phytophthora cinnamomi*)	Tree injection (Not for tree injection in New York State.)	Skeletal trees 1st year: 1/4 fl. oz. of undiluted Reliant per yard of	Inject trees at spring flush maturity. Repeat treatment in February or March. Drill holes in trunk 3/16 inch (5 mm) in diameter and 1-2 inches (25-50 mm) deep with

		canopy diameter Other situations: 1/8 fl. oz. of Reliant diluted with 1/2 fl. oz. of water per yard of canopy diameter	slight downward angle. Space injector holes evenly around the trunk circumference. Suitable for use with Ag-murf® gun, ARBORjet devices, Chemjet® tree injectors, Smart Shot® injector or hydraulic tree injection systems. Do not prune back trees before injection process as burning of new growth may occur. Do not inject trees in winter months. Do not cut back the canopy of injected trees. Do not add any materials, other than water, to Reliant by trunk injection. Do not inject more liquid in a lesser number of syringes than directed.
	Foliar spray	1/3 fl. oz. of Reliant per gal. of water	Spray to the point of runoff at 2-2 1/2 gals. of spray solution per adult tree. Start applications in spring and apply up to 4 applications a year at 2 month intervals. Ensure thorough coverage.
Canker (*Phytophthora citricola*)	Trunk spray	8-16 fl. oz. of Reliant + 1 gal. of water + 1.2 fl. oz. of Pentra-Bark	Apply mixture to trunk lesions using sufficient spray volume to completely wet the trunk and lesions. If lesions are absent, apply to trunk from soil level up to 2 feet up trunk. If lesions are present use the higher rate.
Downy mildew	Foliar spray	3/4 tsp. of Reliant per gal. of water	Spray to runoff, as required for disease control.

Berries

Use on bush and cane berries such as, but not limited to, bingleberries, blackberries, black satin berries, blueberries, boysenberries, Cherokee blackberries, chesterberries, Cheyenne blackberries, coryberries, cranberries, darrowberries, dewberries, Dirksen thornless berries, elderberries, Himalayaberries, huckleberries, hullberries, lavacaberries, loganberries, lowberries, lucretiaberries, mammoth blackberries, marionberries, mulberries, nectarberries, olallieberries, Oregon evergreen berries, raspberries (black, hybrids/cultivars, red) and youngberries.

Disease	Application Method	Rate	Application Program
Root rot (*Phytophthora* spp.)	Foliar spray	2-6 tsp. of Reliant per gal. of water	Completely wet foliage. New plantings: Start application when new growth is 2-3 inches long. Established plantings: Start applications when conditions (cool, wet) favor disease. West of Rocky Mountains: Autumn applications: Apply when conditions favor disease, repeat in 4 weeks. Spring applications: First application after bud break then repeat in 4 weeks. East of Rocky Mountains: First application spring at post bud break (2-3 inches new growth) and repeat at 50-60 day intervals. Do not exceed 4 applications per growing season. For blueberries: First application in spring at pink bud and then on a regular application schedule at 2-3 week intervals.
Stem canker control*		2-4 tsp. of Reliant per gal. of water	
General leaf and berry diseases such as those caused by *Septoria* spp. and Suppression of *Anthracnose* spp.	Root dip	3 fl. oz. of Reliant per gal. of water (2.5% v/v solution)	Apply pre-plant dip to the roots for 2-3 minutes. Plant within 48 hours after dipping. Mix a fresh solution daily.

Downy mildew	Foliar spray	2-4 tsp. of Reliant per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-3 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals. Reliant is best when used in combination with conventional registered fungicides to increase the disease control program performance.

*Not for use in California

Brassicas

Use on brassicas such as, but not limited to, broccoli, Brussels sprouts, cabbage, cauliflower, cavalo broccolo, collards, Chinese cabbage, Chinese mustard cabbage, kale, kohlrabi, mizuna, mustard greens, mustard spinach and rape greens.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1-2 fl. oz. of Reliant per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Pre-plant seedling	2 tsp. of Reliant in 1 gal. of water	Apply to plants in seedling trays 1-7 days prior to out planting.
	Transplant and furrow	3 pts. of Reliant	Apply at planting or to newly planted seedlings by side dressing.
Downy mildew (*Peronospora parasitica*)	Foliar spray	1/3-2 fl. oz. of Reliant per gal. of water CA Only: 1/3-1/2 fl. oz. of Reliant per gal. of water	Apply at first onset of disease. When conditions favor disease development (cool, moist weather) apply at 1-3 week intervals. Use higher rates and shorter intervals when disease pressure increases.
Diseases caused by *Septoria, Colletotrichum* and *Alternaria* spp.; and Powdery mildew		1-2 fl. oz . of Reliant per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

Citrus-Mature Trees

Disease	Application Method	Rate	Application Program
Brown rot and Root rot (*Phytophthora* spp.)	Foliar spray	1 tsp. of Reliant per gal. of water	When conditions favor disease, spray trees to runoff; ensure even coverage. Do not apply at high temperatures (above 95°F), particularly if humidity is low, or to moisture-stressed trees.
Root rot and Collar rot (*Phytophthora* spp., *Nicotianae* spp. and *Phytophthora citrophthora*)	Trunk spray	1/2-1 pt. of Reliant + 1 gal. of water + 1/4-1/2 fl. oz. of Pentra-Bark	Spray trunk lesions with enough spray volume to ensure lesions are completely wet. Use higher rate when disease levels are high.

Pre-harvest blue and green mold and brown rot (*Phytophthora citricola*)	Foliar spray	4 tsp. of **Reliant** per gal. of water	Apply 2-4 weeks prior to harvest. Ensure fruit is thoroughly covered by the spray application.

Coconuts

Disease	Application Method	Rate	Application Program
Bud rot (*Phytophthora palmivora*) and Nut fall	Injection (Not for tree injection in New York State.)	1/3-1 fl. oz. of **Reliant** + 1-2 fl. oz. of water per tree	Inject 1-2 fl. oz. of mixture into the trunk or root system.

Coffee, Okra, Papaya and Persimmon

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.); and Bacterial and leaf diseases such as coffee berry disease and various leaf spots (*Septoria* and *Cercospora* spp.); and suppression of Anthracnose (*Colletotrichum* spp.)	Foliar spray	2-4 tsp. of **Reliant** per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Root dip	1/3 fl. oz. of **Reliant** per 1 gal. of water (0.25% v/v solution)	Apply as a pre-plant dip to transplants immediately prior to planting. Dip plants momentarily and plant within 48 hours. Mix a fresh solution daily.
Downy mildew and Powdery mildew	Foliar spray	2-6 tsp. of **Reliant** per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Rust*		2-6 tsp. of **Reliant** per gal. of water	
Pseudomonas garcae		4 tsp. of **Reliant** per gal. of water (0.5% v/v solution)	Apply to the point of saturation/runoff prior to the onset of disease.

*Not for use in California

Cucurbits

Use on cucurbits such as, but not limited to, Chinese cucumber, Chinese waxgourd, citron melon, cucumber, gherkin rockmelon, honeydew melon, *Momordica sp.* Balsam apple, balsam pear, bitter melon, pumpkin, squash (summer and winter), watermelon and zucchini.

Disease	Application Method	Rate	Application Program
Sudden wilt, Root rot and Fruit rot (*Phytophthora* spp.)	Foliar spray	2-6 tsp. of **Reliant** per gal. of water	Entire spray coverage of plant is required. Do not exceed a total of 6 applications per growing season.
Gummy stem blight (*Mycosphaerella*		CA Only: 1 fl. oz. of **Reliant** per gal. of	Apply when disease is evident. Continue applications at 21 day intervals until cure is

melonis)		water	apparent. Do not exceed a total of 6 applications per growing season.
Downy mildew (*Pseudoperonospora cubensis*)			Apply within 7-10 days of infection. Repeat as necessary. Do not exceed a total of 6 applications per growing season.
Powdery mildew and other leaf diseases such as Alternaria leaf blight; and suppression of Anthracnose		2-6 tsp. of Reliant per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Bottom soft rot complex		4-5 tsp. of Reliant per gal. of water	Apply after fruit set and during bulking up to 3 times during the growing season.
Pumpkin and Watermelon: Bacterial blight*		2-6 tsp. of Reliant per gal. of water	Entire spray coverage of plant is required. Do not exceed a total of 6 applications per growing season.

*Not for use in California

Fruiting Vegetables

Use on fruiting vegetables such as, but not limited to, eggplant, peppers (bell, chili, cooking, pimento and sweet), tomatillos and tomatoes.

Disease	Application Method	Rate	Application Program
Eggplant: *Pythium* and *Phytophthora* spp.; and Gummy stem blight (*Mycosphaerella melonis*)	Foliar spray	1 fl. oz. of Reliant per gal. of water	Entire spray coverage of plant is required. Do not exceed a total of 6 applications per growing season. Apply when disease is evident. Continue applications at 21 day intervals until cure is apparent.
Peppers: Late blight (*Phytophthora infestans)* and Root rot (*Phytophthora* spp.)		1/3-2 fl. oz. of Reliant per gal. of water	First application at transplant or when direct seeded crops are at 2-4 true leaf, then at 1-2 week intervals as required to control disease. In high disease situations use higher rates and shorter spray intervals.
Tomatillos/Tomatoes: Late blight (*Phytophthora infestans)* and Root rot (*Phytophthora* spp.)		1/3-2 fl. oz. of Reliant per gal. of water CA Only: 3 tsp. of Reliant per gal. of water	
Tomatoes: Bacterial blight*		4-6 pts. of Reliant per gal. of water	
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)		2-6 tsp. of Reliant per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season.
Bacterial diseases	Pre-plant seedling	1 tsp. of Reliant in 1 gal. of water	Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Transplant and furrow	2-6 tsp. of Reliant	Apply at planting or to newly planted seedlings by side dressing.

Downy mildew and Powdery mildew	Foliar spray	2-6 tsp. of **Reliant** per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Black spot roses		2-6 tsp. of **Reliant** per gal. of water or 0.5% solution	Apply when disease is present; spray to the point of runoff.

*Not for use in California

Garlic, Leeks, Onions and Shallots

Disease	Application Method	Rate	Application Program
Downy mildew (*Peronospora destructor*)	Foliar spray	4 tsp. of **Reliant** per gal. of water	For best results, use as a regular preventative control program or when disease first appears.

Grapes

Disease	Application Method	Rate	Application Program
Downy mildew (*Plasmopara viticola*)	Foliar spray	1/2 fl. oz. of **Reliant** per gal. of water	It is essential that the rate of **Reliant** be adjusted to the vine row volume, i.e., the volume of vine foliage per 100 sq. ft. Spray timing is critical. Apply **Reliant** at times of high disease risk, especially between the time that conditions are conducive to downy mildew infection and the appearance of oil spots. Ensure spray coverage is adequate and that the appropriate rate of **Reliant** is applied to match vine growth, particularly from mid-season onwards, and especially where grapes are grown on root stock.
Root rots (*Phytophthora* and *Pythium* spp.)			Apply to vines that have a stressed root system that can lead to root rots. Mitigating factors such as nematode pressure, water logging and compaction contribute to vine declines. Do not apply more than 4 times per growing season. Table Grapes: Begin application in the spring at the 4-6 inch shoot stage. Continue applications at 1-2 week intervals until flowering. Resume applications in the fall after harvest. Wine and Raisin Grapes: Begin applications in the spring at the 4-6 inch shoot stage. Continue applications at 1-2 week intervals through flowering.
Downy mildew		1/2-2 fl. oz. of **Reliant** per gal. of water	Apply at bud break with additional applications at 7-10 day intervals in a rotational program with other registered fungicides. Use higher rate and volume based on disease severity and canopy density. Do not apply more than 6 times per growing season. **Reliant** is most effective against downy mildew when mixed with other registered fungicides.
Powdery mildew		2-6 tsp. of **Reliant** per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Rust*			

*Not for use in California

Herbs and Spices

Use on herbs and spices grown in residential fields and greenhouses such as, but not limited to, anise, balm, basil, caraway, catnip, celery, chamomile, chives, coriander, cumin, curry leaf, dill, fennel, marjoram, mint, nasturtium, rosemary, sage, savory, sweet bay, tarragon, thyme and wintergreen. Apply before disease development and in conjunction with good horticultural management practices. Use higher application rate when disease pressure is severe. To avoid plant injury, do not exceed the following application or frequency rates. Do not apply to plants that are heat or moisture stressed.

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray	1/2-1 1/8 fl. oz. of **Reliant** per gal. of water	Thoroughly wet all foliage. Repeat as required, at 14-21 day intervals.
Phytophthora and *Pythium* spp.		2-4 tsp. of **Reliant** per gal. of water	
	Soil drench	1/8 tsp. of **Reliant** per gal. of water	Apply 1 gal. of solution per 4 sq. ft. Follow application with irrigation. Repeat as required, but not more often than once per month.

Hops

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray only by ground equipment	2-6 tsp. of **Reliant** per gal. of water	When conditions favor disease, apply when: E. Shoots are 1/2-1 foot long; or F. Post-training when vines are 6 feet high; or G. 21 days post-application (B); or H. During bloom.

Leafy Vegetables

Use on leafy vegetables such as, but not limited to, amaranth, arugula, cardoon, celery, chervil, chrysanthemum, corn salad, cress, dandelion, dock, endive, fennel, lettuce, orach, parsley, purslane, radicchio, radish, rhubarb, spinach and Swiss Chard. Excludes Brassica vegetables.

Disease	Application Method	Rate	Application Program
Downy mildew (*Bremia lactucae*)	Foliar spray	1 2/3 fl. oz. of **Reliant** per gal. of water	Ensure spray coverage is adequate to wet the entire plant. During warm, wet conditions, repeat application at 7-10 day intervals, if needed.
Damping-off and Root rots (*Phytophthora* and *Pythium* spp.)		1-1 1/2 fl. oz. of **Reliant** per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
	Pre-plant	2 tsp. of **Reliant** in 1 gal. of water	Apply to plants in seedling trays 1-7 days prior to out planting.
Powdery mildew and leaf diseases such as leaf blights (*Septoria* and *Cercospora* spp.) and bacterial rots (*Erwinia* spp.); and suppression of Anthracnose (*Colletotrichum* spp.)	Foliar spray	1 1/2-2 fl. oz. of **Reliant** per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

Legumes

Use on succulent and dried legumes such as, but not limited to, beans (broad, fava, field, green, kidney, lima, mung, navy, pinto and wax), lentils, peas (black-eyed, chick, cow, English, pigeon, snow and sugar snap) and soybeans.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1/3-2 fl. oz. of **Reliant** per gal. of water	Apply, as needed, at 14 day intervals after plant emergence. Assure good coverage. Apply at crop emergence or during periods of crop stress caused by Summer Stress Syndrome or wet conditions that favor disease development.
Phytophthora and *Pythium* spp.		2-6 tsp. of **Reliant** per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Soybeans: Anthracnose* and rust*			
Green beans: Anthracnose*			
Fusarium and Rhizoctonia	Pre-plant	2 tsp. of **Reliant** in 1 gal. of water	Apply to plants in seedling trays 1-7 days prior to out planting.
	Transplant and furrow	3 tsp. of **Reliant**	Apply at planting or to newly planted seedlings by side dressing.
Downy mildew	Foliar spray	1-2 fl. oz. of **Reliant** per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Powdery mildew and leaf diseases such as leaf blights (*Septoria* and *Cercospora* spp.) and bacterial rots (*Erwinia* spp.); and suppression of Anthracnose (*Colletotrichum* spp.)		2-6 tsp. of **Reliant** per gal. of water	

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Mangos

Disease	Application Method	Rate	Application Program
Suppression of Anthracnose (*Colletotrichum gloeosporoides*)	Foliar spray	2 tsp. of **Reliant** per gal. of water	Spray tree to the point of runoff every 14 days during blossom period, then monthly until harvest.

Nongrass Animal Feed

Use on forage crops such as, but not limited to, alfalfa, clover and vetch.

Disease	Application Method	Rate	Application Program
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Foliar spray	1/3-2 fl. oz. of **Reliant** per gal. of water	Apply, as needed, at 14-day intervals after plant emergence. Assure good coverage.

Peanuts

Disease	Application Method	Rate	Application Program
Damping-off and Root rot	Foliar spray	1/3-2 fl. oz. of **Reliant** per gal. of water	Apply, as necessary, at 14 day intervals. Ensure thorough coverage.

(*Phytophthora* and *Pythium* spp.)			
Root rots, Pod rots, Damping-off and Wilt (*Phytophthora* and *Pythium* spp.)		4-5 tsp. of Reliant per gal. of water	Begin application after plants are established and conditions favor disease development. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Leaf and Crown diseases; and Suppression of Anthracnose (*Colletotrichum*)	Transplant and furrow	3-6 tsp. of Reliant	Apply at planting or to newly planted seedlings by side dressing.

Pineapples

Disease	Application Method	Rate	Application Program
Root and Heart rot (*Phytophthora cinnamomi* and *parasitica* spp.)	Foliar spray	1 2/3-3 1/3 fl. oz. of Reliant per gal. of water	Apply to tops 14 days prior to planting material harvest. Apply at 90 day intervals to established plantings when conditions favor disease. Ensure thorough coverage of plants.
	Pre-plant dip	2 tsp. of Reliant per gal. of water	
	Foliar spray	2/3 fl. oz. of Reliant per gal. of water	

Root and Tuber Vegetables

Use on root and tuber vegetables including, but not limited to, carrots, radishes, potatoes, sweet potatoes and yams.

Disease	Application Method	Rate	Application Program
Ginseng: Foliar and Root rot (*Phytophthora cactorum*)	Foliar spray	4 1/2 tsp. of Reliant per gal. of water	In cool, wet conditions that favor *Phytophthora*, apply at 7 day intervals. Do not exceed a total of 8 applications per growing season.
Carrots: Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)		1/3-2 fl. oz. of Reliant per gal. of water	Apply, as needed, at 14 day intervals after plant emergence. Assure good coverage.
Potatoes, Sweet Potatoes and Yams: Pink rot and Pythium leak (*Phytophthora erythroseptica* and *Pythium* spp.)	In-furrow spray	2-6 tsp. of Reliant per gal. of water	Apply in a band spray directly over top of potato seed just before row is closed.
Potatoes, Sweet Potatoes and Yams: Late blight, Pink rot and Pythium leak (*Phytophthora infestans*, *Phytophthora erythroseptica* and *Pythium* spp.)	Foliar spray	1/3-3 tsp. of Reliant per gal. of water	Apply at 5-14 day intervals subject to disease incidence.
Downy mildew		1-2 fl. oz. of Reliant per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply the lower rate at 1-2 week intervals. High Disease Pressure: Apply the higher rate at 7-10 day intervals.

Stone Fruit

Use on stone fruit such as, but not limited to, apricots, cherries (sweet and tart), nectarines, peaches, plums and prunes (fresh).

Disease	Application Method	Rate	Application Program
Root and Collar rot (*Phytophthora* spp.)	Foliar spray	1/3 fl. oz. of Reliant per gal. of water	Three treatments are required: 4. Spring 5. Mid-summer 6. Fall, post-harvest
	Basal bark spray	1 pt. of Reliant + 1 pt. of water + 1 fl. oz. of Pentra-Bark	Apply in spring and fall. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control.
Pruning wound cankers (*Phytophthora syringae*)	Paint or spray	1/3-3/4 fl. oz. of Reliant per gal. of water	Apply to pruning wound and surrounding area; ensure area is thoroughly wet. Use the higher application rate in high disease situations.
Suppression of Armillaria root rot (*Armillaria luteobublina*)	Basal bark spray	1 1/2-2 qts. of Reliant + 2 qts. of water + 1% Pentra-Bark	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger than 18 inches DBH (Diameter at Breast Height, 4.5 feet above the ground) that have been previously attacked by Armillaria root rot, apply in fall prior to leaf senesce and again in spring. For trees less than 18 inches DBH, apply in early spring.

Strawberries

Disease	Application Method	Rate	Application Program
Red stele (*Phytophthora fragariae*), Leather rot (*Phytophthora cactorum*), Root rot (*Phytophthora* and *Pythium* spp.) and Blackroot rot*; and suppression of Rhizoctonia	Pre-planting dip	1/3 fl. oz. of Reliant per gal. of water	Dip planting material in the solution for 30 minutes, then plant within 1 day. Mix a fresh solution daily. Use for annual and perennial varieties.
	Foliar spray	2-6 tsp. of Reliant per gal. of water	Annual Crops: First treatment 14-21 days post planting; repeat at 1-2 month intervals when disease is evident. Perennial Crops: First treatment during spring growth flush; repeat at 1-2 month intervals when disease is evident. For susceptible varieties, use higher rates and shorter spray intervals. For leather rot, apply at 10% bloom and early fruit set, then at 1-2 week intervals as required for disease control. In high disease situations use higher rate and shorter spray intervals. Gray mold and Anthracnose suppression requires use of higher application rates and is most effective when tank mixed with other registered fungicides.
	Transplant and furrow	3 tsp. of Reliant	Apply at planting or to newly planted seedlings by side dressing.
Phytophthora spp.	Dip	1/3 fl. oz. of Reliant with 1 gal. of water (0.25% v/v solution)	Dip runners in the solution for 1-2 minutes and plant within 48 hours. Mix a fresh solution daily.

Suppression of Powdery mildew	Foliar spray	1-1 1/2 fl. oz. of **Reliant** per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season. Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.

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Tree Nuts

Use on tree nuts such as, but not limited to, almonds, black walnuts, beech nuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapin, English walnuts, hazelnuts, hickory nuts, macadamia nuts, pecans, pistachios and walnuts.

Disease	Application Method	Rate	Application Program
Other than macadamia nuts: Root and Collar rot (*Phytophthora* spp.)	Foliar	2 tsp. of **Reliant** per gal. of water	Three treatments are required: 4. Spring; 5. Mid-summer; 6. Fall, post-harvest
Other than macadamia nuts: Almond pruning wound canker (*Phytophthora syringae*)	Paint or spray	4 1/2 tsp. of **Reliant** per gal. of water	Apply to pruning wound and surrounding area; ensure area is thoroughly wet.
Macadamia nuts: Raceme blight (*Phytophthora* spp.)	Foliar spray	3 tsp. of **Reliant** per gal. of water	Apply when disease is first seen and reapply at 3 week intervals. Spray to the point of runoff.
Root rot, Crown rot, Trunk cankers and Foliar blights (*Phytophthora* and *Pythium* spp.) Macadamia nuts: Foliar bacterial and fungal disease, Anthracnose (*Colletotrichum* spp.), Hull rot (*Monilla* spp.), flower diseases (*Cladosporium* spp.), Alternaria leaf spots (*Alternaria* spp.) and Raceme blight (*Phytophthora* spp.)		4-5 tsp. of **Reliant** per gal. of water	Do not apply more than 4 times per growing season. Begin application after plants are established and conditions favor disease development. Low Disease Pressure: Apply lower rate at 3 month intervals. High Disease Pressure: Apply higher rate at monthly intervals.
	Root dip	4 tsp. of **Reliant** in 1 gal. of water (0.5% v/v solution)	Dip roots in the solution for 30 seconds and plant within 48 hours. Mix a fresh solution daily.
Pecan scab	Foliar spray	1 1/2 fl. oz. of **Reliant** per gal. of water	Apply preventatively at 21-30 day intervals.
Pruning wound, Crown and Trunk cankers (*Phytophthora* spp.)	Trunk spray	1 1/2 qts. of **Reliant** + 2 qts. of water + 1% of Pentra-Bark	Apply higher rate when lesions are present. Clean wound sites and apply on and around the lesions using enough spray volume to thoroughly wet the lesions. Apply to the trunk from the soil line to 5 feet up the trunk. Apply one time in the spring, summer and fall.
Downy mildew and Powdery mildew	Foliar spray	2-4 tsp. of **Reliant** per gal. of water	Apply at the first onset of disease. Do not apply more than 6 times per growing season.

			Low Disease Pressure: Apply lower rate at 1-2 week intervals. High Disease Pressure: Apply higher rate at 7-10 day intervals.
Tree cankers	Basal bark spray	1 1/2-2 qts. of Reliant + 2 qts. of water + 1% of Pentra-Bark	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger 18 inches DBH (Diameter at Breast Height, 4.5 feet above the ground) that have been previously attacked by Armillaria root rot, apply in fall prior to leaf senesce and again in spring for best results. For trees less than 18 inches DBH, make an early spring application.
Black walnut and English walnut: For prevention and control of Thousand Cankers Disease (*Geosmithia morbida*)	Foliar spray	2-4 tsp. of Reliant per gal. of water	Spray every 60 days from spring through fall. Use in combination with an insecticide that controls Walnut Twig Beetle (*Pityophthorus juglandis*) during insect flight times. Do not apply more than 6 times per year.
	Basal bark spray	32 fl. oz. of Reliant + 48 fl. oz. of water + 2 fl. oz. of Pentra-Bark per 18 inches of tree DBH	Spray mixture around the entire trunk circumference until saturation runoff. Spray from ground level to 5 feet above the soil line, including the base of the up or to first scaffolding limbs, if present. Apply in spring and fall. DBH is the measured trunk diameter 4 ft. above ground level.

Bedding Plants

Use on vegetable transplants grown in residential greenhouses, lathhouses or shadehouses and on indoor/outdoor bedding plants such as, but not limited to, ageratum, aglaonema, Algerian ivy, anthurium, aphelandra, arborvitae, artemesia, aster, azaleas, baby's breath, begonia, bougainvillea, boxwood, caladium, carnation, cattelya skinneri, ceanothus, chrysanthemum, cissus, coleus, columbine, cotoneaster, daisy, delphinium, dieffenbachia, dogwood, Easter lily, English ivy, ficus, foxglove, gaillardia, geranium, gloxinia, hibiscus, impatiens, Japanese holly, juniper, lavender, leather leaf fern, marigold, Monterey pink, pansy, peperomia, petunia, philodendron, phlox, pieris, pinks, pittosporum, poinsettia, pothos, primrose, prostrate rosemary, rosemary, salvia, schefflera, sedium, sempervivum, snapdragon, spathiphyllum, taxus media, verbena, vinca, white cedar, white pine, zinnia and zygocactus.

Apply to outdoor or indoor plants before disease development and in conjunction with good horticultural management practices. Use higher rate of application when disease pressure is severe. To prevent plant injury, do not exceed application or frequency rates stated below. Do not apply to plants that are heat or moisture stressed. When applying to indoor plants do not overspray and apply only to target plants. If meeting these conditions is not possible, move plants to an outdoor location for treatment and drying before taking back indoors.

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray	1/2-1 1/8 fl. oz. of Reliant per gal. of water	Thoroughly wet all foliage. Repeat as required at 14-21 day intervals.
Damping-off and Root rot (*Phytophthora* and *Pythium* spp.)	Soil drench	1/8 tsp. of Reliant per gal. of water	Apply one gallon per 4 sq. ft. Follow application with irrigation. Repeat as required at monthly intervals.
Lavender: Root rot (*Phytophthora* spp.)	Foliar spray	1/4 tsp. of Reliant per 100 sq. ft.	Apply in 1 pt. of water per 100 sq. ft.
	Hand gun	3.5 tsp. of Reliant per 1 gal. of water	Thoroughly wet all foliage.

Conifers

Apply in conjunction with good horticultural management practices on conifers including, but not limited to, Douglas fir, pines and spruce. Use higher application rate when disease pressure is severe. To prevent plant injury, do not exceed application or frequency rates stated below. Do not apply to conifers that are moisture or heat stressed.

Disease	Application Method	Rate	Application Program
Root rot (*Phytophthora* spp.)	Foliar spray	2-4 tsp. of Reliant per gal. of water	Thoroughly wet all foliage. Repeat as required at 14-21 day intervals.
	Soil drench		Apply 1 gal. of solution per square yard of soil. Follow application with irrigation. Repeat as required at 14-21 day intervals.
	Bare root dipping	2 tsp. of Reliant per gal. of water	Immediately before transplanting, dip transplants for 2 minutes; keep roots submerged and ensure root mass is thoroughly wet.
Pine Pitch Canker (*Fusarium subglutinans*)	Basal bark spray	1 pt. of Reliant + 2 pts. of water + 0.5 fl. oz. of Pentra-Bark	Apply uniformly to 6-9 feet of trunk circumference. Spray from top down to ground level from either first branch or from as high as possible without exposing applicator to drift. Spray to saturation/runoff. Various types of application equipment may be used such as hydraulic sprayers, handheld pump-type sprayers and backpack sprayers.
	Injection (Not for tree injection in New York State.)	20 ml per tree of a mixture containing: 1 pt. of Reliant + 2 qts. of water	Drill holes in trunk 3/16 inch (5 mm) in diameter and 1-2 inches (25-50 mm) deep with slight downward angle. Place syringe holes in the main tree trunk and space evenly around the trunk circumference. Suitable for use with Ag-murf gun, ARBORjet devices, Chemjet tree injectors or hydraulic tree injection devices. Trees must be at least 10" diameter at breast height.

Landscape Applications

Use on various shade trees such as, but not limited to, ash, aspen, azalea, bald cypress, beech, birch, black gum, black locust, buckeye, catalpa, cedar, cherry (stonefruits), chestnut, coffee tree, cork tree, crab apple, dogwood (all), elder, elm, fir, golden raintree, hawthorne, hazelnut, honey locust, juniper, lilac, linden, London plane tree, magnolia, maples (all), mock orange, oaks (all), olives, ornamental pear, pine, plum, pyracantha, red bud, smoke tree, sumac, sweet birch, sweet gum, sycamore, tulip tree, viburnum, walnut, white cedar, white pine and willow.

Apply before disease development and in conjunction with good horticultural management practices. Use higher rate of application when disease pressure is severe. To prevent tree injury, do not exceed application or frequency rates as stated below. Do not apply to trees that are heat or moisture stressed. Do not apply to trees that are in a state of dormancy.

Disease	Application Method	Rate	Application Program
Phytophthora and *Pythium* spp., and Sudden Oak Death (*Phytophthora ramorum*)	Injection (Not for tree injection in New York State.)	11 fl. oz. of Reliant per 21 fl. oz. of water OR 1/2 tsp. of Reliant per tsp. of water	Using a slow drill, drill holes in trunk 3/16 inch (5 mm) in diameter into live sapwood (hole depth is dependent upon age of tree) with slight downward angle. Space injector holes evenly around the trunk circumference. Do not inject into areas of obvious decay, canker or mechanical injury that appear on the tree trunk. Calculate the amount of product required by measuring the trees using one of the following 3 methods and use the highest calculated number of injections: 4) 1 injection per square yard of canopy; 5) 1 injection per yard of canopy diameter measured at the dripline; 6) 1 injection per 6 inches of trunk circumference measured 4 feet above soil level. Use injection applicators that maintain positive pressure

			differential such as Ag-murf gun, ARBORjet devices, ChemJet, Marley Injector, Sidewinder, Smart Shot injector or other hydraulic injector type equipment that forces solution into the tree sapwood.
	Basal bark spray	1 pt. of Reliant + 1 pt. of water + 1.6 fl. oz. of Pentra-Bark	For best results apply in spring and fall. Best for thin bark trees such as dogwoods, lindens, maples and sycamores. Apply mixture uniformly to 6-9 feet of trunk circumference. Spray from top down to ground level from either first branch or from as high as possible without exposing applicator to drift. Spray to saturation/runoff. Various types of application equipment may be used such as hydraulic sprayers, handheld pump-type sprayers and backpack sprayers.
Pine pitch canker (*Fusarium subglutinans*)		1 pt. of Reliant + 2 pts. of water + 0.5 fl. oz. of Pentra-Bark	Pines: Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. Treatment generally lasts 8-12 weeks depending on pathogen levels. Higher disease pressure will shorten the length of control.
Pine pitch canker (*Fusarium subglutinans*) and Sycamore Anthracnose (*Gnomonia platani*)	Injection (Not for tree injection in New York State.)	20 ml per tree of a mixture containing: 1 pt. of Reliant + 2 pts. of water	Using a slow drill, drill holes in trunk 3/16 inch (5 mm) in diameter and 1-2 inches (25-50 mm) deep with slight downward angle in the main tree trunk. Space injector holes evenly around the trunk circumference. Suitable for use with Ag-murf gun, ARBORjet devices, Chemjet tree injectors, Smart Shot injector or other hydraulic tree injector equipment. Trees must be at least 10" diameter at breast height.
Apple black spot/scab (*Venturia inaequalis*) and suppression of Anthracnose	Basal bark spray	1 pt. of Reliant + 1 pt. of water + 1 fl. oz. of Pentra-Bark	Apply in early spring at bud swell or silver tip stage of growth. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from top down to ground level from either the first branch or from as high as possible without exposing applicator to drift. May be used as a preventative or curative application. Various types of application equipment may be used such as hydraulic sprayers, handheld pump-type sprayers, backpack sprayers, hose-end applicators with backflow prevention devices and other similar application devices. For severe Anthracnose infestation, in large trees apply in fall at leaf senesce and another application in spring at bud swell to green tip.
Fire blight	Foliar spray	Use 2-3 tsp. Reliant per gal. of water	
Suppression of Anthracnose		3-4 tsp. of Reliant per gal. of water	Apply at pre-bloom (bud swell or green tip stage) with a supplemental application 14 days later with Reliant or another fungicide effective against Anthracnose.
	Basal bark spray	1 pt. of Reliant + 1 pt. of water + 1 fl. oz. of Pentra-Bark	Apply in early spring at bud swell until green tip stage of growth. Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger than 18 inches DBH (Diameter at Breast Height, 4.5 feet above ground) that have been previously attacked by Anthracnose, apply in fall prior to leaf senesce and again in spring for best results. For trees less than 18 inches DBH, apply in early spring.
Suppression of	Foliar spray	3-4 tsp. of Reliant per	For trees previously identified with infections, apply first

Verticillium wilt		gal. of water	application pre-bloom. Repeat applications at 21-30 intervals.
	Basal bark spray	1 1/2-2 qts. of **Reliant** + 2 qts. of water + 2 fl. oz. of Petra-Bark	Spray mixture around the entire trunk circumference until saturation/runoff. Spray from ground level up to 5 feet above the soil line, including the base of the first scaffolding limbs, if present. For trees larger than 24 inches DBH (Diameter at Breast Height, 4.5 feet above ground) that have been previously attacked by Verticillium wilt, apply in fall prior to leaf senesce and again in spring for best results. For trees less than 24 inches DBH, apply in early spring.

Ornamental Applications

Use on ornamentals in residential greenhouses, interiorscapes and landscapes such as, but not limited to, aglaonema, anthurium, aphelandra, arborvitae, azaleas, bougainvillea, boxwood, cattelya skinneri, ceanothus, cissus, cotoneaster, dieffenbachia, English ivy, eucalyptus, ficus, hibiscus, Japanese andromeda, Japanese holly, leather leaf fern, peperomia, philodendron, photinia, pieris, pittosporum, rhododendron, roses (container, landscape and mini varieties), schefflera, sedum, sempervivum, spathiphyllum, syngonium, taxus media and zygocactus.

Apply before disease development and in conjunction with good horticultural management practices. Use higher application rate when disease pressure is severe. To prevent plant injury, do not exceed application or frequency rates stated below. Do not apply to plants that are heat or moisture stressed. Do not apply to plants that are in a state of dormancy. When applying to indoor plants do not overspray and apply only to target plants. If meeting these conditions is not possible, move plants to an outdoor location for treatment and drying before taking back indoors.

Disease	Application Method	Rate	Application Program
Bacterial blight (*Xanthomonas campestris*) pathovars: *dieffenbachiae*, *fici*, *hederae* and *syngolini*	Foliar spray	2-4 tsp. of **Reliant** per gal. of water	Thoroughly wet all foliage. Repeat as required at 7-14 day intervals.
Black spot (*Diplocarpon* spp.)			Apply uniformly to foliage preventatively or at first sign of disease.
Downy mildew			Apply uniformly to foliage at disease onset and repeat applications every 14 days. Apply spray to thoroughly wet all foliage. Repeat as required at 14-21 day intervals.
Damping-off and Root rot including *Phytophthora* spp., Sudden Oak Death (*Phytophthora ramorum*) and *Pythium* spp.			Apply uniformly to foliage to the point of runoff. Apply spray to thoroughly wet all foliage. Repeat as required at 14-21 day intervals.
	Soil drench	1/2-6 fl. oz. of **Reliant** in 1-5 gals. of water (0.5-1% v/v solution)	Apply uniformly to soil at base of plant and surrounding soil. Apply 25 gals. of solution per 100 sq. ft. Follow application with irrigation. Repeat as required at monthly intervals.
	Soil incorporation	1-2 pts. of **Reliant** per cubic yard of soil	Just prior to potting, mix 1-2 pts. into growing media. For high disease pressure, apply by foliar spray or soil drench.
	Bare rooted dipping	2 tsp. of **Reliant** per gal. of water	Immediately before transplanting, dip transplants' bare roots for 2 minutes, keeping roots submerged. Thoroughly wet root mass.
Powdery mildew	Foliar spray	2-4 tsp. of **Reliant** per gal. of water	Apply uniformly to foliage at disease onset and repeat applications every 14 days.
Suppression of Anthracnose		1 1/2 fl. oz. of **Reliant** per gal. of water	Apply prior to onset of disease. Apply spray to saturation/runoff.

Turf and/or Home Lawns

Use on residential turf or lawngrasses. Apply preventatively when conditions favor disease and repeat as directed below. Use higher application rate when disease pressure is severe. Do not graze animals on treated areas of turf lawn. Do not feed turf lawn clippings to poultry or livestock.

Disease	Application Method	Rate	Application Program
Damping-off (*Pythium* spp.) diseases	Foliar spray	5-10 fl. oz. of Reliant per 1000 sq. ft.	Apply in 1-5 gals. of water per 1000 sq. ft. Ensure grass is thoroughly wet. Repeat as required at 14-21 day intervals. Do not irrigate or mow treated areas until spray has completely dried.
Suppression of Anthracnose			Apply in 5 gals. of water per 1000 sq. ft. Ensure grass is thoroughly wet. Apply every 7-14 days in a rotational fungicide program. Do not irrigate or mow treated areas until spray has completely dried.
Rhizoctonia			Apply every 7-14 days.

Storage and Disposal

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

Pesticide Storage: Keep this product in containers stored upright and secured with the original closure. Do not store this product near any heat source or near strong oxidants. If transfer to another container becomes necessary, ensure that the container is clearly labeled, the container is a type suitable for the product and is clean and free of other materials.

Pesticide Disposal and Container Handling: Nonrefillable container; do not reuse or refill this container. **If empty:** Place in trash or offer for recycling, if available. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

{Per PR Notice 2007-4 the batch code/lot number will appear on the label or container.}

Warranty and Disclaimer

To the extent permitted by applicable law, all conditions and warranties and statutory or other rights of action which buyer or any other user may have against Quest Products LLC are hereby excluded. To the extent permitted by applicable law, Quest Products LLC hereby gives notice to buyer and other users that it will not accept responsibility for any indirect or consequential loss arising from reliance on product information provided by Quest Products LLC or on its behalf unless it is established that such information or advice was provided negligently and that the product has been used strictly as directed. To the extent permitted by applicable law, Quest Products LLC's liability shall in all circumstances be limited to replacement of product or a refund of the purchase price thereof.

{Marketing Claims:}

Systemic Fungicide
For [effective] control of various plant diseases including {select from diseases/crops/sites in Directions for Use}
Controls {select diseases from crops/sites in Directions for Use}
For Use Against Sudden Oak Death [in California]
Arboriculture in Motion
Diverse Pest Control
Systemic Fungicide for Micro-Infusion
Plant Resistance Activator

{End of Marketing Claims:}

{Graphics:}

Quest Products LLC

Quest Products LLC
Finding New Ways to Improve the Treatment of Trees and Plants.

Made in [the] USA [U.S.A.]

Monterey

ARBORjet
A Revolutionary Plant Injection System

Open Here for Complete Label

{End of Graphics:}

[ ] Indicates optional/alternate label language
{ } Indicates verbiage that does not appear on the market labeling

Sublabel C: ArborSystems Direct Inject Chemical Label

Reliant® Systemic Fungicide

{Collapsible Pouch Label (WP_TAG) – used for both container sizes}

Reliant® Systemic Fungicide

For systemic fungicide control of Sudden Oak Death, Sycamore Anthracnose, Stem and Canker Blights, Pine Pitch Canker, Beech Decline and *Phytophthora* spp. diseases in a wide variety of trees and palm plants in urban environmental, residential areas and interior plantscapes.

Active Ingredients:	
*Mono- and di-potassium salts of Phosphorous Acid	45.8%
Other Ingredients	54.2%
Total	100.0%

*Equivalent to 3.35 lbs. Phosphorous Acid/gallon.

Contains 2.4 fl. oz. (69 grams) active ingredient per 4 fl. oz. (120 ml) pack.
Contains 20 fl. oz. (575 grams) active ingredient per 1 qt. 2 fl. oz. (1000 ml) pack.

Keep Out of Reach of Children

CAUTION

See booklet for First Aid, additional Precautionary Statements and complete Directions for Use.

Net Contents: 4 fl. oz. (120 ml)
[Net Contents: 1 qt. 2 fl. oz. (1000 ml)]

EPA Reg. No. 83416-1 • EPA Est. 69117-NE-1

Quest Products LLC
[785-542-2577 Fax: 785-542-2531]
23611 Linwood Road
Linwood, KS 66052

{Affixed Booklet (WP_BK) – used for both container sizes – Front Panel}

Reliant® Systemic Fungicide
An ArborSystems™ Direct-Inject™ Chemical
{Note: This is a Restricted Use Product in New York State}

For systemic fungicide control of Sudden Oak Death, Sycamore Anthracnose, Stem and Canker Blights, Pine Pitch Canker, Beech Decline and *Phytophthora* spp. diseases in a wide variety of trees and palm plants in urban environmental, residential areas and interior plantscapes.

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Net Contents: 4 fl. oz. (120 ml)
[Net Contents: 1 qt. 2 fl. oz. (1000 ml)]

Keep Out of Reach of Children

CAUTION

See inside for First Aid, additional Precautionary Statements and complete Directions for Use.

{Affixed Booklet (WP_BK) – used for both container sizes – First Page}

Reliant® Systemic Fungicide
An ArborSystems™ Direct-Inject™ Chemical
● Easy ● No Drilling ● Saves Time and Money

For systemic fungicide control of Sudden Oak Death, Sycamore Anthracnose, Stem and Canker Blights, Pine Pitch Canker, Beech Decline and *Phytophthora* spp. diseases in a wide variety of trees and palm plants in urban environmental, residential areas and interior plantscapes (such as those in domestic landscape/garden areas, public display plantings, recreation areas, highway and other transportation rights-of-way, scenic corridors, storage areas, forest areas and campgrounds).

To be used only with the ArborSystems™ Direct-Inject™ Tree Injection System.

[785-542-2577 • Fax: 785-542-2531]
23611 Linwood Road • Linwood, KS 66052

Quest Products LLC
Tree Injection Solutions

EPA Reg. No. 83416-1 • EPA Est. 69117-NE-1
Net Contents: 4 fl. oz. (120 ml)
Net Contents: 1 qt. 2 fl. oz. (1000 ml)

First Aid

If Swallowed:	• Immediately call a poison control center or doctor 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 to an unconscious person.
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	• Take off contaminated clothing. • Immediately rinse skin with plenty of water for 15-20 minutes. • Call a poison control center 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, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For non-emergency information on product usage call 785-542-2577, Monday through Friday, 9 am to 5 pm (Central time). For medical emergencies call the National Poison Control Center at 1-800-222-1222.

{The First Aid statements may appear in a paragraph format if market label space does not permit the grid format.}

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

CAUTION: Harmful if swallowed, absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Thoroughly wash 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)

Wear protective eyewear and rubber or neoprene gloves when handling ArborSystems Direct-Inject chemicals.

Environmental Hazards

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 washwaters or rinsate.

Quest Products LLC

Tree Injection Solutions
[785-542-2577 • Fax: 785-542-2531]
23611 Linwood Road • Linwood, KS 66052

Notice of Warranty

Quest Products LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for use under average conditions when used strictly in accordance with the directions on the labeling. To the extent consistent with applicable law, ArborSystems does not make or authorize any agent or representative to make any other warranty, guarantee or representation, express or implied, concerning this product.

{Affixed Booklet (WP_BK) – used for both container sizes – Second Page}

Reliant® Systemic Fungicide

DIRECTIONS FOR USE

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

Product Information

ArborSystems™ Direct-Inject™ Tree Injection System

The ArborSystems Direct-Inject Tree Injection System is easy to use. Most trees are treated in as little as five minutes or less, allowing applicators to treat trees quickly. There is no need to wait for absorption (translocation). Chemical is injected into the cambial area (the active vascular system) of the tree. Because the chemical is placed right where the tree can use it, effectiveness of the chemical is increased. Use in sunny or overcast conditions, rainy

or dry, at any time of day. As no drilling or implants are required, you can treat trees year after year, with no threat of long-term or permanent damage to the tree. This system minimizes wounding and promotes long-term tree vigor.

Indications

Use Reliant Systemic Fungicide for effective control of *Phytophthora* spp. diseases including Sudden Oak Death (*Phytophthora ramorum*), Beech Decline, Pine Pitch Canker (*Fusarium subglutinans)*, Stem and Canker Blight and Sycamore Anthracnose (*Gnomonia platar*) as well as Apple Black Spot/Scab (*Venturia inaequalis*), Fire Blight, Needle Cast, *Pythium* spp. diseases and Verticillium Wilt (suppression). On Black and English Walnut use Reliant Systemic Fungicide for effective control of Thousand Cankers Disease (*Geosmithia morbida*).

Tree Species*

Use on palm plants and trees such as, but not limited to: Almond, Apple, Avocado, Beech, Cedar, Chestnut, Conifers (including Christmas trees and Forests), Crabapple, Dogwood, Elm, Fir, Hawthorne, Juniper, Linden, Macadamia Nut, Monterey Pine, Oaks (Coastal, Live, Shreve, Black Canyon), Oriental Pear, Ornamental Pear, Ornamentals, Pyracantha, Stone Fruit, Sweet Birch, Sweet Gum, Sycamore, Tan Oaks, White Pine, Walnut (Black and English), White Cedar and Willow

*Use in California limited to oaks (Coastal, Live, Shreve, Black Canyon)

Timing of Injections

Inject trees anytime during the growing season. Treatments are more effective when made early in the growing season. Do not inject trees in winter months.

Dosage and Number of Injection Sites

2 ml (0.068 fl oz) per 4" of trunk circumference measured within 12" of the ground. Increase dosage to 4 ml (0.136 fl oz) per 4" of trunk circumference for trees with diameters over 12 feet.

Note: Because some treatments require large amounts of chemical per site, there may be occasions where it is difficult to keep all of the chemical dose in the injection site. If this is experienced, several options are possible:

1. Use the Portle or WedglePlus Injection Tips which have a check valve in the hub of each tip that keeps chemical in the tree until it is absorbed.
2. Reduce dosage volume by half and double the number of injection sites.
3. Inject half the dose at each site, mark the tree, continue treating other trees, then return to the marked tree and inject remaining dosage in each site.

How to Use ArborSystems Direct-Inject Chemicals with ArborSystems Direct-Inject Tree Injection System

1. Use only ArborSystems Direct-Inject chemicals with your unit as they have been formulated specifically for the Direct-Inject system.
2. Measure the circumference of the tree within 12" of the ground. Follow the label directions and application dosages in this booklet to determine the number of injection sites and the amount of chemical to be injected at each site.
3. Choose which style and length of ArborSystems Injection Tip is most appropriate for the type of tree you are treating.
4. The injection unit is preset to deliver a 1 ml (0.034 fl oz) dose of chemical with each full stroke of the handles. If you need to inject a 0.5 ml (0.017 fl oz) dose of chemical, move the dose adjustment ring to the 0.5 ml (0.017 fl oz) dose adjustment groove.
5. Make injections working around the base (or flare) of the tree. Make all injections within 12" of the ground unless otherwise noted.

6. With a smooth motion, firmly squeeze the injection unit handles to deliver chemical into the tree. Apply equal pressure on both handles—unequal pressure may bend or break the tip.
7. Continue making injections moving around the tree until the entire tree trunk has been treated.
8. When removing tips from the tree, use a straight rearward motion. Avoid rocking motions as that may damage tips or the injection unit.
9. Clean tips after each use by submerging in alcohol or diluted bleach.
10. At the end of the day, water flush the Direct-Inject unit to prevent clogging.

Storage and Disposal

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

Pesticide Storage: Store in original container in a cool, dry place. Do not store near any heat source or strong oxidants. Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Container Handling: Non-refillable container; do not reuse or refill this container. Completely empty pack into application equipment, then offer for recycling, if available, or dispose of empty pack in a sanitary landfill or by incineration.

{Per PR Notice 2007-4 Batch Code/Lot Number will appear either on the label or the container.}

[ ] Denotes alternate/optional language
{ } Denotes language that does not appear on the market labeling

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{Cylinder (Pack) Label (WP_PL) – used for only 4 oz container}

Reliant® Systemic Fungicide
An ArborSystems™ Direct-Inject™ Chemical

For systemic fungicide control of Sudden Oak Death, Sycamore Anthracnose, Stem and Canker Blights, Pine Pitch Canker, Beech Decline and *Phytophthora* spp. diseases in a wide variety of trees and palm plants in urban environmental, residential areas and interior plantscapes.

To be used only with the ArborSystems Direct-Inject Tree Injection System

Active Ingredients:

*Mono- and di-potassium salts of Phosphorous Acid	45.8%
Other Ingredients	54.2%
Total	100.0%

*Equivalent to 3.35 lbs. Phosphorous Acid/gallon.

Contains 2.4 fl oz (69 grams) active ingredient per 4 fl oz (120 ml) pack.

Keep Out of Reach of Children

CAUTION

See booklet for First Aid, additional Precautionary Statements and complete Directions for Use.

Net Contents: 4 fl oz (120 ml)

EPA Reg. No. 83416-1
EPA Est. 69117-NE-1

Quest Products LLC
Tree Injection Solutions

[785-542-2577 • Fax: 785-542-2531]
23611 Linwood Road • Linwood, KS 66052

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
The ArborSystems Direct-Inject unit is designed to be used only with ArborSystems pre-packed chemicals.

Storage and Disposal

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

Pesticide Storage: Store in original container in a cool, dry place. Do not store near any heat source or strong oxidants. Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Container Handling: Non-refillable container; do not reuse or refill this container.

Completely empty pack into application equipment, then offer for recycling, if available, or dispose of empty pack in a sanitary landfill or by incineration.

{Per PR Notice 2007-4 Batch Code/Lot Number will appear either on the label or the container.}

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{Outer Box Label (WP-PXL) (WP_1MS) – used for both container sizes}

Reliant® Systemic Fungicide
An ArborSystems™ Direct-Inject™ Chemical

For systemic fungicide control of Sudden Oak Death, Sycamore Anthracnose, Stem and Canker Blights, Pine Pitch Canker, Beech Decline and *Phytophthora* spp. diseases in a wide variety of trees and palm plants in urban environmental, residential areas and interior plantscapes (such as those in domestic landscape/garden areas, public display plantings, recreation areas, highway and other transportation rights-of-way, scenic corridors, storage areas, forest areas and campgrounds).

Active Ingredients:	
*Mono- and di-potassium salts of Phosphorous Acid	45.8%
Other Ingredients	54.2%
Total	100.0%

*Equivalent to 3.35 lbs. Phosphorous Acid/gallon.

Contains 2.4 fl. oz. (69 grams) active ingredient per 4 fl. oz. (120 ml) pack.
[Contains 20 fl. oz. (575 grams) active ingredient per 1 qt. 2 fl. oz. (1000 ml) pack.]

Keep Out of Reach of Children
CAUTION
See booklet for First Aid, additional Precautionary Statements and complete Directions for Use.

Net Contents: 4 fl. oz. (120 ml)
Net Contents: 1 qt. 2 fl. oz. (1000 ml)
EPA Reg. No. 83416-1 • EPA Est. 69117-NE-1

Quest Products LLC
Tree Injection Solutions
[785-542-2577 • Fax: 785-542-2531]
23611 Linwood Road • Linwood, KS 66052

[ ] Denotes alternate/optional language
{ } Denotes language that does not appear on the market labeling

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{Additional Selling/Marketing Copy for use in promotional pieces: on the website; brochures; and in other promotional materials, displays, etc.}

ArborSystems™ Direct-Inject™ Tree Injection System

The ArborSystems Direct-Inject Tree Injection System is effective. Chemicals are injected directly into a tree. Because the chemical is placed right where the tree can use it, most problems can be seen in as little as three to five days. Also, because no chemical is lost in non-active wood, the Direct-Inject System allows you to use less chemical; this saves money and reduces chemical waste. The Direct-Inject System injects chemicals into a tree with minimal

wounding. With no holes to drill, no air or pathogens are allowed to enter the tree, potential decay never starts and long-term wounding is prevented. The tree's ability to move water and nutrients, and to store food, is not compromised.

Pre-mixed chemicals are supplied in self-sealing containers. After injections have been made, you have only one small container of which to dispose. Concerns you may have had when spraying will be eliminated. And with a closed system there is no mixing.

With no drilling required the ArborSystems Direct-Inject System:

- Minimizes wounding to keep out fungi, bacteria, and insects.
- Prevents air from getting into the tree. When air is allowed into a tree's vascular system, it cuts off the flow of water and nutrients.
- Allows multiple or annual treatments without damaging the tree.
- Requires no drills, power supply or other bulky equipment.

With this system and chemicals many of the most devastating fungal diseases in trees can be managed.

The ArborSystems Direct-Inject System is designed to preserve and protect the indigenous and urban forest. Treat almost any tree in five minutes or less. Control is achieved with less chemical because chemical is placed precisely where the tree can best use it. No chemical is lost in dead wood.

ArborSystems Direct-Inject chemicals are integral parts of the Direct-Inject Tree Injection System. Use only ArborSystems Direct-Inject™ chemicals with the Direct-Inject Units. Using unauthorized chemicals with the ArborSystems Direct-Inject System constitutes a violation of Federal law.

Chemical Selection
Your distributor can advise you on the best chemical selections for trees in your area. See our website for additional information.
Reliant Systemic Fungicide
Chemical: Mono- and di-potassium salts of Phosphorous Acid

[ ] Denotes alternate/optional language
{ } Denotes language that does not appear on the market labeling

Safety Data Sheet

Issue Date: 12-04-13 **Revision Date:** 09-09-15

1. IDENTIFICATION

Product Identifier

Product Name Reliant® Systemic Fungicide

Other means of identification

SDS # EPA Reg No 83416-1

Recommended use of the chemical and restrictions on use

Recommended Use Fungicide.

Details of the supplier of the safety data sheet

Supplier Address

Quest Products LLC
11712 230th Street
Linwood, KS 66052

Emergency Telephone Number

Company Phone Number Business Phone: 785-542-2577
Fax Phone: 785-542-2531

Emergency Telephone 785-542-2577

2. HAZARDS IDENTIFICATION

Appearance Clear liquid **Physical State** Liquid **Odor** Odorless

Classification

Acute toxicity - Oral	Category 4

Signal Word

Warning

Hazard Statements

Harmful if swallowed

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Phosphorous acid	10294-56-1	Proprietary
Potassium hydroxide	1310-58-3	Proprietary

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

General Advice Provide this SDS to medical personnel for treatment.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

Skin Contact Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Inhalation Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.

Ingestion Do not induce vomiting. Rinse mouth. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects

Symptoms May cause eye, skin and respiratory tract irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Product is not flammable.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Ventilate affected area. Wear protective clothing as described in Section 8 of this safety data sheet. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.

Environmental Precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Soak up and contain spill with an inert (i.e. vermiculite, dry sand or earth) absorbent material.

Methods for Clean-Up Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not eat or drink while handling this material. Do not contaminated water, food or feed by storage or disposal.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m^3	(vacated) Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3

Appropriate engineering controls

Engineering Controls Maintain eye wash fountain and quick-drench facilities in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Use safety goggles, safety glasses with side shields and/or a full face shield as described by OSHA's eye and face protection regulations in 29CFR 1910.133.
Skin and Body Protection	Wear impervious protective clothing, long pants and long-sleeved shirt, waterproof gloves, including socks and boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory Protection	Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator.
General Hygiene Considerations	Harmful if swallowed, absorbed through skin or inhaled. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist or vapors. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Clear liquid	**Odor**	Odorless
Color	Clear	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	5.04	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	n/a-liquid	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	1.38	(1=Water)
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
Keep away from heat, sparks and open flame.

Incompatible Materials
Strong oxidizing agents.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Direct contact with eyes may cause temporary irritation.

Skin Contact Prolonged contact may cause redness and irritation.

Inhalation Avoid breathing vapors or mists.

Ingestion Ingestion may cause irritation to mucous membranes.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects. 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 wash waters or rinsate.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility

Chemical Name	Partition Coefficient
Potassium hydroxide 1310-58-3	0.65 0.83

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

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

Contaminated Packaging Non refillable container. Do not reuse or refill this container. Containers with a capacity of equal to or less than 5 gallons: Triple rinse or pressure 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. Containers with a capacity of greater than 5 gallons: Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip the container on its side and roll it back and forth, insuring 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. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, keep out of smoke.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG

Marine Pollutant This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if swallowed, absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist or vapors. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse. Wear the appropriate Personal Protective Equipment (PPE).

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Phosphorous acid	*	X		Present		Present	X	Present	X	X
Potassium hydroxide	*	X		Present		Present	X	Present	X	X

Legend:

**This product is exempted from TSCA because it is solely for FIFRA regulated use.*

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide	1000 lb			X

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Potassium hydroxide 1310-58-3	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	1	0	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	1	0	0	Not determined

Issue Date: 12-04-13
Revision Date: 09-09-15
Revision Note: GHS Compliant

Warranty and Disclaimer

To the extent permitted by applicable law, all conditions and warranties and statutory or other rights of action which buyer or any other user may have against Quest Products LLC. are hereby excluded. To the extent permitted by applicable law, Quest Products LLC. hereby gives notice to buyer and other users that it will not accept responsibility for any indirect or consequential loss arising from reliance on product information provided by Quest Products LLC. or on its behalf unless it is established that such information or advice was provided negligently and that the product has been used strictly as directed. To the extent permitted by applicable law, Quest Products LLC's liability shall in all circumstances be limited to replacement of product or a refund of the purchase price thereof.

End of Safety Data Sheet

City IPM Policy - Material Selection Criteria

Material: MONO - & DI - POTASSIUM SALTS OF PHOSPHOROUS ACID

Tier Level Conclusion: Yellow 5/13

Criteria	Tier 1 Red	Tier 2 Yellow	Tier 3 Green		
EPA Categories	I - Danger	II or III, Warning or Caution	II or III, Warning or Caution		
Restricted use	Yes	No	No		
Prop 65	Yes	No	No		
EPA Carcinogen	Known, likely or probable	Possible or EPA D	No evidence of carcinogenicity		
Endocrine Disruptor	Known or Probable	Suspect	No known, probable or suspect		
Environmental	Highly or extremely toxic to birds, aquatic species, bees or wildlife	Toxic or moderately toxic	Not toxic		
Persistence	Soil half lives greater than 100 days	Soil half lives less than 100 days but more than 30 days	Soil half lives less than 30 days		
Mobility	Rated high or very high, or label warning	Not high or very high, no label warnings	Not high or very high, no label warnings		
OMRI					
Cholinesterase inhibitor	-	-	-		
Dev or repro toxin	-	-	-		

Sources:
https://www.pesticideinfo.org/

Ecological Criteria

EPA

	Toxic	Highly Toxic	Extremely Toxic
Birds	LD50 - 100 mg/kg LC50 - 500 ppm	NA	May result in fatalities
Aquatic	LC50 1ppm	NA	May result in fatalities
Bees	LD50 2-11 ug/bee (II)	LD50 - 2ug/bee (I)	
Other Wildlife and Animals	LD50 - 100 mg/kg	NA	May result in fatalities

EXTOXNET

	Practically Non-Toxic	Slightly Toxic	Moderately Toxic	Highly Toxic	Very Highly Toxic
Birds, LD50	>2,000	>500	>50	>10	< 10
Aquatic, LD50	>100	>10	>10	>.1	< .1
Bees	Few precautions		Kills if applied over them	Kills on contact for a few days	

According to the EPA-540-9-85-006
LC50 (mg/L) Category Description

<0.1 Very highly toxic
0.1 – 1 Highly toxic
1 – 10 Moderately toxic
10 –100 Slightly toxic
>100 Practically non-toxic