

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

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

November 13, 2018

Austin Burns, Ph.D. Microbial Chemistry Regulatory Affairs Manager Monsanto Company 1300 I Street, NW Suite 450 East Washington, D.C. 20005

Subject: Pesticide Registration Improvement Act (PRIA) Labeling Amendment – Revise the Expiration Date from 6 to 12 Months and Make Other Changes to the Labeling, Including Those Requested by the EPA (e.g., Fix Minor Typographical Errors) Product Name: Actinovate Soluble EPA Registration Number: 524-641 Application Date: 03/21/2018 OPP Decision Number: 539659

Dear Dr. Burns:

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

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made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

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 Alex Boukedes by phone at (703) 347-0305 or via email at boukedes.alexandra@epa.gov.

Sincerely,

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

Enclosure

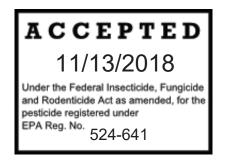
# ACTINOVATE<sup>®</sup> SOLUBLE [BIOLOGICAL FUNGICIDE]

Sublabel A:Agricultural UseSublabel B:Greenhouse, Nursery, and Turf Grass UseSublabel C:Residential/Home & Garden Use

**Optional Label Claims** 

**EPA Reg. No.:** 524-641 EPA Est. {*Enter appropriate EPA Establishment No.*}

Manufactured for: Monsanto Company 800 N. Lindbergh Blvd. St. Louis MO 63167 1-314-694-4000



## SUBLABEL A: Agricultural Use

# **ACTINOVATE**<sup>®</sup> **SOLUBLE**

# [BIOLOGICAL FUNGICIDE]

[<u>Alternate Brand Names</u>: Actinovate<sup>®</sup> AG, ActinoGro<sup>®</sup>, ActinoGrow, Quell, Knot Shot, ActinoStar, ActinoX, Nvelop]

[For Agricultural Use][For Organic Production][For use in Organic Production]

#### ACTIVE INGREDIENT: (% w/w)

Streptomyces lydicus WYEC 108\*.....0.037%

\*End-use product contains not less than 10 million (1 X 10<sup>7</sup>) colony forming units per gram [cfu/g] *Streptomyces lydicus* WYEC 108

### KEEP OUT OF REACH OF CHILDREN

# CAUTION

**EPA Reg. No.:** 524-641 EPA Est. {*Enter appropriate EPA Establishment No.*}

#### Manufactured for:

Monsanto Company 800 N. Lindbergh Blvd. St. Louis MO 63167

For Medical, Transportation, Spill, or other Emergencies, Call Collect 24 Hours a Day 1-314-694-4000

[LOGO] [BioAg logo][Valent logo][OMRI symbol/logo][Brand name][Tag-line] Net Weight: {insert net weight} Batch Code:{insert batch code} Not for sale or use after {expiry date} {Date stamped/placed on labeling will be twelve months after the date of manufacture} [print plate number] [Actinovate<sup>®</sup> and ActinoGro<sup>®</sup> are Registered Trademarks of Monsanto Technology LLC]

# See [booklet][panel][back panel][complete label] for additional precautionary statements, first aid, complete directions for use and warranty.

For product use information call: 1-877-775-8787

	FIRST AID		
If in eyes:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If inhaled:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> </ul>		
If an akin	Call a poison control center or doctor for further treatment advice.		
If on skin	Take off contaminated clothing.		
or clothing:	<ul> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> </ul>		
	<ul> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
lf swallowed:	<ul><li>Call a poison control center or doctor immediately for treatment advice.</li><li>Have person sip a glass of water if able to swallow.</li></ul>		
	• 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.		
HOTLINE NUMBER			
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of an emergency involving this product, or for medical assistance, call collect day or night: 1-314-694-4000.			

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with eyes, skin, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Mixer/loaders and applicators must wear a NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### **ENGINEERING CONTROLS**

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

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### USER SAFETY RECOMMENDATIONS

#### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Cover or collect [seeds][or] [powder] [product] spilled during [loading][use].

### DIRECTIONS FOR USE

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

#### Agricultural Use Requirements

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

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

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

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

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

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

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

Keep unprotected persons out of treatment area until seed have dried or have been packaged.

#### **PRODUCT INFORMATION:**

[Insert brand name][This product] is a biological [fungicide][/][bactericide] for the [suppression][or][control] of a broad range of soil-borne and foliar diseases across multiple crops. The active ingredient in [insert brand name][this product] is a microbe that [colonizes][grows][with][on][around][in proximity to] the [root system and foliage of the plant][plant] [releasing metabolites] and [protects][/][guards] it from harmful [bacteria][and][fungi].

[Insert brand name][This product] is also an effective biological nematicide providing [suppression][or][control] of pathogenic nematodes that attack the root system such as Root Knot nematodes (*Meloidogyne* spp.), Citrus nematodes (*Tylenchulus semipenitrans*), and Sting nematodes (*Belonolaimus* spp.). The microorganism in [insert brand name][this product] produces metabolites that are destructive to the nematode egg, thereby reducing their population in the soil and root zone of plants. [Insert brand name][This product] can be applied anytime during the crop life cycle to [control][or][suppress] the labeled nematodes. For best results, apply [insert brand name][this product] in three phases: 1) To the soil prior to planting, 2) To the soil at transplant or seeding, and 3) Through irrigation or soil application throughout the season.

[In addition, when applied to the soil, [insert brand name][this product] also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants treated with [insert brand name][this product] as a soil drench will become hardier, more vigorous and will have a robust and protected root system.]

#### INTEGRATED PEST MANAGEMENT (IPM):

Users may integrate [insert brand name][this product] into an overall disease and pest management strategy whenever the use of a [fungicide][bactericide] [or] [nematicide] is necessary. Follow practices known to reduce [disease] [nematode] development. This product may be used with compatible registered fungicide, bactericide, insecticide, or nematicide products unless restricted. Consult manufacturer for compatibility questions and pre-check for compatibility

as appropriate. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

#### **USE INFORMATION:**

[Insert brand name][This product] contains live spores of a microbe and, for best results, should be used prior to disease onset or in the early stages of disease development. For nematodes, [insert brand name][this product] can be applied anytime during the crop life cycle. [Insert brand name][This product] becomes active when the temperature is above 45°F and is less effective at cooler temperatures. [Insert brand name][This product] can be applied to sterilized or fumigated soil after the sterilization is complete or the fumigant has dissipated. For best results, apply to damp soil. Always follow good agricultural practices, including but not limited to, crop rotation, planting resistant varieties, sanitation, irrigation, and fertility management. If high pest pressure is anticipated, tank mix high rates of [insert brand name][this product] with another pesticide labeled for use on the target pest and shorten spray interval (within the label limits).

#### PREHARVEST INTERVAL:

[Insert brand name][This product] can be applied up to and including the day of harvest.

#### **RESTRICTIONS AND LIMITATIONS:**

**Do not tank mix** [insert brand name][this product] with chlorinated water, quaternary ammonia, or hydrogen peroxide.

#### **APPLICATION DIRECTIONS:**

Carefully read and follow all label directions, use rates, and restrictions. For best results for the labeled plant diseases, apply [insert brand name][this product] prior to or in the early stages of disease development. For the labeled nematodes, [insert brand name][this product] can be applied anytime during the crop life cycle. Prepare only the amount of [spray] [or] [soil drench solution] [product] to treat the measured area. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date. Accurate spray equipment calibration is essential prior to use. Use the higher labeled application rates when weather conditions are expected to be conducive for disease development, if the field has a history of disease problems or nematode pressure, or if minimum/low till programs are in place.

**Foliar Applications for Plant Diseases:** Since [insert brand name][this product] contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset or in the early stages of disease development. [Insert brand name][This product] becomes active

on the plant foliage when the temperature is above 45°F and is less effective at cooler temperatures.

For proper foliar application, determine the number of acres to be treated and the specified label use rate, and select the appropriate gallonage to give thorough and uniform coverage of all plant parts to be protected. Mix with 10 to 150 gallons of water per acre (for use in California, mix with 20 to 150 gallons of water per acre). Apply initial application prior to disease onset or in the early stages of disease development. [Insert brand name][This product] can be used in all types of spray equipment including that equipment used for aerial applications.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and grower/treatment coordinator are responsible for considering all of these factors when making decisions.

**Soil Applications for Plant Diseases:** Since [insert brand name][this product] contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset or in the early stages of disease development. [Insert brand name][This product] becomes active in soil when the temperature is above 45°F and is less effective at cooler temperatures. [Insert brand name][This product] can be applied to sterilized or fumigated soil, but it must be applied after the sterilization is complete or the fumigant has dissipated.

For proper soil application, determine the number of acres to be treated and the specified label use rate, and select the appropriate gallonage to give good saturation of the soil in order for the product to establish itself on the root system. For best results, apply product solution to damp soil. Maintaining moist soil after application will enable the product to perform as expected.

- Soil Surface (Drench) Applications: Use at planting, seeding, transplant or any stage of growth. Apply finished spray mixture at a rate to thoroughly soak the soil through the root zone, as a drench or directed spray using hand-held, mechanical or motorized spray equipment.
- Soil Treatment Through Irrigation: [Insert brand name][This product] may be used in drip, overhead, or other irrigation systems listed in the "Chemigation" section at any stage of plant growth as a soil treatment. Apply specified label rates of [insert brand name][this product] in the required amount of water per acre. See "Chemigation" section for additional information [and "Crop-Specific Directions" section for crop-specific application rates.].

• **In-Furrow Applications:** Apply as an in-furrow spray in the required amount of water per acre for the crop at planting. Mount the spray nozzle so the spray is directed in the furrow just before the seeds are covered.

**Soil Application for Nematodes:** [Insert brand name][This product] can be applied anytime during the crop life cycle to [control][or][suppress] the following nematodes: Root Knot nematodes *(Meloidogyne spp.)*, Citrus nematodes *(Tylenchulus semipenitrans),* and Sting nematodes *(Belonolaimus spp.)*. For best results, apply [insert brand name][this product] in three phases: 1) To the soil prior to planting, 2) To the soil at transplant or seeding, and 3) Through irrigation or soil application throughout the season.

- **Prior To Planting:** 10-14 days prior to planting, apply 1-6 oz of [insert brand name][this product] in 10-200 gallons of water per acre as a soil treatment to the rows or beds where the crop will be seeded or planted. Product may be applied during tilling, row preparation or to undisturbed ground.
- Soil Treatment At Planting and Post-Plant: Apply to soil at transplant, as seeding, or after planting. Apply 1-6 oz of [insert brand name][this product] as-is, or in 10-200 gallons of water, per acre directly to the soil around the seed or root zone of the transplants. For maintenance applications, reapply every 30-60 days throughout the crop growing season. If nematode pressure is evident such as plant stunting, yellowing, or root deformities, reapply every 1-2 weeks until [suppression][or][control] is achieved.
- Soil Treatment Through Irrigation: [Insert brand name][This product] may be used in drip, overhead, or other irrigation systems listed in the "Chemigation" section at any stage of plant growth as a soil treatment. Apply 1-6 oz of [insert brand name][this product] in 10-200 gallons of water per acre directly to the root zone of the plant. For maintenance or retreatment application frequency, see directions above in the Soil Treatment At Planting and Post-Plant section. See "Chemigation" section for additional information.

**Seed Treatment Applications:** For treatment of seed and seedling diseases: Damping-off, *Fusarium* wilt, and Stem rot (*Fusarium* spp., *Rhizoctonia* spp., *Phytophthora spp., Pythium* spp.) in all food crop seeds for field production.

- Seed Spray or Slurry Coating: Apply this product through mist-type commercial seed treatment equipment, slurry or other comparable methods that provide thorough coverage of treated seed. Prior to planting, dissolve 2-6 oz (for use in California) or 2-18 oz of [insert brand name][this product] in 4 fl oz of water per acre of seed and spray directly on seed.
- Hopper Box Dry Coating (not for use in California): Apply [insert brand name][this product] directly to seed as a dry coating at a rate of 2-18 oz per acre of seed. Apply so as to ensure even coating of product on seeds.

**For Pre-Plant Seed Treatment** – Do not use treated seed for food or feed purposes or process for oil. Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

**For Commercial Seed Treatment** – This product does not contain dye/colorant. All seed treated commercially with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for humans or feed for animals.

<u>Treated Seed Labeling</u> – The user is responsible for ensuring that the seed container meets all of the requirements under the Federal Seed Act. The Federal Seed Act requires that [bags][the container] of seed treated with [insert brand name][this product] must be labeled with the following statements:

- This seed has been treated with [insert brand name][Streptomyces lydicus WYEC 108].
- Do not use treated seed for food, feed or oil production.

**Cutting or Bare-Rooted Transplant Dip:** Dip cuttings or transplants in the dry powder of [insert brand name][this product], or in a solution of 6-18 oz of [insert brand name][this product] and 50 gallons of water. If desired, let soak for up to three hours or overnight prior to planting. Plant treated cuttings or transplants in soil in the usual manner. See table for Low Growing Berries for a listing of the specific diseases [suppressed][or][controlled] when using the dip application method.

**Dusting and Coating of Bulbs, Corms, Tubers, Rhizomes or Seeds:** Prior to planting or shipping, evenly dust at a rate of 2-6 oz of [insert brand name][this product] per 100 lb of bulbs, corms, tubers, rhizomes or seeds. See tables for Bulb Vegetables and Root and Tuber

Vegetables for a listing of the specific diseases [suppressed][or][controlled] using the dusting and coating application method.

**Compatibility:** [Insert brand name][This product] may be used in combination (e.g., tank mixed or dry mixed) with many other products including the following: chemical fungicides, insecticides, inoculants, and fertilizers. If tank mixes are desired, observe the most restrictive directions, precautions and limitations on labeling of all products used. Consult manufacturer for compatibility questions and pre-check for compatibility as appropriate. Do not apply soil fumigants to areas treated with [insert brand name][this product]. If fumigants must be applied to the soil, all the fumigant must be completely dissipated prior to applying [insert brand name][this product].

**Mixing Instructions:** [Insert brand name][This product] is completely soluble and does not require agitation to keep suspended in a solution. Use spray mixture within 4 hours.

#### CHEMIGATION

#### **Overall Requirements:**

- Apply [insert brand name][this product] only through 1) overhead boom and mist-type systems; 2) sprinklers such as impact, micro-sprinkler, center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand-move systems; 3) pressurized drench (flood) or drip (trickle) systems; 4) micro-irrigation such as spaghetti tube or individual tube irrigation; 5) hand-held calibrated irrigation equipment such as hand-held wand with injector; and 6) ebb and flow 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 non-uniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### **Requirements for Chemigation Systems Connected to Public Water Systems:**

- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 8) Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 9) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 10) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 11) Use appropriate amount of water so as not to create excessive leaching or runoff.

#### **Sprinkler Chemigation Requirements:**

1) The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.

- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 8) Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 9) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 10) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 11) Use appropriate amount of water so as not to create excessive leaching or runoff.

#### **Drip Chemigation Requirements:**

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

- 5) The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Use of a supply tank is recommended. Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 8) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 9) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 10) Use appropriate amount of water so as not to create excessive leaching or runoff.

#### **Flood Chemigation Requirements:**

- Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops.
- 2) Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

a. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.

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

c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

e. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

- 3) Use of a supply tank is recommended. Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 4) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 5) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 6) Use appropriate amount of water so as not to create excessive leaching or runoff.

ALL CROPS GROWN FOR SEED[*]			
Disease	Application Rates of [Insert brand name][This Product]		
	Soil Rate oz/A	Foliar Spray Rate oz/A	
[Suppression][or][Control] of:	3-12	3-12	
Various fungal and bacterial diseases as specified below		Reapply every 7-14 days depending on disease pressure and environmental conditions. For best results, use with a spreader-sticker.	

# **CROP-SPECIFIC DIRECTIONS**

#### BRASSICA (COLE) HEAD AND STEM VEGETABLES (Crop Group 5-16)

Broccoli; Brussels sprouts; cabbage; Chinese napa cabbage; cauliflower; and cultivars, varieties, and hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Damping-Off ( <i>Fusarium</i> spp.) ( <i>Pythium</i> spp.) ( <i>Rhizoctonia solani</i> )		
Phytophthora Root Rot ( <i>Phytophthora megasperma</i> )		
Sclerotinia Stem Rot (Sclerotinia sclerotiorum)[*]		
Verticillium Wilt ( <i>Verticillium</i> spp.)[*]		
Yellows (Fusarium oxysporum)		
Anthracnose (Colletotrichum higginsianum)[*]	Not Applicable	3-12 Reapply every 7-14 days.
Black Rot ( <i>Xanthomonas campestris</i> pv. <i>campestris</i> )[*]		For best results, use with a spreader-sticker.
Black Spot ( <i>Alternaria</i> spp.)[*]		
Downy Mildew ( <i>Peronospora parasitica</i> )[*]		
Gray Mold ( <i>Botrytis cinerea</i> )		
Powdery Mildew ( <i>Erysiphe polygoni</i> )		

#### BULB VEGETABLES (Crop Group 3-07)

Beltsville bunching onion, chive (fresh leaves), Chinese chive (fresh leaves), Chinese onion bulb, daylily bulb, elegans hosta, fritillaria (bulb and leaves), garlic bulb, great headed garlic bulb, green onion, kurrat, lady's leek, leek, lily bulb, macrostem onion, onion (bulb and fresh), pearl onion, potato onion bulb, shallot (bulb and fresh leaves), serpent garlic bulb, tree onion tops, and wild leek.

Disesso	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Fusarium Basal Rot ( <i>Fusarium oxysporum</i> )		
Neck Rot ( <i>Botrytis allii</i> )		
Botrytis Leaf Blight ( <i>Botrytis squamosa</i> )	Not Applicable	3-12
Downy Mildew		Reapply every 7-14 days.
(Peronospora destructor)[*]		For best results, use with a spreader-sticker.
Purple Blotch ( <i>Alternaria porri</i> )[*]		
<b>Dusting and Coating of Bulbs, Corms, Tubers, Rhizomes or Seeds:</b> Prior to planting or shipping, evenly dust at a rate of 2-6 oz of [insert brand name][this product] per 100 lb of bulbs, corms, tubers, rhizomes or seeds.		

BUSHBERRIES		
(Crop Subgroup 13-07B)		

Aronia berry; highbush blueberry; lowbush blueberry; buffalo currant; Chilean guava; highbush cranberry; black currant; red currant; elderberry; European barberry; gooseberry; edible honeysuckle; huckleberry; jostaberry; Juneberry (Saskatoon berry); lingonberry; native currant; salal; sea buckthorn; and cultivars, varieties, and/or hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]		
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A	
[Suppression][or][Control] of:	3-12	Not Applicable	
Armillaria Root Rot ( <i>Armillaria</i> spp.)			
Phytophthora Root Rot ( <i>Phytophthora cinnamomi</i> )			
Alternaria Leaf Spot and Fruit Rot ( <i>Alternaria tenuissima</i> )[*]	Not Applicable	3-12	
		Reapply every 7-14 days.	
Anthracnose Fruit Rot (Ripe Rot)		For best results, use with a	
(Colletotrichum spp.)[*]		spreader-sticker.	
Botrytis Blight and Fruit Rot			
(Botrytis cinerea)			
Mummy Berry ( <i>Monilinia vaccinii-corymbosi</i> )			

CANEBERRIES (Crop Subgroup 13-07A) Blackberry; loganberry; red and black raspberry; wild raspberry; and cultivars, varieties, and/or hybrids of these commodities.			
Disease	Application Rates of [Insert brand name][This Product]		
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A	
[Suppression][or][Control] of:	Not Applicable	3-12	
Gray Mold ( <i>Botrytis cinerea</i> )		Reapply every 7-14 days.	
Anthracnose ( <i>Colletotrichum</i> spp.)[*]		For best results, use with a spreader-sticker.	

CEREAL GRAINS (Crop Group 15)			
Barley, buckwheat, corn (field, pop and sweet), pearl millet, proso millet, oats, rice[*], rye, sorghum (milo), teosinte, triticale, wheat, and wild rice[*].			
Disease	Application Rates of [Insert	t brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A	
[Suppression][or][Control] of:	1-3	Not Applicable	
Damping-Off ( <i>Fusarium</i> spp.) ( <i>Rhizoctonia</i> spp.) ( <i>Pythium</i> spp.) Take-All ( <i>Gaeumannomyces</i> )[*]	Soil rate on all commodities, except rice and wild rice. Applied in furrow. 3-12 Soil rate on rice and wild rice only.		
Powdery Mildew ( <i>Erysiphe polygoni</i> ) Rice Blast ( <i>Magnaporthe grisea</i> )[*] Rice Stem Rot ( <i>Sclerotium oryzae</i> )[*] Sheath Spot ( <i>Rhizoctonia oryzae</i> )	Not Applicable	3-12 Reapply every 7-14 days. For best results, use with a spreader-sticker. [For rice and wild rice, spray only when there is no standing water in the bed.]	

<sup>[\*</sup>Not for use in California.]

#### CITRUS FRUIT (Crop Group 10-10)

Australian desert lime; Australian finger lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; Mount White lime; New Guinea wild lime; sour orange; sweet orange; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliate orange; uniq fruit; and cultivars, varieties, and/or hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Phytophthora Foot Rot and Root Rot ( <i>Phytophthora</i> spp.)		
Citrus Canker ( <i>Xanthomonas</i> <i>axonopodis</i> pv. <i>citri</i> and <i>Xanthomonas axonopodis</i> pv. <i>aurantifolii</i> )[*] Greasy Spot ( <i>Mycosphaerella citri</i> )[*]	Not Applicable	3-12 Reapply every 7-14 days. For best results, use with a spreader-sticker.

#### CUCURBIT VEGETABLES (Crop Group 9)

Chayote (fruit), Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkin, edible gourd (includes hyotan, cucuzza, hechima, and Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, and Chinese cucumber), muskmelon (includes cantaloupe), pumpkin, summer squash, winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, and spaghetti squash), and watermelon.

Disease	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of: Damping-Off (Fusarium spp.) (Phytophthora spp.) (Pythium spp.) (Rhizoctonia solani) Fusarium Wilt (Fusarium oxysporum) Phytophthora Blight (Phytophthora capsici) Verticillium Wilt (Verticillium spp.)	3-12	Not Applicable
Alternaria Leaf Blight (Alternaria cucumerina)[*]         Alternaria Leaf Spot (Alternaria alternata)[*]         Angular Leaf Spot (Pseudomonas syringae pv. lachrymans)[*]         Anthracnose (Colletotrichum orbiculare)[*]         Bacterial Leaf Spot (Xanthomonas campestris pv. cucurbitae)[*]         Downy Mildew (Pseudoperonospora cubensis)[*]	Not Applicable	3-12 Reapply every 7-14 days. For best results, use with a spreader-sticker.

#### EDIBLE FUNGI (Crop Group 21)

Blewitt, bunashimeji, Chinese mushroom, enoki, hime-matsutake, hirmeola, maitake, morel, nameko, net bearing *Dictyophora*, oyster mushroom, pom pom, reishi mushroom, Rodman's mushroom (*Agaricus bitorquis*), shiitake mushroom, shimeji, *Stropharia*, truffle, white button mushroom, and white jelly fungi.

Diagona	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	3-12
Green Mold ( <i>Trichoderma</i> spp.)[*] ( <i>Penicillium cyclopium</i> )[*] ( <i>Aspergillus</i> spp.)[*]		Reapply every 7-14 days. For best results, use with a spreader-sticker.
Verticillium Spot (Verticillium fungicola)		

FRUITING VEGETABLES (EXCEPT CUCURBITS) (Crop Group 8)			
Eggplant, groundcherry ( <i>Physalis</i> spp.), pepino, pepper (includes bell pepper, chili pepper, cooking pepper, pimento, and sweet pepper), tomatillo, and tomato.			
Disease	Application Rates of [	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A	
[Suppression][or][Control] of:	3-12	Not Applicable	
Fusarium Crown and Root Rot ( <i>Fusarium oxysporum</i> f. spp. <i>radicis-lycopersici</i> )			
Fusarium Wilt ( <i>Fusarium oxysporum</i> f. spp <i>.</i> <i>lycopersici</i> )			
Phytophthora Blight ( <i>Phytophthora capsici</i> )			
Pythium Damping-Off and Stem Rot ( <i>Pythium</i> spp.)			
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]			
Verticillium Wilt ( <i>Verticillium</i> spp.)			
White Mold (Timber Rot) ( <i>Sclerotinia</i> spp.)[*]			

[		
Anthracnose	Not Applicable	3-12
(Colletotrichum spp.)[*]		
(		Reapply every 7-14 days.
Destavial Speek		Reapply every 7-14 days.
Bacterial Speck		
(Pseudomonas syringae)[*]		For best results, use with a
		spreader-sticker.
Bacterial Spot		·
(Xanthomonas perforans)		
(Ranaloniae perioralie)		
Early Blight		
(Alternaria tomatophila)[*]		
Gray Mold		
(Botrytis cinerea)		
Lata Dight		
Late Blight		
(Phytophthora infestans)[*]		
White Mold (Timber Rot)		
(Sclerotinia spp.)[*]		
(2000 0000 0000/1		

[\*Not for use in California.]

#### SMALL FRUIT VINE CLIMBING (EXCEPT FUZZY KIWIFRUIT) (Crop Subgroup 13-07F)

Amur river grape; gooseberry; grape; hardy kiwifruit; Maypop; schisandra berry; and cultivars, varieties, and/or hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	Not Applicable	3-12
Botrytis Bunch Rot ( <i>Botrytis cinerea</i> ) Powdery Mildew ( <i>Uncinula necator</i> )		Reapply every 7-14 days. For best results, use with a spreader-sticker.

#### HERBS AND SPICES (Crop Group 19) AND MINTS

Allspice, angelica, anise, star anise, annatto (seed), balm, basil, borage, burnet, chamomile, caper buds, caraway, black caraway, cardamom, cassia bark, cassia buds, catnip, celery seed, chervil (dried), chive, Chinese chive, cinnamon, clary, clove buds, coriander leaf (cilantro or Chinese parsley), coriander seed (cilantro), costmary, culantro (leaf), culantro (seed), cumin, curry (leaf), dill (dillweed), dill (seed), fennel (common), Florence fennel (seed), fenugreek, grains of paradise, horehound, hyssop, juniper berry, lavender, lemongrass, lovage (leaf), lovage (seed), mace, marigold, marjoram, mustard (seed), nasturtium, nutmeg, parsley (dried), pennyroyal, black pepper, white pepper, peppermint, poppy (seed), rosemary, rue, saffron, sage, summer and winter savory, spearmint, sweet bay, tansy, tarragon, thyme, vanilla, wintergreen, woodruff, and wormwood.

Disease	Application Rates of [Insert brand name][This Product]	
[	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Verticillium Wilt ( <i>Verticillium</i> spp.)		
Anthracnose[*] ( <i>Colletotrichum</i> spp.)[*]	Not Applicable	3-12
Basil Downy Mildew		Reapply every 7-14 days.
(Peronospora belbarhrii)[*]		For best results, use with a spreader-sticker.
Gray Mold ( <i>Botrytis cinerea</i> )		
Powdery Mildew ( <i>Erysiphe</i> spp.)		

HOPS		
Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Canker ( <i>Fusarium</i> spp.)		
Verticillium Wilt ( <i>Verticillium</i> spp.)		
Alternaria Blight ( <i>Alternaria humuli</i> )[*] Downy Mildew	Not Applicable	3-12 Reapply every 7-14 days.
(Pseudoperonospora humuli)[*]		For best results, use with a spreader-sticker.
Gray Mold ( <i>Botrytis cinerea</i> )		
Powdery Mildew ( <i>Podosphaera macularis</i> )		

#### LEAFY VEGETABLES (Crop Group 4-16)

Chinese amaranth; leafy amaranth; arugula; Indian aster; blackjack; Chinese broccoli; broccoli raab; Abyssinian cabbage; Chinese cabbage (bok choy); seakale cabbage; cat's whiskers; cham-chwi; cham-na-mul; chervil (fresh leaves); chipilin; garland chrysanthemum; cilantro (fresh leaves); collards; corn salad; cosmos; garden cress; upland cress; dandelion (leaves); dang-gwi (leaves); dillweed; dock; dol-nam-mul; ebolo; endive; escarole; fameflower; feather cockscomb; Good King Henry; hanover salad; huauzontle; jute (leaves); kale; bitter lettuce; head lettuce; leaf lettuce; maca (leaves); mizuna; mustard greens; orach; parsley (fresh leaves); buckthorn plantain; English primrose; garden purslane; winter purslane; radicchio; radish (leaves); rape greens; wild rocket; shepherd's purse; spinach; Malabar spinach; New Zealand spinach; tanier spinach; Swiss chard; turnip greens; Chinese violet (leaves); watercress; and cultivars, varieties, and hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Bottom Rot ( <i>Rhizoctonia solani</i> )	(except watercress)	
Damping-Off ( <i>Fusarium</i> spp.) ( <i>Pythium</i> spp.) ( <i>Rhizoctonia solani</i> )		
Downy Mildew (Peronospora parasitica)[*] (Bremia lactucae)		
Fusarium Wilt ( <i>Fusarium oxysporum</i> )		
Lettuce Drop (Sclerotinia Rot) (Sclerotinia sclerotiorum)[*] (Sclerotinia minor)[*]		
Phytophthora Root Rot ( <i>Phytophthora megasperma</i> )		
Sclerotinia Stem Rot ( <i>Sclerotinia sclerotiorum</i> )[*]		
Verticillium Wilt (Verticillium albo-atrum) (Verticillium dahlia)		
Yellows (Fusarium oxysporum)		

Alternaria Leaf Spot	Not Applicable	3-12
(Alternaria sonchi)[*]		
Anthracnose		Reapply every 7-14 days.
(Microdochium		For best results, use with a
panattonianum)[*]		spreader-sticker.
Bacterial Leaf Spot and Head Rot		For watercress, spray only
(Xanthomonas campestris		when there is not standing
pv. <i>vitians</i> )[*]		water in bed.
Black Rot		
(Xanthomonas campestris		
pv. <i>campestris</i> )[*]		
Black Spot		
( <i>Alternaria</i> spp.)[*]		
Downy Mildew		
(Bremia lactucae)[*]		
(Peronospora parasitica)[*]		
Gray Mold		
(Botrytis cinerea)		
Powdery Mildew		
(Erysiphe cichoracearum)		
(Erysiphe polygoni)		

#### LEGUME VEGETABLES (Crop Group 6)

Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin), bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, and wax bean), bean (*Vigna* spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, and yardlong bean), broad bean (fava bean), chickpea (garbanzo bean), guar, jackbean, lablab bean, lentil, pea (*Pisum* spp.) (includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, and sugar snap pea), pigeon pea, soybean, soybean (immature seed), and sword bean.

Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	1-3	Not Applicable
Damping-Off ( <i>Fusarium</i> spp.)	Applied in furrow	
( <i>Phytophthora</i> spp.) ( <i>Pythium</i> spp.)	3-12	
(Rhizoctonia solani)	Other soil applications	
Fusarium Root Rot ( <i>Fusarium solani</i> )		
Fusarium Wilt (Yellows) (Fusarium oxysporum f.		
sp. <i>phaseoli</i> ) Southern Blight		
(Sclerotium rolfsii)[*]		

Anthracnose	Not Applicable	3-12
(Colletotrichum spp.)[*]		Reapply every 7-14 days.
Bacterial Brown Spot ( <i>Pseudomonas syringae</i> pv. <i>syringae</i> )[*]		For best results, use with a spreader-sticker.
Common Bacterial Blight ( <i>Xanthomonas campestris</i> pv. <i>phaseoli</i> )[*]		
Downy Mildew (Phytophthora nicotianae, Phytophthora phaseoli)[*]		
Gray Mold <i>(Botrytis cinerea)</i>		
Halo Blight ( <i>Pseudomonas syringae</i> pv. <i>phaseolicola</i> )[*]		
Powdery Mildew (Erysiphe polygoni)		
White Mold (Sclerotinia sclerotiorum)[*]		

#### NONGRASS ANIMAL FEEDS (Crop Group 18)

Alfalfa, velvet bean, clover (*Trifolium* spp., *Melilotus* spp.), kudzu, lespedeza, lupin, sainfoin, trefoil, vetch, crown vetch, and milk vetch.

Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	1-3	Not Applicable
Aphanomyces Root Rot ( <i>Aphanomyces euteiches</i> )	Applied in furrow	
Charcoal Rot ( <i>Macrophomina phaseolina</i> )		
Damping-Off ( <i>Fusarium</i> spp.) ( <i>Phytophthora</i> spp.) ( <i>Pythium</i> spp.) ( <i>Rhizoctonia solani</i> )		
Fusarium Crown and Root Rot ( <i>Fusarium oxysporum,</i> <i>Fusarium solani</i> )		
Fusarium Wilt (Yellows) <i>Fusarium oxysporum</i> f. sp. <i>medicaginis</i> )		
Take-All (Gaeumannomyces graminis var. tritici)		
Verticillium Wilt ( <i>Verticillium</i> spp.)		

Anthracnose	Not Applicable	3-12
( <i>Colletotrichum</i> spp.)[*]	Not Applicable	0.12
		Reapply every 7-14 days.
Blossom Blight (Crown and Stem		
Rot)		For best results, use with a
(Botrytis cinerea)		spreader-sticker.
(Sclerotinia sclerotiorum)[*]		
Downy Mildew		
(Peronospora trifoliorum)[*]		
(Peronospora viciae)[*]		
Devudenci Mildević		
Powdery Mildew ( <i>Erysiphe</i> spp.)		
(Leveillula taurica)		
Sclerotinia Crown and Stem Rot		
(Sclerotinia sclerotiorum)[*]		
(Sclerotinia trifoliorum)[*]		

#### OILSEEDS (Crop Group 20)

Borage; calendula; castor oil plant; Chinese tallowtree; cottonseed; crambe; cuphea; echium; euphorbia; evening primrose; flax seed; gold of pleasure; hare's ear mustard; jojoba; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; niger seed; oil radish; poppy seed; rapeseed; rose hip; safflower; sesame; stokes aster; sunflower; sweet rocket; tallowwood; tea oil plant; vernonia; and cultivars, varieties, and/or hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	1-3	Not Applicable
Aphanomyces Root and Hypocotyl Rot ( <i>Aphanomyces</i> <i>euteiches</i> )	Applied in furrow	
Charcoal Rot (Macrophomina phaseolina)		
Damping-Off ( <i>Fusarium</i> spp.) ( <i>Phytophthora</i> spp.) ( <i>Pythium</i> spp.) ( <i>Rhizoctonia solani</i> )		
Fusarium Root Rot ( <i>Fusarium solani</i> )		
Fusarium Wilt ( <i>Fusarium oxysporum</i> )		
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]		
Verticillium Wilt ( <i>Verticillium</i> spp.)		

Alternaria Leaf Spot / Black Spot	Not Applicable	3-12
(Alternaria spp.)[*]		5-12
		Popphy overy 7-14 days
Anthracnose		Reapply every 7-14 days.
(Colletotrichum spp.)[*]		For best results, use with a
Devere Mildeve		spreader-sticker.
Downy Mildew		
( <i>Peronospora</i> spp.)[*]		
Gray Mold		
(Botrytis cinerea)		
Powdery Mildew		
( <i>Erysiphe</i> spp.)		
(Oidium spp.)		
(Podosphaera spp.)		
White Mold / Stem Rot		
(Sclerotinia sclerotiorum)[*]		

[\*Not for use in California.]

OLIVES * (Except Ceylon and Chinese Olives)		
Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Armillaria Root Rot ( <i>Armillaria mellea</i> )		
Phytophthora Root and Crown Rot ( <i>Phytophthora</i> spp.)		
Verticillium Wilt ( <i>Verticillium dahlia</i> )		

PEANUTS		
Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	1-3	Not Applicable
Damping-Off ( <i>Fusarium</i> spp.) ( <i>Phytophthora</i> spp.) ( <i>Pythium</i> spp.) ( <i>Rhizoctonia solani</i> )	Apply in furrow.	
Fusarium Root Rot ( <i>Fusarium solani</i> )		
Fusarium Wilt (Yellows) <i>(Fusarium oxysporum</i> f. sp. <i>phaseoli</i> )		
Pod Rot (Pod Breakdown) ( <i>Fusarium</i> spp.) ( <i>Pythium myriotylum)</i> ( <i>Rhizoctonia solani</i> )		
Pythium Peg and Root Rot ( <i>Pythium</i> spp.)		
Rhizoctonia Limb, Peg and Root Rot ( <i>Rhizoctonia solani</i> )	Not Applicable	3-12 Reapply every 7-14 days.
Southern Blight (Sclerotium rolfsii)[*]		For best results, use with a spreader-sticker.
White Mold (Sclerotinia sclerotiorum)[*]		

POME FRUIT		
(Crop Group 11-10)		

Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; Asian pear; quince; Chinese quince; Japanese quince; tejocote; and cultivars, varieties, and/or hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Phytophthora Crown, Collar, and Root Rot ( <i>Phytophthora</i> spp.)		
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]		
Alternaria Blotch ( <i>Alternaria mali</i> )[*]	Not Applicable	3-12
Alternaria Rot		Reapply every 7-14 days.
(Alternaria alternate)[*]		For best results, use with a spreader-sticker.
Bitter Rot ( <i>Colletotrichum</i> spp.)[*]		
Brown Rot (American, European) (Monilinia fructicola) (Monilinia fructigena) (Monilinia laxa)		
Fire Blight ( <i>Erwinia amylovora</i> )[*]		
Powdery Mildew (Podosphaera leucotricha)		

### ROOT AND TUBER VEGETABLES (Crop Group 1)

Arracacha, arrowroot, Chinese artichoke, Jerusalem artichoke, garden beet, sugar beet, edible burdock, edible canna, carrot, bitter and sweet cassava, celeriac, chayote (root), turnip-rooted chervil, chicory, chufa, dasheen (taro), ginger, ginseng\*, horseradish, leren, turnip-rooted parsley, parsnip, potato, radish, oriental radish, rutabaga, salsify, black salsify, Spanish salsify, skirret, sweet potato, tanier, turmeric, turnip, yam bean, and true yam.

Disease	Application Rates of [Insert brand name][] Product]	
	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Blackleg and Bacterial Soft Rot ( <i>Erwinia</i> ( <i>Pectobacterium</i> ) spp.)[*]	Applied in furrow, over treated seed pieces, or as a side dressing for all types of Irish potatoes,	
Charcoal Rot ( <i>Macrophomina</i> <i>phaseolina</i> )	sweet potatoes, and other potatoes	
	3-12	
Fusarium Dry Rot ( <i>Fusarium</i> spp.)	Except for potatoes	
Fusarium Wilt ( <i>Fusarium</i> spp.)		
Leak ( <i>Pythium</i> spp.)		
Pink Rot (Phytophthora erythroseptica) (Phytophthora spp.)		
Rhizoctonia Canker and Black Scurf ( <i>Rhizoctonia solani</i> )		
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]		
Verticillium Wilt ( <i>Verticillium albo-atrum</i> Reinke & Berthier, <i>Verticillium dahlia</i> )		
White Mold (Timber Rot) ( <i>Sclerotinia</i> spp.)[*]		

		0.40
Alternaria Leaf Blight / Spot,	Not Applicable	3-12
Early Blight		
(Alternaria spp.)[*]		Reapply every 7-14 days.
Gray Mold		For best results, use with a
(Botrytis cinerea)		spreader-sticker.
Late Blight		
(Phytophthora infestans)		
Powdery Mildew		
( <i>Erysiphe</i> spp.)		
White Mold (Timber Rot)		
(Sclerotinia spp.)[*]		
Dusting and Coating of Bulbs, Corms, Tubers, Rhizomes, or Seeds: Prior to planting or shipping,		
evenly dust at a rate of 2-6 oz of [ins	ert brand name][this product] p	er 100 lb of bulbs, corms, tubers,
rhizomes or seeds.		
[*Not for use in California ]		

### STALK, STEM AND LEAF PETIOLE VEGETABLES (Crop Group 22)

Agave; aloe vera; asparagus; bamboo (shoots); cardoon; celery; Chinese celery; celtuce; Florence fennel (fresh leaves and stalk); edible fern (fiddlehead); fuki; sea kale; kohlrabi; palm hearts; prickly pear (pads); Texas prickly pear (pads); rhubarb; udo; zuiki; and cultivars, varieties, and hybrids of these commodities.

Disesse	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Crater Rot and Damping-Off ( <i>Rhizoctonia solani</i> )		
Damping-Off, Pythium ( <i>Pythium</i> spp.)		
Damping-Off, Rhizoctonia ( <i>Rhizoctonia solani</i> )		
Fusarium Crown and Root Rot, Yellows and Wilt ( <i>Fusarium</i> spp.) ( <i>Fusarium oxysporum</i> )		
Phytophthora Spear and Crown Rot ( <i>Phytophthora megasperma</i> )		
Alternaria Leaf Spot (Alternaria sonchi)[*]	Not Applicable	3-12
		(except asparagus)
Anthracnose ( <i>Microdochium</i> <i>panattonianum</i> )[*]		Reapply every 7-14 days.
Bacterial Leaf Spot ( <i>Pseudomonas syringae</i> )[*]		For best results, use with a spreader-sticker.
Sclerotinia Pink Rot ( <i>Sclerotinia sclerotiorum</i> )		

### STONE FRUIT (Crop Group 12-12)

Apricot, sweet cherry, tart cherry, nectarine, peach, plum, Chickasaw plum, Damson plum, Japanese plum, prune plum, and plumcot.

Diagona	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Armillaria Root Rot ( <i>Armillaria</i> spp.)		
Phymatotrichum Root Rot ( <i>Phymatotrichum</i> <i>omnivorum</i> )		
Phytophthora Crown, Collar, and Root Rot ( <i>Phytophthora</i> spp.)		
Rhizoctonia Root Rot ( <i>Rhizoctonia solani</i> )		
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]		
Verticillium Wilt ( <i>Verticillium dahlia</i> )		

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

Alternaria Rot	Not Applicable	3-12
	Not Applicable	3-12
(Alternaria spp.)[*]		Deensky even v 7.14 deve
A 41		Reapply every 7-14 days.
Anthracnose		
(Colletotrichum spp.)[*]		For best results, use with a spreader-sticker.
Bacterial Canker		
(Pseudomonas		
syringae)[*]		
Bitter Rot		
( <i>Colletotrichum</i> spp.)[*]		
Brown Rot Blossom Blight and		
Fruit Rot		
(Monilinia fructicola)		
(Monilinia laxa)		
Green Fruit Rot		
( <i>Botrytis</i> spp.)		
(Monilinia spp.)		
(Sclerotinia		
sclerotiorum)[*])		
Loof Curl		
Leaf Curl		
(Taphrina deformans)[*]		
Powdery Mildew		
(Podosphaera spp.,		
Sphaerotheca spp.)		

### LOW GROWING BERRIES (Crop Subgroup 13-07G) (except cranberry)

Bearberry; bilberry; lowbush blueberry; cloudberry; lingonberry; muntries; partridgeberry; strawberry; and cultivars, varieties, and/or hybrids of these commodities.

Disesso	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Armillaria Crown and Root Rot (Armillaria mellea)		
Charcoal Rot (Macrophomina phaseolina)		
Phytophthora Crown and Root Rot ( <i>Phytophthora</i> spp.)		
Pythium Root Rot ( <i>Pythium</i> spp.)		
Rhizoctonia Root Rot ( <i>Rhizoctonia solani</i> )		
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]		
Verticillium Wilt ( <i>Verticillium</i> spp.)		

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

Angular Leaf Spot	Not Applicable	3-12
(Xanthomonas fragariae)[*]		
		Reapply every 7-14 days.
Anthracnose		
(Colletotrichum spp.)[*]		For best results, use with a
		spreader-sticker.
Bacterial Canker		
(Pseudomonas		
syringae)[*]		
Pleak Loof Creat		
Black Leaf Spot (Alternaria alternate)[*]		
(Alternana alternate)[]		
Gray Mold		
(Botrytis cinerea)		
(		
Leather Rot		
(Phytophthora spp.)		
Powdery Mildew		
(Sphaerotheca spp.)		
Cutting or Bare-Rooted Transplant	t Din:	

## Cutting or Bare-Rooted Transplant Dip:

Dip cuttings or transplants in the dry powder of [insert brand name][this product] or in a solution of 6-18 oz of [insert brand name][this product] and 50 gallons of water. If desired, let soak for up to three hours or overnight prior to planting. Plant treated cuttings or transplants in soil in the usual manner.

### TREE NUTS (Crop Group 14-12)

African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; black walnut; English walnut; yellowhorn; and cultivars, varieties, and/or hybrids of these commodities.

Dissess	Application Rates of [Insert	brand name][This Product]
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Armillaria Crown and Root Rot ( <i>Armillaria mellea</i> )		
Phytophthora Crown and Root Rot ( <i>Phytophthora</i> spp.)		
Southern Blight ( <i>Sclerotium rolfsii</i> )[*]		
Verticillium Wilt ( <i>Verticillium</i> spp.)		

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

Alternaria Leaf Spot	Not Applicable	3-12
(Alternaria alternate)[*]		Deemski even 7 11 deve
Anthracnose		Reapply every 7-14 days.
( <i>Colletotrichum</i> spp.)[*]		For best results, use with a spreader-sticker.
Bacterial Canker ( <i>Pseudomonas</i> <i>syringae</i> )[*]		
Brown Rot (Monilinia laxa) (Monilinia fructicola)		
Green Fruit Rot (Botrytis cinerea) (Monilinia laxa) (Monilinia fructicola) (Sclerotinia sclerotiorum[*])		
Hull Rot ( <i>Monilinia fructicola</i> )		
Leaf Curl ( <i>Taphrina deformans</i> )[*]		
Powdery Mildew ( <i>Sphaerotheca</i> spp.) ( <i>Podosphaera</i> spp.)		
Walnut Blight ( <i>Xanthomonas arboricola</i> pv. <i>juglandis</i> )		

### TROPICAL AND SUBTROPICAL FRUIT, EDIBLE PEEL GROUP (Crop Group 23)

Acaí; acerola; achachairú; African plum; agritos; almondette; ambarella; apak palm; appleberry; arazá; arbutus berry; babaco; bacaba palm; bacaba-de-leque; red bayberry; bignay; bilimbi; borojó; breadnut; cabeluda; fruit cajou; cambucá; carandas-plum; carob; cashew apple; Ceylon iron wood; Ceylon olive; cherry-of-the-Rio-Grande; black Chinese olive; white Chinese olive; chirauli-nut; ciruela verde; cocoplum; date; Davidson's plum; desert-date; doum palm coconut; false sandalwood; feijoa; fig; fragrant manjack; Abyssinian gooseberry; Ceylon gooseberry; Indian gooseberry; otaheite gooseberry; governor's plum; grumichama; guabiroba; guava; guava berry; Brazilian guava; cattley guava; Costa Rican guava; Para guava; purple strawberry guava; strawberry guava; yellow strawberry guava; guayabillo; illawarra plum; imbé; imbu; Indian-plum; jaboticaba; Jamaica-cherry; jambolan; jelly palm; Indian jujube; kaffir-plum; kakadu plum; kapundung; karanda; kwai muk; lemon aspen; mangaba; Marian plum; Malayan mombin; purple mombin; yellow mombin; monkeyfruit; monos plum; mountain cherry; nance; natal plum; noni; mountain papaya; patauá; peach palm (fruit); black persimmon; Japanese persimmon; pitomba; plum-of-Martinique; pomerac; rambai; rose apple; rukam; rumberry; sea grape; sentul; sete-capotes; silver aspen; starfruit; Surinam cherry; tamarind; uvalha; water apple; water pear; water berry; wax jambu; and cultivars, varieties, and hybrids of these commodities.

Disease	Application Rates of [Insert brand name][This Product]	
2.00000	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Armillaria Crown and Root Rot (Shoestring Rot) ( <i>Armillaria mellea</i> )		
Crown Rot ( <i>Fusarium</i> spp.)		
Fusarium Wilt ( <i>Fusarium oxysporum</i> )		
Phytophthora Crown and Root Rot ( <i>Phytophthora</i> spp.)		
Seedling Blight ( <i>Phytophthora</i> spp.) ( <i>Sclerotium rolfsii</i> )[*]		
Verticillium Wilt ( <i>Verticillium</i> spp.)		

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

Alternaria Leaf Spot	Not Applicable	3-12
(Alternaria alternate)[*]		0.12
		Reapply every 7-14 days.
Anthracnose		
( <i>Colletotrichum</i> spp.)[*]		For best results, use with a spreader-sticker.
Bacterial Canker		•
(Pseudomonas		
syringae)[*]		
Blossom Blight, Gray Mold		
(Botrytis cinerea)		
Powdery Mildew		
(Erysiphe spp.)		
(Oidium spp.)		

### TROPICAL AND SUBTROPICAL FRUIT, INEDIBLE PEEL GROUP (Crop Group 24)

Abiu; aisen; akee apple; atemoya; avocado; Guatemalan avocado; Mexican avocado; West Indian avocado; bacury; bael fruit; banana; dwarf banana; binjai; biriba; breadfruit; Burmese grape; canistel; cat's-eyes; champedak; cherimoya; cupuacú; custard apple; dragon fruit; durian; elephant-apple; etambe; granadilla; giant granadilla; ilama; ingá; jackfruit; jatobá; karuka; kei apple; langsat; lanjut; longan; lucuma; lychee; mabolo; madras-thorn; mammy-apple; manduro; mango; horse mango; Saipan mango; mangosteen; marang; marmaladebox; matisia; mesquite; mongongo (fruit); monkey-bread-tree; monstera; nicobar-breadfruit; paho; pandanus; papaya; winged-stem passionflower; passionfruit; banana passionfruit; purple passionfruit; yellow passionfruit; common pawpaw; small-flower pawpaw; pelipisan; pequi; pequia; American persimmon; pineapple; pitahaya; pitaya; amarilla pitaya; roja pitaya; yellow pitaya; plantain; pomegranate; poshte; prickly pear (fruit); Texas prickly pear (fruit); pulasan; quandong; rambutan; saguaro; sapodilla; black sapote; green sapote; mamey sapote; white sapote; sataw; satinleaf; screw-pine; Sierra Leone-tamarind; soncoya; soursop; Spanish lime; star apple; sugar apple; sun sapote; tamarind-of-the-Indies; velvet tamarind; wampi; white star apple; wild loquat; and cultivars, varieties, and hybrids of these commodities.

Diagona	Application Rates of [Insert brand name][This Product]	
Disease	Soil Rate oz/A	Foliar Spray Rate oz/A
[Suppression][or][Control] of:	3-12	Not Applicable
Armillaria Crown and Root Rot (Shoestring Rot) ( <i>Armillaria mellea</i> )		
Crown Rot ( <i>Fusarium</i> spp.)		
Fusarium Wilt ( <i>Fusarium oxysporum</i> )		
Phytophthora Crown and Root Rot ( <i>Phytophthora</i> spp.)		
Seedling Blight ( <i>Phytophthora</i> spp.) ( <i>Sclerotium rolfsii</i> )[*])		
Verticillium Wilt ( <i>Verticillium</i> spp.)		

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

Alternaria Leaf Spot	Not Applicable	3-12
(Alternaria alternate)[*]		0.12
		Reapply every 7-14 days.
Anthracnose		
( <i>Colletotrichum</i> spp.)[*]		For best results, use with a
		spreader-sticker.
Bacterial Canker		
(Pseudomonas		
syringae)[*]		
Blossom Blight, Gray Mold		
(Botrytis cinerea)		
Powdery Mildew		
(Erysiphe spp.)		
(Oidium spp.)		

### STORAGE AND DISPOSAL

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

### **PESTICIDE STORAGE:**

Store in original container away from feed and food. Store in a cool, dry place, between 40°F and 77°F. Do not store in direct sunlight and keep away from heat sources. Keep from overheating or freezing. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### PESTICIDE DISPOSAL:

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

### CONTAINER HANDLING:

{For non-rigid containers, bags, or pouches}

**Nonrefillable container.** Do not reuse or refill this container. Completely empty [container][liner][bag][pouch] into application equipment. Then offer for recycling if available, or dispose of empty [container][liner][bag][pouch] in a sanitary landfill or by incineration.

{For rigid, plastic containers 50 pounds or less}

**Nonrefillable container.** Do not reuse or refill this container. Triple rinse [container][drum][pail] (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 and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### LIMITS OF LIABILITY AND WARRANTY

Monsanto Company warrants that this product is reasonably fit for the purposes set forth in the DIRECTIONS FOR USE ("Directions") when used in accordance with those Directions under the conditions described therein. This warranty is also subject to the inherent risks, conditions and limitations stated herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE, INFRINGEMENT (ALONE OR IN COMBINATION WITH OTHER REGISTERED [SEED TREATMENT] PRODUCTS) OR MERCHANTABILITY IS MADE.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling of the product that results from conditions beyond the control of Monsanto Company, including, but not limited to, crop injury, ineffectiveness due to such factors as weather conditions at planting, environmental conditions during seed storage, presence of other materials, seed of low quality or low vigor or low germination, or other unintended consequences that may result because of the manner of use or application inconsistent with that set forth in the Directions.

Monsanto Company does not warrant any product reformulated or repackaged from this product except in accordance with Monsanto Company's stewardship requirements and with Monsanto Company's express written permission.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF MONSANTO COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF MONSANTO COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MONSANTO COMPANY OR ANY OTHER SELLER OF THE PRODUCT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMITS OF LIABILITY AND WARRANTY that may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

{Note: The following information will be affixed to the unit package. Sublabel A label portions up to this 'affixed to the unit package' section will be included as a removable booklet. Package sizes 454g and smaller (e.g. 20g, 56g) will contain the following sections on the 'affixed' label: Title page, signal wording, first-aid, hotline number, and a portion of the precautionary statements: the 'avoid contact...' paragraph, environmental hazards, and the storage and disposal section. Package sizes greater than 454g (e.g. 510g, 8.5kg) will contain all of the below sections: Title page, signal wording, first-aid, hotline number, and the entire precautionary statement section (the avoid contact... paragraph, PPE, engineering controls, user safety recommendations, environmental hazards, and storage and disposal).}

# **ACTINOVATE**<sup>®</sup> **SOLUBLE**

# [BIOLOGICAL FUNGICIDE]

[<u>Alternate Brand Names</u>: Actinovate<sup>®</sup> AG, ActinoGro<sup>®</sup>, ActinoGrow, Quell, Knot Shot, ActinoStar, ActinoX, Nvelop]

> [For Agricultural Use] [For Organic Production][For use in Organic Production]

### ACTIVE INGREDIENT: (% w/w)

Streptomyces lydicus WYEC 108*	0.037%
OTHER INGREDIENTS:	<u>99.963%</u>
TOTAL	100.000%

\*End-use product contains not less than 10 million (1 X 10<sup>7</sup>) colony forming units per gram [cfu/g] *Streptomyces lydicus* WYEC 108

### KEEP OUT OF REACH OF CHILDREN

# CAUTION

**EPA Reg. No.:** 524-641 EPA Est. {*Enter appropriate EPA Establishment No.*} {Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

## Manufactured for: Monsanto Company 800 N. Lindbergh Blvd.

St. Louis MO 63167

For Medical, Transportation, Spill, or other Emergencies, Call Collect 24 Hours a Day 1-314-694-4000

[LOGO] [BioAg logo][Valent logo][OMRI symbol/logo][Brand name][Tag-line] Net Weight: {insert net weight}

Batch Code: {insert batch code} Not for sale or use after {expiry date} {Date stamped/placed on labeling will be twelve months after the date of manufacture}

[*print plate number*] [Actinovate<sup>®</sup> and ActinoGro<sup>®</sup> are Registered Trademarks of Monsanto Technology LLC]

# See booklet for additional precautionary statements, directions for use, application

### instructions and warranty.

For product use information call: 1-877-775-8787

	FIRST AID		
If in eyes:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If inhaled:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>		
lf on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
lf swallowed:	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>		
going for treat	<b>HOTLINE NUMBER</b> duct container or label with you when calling a poison control center or doctor, or tment. In case of an emergency involving this product, or for medical assistance, y or night: 1-314-694-4000.		

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with eyes, skin, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

{section in brackets immediately below to be added to affixed package labels where space permits as defined above}

[

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Mixer/loaders and applicators must wear a NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### **ENGINEERING CONTROLS**

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

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

### USER SAFETY RECOMMENDATIONS

### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

1

### **ENVIRONMENTAL HAZARDS**

For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Cover or collect [seeds][or] [powder] [product] spilled during [loading][use].

### STORAGE AND DISPOSAL

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

### **PESTICIDE STORAGE:**

Store in original container away from feed and food. Store in a cool, dry place, between 40°F and 77°F. Do not store in direct sunlight and keep away from heat sources. Keep from overheating or freezing. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### PESTICIDE DISPOSAL:

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

### CONTAINER HANDLING:

### {For non-rigid containers, bags, or pouches}

**Nonrefillable container.** Do not reuse or refill this container. Completely empty [container][liner][bag][pouch] into application equipment. Then offer for recycling if available, or dispose of empty [container][liner][bag][pouch] in a sanitary landfill or by incineration.

{For rigid, plastic containers 50 pounds or less}

**Nonrefillable container.** Do not reuse or refill this container. Triple rinse [container][drum][pail] (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 and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### SUBLABEL B: Greenhouse, Nursery and Turf Grass Use

# ACTINOVATE<sup>®</sup> SOLUBLE

# [BIOLOGICAL FUNGICIDE]

### [Alternate Brand Names: Actinovate® SP, ActinoGro® TURF, ActinoGrow T & O]

[For Organic Production][For use in Organic Production][For Organic Lawn Care]

### ACTIVE INGREDIENT: (% w/w)

Streptomyces lydicus WYEC 108*	0.037%
OTHER INGREDIENTS:	<u>99.963%</u>
TOTAL	. 100.000%
*End-use product contains not less than	10 million (1

\*End-use product contains not less than 10 million (1 X 10<sup>7</sup>) colony forming units per gram [cfu/g] *Streptomyces lydicus* WYEC 108

### KEEP OUT OF REACH OF CHILDREN

# CAUTION

**EPA Reg. No.:** 524-641 EPA Est. {*Enter appropriate EPA Establishment No.*}

### Manufactured for:

Monsanto Company 800 N. Lindbergh Blvd. St. Louis MO 63167

For Medical, Transportation, Spill, or other Emergencies, Call Collect 24 Hours a Day 1-314-694-4000

[LOGO] [BioAg logo][Valent logo][OMRI symbol/logo][Brand name][Tag-line] Net Weight: {insert net weight}

Batch Code: {insert batch code}

Not for sale or use after {expiry date} {Date stamped/placed on labeling will be twelve months after the date of manufacture}

### [print plate number]

[Actinovate<sup>®</sup> and ActinoGro<sup>®</sup> are Registered Trademarks of Monsanto Technology LLC]

# See [booklet][panel][back panel][complete label] for additional precautionary statements, first aid, complete directions for use and warranty.

For product use information call: 1-877-775-8787

	FIRST AID		
If in eyes:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If inhaled:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>		
lf on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
lf swallowed:	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>		
going for trea	<b>HOTLINE NUMBER</b> duct container or label with you when calling a poison control center or doctor, or itment. In case of an emergency involving this product, or for medical assistance, y or night: 1-314-694-4000.		

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with eyes, skin, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Mixer/loaders and applicators must wear a NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### ENGINEERING CONTROLS

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-5)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

### USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Cover or collect [seeds][or] [powder] [product] spilled during [loading][use].

### **DIRECTIONS FOR USE**

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

### **Agricultural Use Requirements**

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

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

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

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

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

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

The requirements in this box apply to uses of the product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep unprotected persons out of treated areas until sprays have dried.

Keep unprotected persons out of treatment area until seeds have dried or have been packaged.

### **PRODUCT INFORMATION:**

[Insert brand name][This product] is a biological [fungicide][/][bactericide] for the [suppression][or][control] of a broad range of soil-borne and foliar diseases across multiple crops. The active ingredient in [insert brand name][this product] is a microbe that [colonizes][grows][with][on][around][in proximity to] the [root system and foliage of the plant][plant][realizing metabolites] and [protects][/][guards] it from harmful [bacteria][and][fungi].

[[Insert brand name][This product] is also an effective biological nematicide providing [suppression][or][control] of pathogenic nematodes that attack the root system such as Root Knot nematodes (*Meliodogyne* spp.), Citrus nematodes (*Tylenchulus semipenitrans*), and Sting nematodes (*Belonolaimus* spp.). The microorganism in [insert brand name][this product] produces metabolites that are destructive to the nematode egg, thereby reducing their population in the soil and root zone of plants.]

[In addition, when applied to the soil, [insert brand name][this product] also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants and turf treated with [insert brand name][this product] as a soil drench will become hardier, more vigorous and will have a robust and protected root system.]

### INTEGRATED PEST MANAGEMENT (IPM):

Users may integrate [insert brand name][this product] into an overall disease and pest management strategy whenever [fungicide][bactericide] [or] [nematicide] use is necessary. Follow practices known to reduce [disease] [nematode] development. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

### **USE INFORMATION:**

Since [insert brand name][this product] contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset or in the early stages of disease

development. For nematode management, [insert brand name][this product] can be applied anytime during the growing season. [Insert brand name][This product] becomes active when the temperature is above 45°F and is less effective at cooler temperatures. [Insert brand name][This product] can be applied to sterilized or fumigated soil, but it must be applied after the sterilization is complete or the fumigant has dissipated.

For best results, apply to damp soil. Always follow good agricultural practices, including but not limited to, crop rotation, planting resistant varieties, sanitation, irrigation, and fertility management. If high pest pressure is anticipated, tank mix higher rates of [insert brand name][this product] with another pesticide labeled for use on the target pest and shorten spray interval (within the label limits).

### PREHARVEST INTERVAL:

[Insert brand name][This product] can be applied up to and including the day of harvest.

### **RESTRICTIONS AND LIMITATIONS:**

**Do not tank mix** [insert brand name][this product] with chlorinated water, quaternary ammonia, or hydrogen peroxide.

### **APPLICATION DIRECTIONS:**

Carefully read and follow all label directions, use rates, and restrictions. For best results for the labeled plant diseases, apply [insert brand name][this product] prior to or in the early stages of disease development. For the labeled nematodes, [insert brand name][this product] can be applied anytime during the growing season. Prepare only the amount of [spray] [or] [soil drench solution] [product] to treat the measured area. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date. Accurate spray equipment calibration is essential prior to use. Use the higher labeled application rates when weather conditions are expected to be conducive for disease development or if the area has a history of disease problems or nematode pressure.

**Foliar Applications for Plant Diseases:** Since [insert brand name][this product] contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset or in the early stages of disease development. [Insert brand name][This product] becomes active on the plant foliage when the temperature is above 45°F and is less effective at cooler temperatures.

For proper foliar application, determine the number of acres or square feet to be treated and the specified label use rate, and select the appropriate gallonage to give thorough and uniform coverage of all plant parts to be protected. Mix with 10 to 150 gallons of water per acre (for use in California, mix with 20 to 150 gallons of water per acre). Apply initial application prior to disease onset or in the early stages of disease development. [Insert brand name][This product] can be used in all types of ground spray equipment.

### Soil or Planting Medium Applications for Plant Diseases:

Since [insert brand name][this product] contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset or in the early stages of disease development. [Insert brand name][This product] becomes active in soil when the temperature is above 45°F and is less effective at cooler temperatures. [Insert brand name][This product] can be applied to sterilized or fumigated soil, but it must be applied after the sterilization is complete or the fumigant has dissipated.

For proper soil or planting medium application, determine the number of acres or square feet to be treated and the specified label use rate, and select the appropriate gallonage to give good saturation of the soil in order for the product to establish itself on the root system. For best results, apply product solution to damp soil or planting medium. Maintaining moist soil or planting medium after application will enable the product to perform as expected.

- Soil Surface (Drench) Applications: Use at planting, seeding, transplant or any stage of growth. Apply finished spray mixture at a rate to thoroughly soak the planting medium or soil through the root zone, as a drench or directed spray using hand-held, mechanical or motorized spray equipment.
- **Soil Treatment Through Irrigation:** [Insert brand name][This product] may be used in drip, overhead, or other irrigation systems listed in the "Chemigation" section at any stage of plant growth as a soil treatment. See "Chemigation" section for additional information.
- **[In-Furrow Applications (not for use in California):** Apply as an in-furrow spray in the required amount of water per acre for the crop at planting. Mount the spray nozzle so the spray is directed in the furrow just before the seeds are covered.]

**[Seed Treatment Applications [(not for use in California)]:** For treatment of all crop seeds for greenhouse, nursery, or field production. See crop application table for the use rate for each labeled crop to [suppress][or][control] seedling diseases such as *Fusarium, Phytophthora, Phythium, Rhizoctonia,* and *Sclerotinia*.

**Seed Spray or Slurry Coating:** Apply this product through mist-type commercial seed treatment equipment, slurry, or other comparable methods that provide thorough coverage of treated seed. Prior to planting, dissolve 2-18 oz of [insert brand name][this product] in 4 oz of water per acre of seed and spray directly on seed.]

**Soil Application for Nematodes:** [Insert brand name][This product] can be applied anytime during the crop life cycle to [control][or][suppress] the following nematodes: Root Knot nematodes (*Meloidogyne* spp.), Citrus nematodes (*Tylenchulus semipenitrans*), and Sting nematodes (*Belonolaimus* spp.). For best results, apply [insert brand name][this product] in three phases: 1) To the soil prior to planting, 2) To the soil at transplant or seeding, and 3) Through irrigation or soil application throughout the season.

- **Prior To Planting:** 10-14 days prior to planting, apply 1-6 oz of [insert brand name][this product] in 10-200 gallons of water per acre as a soil treatment to the rows or beds where the crop or turf will be seeded or planted. Product may be applied during tilling, row preparation or to undisturbed ground.
- Soil Treatment At Planting and Post-Plant: Apply to soil at transplant, as seeding, or after planting. Apply 1-6 oz of [insert brand name][this product] as-is, or in 10-200 gallons of water, per acre directly to the soil around the seed or root zone of the transplants. For maintenance applications, reapply every 30-60 days throughout the crop growing season. If nematode pressure is evident such as plant stunting, yellowing, or root deformities, reapply every 1-2 weeks until [suppression][or][control] is achieved.
- Soil Treatment Through Irrigation: [Insert brand name][This product] may be used in drip, overhead, or other irrigation systems listed in the [Greenhouse and Nursery] [Turf] [Golf Course] Chemigation section below. Apply 1-6 oz of [insert brand name][this product] in 10-200 gallons of water per acre directly to the root zone of the plant.

### For Commercial Seed Treatment -

This product does not contain dye/colorant. All seed treated commercially with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for humans or feed for animals.

### Treated Seed Labeling -

The user is responsible for ensuring that the seed container meets all of the requirements under the Federal Seed Act. The Federal Seed Act requires that [bags][the container] of seed treated with [insert brand name][this product] must be labeled with the following statements:

- This seed has been treated with [Insert brand name][Streptomyces lydicus WYEC 108].
- Do not use treated seed for food, feed or oil production.

**Cutting or Bare-Rooted Transplant Dip:** Dip cuttings or transplants in the dry powder of [insert brand name][this product] or in a solution of 6-18 oz of (California rate is 18 oz) [insert brand name][this product] and 50 gallons water. If desired, let soak for up to three hours prior to planting. Plant treated cuttings or transplants in potting mix or soil in the usual manner.

### Ornamental Bulbs, Corms, Tubers, Rhizomes or Seeds:

- **Dusting (not for use in California):** Prior to planting or shipping, evenly dust at a rate of 2-6 oz. of [insert brand name][this product] per 100 lb of bulbs, corms, tubers, rhizomes, or seeds.
- Soak: For US states except California, soak bulbs, corms, tubers, or rhizomes in solution
  of [insert brand name][this product] at 6-18 oz per 100 lb of bulbs, corms, tubers, or
  rhizomes. For use in California, soak bulbs, corms, tubers, or rhizomes in solution of
  [insert brand name][this product] at 18 oz per 100 lb. Dilute in enough water to thoroughly
  cover all surfaces of bulbs, corms, tubers, or rhizomes with solution for 1 hour prior to
  planting.

### Compatibility:

[Insert brand name][This product] may be used in combination (e.g., tank mixed or dry mixed) with many other products including: chemical fungicides, insecticides, inoculants, and fertilizers. If tank mixes are desired, observe the most restrictive directions, precautions and limitations on labeling of all products used. Consult manufacturer for compatibility questions and pre-check for compatibility as appropriate. Do not apply soil fumigants to areas treated with [insert brand name][this product]. If fumigants must be applied to the soil, the fumigant must be completely dissipated prior to applying [insert brand name][this product].

### Mixing Instructions:

[Insert brand name][This product] is completely soluble and does not require agitation to keep suspended in a solution. Use spray mixture within 4 hours.

# [GREENHOUSE AND NURSERY] [TURF] [GOLF COURSE] CHEMIGATION

### General Requirements:

- Apply [insert brand name][this product] only through 1) overhead boom and mist-type systems; 2) sprinklers such as impact or micro-sprinklers, central pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand-move systems; 3) pressurized drench (flood) or drip (trickle) systems; 4) micro irrigation such as spaghetti tube or individual tube irrigation; 5) hand-held calibrated irrigation equipment such as hand-held wand with injector; and 6) ebb and flow 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 non-uniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### **Requirements for Chemigation Systems Connected to Public Water Systems:**

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 8) Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 9) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 10) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 11) Use appropriate amount of water so as not to create excessive leaching or runoff.

### **Sprinkler Chemigation Requirements:**

- 1) The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 8) Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.

- 9) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 10) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 11) Use appropriate amount of water so as not to create excessive leaching or runoff.

### **Drip Chemigation Requirements:**

- 1) The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Use of a supply tank is recommended. Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 8) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 9) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 10) Use appropriate amount of water so as not to create excessive leaching or runoff.

### Flood Chemigation Requirements:

 Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops. 2) Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

a. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.

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

c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

e. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

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

- 3) Use of a supply tank is recommended. Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 4) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 5) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 6) Use appropriate amount of water so as not to create excessive leaching or runoff.

# GREENHOUSE AND NURSERY CROP, ORNAMENTAL LANDSCAPE OR INTERIORSCAPE SOIL APPLICATION

Diseases	Application Instructions
[Suppression][or][Control] of: Aphanomyces, Armillaria, Fusarium, Phytophthora, Pythium, Rhizoctonia, Sclerotinia[*],and Verticillium[*]	<ul> <li>Soil drench: Mix 4-6 oz (for California, use rate is 6 oz) of [insert brand name][this product] in 100 gallons of water to create solution. Apply solution as a drench to plants/ growing media at a rate of 1 gallon per cubic foot of growing media. This equates to enough solution to saturate soil without creating runoff.</li> <li>For smaller quantities: Use 1 teaspoon of [insert brand name][this product] per 2 gallons of water to create solution and apply as indicated immediately above.</li> <li>[Application to soil at blending (Not for use in California): Any time prior to planting, incorporate [insert brand name][this product] into potting soil as a spray during blending. Use 1.5-4 oz of [insert brand name][this product] in an appropriate amount of water per yard of soil.]</li> <li>[Hydroponics systems (not for use in California): Use 0.5–1.5 oz per 1,000 square feet of growing area.]</li> </ul>
[Insert brand name][This product] can be applied through low pressure watering nozzles such as fan nozzles, through overhead boom type sprayers or sprinklers, hydroponics systems, injectors, flood benches or other drench watering systems.	

### GREENHOUSE AND NURSERY CROP, ORNAMENTAL LANDSCAPE AND INTERIORSCAPE FOLIAR SPRAYS

### For indoor and outdoor applications including field stock and field grown cut flowers

Diseases	Application Instructions
For [preventing][or] [suppression][or][control] of:	Apply 6–12 oz of [insert brand name][this product] per acre. Mix [insert brand name][this product] in 50–100 gallons of water and apply to foliage and blossoms every 7 to 14 days depending on
Powdery Mildew, Downy Mildew[*], <i>Botrytis</i> , <i>Phymatotrichum</i> [*],	disease pressure. Crop size, spray equipment, and local practices will determine the volume of water needed. Spray to wet, but do not allow runoff.
Sclerotinia[*], [Xanthomonas], [Pseudomonas], and Alternaria[*]	For smaller quantities [(not for use in California)]: Use 1 teaspoon of [insert brand name][this product] per gallon of water as a dilution and apply as indicated immediately above.

[Insert brand name][This product] can be applied using hand-held backpack or ground spray equipment. Clean application equipment before use of this product and use prepared sprays within 4 hours of preparation. For best results, use a non-ionic spreader-sticker in conjunction with application. Consult manufacturer or sales representative for specific suggestions.

[\*Not for use in California.]

### APPLICATIONS TO ORNAMENTAL BULBS, CORMS, TUBERS, RHIZOMES, AND SEEDS

Region	Application Instructions
All US states except CA	<ul> <li>Soak: Soak bulbs, corms, tubers, or rhizomes in solution of [insert brand name][this product] at 6–18 oz per 100 lb. Dilute in enough water to completely cover bulbs, corms, tubers, or rhizomes. Thoroughly cover all surfaces with solution for 1 hour prior to planting.</li> <li>Soil drench: Apply to soil through irrigation or as an in-furrow seed spray in 10–200 gallons of water at a rate of 6–12 oz of [insert brand name][this product] per acre.</li> <li>Dusting: Prior to planting or shipping, evenly dust bulbs, corms, tubers, rhizomes, or seeds at a rate of 2–6 oz of [insert brand name][this product] per 100 lb.</li> </ul>
CA	<b>Soak:</b> Soak bulbs, corms, tubers, or rhizomes in solution of [insert brand name][this product] at 18 oz per 100 lb. Dilute in enough water to completely cover bulbs, corms, tubers, or rhizomes. Thoroughly cover all surfaces with solution for 1 hour prior to planting.

## SPECIFIC USE DIRECTIONS

### TURF GRASS APPLICATIONS

Turf grass	Diseases	Rate	Application Instructions
Use Sites and	[Suppressed][or][		
Varieties	Controlled]		Annhy et a 7 to 04 day interval through
Use Sites: Turf Grass	Anthracnose Colletotrichum	18-54 oz/acre	Apply at a 7- to 24- day interval through season or until soil temperatures fall to 45°F
including golf	graminicola	(0.5 –	or lower.
courses, sod	grammoona	1.25 oz	
farms,	Brown Patch	per 1,000	Under moderate to severe disease pressure,
commercial and residential	Rhizoctonia solani	sq ft)	increase rates and reduce spray intervals or use in a tank mix or rotational program with
lawns,	Dollar Spot		other registered fungicides.
cemeteries,	<i>Lanzia</i> spp.		
and sports	Moellerodiscus		Consider use of a soil surfactant to best
fields	spp. (formerly		move the solution to the root zone of the turf.
Varieties:	Sclerotinia homeocarpa)		Consult manufacturer for product
Bluegrass	nomeocarpa)		suggestions.
Bentgrass	Gray Leaf Spot		Drench Applications: Mix 18-54 oz of [insert
Bermuda grass	Pyricularia grisea		brand name][this product] with appropriate
(Common &	, ,		amount of water (100-150 gallons per acre
Hybrid)	Gray Snow Mold		of turf grass).
Dichondra	<i>Typhula</i> spp.		<i>.</i> ,
Fescue	Diale On any Malel		Initial Application or Problem Areas: Apply at
Orchard grass <i>Poa annua</i>	Pink Snow Mold Microdochium		a rate of 54 oz of [insert brand name][this
St. Augustine	nivale		product] per acre of turf grass.
Ryegrass	mvaic		Maintenance: Apply at a rate of 18 oz of
Zoysia	Powdery Mildew		[insert brand name][this product] per acre of
Mixtures	Erysiphe graminis		turf grass.
and other			
grasses or	Rust		Spray Applications: Mix 18-54 oz of [insert
ornamental turf	<i>Puccinia</i> spp.		brand name][this product] with appropriate
	Clime Melde		amount of water (50-150 gallons per acre of
	Slime Molds Mucilago		turf grass). Apply at <i>initial application</i> or
	and Physarum		maintenance rates as above in early
	ana nysaram		morning or evening, preferably on wet turf. Water in immediately after application with
	Take-All Patch		sprinklers for 3-6 minutes.
	Gaeumannomyces		
	graminis		For Smaller Quantities:
			Initial Application or Problem Areas: Use
			1.25 oz of [insert brand name][this product]
			in 5 gallons of water per 1,000 sq ft of turf
			grass.
			Maintenance: Use 0.5 oz of [insert brand
			name][this product] in at least 2 gallons of
			water per 1,000 sq ft of turf grass.

# APPLICATION CHART FOR SOIL DRENCH & FOLIAR SPRAY ON LANDSCAPE & INTERIORSCAPES

[Insert brand name][This product] has no Pre-Harvest Interval. Under moderate to severe disease pressure, increase rates and reduce spray intervals or use [insert brand name][this product] in a tank mix or rotational program with other registered fungicides.

Crops	Foliar Disease [Suppressed][ or][Controlled]	Soil Diseases [Suppressed ][or][Control led]	Rate	Application Instructions
Interiorscape plants and trees Outdoor landscape ornamental plants, fruit trees, and community vegetable gardens	Black spot of rose Diplocarpon rosae Botrytis Botrytis cinerea Downy Mildew Peronospora spp. Leaf spots Alternaria spp. Powdery mildew Erysiphe spp. Oidium spp. Podosphaera spp. Sphaerotheca spp. Phytophthora spp. Rust Puccinia spp. Fireblight Erwinia	Pythium spp. Phytophthora spp. Fusarium spp. Rhizoctonia spp. Thelaviopsis Verticillium Sclerotinia	3-12 oz/100 gal water (foliar use); 4-6oz/100 gal water (soil use)	Foliar Spray: Apply [insert brand name][this product] at rates ranging from 3-12 oz of product in 100 gallons of water per acre. For smaller quantities, use 1-2 tsp in 2 gallons water. Make applications on a 3- to 14-day schedule. Begin applications when conditions favor disease development prior to the onset of disease. When conditions favor severe disease development, shorten the spray interval or use a higher rate. Spray plants thoroughly wet to runoff. Soil Application: Apply [insert brand name][this product] at rates ranging from 4-6 oz of product in 100 gallons of water. Apply as a soil drench to base of plant and/or root ball until soil is saturated without runoff. Reapply every 4-12 weeks depending on disease pressure.

### STORAGE AND DISPOSAL

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

### PESTICIDE STORAGE:

Store in original container away from feed and food. Store in a cool, dry place, between 40°F and 77°F. Do not store in direct sunlight and keep away from heat sources. Keep from overheating or freezing. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### PESTICIDE DISPOSAL:

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

### CONTAINER HANDLING:

### {For non-rigid containers, bags, or pouches}

**Nonrefillable container.** Do not reuse or refill this container. Completely empty [container][liner][bag][pouch] into application equipment. Then offer for recycling if available, or dispose of empty [container][liner][bag][pouch] in a sanitary landfill or by incineration.

{For rigid, plastic containers 50 pounds or less}

**Nonrefillable container.** Do not reuse or refill this container. Triple rinse [container][drum][pail] (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 and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### LIMITS OF LIABILITY AND WARRANTY

Monsanto Company warrants that this product is reasonably fit for the purposes set forth in the DIRECTIONS FOR USE ("Directions") when used in accordance with those Directions under the conditions described therein. This warranty is also subject to the inherent risks, conditions and limitations stated herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE, INFRINGEMENT (ALONE OR IN COMBINATION WITH OTHER REGISTERED [SEED TREATMENT] PRODUCTS) OR MERCHANTABILITY IS MADE.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling of the product that results from conditions beyond the control of Monsanto Company, including, but not limited to, crop injury, ineffectiveness due to such factors as weather conditions at planting, environmental conditions during seed storage, presence of other materials, seed of low quality or low vigor or low germination, or other unintended consequences that may result because of the manner of use or application inconsistent with that set forth in the Directions.

Monsanto Company does not warrant any product reformulated or repackaged from this product except in accordance with Monsanto Company's stewardship requirements and with Monsanto Company's express written permission.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF MONSANTO COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF MONSANTO COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MONSANTO COMPANY OR ANY OTHER SELLER OF THE PRODUCT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMITS OF LIABILITY AND WARRANTY that may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

{Note: The following information will be affixed to the unit package. Sublabel B label portions up to this 'affixed to the unit package' section will be included as a removable booklet. Package sizes 454g and smaller (e.g. 20g, 56g) will contain the following sections on the 'affixed' label: Title page, signal wording, first-aid, hotline number, and a portion of the precautionary statements: the 'avoid contact...' paragraph, environmental hazards, and the storage and disposal section. Package sizes greater than 454g (e.g. 510g, 8.5kg) will contain all of the below sections: Title page, signal wording, first-aid, hotline number and the entire precautionary statement section (the avoid contact... paragraph, PPE, engineering controls, user safety recommendations, environmental hazards, and storage and disposal).}

## **ACTINOVATE**<sup>®</sup> **SOLUBLE**

## [BIOLOGICAL FUNGICIDE]

### [For greenhouse, nursery and turf]

### [Alternate Brand Names: Actinovate® SP, ActinoGro® TURF, ActinoGrow T & O]

[For Organic Production][For use in Organic Production][For Organic Lawn Care]

### ACTIVE INGREDIENT: (% w/w)

Streptomyces lydicus WYEC 108*	0.037%
OTHER INGREDIENTS:	99.963%
<b>TOTAL</b>	0.000%

\*End-use product contains not less than 10 million (1 X 10<sup>7</sup>) colony forming units per gram [cfu/g] *Streptomyces lydicus* WYEC 108

## KEEP OUT OF REACH OF CHILDREN

## CAUTION

### EPA Reg. No.: 524-641

EPA Est. {Enter appropriate EPA Establishment No.}

### Manufactured for:

Monsanto Company 800 N. Lindbergh Blvd. St. Louis MO 63167 For Medical, Transportation, Spill, or other Emergencies, Call Collect 24 Hours a Day 1-314-694-4000

[LOGO] [BioAg logo][Valent logo][OMRI symbol/logo][Brand name][Tag-line]

Net Weight: {insert net weight}

Batch code: {insert batch code} Not for sale or use after {expiry date} {Date stamped/placed on labeling will be twelve months after the date of manufacture}

### [print plate number]

[Actinovate® and ActinoGro® are Registered Trademarks of Monsanto Technology LLC]

# See booklet for additional precautionary statements, directions for use, application instructions and warranty.

For product use information call: 1-877-775-8787

	FIRST AID
If in eyes:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
If on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
lf swallowed:	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
going for trea	<b>HOTLINE NUMBER</b> duct container or label with you when calling a poison control center or doctor, or tment. In case of an emergency involving this product, or for medical assistance, y or night: 1-314-694-4000.

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Avoid contact with eyes, skin, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

{section in brackets immediately below to be added to affixed package labels where space permits as defined above}

### [PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Mixer/loaders and applicators must wear a NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### **ENGINEERING CONTROLS**

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-5)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

### USER SAFETY RECOMMENDATIONS

### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

]

### **ENVIRONMENTAL HAZARDS**

For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Cover or collect [seeds] [or] [powder] [product] spilled during [loading][use].

### STORAGE AND DISPOSAL

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

### PESTICIDE STORAGE:

Store in original container away from feed and food. Store in a cool, dry place, between 40°F and 77°F. Do not store in direct sunlight and keep away from heat sources. Keep from overheating or freezing. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### PESTICIDE DISPOSAL:

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

### CONTAINER HANDLING:

### {For non-rigid containers, bags, or pouches}

**Nonrefillable container.** Do not reuse or refill this container. Completely empty [container][liner][bag][pouch] into application equipment. Then offer for recycling if available, or dispose of empty [container][liner][bag][pouch] in a sanitary landfill or by incineration.

{For rigid, plastic containers 50 pounds or less}

**Nonrefillable container.** Do not reuse or refill this container. Triple rinse [container][drum][pail] (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 and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

## Sublabel C: Residential/Home & Garden Use

## **ACTINOVATE**<sup>®</sup> **SOLUBLE**

## [BIOLOGICAL FUNGICIDE]

[For Residential/Home and Garden Use] [Alternate Brand Names: Actinovate<sup>®</sup> Lawn & Garden, and Actinovate<sup>®</sup> For Lawn & Garden] [For Organic Gardening][For Organic Lawn Care]

### ACTIVE INGREDIENT: (% w/w)

Streptomyces lydicus WYEC 108*	0.037%
OTHER INGREDIENTS:	<u>99.963%</u>
TOTAL	100.000%
*End-use product contains not less than 1	0 million (1 X 10 <sup>7</sup> ) colony forming units per gram [cfu/g]
Streptomyces lydicus WYEC 108	

## KEEP OUT OF REACH OF CHILDREN

## CAUTION

**EPA Reg. No.:** 524-641 EPA Est. {*Enter appropriate EPA Establishment No.*}

### Manufactured for:

Monsanto Company 800 N. Lindbergh Blvd. St. Louis MO 63167

For Medical, Transportation, Spill, or other Emergencies, Call Collect 24 Hours a Day 1-314-694-4000

[LOGO] [BioAg logo][Valent logo][OMRI symbol/logo][Brand name][Tag-line] Net Weight: {insert net weight} Batch code: {insert batch code}

Not for sale or use after {expiry date} {Date stamped/placed on labeling will be twelve months after the date of manufacture}

[print plate number]

[Actinovate® is a Registered Trademark of Monsanto Technology LLC]

# See [booklet][panel][back panel][complete label] for additional precautionary statements, first aid, complete directions for use and warranty.

For product use information call: 1-877-775-8787

	FIRST AID	
If in eyes:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>	
lf inhaled:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> </ul>	
	Call a poison control center or doctor for further treatment advice.	
If on skin	Take off contaminated clothing.	
or clothing:	<ul> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> </ul>	
	Call a poison control center or doctor for treatment advice.	
lf	• Call a poison control center or doctor immediately for treatment advice.	
swallowed:	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.	
HOTLINE NUMBER		
Have the pro	duct container or label with you when calling a poison control center or doctor, or	
• •	tment. In case of an emergency involving this product, or for medical assistance, y or night: 1-314-694-4000.	

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with eyes, skin, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

### **ENVIRONMENTAL HAZARDS**

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.

### **PRODUCT INFORMATION**

[Insert brand name][This product] is a [fungicide][/][bactericide] for the [suppression][or][control] of root rot, damping-off, club root, and certain turf and foliar diseases. The active ingredient in [insert brand name][this product] is microbe that. when applied, а [colonizes][grows][with][on][around][in proximity to] the system (when root soil [applied][drenched]) and foliage of the plant (when sprayed on) [releasing metabolites] and [protects][/][guards] it from harmful [bacteria] [and] [fungi]. [Insert brand name][This product] uses several novel modes of [antifungal][/][antibacterial] action to protect plants and lawns. [Insert brand name][This product] may be used on all [labeled] vegetables, fruits, and nuts (including tomatoes, peppers, melons, carrots, broccoli, lettuce, onions, apples, pears, and walnuts), in addition to annual and perennial bedding plants and flowers, roses, potted flowers, foliage plants, trees, shrubs and lawns located in non-commercial greenhouses and home landscapes. [In addition, when applied to the soil, [insert brand name][this product] also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants and turf treated with [insert brand name][this product] as a soil drench will become hardier, [and] more vigorous, [and will have a robust and [supported][protected] root system.]

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

## DISEASES [SUPPRESSED] [OR] [CONTROLLED]

Soil Diseases [When applied as a drench] [When watered in]: Root Rot and Damping-Off in ornamentals & vegetables (*Pythium* spp., *Phytophthora* spp., *Rhizoctonia* spp., *Fusarium* spp.) Turf Brown Patch (*Rhizoctonia* spp.) Turf Dollar Spot\* (*Sclerotinia* spp.) Turf Take-All Patch\* (*Gaeumannomyces graminis*) Club Root (*Plasmodiophora brassicae*) Gray Snow Mold\* (*Typhula* spp.) Pink Snow Mold\* (*Microdochium nivale*) [\*Not for use in California.]

Foliar Diseases [(When applied as a spray)][(When sprayed)]:

Powdery and Downy Mildew Gray Mold (*Botrytis* spp.) Black Spot of Rose (*Diplocarpon rosae*) Leaf Spots\* and Rusts\* Fire Blight (*Erwinia* spp.) Walnut Blight\* (*Xanthomonas arboricola* pv. *juglandis*) Bacterial Spot\* (*Xanthomonas perforans*) Citrus Canker\* (*Xanthomonas axonopodis* pv. *citri*) Bacterial Blast\* (*Pseudomonas syringae*) Peach Leaf Curl\* (*Taphrina deformans*) [\*Not for use in California.]

### [PREHARVEST INTERVAL]

[[Insert brand name][This product] can be applied up to and including the day of harvest.]

### [RESTRICTIONS AND LIMITATIONS]

**[Do not mix** [insert brand name][this product] with chlorinated water, quaternary ammonia, or hydrogen peroxide.]

### **APPLICATION DIRECTIONS (HOW TO APPLY)**

Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### 1 teaspoon = 0.16 oz or 5 gram

### SOIL APPLICATION

Mix 1-2 teaspoons of [insert brand name][this product] in 2 gallons of water to create a solution. For more severe disease pressure or likelihood of disease pressure, use higher label rate. Apply solution to pot, base of plant, or roots of plant by watering until soil is completely saturated without creating runoff. One cup of solution usually treats about one 6" pot or its equivalent. For best results, apply to damp soil and/or apply in conjunction with a wetting agent. Apply [insert brand name][this product] at any stage of the plant life cycle. For best results, apply as early as possible such as at seeding, transplant or potting stage. Reapply every 2-12 weeks as needed. Apply product with watering can, hose-end sprayer or similar devices.

### FOLIAR SPRAY

Mix 1-2 teaspoons of [insert brand name][this product] in 2 gallons of water to create solution. For more severe disease pressure or likelihood of disease pressure, use higher label rate. Spray leaves, stems, and new shoots to runoff, providing complete coverage of entire plant. For best results, apply product prior to disease development or at the first sign of infection. Repeat at 7-day intervals as needed to protect new foliage. Under conditions of heavy rainfall, it may be necessary to reapply the product after the rain has stopped. Do not water foliage within 4 hours of application. Use a pump bottle, handheld pump, backpack or similar type of spray equipment.

For best results, use a [compatible] spreader-sticker (a product designed to break the surface tension of water and evenly spread it over the surface of the foliage) in conjunction with application. Consult your garden center or dealer for specific product suggestions. [(Examples of spreader-stickers include Weather Shield<sup>®</sup>, Agri-2<sup>®</sup>, Plant Camel<sup>®</sup>, and yucca extract.)]

### HYDROPONICS AND INDOOR GARDEN USE

### For Root Rot Diseases:

Dissolve [insert brand name][this product] directly into nutrient water tank. Use ½ -1 teaspoon of [insert brand name][this product] per gallon of water (6-12 oz of [insert brand name][this product] per 100 gallons of water). Reapply each time nutrient water is changed.

[Insert brand name][This product] may also be applied to each plant's root system individually. To do this, mix  $\frac{1}{2}$  -1 teaspoon of [insert brand name][this product] in a gallon of water to create solution. Apply solution as a watering directly to the plant's base so as to water in to the roots. Reapply every 2-6 weeks as needed.

### For Foliar Diseases:

Use as directed under above section titled "Foliar Spray".

### LAWN TREATMENT

Use direct watering, a Pump-Up Sprayer or Hose-End Sprayer to apply solution until soil is saturated. Reapply at maintenance rate every 4-8 weeks as needed. For best results, use a [compatible] wetting agent [such as yucca extract, Coco-Wet<sup>®</sup>, Plant Camel<sup>®</sup> or Mega Wet<sup>®</sup>] in conjunction with [insert brand name][this product] in order to help move product to the root system of the lawn. Consult your garden center or dealer for specific product suggestions.

### **Direct Lawn Watering:**

Mix 10 teaspoons of [insert brand name][this product] in 5 gallons of water and apply to 1,000 sq. ft. of lawn. Thoroughly soak turf so as to move the solution to the root system. Avoid excess runoff or leaching.

### Pump-Up Sprayer Lawn Application:

*Initial Application*: Mix 2 teaspoons of [insert brand name][this product] in a gallon of water to create spray solution. Apply spray solution at 1 gallon per 200 sq ft of lawn. Thoroughly soak turf so as to move the solution to the root system. Avoid excess runoff or leaching.

<u>Maintenance Application</u>: Use 0.5 teaspoons of [insert brand name][this product] in a gallon of water to create spray solution. Apply spray solution at 1 gallon per 200 sq ft of lawn. Thoroughly soak turf so as to move the solution to the root system. Avoid excess runoff or leaching.

### Hose-End Sprayer Lawn Application:

1,000 sq ft

Make a spray solution from [insert brand name][this product] by following the instructions below.

20 oz

Initial Application			
Area Covered	[Insert brand name]	Water	Hose-end Setting
200 sq ft	2 tsp	4 oz	4 oz
1,000 sq ft	9 tsp	20 oz	4 oz
Maintenance Applicatio	<u>n</u>		
Area Covered	[Insert brand name]	Water	Hose-end Setting
200 sq ft	0.5 tsp	4 oz	4 oz

3 tsp

4 oz

### STORAGE AND DISPOSAL

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

### **PESTICIDE STORAGE:**

Store in a dry, cool area inaccessible to children and out of direct sunlight and away from heat sources. Keep from overheating and freezing. Store between 40°F and 77°F. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### 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.

### LIMITS OF LIABILITY AND WARRANTY

To the extent consistent with applicable law, buyer assumes all responsibility for safety and use not in accordance with directions. [If for any reason you are not satisfied after using this product, simply send us original proof of purchase and we will replace the product or refund the purchase price.] {Note: The following information will be affixed to the unit package. Sublabel C label portions up to this 'affixed to the unit package' section will be included as a removable booklet. All package sizes (e.g. 20g, 56g, 510g) will contain all of the sections below in the 'affixed' label: Title page, signal wording, first-aid, hotline number, and the precautionary statement section (Avoid contact... paragraph, environmental hazards, and storage and disposal).}

## ACTINOVATE<sup>®</sup> SOLUBLE

## [BIOLOGICAL FUNGICIDE]

[For Residential/Home and Garden Use] [Alternate Brand Names: Actinovate<sup>®</sup> Lawn & Garden and Actinovate<sup>®</sup> For Lawn & Garden]

[For Organic Gardening][For Organic Lawn Care]

### ACTIVE INGREDIENT: (% w/w)

Streptomyces lydicus WYEC 108

## KEEP OUT OF REACH OF CHILDREN

## CAUTION

**EPA Reg. No.:** 524-641 EPA Est. {*Enter appropriate EPA Establishment No.*}

### Manufactured for:

Monsanto Company 800 N. Lindbergh Blvd. St. Louis MO 63167

For Medical, Transportation, Spill, or other Emergencies, Call Collect 24 Hours a Day 1-314-694-4000

{Note to Reviewer: [bracketed text] is optional or alternate wording; {parenthetical text} denotes information for the reviewer.}

[LOGO] [BioAg logo][Valent logo][OMRI symbol/logo][Brand name][Tag-line]

Net Weight: {insert net weight}

Batch code: {insert batch code}

Not for sale or use after {expiry date} {Date stamped/placed on labeling will be twelve months after the date of manufacture}

[*print late number*] [Actinovate<sup>®</sup> is a Registered Trademark of Monsanto Technology LLC]

# See booklet for additional precautionary statements, directions for use, application instructions and warranty.

For product use information call: 1-877-775-8787

	FIRST AID
If in eyes:	<ul> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
lf on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
lf swallowed:	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
going for trea	<b>HOTLINE NUMBER</b> duct container or label with you when calling a poison control center or doctor, or tment. In case of an emergency involving this product, or for medical assistance, y or night: 1-314-694-4000.

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with eyes, skin, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### **ENVIRONMENTAL HAZARDS**

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.

### STORAGE AND DISPOSAL

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

### PESTICIDE STORAGE:

Store in a dry, cool area inaccessible to children and out of direct sunlight and away from heat sources. Keep from overheating and freezing. Store between 40°F and 77°F. Product should be used promptly after opening the package. Apply any unused product within 4 months of opening and before the expiry date.

### 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.

## OPTIONAL LABEL CLAIMS

{Sublabel A Claims}

- Fungus [Suppression][or][Control]
- Biological Fungicide
- [Suppresses][or][Controls] soil-borne plant diseases such as *Pythium, Rhizoctonia, Phytophthora, Verticillium* and *Fusarium*
- 100% Soluble. Will not clog machinery.
- [Suppresses][or][Controls] foliar diseases such as powdery mildew, gray mold, and black spot.
- [Suppresses][or][Controls] damping-off and root rot
- Easy To Use
- Easy tear opening
- Re-Sealable [pouch] [bag]
- [Suppresses][or][Controls] soil-borne plant diseases such as root rots and damping-off.
- For use on major agricultural crops, including alfalfa (hay, forage), bean (all types), cereals, corn (all types), oilseeds (rapeseed, sunflower, safflower), peanut, peas (dry, fresh, sweet), potato, soybean, and sugar beet
- [Suppresses][or][Controls] soil-borne plant diseases, damping-off, and root diseases caused by *Pythium, Rhizoctonia, Phytophthora, Sclerotinia, Verticillium,* and *Fusarium* when applied according to label directions
- [Suppresses][or][Controls] foliar diseases such as powdery mildew, downy mildew [species as labeled], *Botrytis, Sclerotinia, Monilinia, Alternaria*, and *Erwinia,* when applied according to label directions
- 100% water soluble formula
- For [Suppression][or][Control] of walnut blight (*Xanthomonas arboricola* pv. *juglandis*), bacterial spot (*Xanthomonas perforans*), and citrus canker (*Xanthamonas axonopodis* pv. *citri*).
- Biological Nematicide
- NOP logo
- OMRI logo

{Sublabel B claims}

- Biological Fungicide
- [Suppresses][or][Controls] soil-borne plant diseases such as *Pythium, Rhizoctonia, Phytophthora, Verticillium* and *Fusarium*
- 100% Soluble. Will not clog machinery.

- For Greenhouse, Nursery, Interiorscapes, and Turf
- For turf diseases such as brown patch, dollar spot and take-all patch
- Use on Roses, Vegetables, Fruits, Flowering Plants, Trees and Shrubs
- [Suppresses][or][Controls] foliar diseases such as powdery mildew, rust, gray mold, and black spot of rose
- [Suppresses][or][Controls] root rot
- Aids in Turf Recovery
- Easy To Use
- Easy tear opening
- Re-Sealable [pouch] [bag]
- For use on turf grass and nursery plants, interiorscapes, on or around sites such as golf courses, commercial lawns, athletic fields, parks, cemeteries, sod farms and similar locations
- [Suppresses][or][Controls] soil-borne plant diseases such as root rots, damping-off, brown patch, and dollar spot
- 100% water soluble formula
- Biological Nematicide
- NOP logo
- OMRI logo

{Sublabel C claims}

- Biological Fungicide
- [Suppresses][or][Controls] soil-borne plant diseases such as *Pythium, Rhizoctonia, Phytophthora,* and *Fusarium*
- 100% Soluble
- Use on Roses, Vegetables, Fruits, Flowering Plants, Trees and Shrubs
- Fungicide that attacks harmful garden diseases
- [Suppresses][or][Controls] foliar diseases such as powdery mildew, rust, gray mold, and black spot of rose
- [Suppresses][or][Controls] damping-off and root rot
- Aids in Turf Recovery
- For Home, Garden and Lawn Care Use
- Easy To Use
- Easy tear opening
- Re-Sealable [pouch] [bag]
- For use with [hose-end] [sprayer] [pump up sprayer] [water can]
- Fight lawn & garden diseases such as dollar spot, damping-off and root rot

- [Suppresses][or][Controls] soil-borne plant diseases such as root rots, club root (*Plasmodiophora brassicae*) damping-off, brown patch, and dollar spot
- [Suppresses][or][Controls] soil-borne plant diseases, damping-off, and root diseases caused by *Pythium, Rhizoctonia, Phytophthora, and Fusarium* when applied according to label directions
- [Suppresses][or][Controls] foliar diseases such as powdery mildew, downy mildew [species as labeled], *Botrytis, Alternaria*, and *Erwinia,* when applied according to label directions
- 100% water soluble formula
- NOP logo

