73314-1 11/18/2013 1/38

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

NOV 18 2013

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Mr. Matthew Feinberg
Agent for Novozymes BioAg, Inc.
Exponent
1150 Connecticut Avenue, NW, Suite 1100
Washington, D.C. 20036

Re: Actinovate Soluble [Biological Fungicide]
EPA Reg. No.73314-1
Submission dated July 18, 2013

Dear Mr. Feinberg:

The Agency has reviewed your request to amend the subject product registration. The amendment changes the company name on the Confidential Statement of Formula (CSF) from Natural Industries, Inc. to Novozymes, Inc., and it includes the following changes to the product's label:

- Reformatted both Sublabel A and Sublabel B to a booklet format;
- Added the optional text "Biological Fungicide" to the primary brand name;
- Added all of the First Aid statements to Sublabels A and B;
- Added "Do not burn, unless allowed by state and local ordinances" to the Storage and Disposal section; and
- Revised the warranty statement to reflect Novozymes' specific language.

As we discussed over the phone on November 1, 2013, we are not requiring a change in the restricted entry interval (REI) of one (1) hour as it appears on the label under Agricultural Use Requirements (p. 5). The Agency is developing guidance and criteria for when it will allow a REI of less than 4 hours for reduced-risk pesticides; hence, we might require a change in the number of hours of the REI for foliar uses on the label of this product at some time in the near future.

The label amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of a final printed label.

If these conditions are not complied with, then the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions. A stamped copy of the label and A-79 are enclosed for your records. If you have questions, please contact Michael Glikes by phone at (703) 305-6231 or by email at glikes.michael@epa.gov.

Sincerely,

Kimberly Nesci, Chief
Microbial Pesticides Branch
Biopesticides & Pollution Prevention Division

ACTINOVATE® SOLUBLE [BIOLOGICAL FUNGICIDE]

Sublabel A: Greenhouse, Nursery, Turf Grass and Agricultural Use
Sublabel B: Residential/Home & Garden Use
Optional Label Claims

EPA Reg. No.: 73314-1
EPA Establishment No.: 73314-TX-001

Novozymes BioAg Inc.
13100 W. Lisbon Road, Suite 600
Brookfield, WI 53005
1-800-245-4104

[ACTINOVATE SP IS FOR ORGANIC USE UNDER THE GUIDELINES OF THE USDA'S NATIONAL ORGANICS PROGRAM (NOP)][LOGO]

[NOVOZYMES RETHINK TOMORROW] [LOGO]

ACCEPTED

Under the Federal Insecticide, Fungicide and Rodenticide Act, for the pesticide registered under EPA Reg. No.

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Under the Federal Insecticide, Fungicide and Rodenticide Act, for the pesticide registered under EPA Reg. No. 73314-1

SUBLABEL A: Greenhouse, Nursery, Turf Grass and Agricultural Use

ACTINOVATE® SOLUBLE [BIOLOGICAL FUNGICIDE]

(**Alternate Brand Names**: Actinovate® SP, Actinovate® AG, ActinoGro®, ActinoGro® TURF, Actinovate® Lawn & Garden, and Actinovate® For Lawn & Garden, ActinoGrow, ActinoGrow T & O, Quell, Nemator, Knot Shot, ActinoStar, NemaLogic, ActinoX)

ACTIVE INGREDIENT:	
*Streptomyces lydicus WYEC 108**	00.0371%
OTHER INGREDIENTS:	99.9629%
TOTAL	100.0000%

*End-use product contains not less than 1 X 10^7 colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at http://www.aapfco.org/metals.htm

KEEP OUT OF REACH OF CHILDREN

CAUTION

See attached booklet for additional precautionary statements, first aid, complete directions for use and warranty.

FIRST AID	
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have a 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.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific Time (PT), seven days a week. During other times, call the poison control center at 1-800-222-1222.

US Patent Number: 5,403,584

EPA Reg. No.: 73314-1

EPA Establishment No.: 73314-TX-001

Novozymes BioAg Inc.

13100 W. Lisbon Road, Suite 600

Brookfield, WI 53005

1-800-245-4104

Made in USA

Net Contents:

[NOVOZYMES RETHINK TOMORROW][LOGO]

[Batch code and expiry date]

(Note to Reviewer: [bracketed text] is optional or alternate wording, (parenthetical text) is informational.)

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals. CAUTION. Avoid contact with skin, eyes, 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.

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 dust/mist-filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. 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.

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

User Safety Recommendations

Users should:

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

ENVIRONMENTAL HAZARDS

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

DIRECTIONS FOR USE

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

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. 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 one (1) hour or until solution has dried.

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

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, wear:

- 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.

PRODUCT INFORMATION:

Actinovate® Soluble is a biological fungicide for the suppression/control of plant diseases such as root rot and damping-off fungi; turf diseases such as brown patch, summer patch, dollar spot; and the suppression/control of foliar fungal pathogens. When used as a soil drench or as a seed treatment, soil borne fungi suppressed/controlled include *Fusarium, Rhizoctonia, Pythium, Phytophthora, Phytomatotricum, Omnivorum* (Cotton Root Rot), *Aphanomyces, Monosporascus, Armillaria, Sclerotinia, Gaeumannomyces, Postia, Verticillium, Geotrichum, and Gaeumannomyces graminis.* The active ingredient in Actinovate® Soluble colonizes the root system and protects it from harmful fungi. When used as a [foliar] [preventative] spray, Actinovate® Soluble effectively suppresses/controls foliar diseases such as Powdery and Downy Mildew, *Botrytis, Monilinia, Anthracnose,* Greasy Spot, *Sclerotinia, Alternaria,* and *Erwinia*.

Actinovate® Soluble is also an effective biological nematicide for use against root nematodes such as Root Knot (Meliodogyne), Citrus (Tylenchulus semipenitrans), and Sting. The Actinovate Soluble microorganism produces metabolites that are destructive to the nematode egg, thereby reducing their population in the soil and root zone of plants.

Actinovate® Soluble is also effective against Walnut Blight (*Xanthomonas arboricola pv. juglandis*), Bacterial Spot (*Xanthomonas perforans*), Citrus Canker (*Xanthamonas axonopodis* pv *citri*), Southern Blight (*Sclerotium rolfsii*), Angular Leaf Spot (*Xanthomonas fragariae*), Charcoal Rot (*Macrophomia phaseolina*), Club Root (*Plasmodiophora brassicae*), Bacterial Blast (*Pseudomonas syringae*), Rice Blast (*Magnaporthe grisea*), Sheath Spot (*Rhizoctonia oryzae*), Rice Stem Rot (*Sclerotium oryzae*), and Peach Leaf Curl (*Taphrina deformans*).

When applied to the soil, Actinovate® Soluble also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants treated with Actinovate® Soluble as a soil drench will become hardier, more vigorous and will have a robust and protected root system.

INTEGRATED PEST MANAGEMENT (IPM):

Integrate Actinovate® Soluble into an overall disease and pest management strategy whenever fungicide [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 RATE DETERMINATION:

Carefully read and follow all label directions, use rates, and restrictions. For best results, apply Actinovate® Soluble prior to or in the early stages of disease development. For proper foliar application, determine the number of [acres] [square feet] to be treated, the specified label use rate, and select the appropriate gallonage to give thorough and uniform coverage of all plant parts to be protected. For proper soil application, determine the number of [acres] [square feet] to be treated, 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. Prepare only the amount of spray or soil drench solution to treat the measured area. Accurate spray equipment calibration is essential prior to use.

PREHARVEST INTERVAL:

Actinovate® Soluble can be applied up to and including the day of harvest.

APPLICATION DIRECTIONS:

Compatibility:

Actinovate® Soluble is completely soluble and does not require agitation to keep suspended in a solution. Actinovate® Soluble is compatible with most chemical fungicides, insecticides and fertilizers. If tank mixes are desired, observe the most restrictive directions, precautions and limitations on labeling of all products used. Actinovate® Soluble can be tank mixed or dry mixed with all chemical fungicides, insecticides, and fertilizers unless otherwise restricted. Consult manufacturer for compatibility questions. Do not apply soil fumigants to areas treated with Actinovate® Soluble. If fumigants must be applied to the soil, all fumigant active ingredient must be completely dissipated prior to applying Actinovate® Soluble.

Application Timing:

Apply Actinovate® Soluble throughout the growing season from early spring to late fall (when soil temperature is above 45°F) on ornamentals, greenhouse, nursery crops, and production agriculture crops listed in the "Crops on Which Actinovate® Soluble May be Used" section. Note: Since Actinovate® Soluble contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset. Actinovate® Soluble becomes active in soil or on the plant foliage when the temperatures are above 45° F and is not effective when temperatures remain cold. Actinovate® Soluble can be applied to sterilized or fumigated soil, but it must be applied after sterilization or fumigation active ingredient has dissipated.

Application Uses:

Actinovate® Soluble is a biological fungicide and nematicide for use as a soil application (drench and in-furrow), seed treatment, cutting or bare rooted transplant dip, ornamental bulb crop soak or dusting treatment, and foliar application for ornamentals, all greenhouse and nursery crops, landscape plants including tree seedlings for transplanting to the field, and production agriculture crops listed in the "Crops on Which Actinovate® Soluble May be Used" section.

GREENHOUSE, NURSERY, ORNAMENTAL LANDSCAPE OR INTERIORSCAPE SOIL APPLICATION

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

For preventative suppression/control of *Pythium, Rhizoctonia, Phytophthora, Fusarium, Verticillium* and *Sclerotinia* on greenhouse, nursery, landscape and interiorscape crops.

Soil Drench: Mix 4-6 oz. of Actinovate® Soluble 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 run-off) or until soil in pot (or root ball of plant) is completely saturated just prior to run off. *For smaller quantities: Use 1 teaspoon of Actinovate® Soluble per 2 gallons of water to create solution and apply as above.*

Application to Soil At Blending: Anytime prior to planting incorporate Actinovate Soluble into potting soil as a spray during blending. Use 1.5-4 oz of Actinovate Soluble in an appropriate amount of water per yard of soil.

Actinovate® Soluble 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. Actinovate® Soluble is compatible with most chemical fungicides, insecticides, and fertilizers as well as other biological products. See the Compatibility section for additional details.

Cutting or Bare Rooted Transplant Dip:

Dip cuttings or transplants in Actinovate® Soluble dry powder or in a solution of 6-18-oz Actinovate® Soluble and 50 gallons water. Let soak for up to three hours prior to planting. Plant treated cuttings or transplants in potting mix or soil in the usual manner.

GREENHOUSE, NURSERY, ORNAMENTAL LANDSCAPE AND INTERIORSCAPE FOLIAR SPRAYS

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

For preventative suppression/control of Powdery Mildew, Downy Mildew, *Botrytis, Phytomatotricum, Sclerotinia*, Xanthamonas, Pseudomonas, and *Alternaria* on greenhouse, nursery, landscape, and interiorscape plants, apply 6-12 oz Actinovate® Soluble per acre. Dissolve Actinovate® Soluble in 50-100 gallons of water and apply to foliage and blossoms every 7 to 14 days depending on disease pressure. Crop size, spray equipment, and local practices will determine the volume of water needed. Spray to wet, but do not allow run-off.

For smaller quantities: Use 1 teaspoon of Actinovate® Soluble per gallon of water as a dilution and apply as above.

Actinovate® Soluble 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.

Ornamental Bulb Crops (Including corms, rhizomes, tubers, and seeds):

Soak: Soak bulbs in solution of Actinovate® Soluble at 6-18 oz. per 100 lbs. of bulbs. Dilute in enough water to completely cover bulbs. Thoroughly cover all surfaces of bulbs with solution for 1 hour prior to planting.

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 Actinovate® Soluble per acre.

Dusting: Prior to planting or shipping, evenly dust bulbs at a rate of 2-6 oz. of Actinovate® Soluble per 100 lbs. of bulbs.

GREENHOUSE VEGETABLES AND HERBS

For suppression of *Pythium, Phytophthora, Rhizoctonia, Verticillium, Fusarium, Sclerotinia, Botrytis, Alternaria, Anthracnose, Xanthamonas, Pseudomonas*, Powdery Mildew and Downy Mildew on all greenhouse vegetable and herb crops listed in the section "Crops on which Actinovate® Soluble May be Used".

Soil Drench: Use 4-6 oz of Actinovate® Soluble 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 run-off.

Application to Soil At Blending: Anytime prior to planting incorporate Actinovate Soluble into potting soil as a spray during blending. Use 1.5-4 oz of Actinovate Soluble in an appropriate amount of water per yard of soil

Hydroponics systems: Use 0.5-1.5 oz. per 1,000 square feet of growing area.

Foliar Spray: Apply 6-12 oz Actinovate® Soluble per acre. Dissolve Actinovate® Soluble in 50-100 gallons of water and apply to foliage and blossoms every 7 to 14 days depending on disease pressure. Crop size, spray equipment, and local practices will determine the volume of water needed. Spray to wet, but do not allow run-off.

For smaller areas or quantities:

Use the dilution rate of 1 teaspoon of Actinovate® Soluble per gallon of water as a dilution and apply to plants as above.

For amount of product to use in a given area, use 1-2 teaspoons (4-8 grams) dissolved in an appropriate amount of water per 1,000 sq ft of growing area.

Actinovate® Soluble 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.

AGRICULTURE PRODUCTION

For soil treatment and seed treatment for the suppression/control of *Fusarium, Rhizoctonia, Pythium, Phytophthora, Phymatotrichum omnivorum (cotton root rot), Aphanomyces, Monosporascus, Armillaria, Sclerotinia, Gaeumannomyces, Postia, Verticillium and Geotrichum.*

For foliar treatment of Powdery and Downy Mildew, *Botrytis, Monilinia, Anthracnose,* Greasy Spot, *Sclerotinia, Alternaria, Xanthamonas, Pseudomonas, Taphrina deformans, Magnaporthe grisea,* and *Erwinia.*

Soil Treatment At Planting:

Use at planting, in-furrow, seeding, or transplant. Apply 1-12 oz. of Actinovate® Soluble in 10-200 gallons of water per acre. Refer to the "Crops On Which Actinovate® Soluble May Be Used" section for crop-specific application rates.

Soil Treatment Through Irrigation:

Actinovate® Soluble 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 1-12 oz. of Actinovate® Soluble in 10-200 gallons of water per acre. See "Chemigation" section for additional information and "Crops On Which Actinovate® Soluble May Be Applied" section for crop-specific application rates.

Seed Treatment:

For treatment of all food, fiber, forestry, and ornamental seeds for greenhouse, nursery, or 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 2-18 oz. of Actinovate® Soluble in 4oz of water per acre of seed and spray directly on seed. Hopper Box Dry Coating: Apply directly to seed as a dry coating at a rate of 2-18 oz per acre of seed. Apply as to insure even coating of product on seeds.

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.

Seed treatment on agricultural establishment in hopper-box, planted box, or other seed-treatment application at or immediately before planting is within the scope of WPS, while commercial treatment of seeds in not within the scope.

Foliar Treatment:

Use 1-12 oz of Actinovate® Soluble in 10-150 gallons of water per acre. Apply initial application prior to onset of disease season. Reapply every 7-14 days depending on disease pressure and environmental conditions. For best results, use a spreader-sticker (adjuvant) in conjunction with product application. Actinovate® Soluble can be used in all types of spray equipment including 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.

If aerial application is desired, mix appropriate amount of Actinovate® Soluble and water in tank. Apply as a normal spray.

(Note to Reviewer: [bracketed text] is optional or alternate wording, (parenthetical text) is informational.)

Dusting and coating of bulbs, corms, tubers, rhizomes and seeds:

Prior to planting or shipping, evenly dust bulbs at a rate of 2-6 oz. of Actinovate® Soluble per 100-lbs. of bulbs, corms, tubers, rhizomes or seeds.

Cutting or Bare Rooted Transplant Dip:

Dip cuttings or transplants in Actinovate® Soluble dry powder or in a solution of 6-18-oz Actinovate® Soluble and 50 gallons water. Let soak for up to three hours prior to planting. Plant treated cuttings or transplants in potting mix or soil in the usual manner.

Crops On Which Actinovate® Soluble May Be Used:

Crops	Soil Drench Rate	Foliar Spray Rate
Agronomic Field and Row Crops: Wheat, buckwheat, cotton, canola, safflower, sunflower, succulent and dry peas, peanuts, soybeans, and other agronomic field and row crops ***Alfalfa Hay and Forage:*** Alfalfa, clover, vetch, trefoil ***Small Grains:*** rye, rice, sorghum, millet and other small grains ***Corn*** Popcorn, seed corn, sweet corn and other corn crops	1-3 oz of Actinovate® Soluble per acre Applied in furrow	3-12 oz of Actinovate® Soluble per acre Reapply every 7-14 days For best results, use with a spreader-sticker.
Potatoes All types of Irish potatoes, sweet potatoes, and other potatoes	3-12 oz of Actinovate® Soluble per acre Applied in furrow, over treated seed pieces, or as a side dressing	3-12 oz of Actinovate® Soluble per acre Reapply every 7-14 days For best results, use with a spreader-sticker.
Cucurbit Vegetables: cucumbers, melons, gourds, squash, cantaloupe, and other curcubits ***Fruiting Vegetables:*** Eggplant, sweet peppers, hot peppers, tomatoes, tomatillos, and other fruiting vegetables ***Herbs, Spices and Mints:*** Sage, rosemary, thyme, peppermint, dill, basil, oregano and other herbs and spices ***Leafy Vegetables and Cole Crops:*** Broccoli, Brussels sprouts, cabbage, cauliflower, celery, collards, endive, kale, kohlrabi, lettuce, mustard greens, parsley, spinach and other leafy vegetable crops ***Legume and Vegetable Crops:*** Snap and dry beans, lentils, edamame, succulent and dry peas,	3-12 oz of Actinovate® Soluble per acre	3-12 oz of Actinovate® Soluble per acre Reapply every 7-14 days For best results, use with a spreader-sticker.

Crops	Soil Drench Rate	Foliar Spray Rate
Small Grains: Rice*	3-12 oz of Actinovate® Soluble per acre	3-12 oz of Actinovate® Soluble per acre Reapply every 7-14 days For best results, use with a spreader-sticker.
Root/Tuber and Bulb Crops: Garlic, onions, sugarbeet, carrot, ginger, ginseng, horseradish, turnip, radish and other root/tuber/bulb crops		
Berry Crops: Blueberries, blackberry, raspberry, loganberry, huckleberry, gooseberry, elderberry, currant, caneberry and other berry crops		
Strawberry		
Asparagus		
Citrus: Orange, grapefruit, lemon, tangerine, tangelo, lime, pummelo and other citrus crops		
Grape: Wine grapes, table grapes, raisins and other grape crops		
Hops		
Pome Fruit: Apple, crabapple, pear, quince, mayhaw and other pome fruit		
Stone Fruit: Apricot, cherry, nectarine, peach, plum, prune and other stone fruit		
Tree Nuts: Almond, pistachio, pecan, walnut, filberts and other tree nuts		
Tropical Fruits: Avocado, mango, papaya and other tropical fruits		
Bananas / Plantains		
Watercress*		
Mushrooms		
Ginseng		
Olives		
All Crops Grown For Seed		

* Spray only when there is not standing water in bed.

AGRICULTURE PRODUCTION – NEMATICIDE USE

Actinovate Soluble can be applied anytime during the crop life to control/suppress nematodes. For best results apply Actinovate Soluble 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. Refer to the "Crops On Which Actinovate® Soluble May Be Used" section for crop-specific application rates.

Prior To Planting

10-14 days prior to planting, use 1-6 oz of Actinovate Soluble per acre as a soil treatment to the rows or beds to where the crop will be seeded or planted. Reapply every 1-2 weeks prior to planting. Product may be applied during tilling, row preparation or to undisturbed ground.

Soil Treatment Post-Plant:

Use at planting and apply to transplant or in furrow to the seed. Apply 1-6 oz. of Actinovate® Soluble in 10-200 gallons of water per acre directly to the soil around the seed or transplant's root zone. Reapply every 30-60 days throughout the crop growing season. If pest pressure is evident, reapply every 1-2 weeks until control is achieved.

Soil Treatment Through Irrigation:

Actinovate® Soluble 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 Actinovate® Soluble in 10-200 gallons of water per acre directly to the root zone of the plant. Reapply every 1-6 weeks. See "Chemigation" section for additional information and "Crops On Which Actinovate® Soluble May Be Applied" section for crop-specific application rates.

TURF GRASS AND TURF LANDSCAPE APPLICATIONS

For the prevention, suppression and aiding in control of nematodes and landscape foliar and soil diseases (Powdery and Downy Mildew, *Botrytis, Rhizoctonia, Fusarium, Verticillium, Pythium, and Phytophthora*), and turf grass diseases (Brown Patch, Take-all Patch, *Pythium* blight, Dollar Spot, Powdery Mildew, Rusts, and Molds).

Application Uses:

Actinovate® Soluble can be applied to turf grass including uses on golf courses, sod farms, home lawns, home landscapes, office buildings, apartment complexes, cemeteries, sports fields and other such sites. Actinovate® Soluble can also be applied to outdoor ornamental plants used for landscaping around homes, buildings, golf courses, sports fields, and cemeteries.

APPLICATION INSTRUCTIONS:

GOLF COURSE TEES, GREENS AND FAIRWAYS, COMMERCIAL AND RESIDENTIAL LAWNS, SOD FARMS, ATHLETIC FIELDS PARKS, CEMETERIES AND SIMILAR SITES:

Soil Drench Application: Mix Actinovate® Soluble with appropriate amount of water (2-4 gallons per 1000 sq. ft.). Water in immediately after application with sprinklers for 3-6 minutes.

Apply at a rate of 54-oz of Actinovate® Soluble per acre for initial application or problem areas when soil temperatures are above 45^{0}F.

Apply maintenance applications of 18 oz. per acre every 4 to 8 weeks through season or until soil temperatures reach 45^{0}F or less. If nematode pest pressure is evident, reapply every 1 to 3 weeks until control is achieved.

A soil surfactant is recommended to best move the solution to the root zone of the turf. Consult manufacturer for product recommendations.

Foliar Disease Spray Application: Mix Actinovate® Soluble with appropriate amount of water (50-150 gallons per acre). Apply in early morning or evening on wet turf.

For smaller quantities: *For initial application or problem area use 1.25-oz of Actinovate® Soluble in 5 gallons of water per 1,000 sq. ft. of turf grass. For maintenance application use 0.5-oz of Actinovate® Soluble in 5 gallons of water per 1,000 sq. ft. of turf.*

See application chart below for more detailed application instructions.

APPLICATION CHART FOR GOLF COURSE, (FAIRWAYS, ROUGHS, GREENS, TEES), **COMMERCIAL, LAWNS RESIDENTIAL LAWNS, CEMETERIES, PARKS (**AND SIMILAR SITES) **ATHLETIC FIELDS, SOD FARMS, SEED PRODUCTION, AND OTHER TURF**

Actinovate Soluble has no Pre-Harvest Interval. Under moderate to severe disease pressure, increase rates and reduce spray intervals or use in a tank mix or rotational program with other registered fungicides.

Turf and grass type	Disease	Rate	Application Instructions
Bluegrass **Bentgrass** **Bermuda grass (Common & Hybrid)** **Dichondra** **Fescue** **Orchard grass** **Poa Annua** **St. Augustine** **Ryegrass** **Zoysia** **Mixtures and other grasses or ornamental turf**	**Brown patch** *Rhizoctonia solani* **Take All Patch** *Gaeumannomyces graminis* **Dollar Spot** *Lanzia* spp. *Moellerodiscus* spp. (formerly *Sclerotinia homeocarpa*) **Powdery Mildew** *Erysiphe graminis* **Rust** *Puccinia* spp. **Anthracnose** *Colletotrichum graminicola* **Grey Leaf Spot** *Pyricularia grisea* **Slime Molds** *Mucilaga and Physarum* **Gray snow mold** (*Typhula spp.*) **Pink snow mold** (*Microdochium nivale*)	18-54 oz/acre (12-36 grams per 1,000 sq. ft.)	Drench Applications: Mix 18-54 oz. Actinovate® Soluble with appropriate amount of water (100-150 gallons per acre). Consider use of a soil surfactant to best move the solution to the root zone of the turf. Consult manufacturer for product suggestions. *Initial Application or Problem Areas:* Apply at a rate of 54 oz. of Actinovate® Soluble per acre of turf grass when soil temperatures are above 45°F. *Maintenance:* Apply at a rate of 18 oz. of Actinovate® Soluble per acre of turf grass every 7-24 days through season or until soil temperatures reach 45°F or less. Spray Applications: Mix 18-54 oz. of Actinovate® Soluble with appropriate amount of water (50-150 gallons per acre of turf grass). Apply at *initial application* or *maintenance rates* as above in early morning or evening on wet turf. Water in immediately after application with sprinklers for 3-6 minutes. Consider use of a soil surfactant to best move the solution to the root zone of the turf. Consult manufacturer for product suggestions. Continue applications at 7-24 day intervals through season or until soil temperatures fall to 45°F or lower. For Smaller Quantities: *Initial Application or Problem Areas:* Use 1.25 oz (36 grams) of Actinovate® Soluble in 5 gallons of water per 1,000 sq. ft. of turf grass. *Maintenance:* Use 0.5 oz (14 grams) of Actinovate® Soluble in 5 gallons of water per 1,000 sq. ft. of turf grass. Consider use of a soil surfactant to best move the solution to the root zone of the turf. Consult manufacturer for product suggestions. Continue applications at 7-24 day intervals through season or until soil temperatures fall to 45°F or lower.

LANDSCAPE (ORNAMENTALS, VEGETABLE GARDENS, GARDEN FRUIT TREES) AND INTERIORSCAPES

For the prevention, suppression and aiding in control of nematodes and diseases (Powdery and Downy Mildew, *Botrytis, Rhizoctonia, Fusarium, Verticillium, Pythium, and Phytophthora*), and turf grass diseases (Brown Patch, Take-all Patch, *Pythium* blight, Dollar Spot, Powdery Mildew, Rusts, and Molds).

For Root Diseases and Root Damaging Nematodes in Transplants, Installations and Established Plants: Dissolve 1-2 teaspoons per 2 gallons of water to create a solution. Apply solution to soil around plants root system until soil is saturated without creating a run-off. Apply to plant before, during or after transplant.

For Foliar Diseases: Dissolve 1-2 teaspoons per 2 gallons of water and apply in order to acquire thorough uniform coverage. See application chart below for more detailed application instructions.

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

Actinovate Soluble has no Pre-Harvest Interval.

Under moderate to severe disease pressure, increase rates and reduce spray intervals or use Actinovate Soluble in a tank mix or rotational program with other registered fungicides.

Crops	Foliar Disease	Soil Diseases	Rate	Application Instructions
Interiorscape plants and trees **Outdoor landscape ornamental plants, fruit trees, and vegetable gardens**	**Black spot of rose** *Diplocarpon rosea* **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.* *Thelieviopsis* *Verticillium* *Sclerotinia*	3-12 oz/100 gal (1-2 tsp /2 gal)	**Foliar Spray:** Apply Actinovate Soluble at rates ranging from 3-12 oz of product in 100 gallons of water per acre. 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 run off. **Soil Application:** Apply Actinovate Soluble 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 run-off. Reapply every 4-12 weeks depending on disease pressure.

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

General Requirements:

- Apply Actinovate® Soluble at 1-12 oz per 10-200 gallons of water, depending on desired application.
- Apply Actinovate® Soluble 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.
- Plant injury or lack of effectiveness 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 (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for 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.
4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7) Do not apply when wind speed favors drift beyond the area intended for treatment.
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.

(Note to Reviewer: [bracketed text] is optional or alternate wording; (parenthetical text) is informational.)

11) Use product with 10-200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

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 which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7) Do not apply when wind speed favors drift beyond the area intended for treatment.
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 product with 10-200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

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, 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 inter-locking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7) 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 product with 10-200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

Flood Chemigation Requirements:

1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from 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 which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
   f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being 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 product with 10-200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a dry, cool place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

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

Container Disposal: Non-refillable container. Do not reuse or refill this container. Completely empty [liner] [bag] by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling if available or dispose of in a sanitary landfill or by incineration. If [drum] [pail] is contaminated and cannot be reused, dispose of it in the manner required for its [liner] [bag]. (OR)

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

Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for late 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 reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. (OR)

Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Pour rinsate into application equipment or mix tank or store rinsate for late 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 reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

(Note to Reviewer: [bracketed text] is optional or alternate wording, (parenthetical text) is informational.)

WARRANTY

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. Novozymes BioAg warrants that at the time of the first sale of this product it conforms to the chemical description on the label and when used according to the label directions under normal growing conditions is reasonably fit for the purposes referred to above. Buyers/Users of this product assume full risk for any use contrary to the specified directions. If this product does not perform as warranted above and to the extent consistent with applicable law, customer's sole remedy for breach of warranty shall be replacement of the product or refund of the purchase price paid, at the option of Novozymes BioAg.

EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESSED REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OR GUARANTEE TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, INCLUDING ANY OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.

[Note: The following information will affixed to the unit package]

Actinovate® Soluble

[Fungicide]

[For greenhouse, nursery and turf]

	% w/w
ACTIVE INGREDIENT: *Streptomyces lydicus* WYEC 108*	00.0371%
OTHER INGREDIENTS	99.9629%
Total	100.0000%

*End-use product contains not less than 1 x 10^7 colony forming units per gram *Streptomyces lydicus* WYEC 108

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a dry, cool place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

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

Container Disposal: Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for late 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 reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances

FIRST AID	
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice
If Inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If Swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have a 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.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this product (including health concerns, medical emergencies, or pesticide incidents), call the Nation Pesticide Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific Time (PT) seven days a week. During other times, call the poison control center at 1-800-222-1222	

Net contents:

Novozymes BioAg Inc.
13100 W. Lisbon Road, Suite 600
Brookfield, WI 53005
1-800-245-4104
EPA Reg. No. 73314-1
EPA Est. No. 73314-TX-001
Made in USA

[NOVOZYMES RETHINK TOMORROW] [LOGO]
[Batch code and expiry date]

Sublabel B: Residential Home & Garden Use

(FRONT PANEL)

ACTINOVATE® SOLUBLE [BIOLOGICAL FUNGICIDE]

(ALTERNATE BRAND NAME: ACTINOVATE® FOR LAWN AND GARDEN, ACTINOVATE® LAWN AND GARDEN)

ACTIVE INGREDIENT:	
*Streptomyces lydicus WYEC 108**	00.0371%
OTHER INGREDIENTS:	99.9629%
TOTAL	100.0000%

*End-use product contains not less than 1×10^7 colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at http://www.aapfco.org/metals.htm

KEEP OUT OF REACH OF CHILDREN

CAUTION

See attached booklet for [additional precautionary statements] [first aid] [complete directions for use] [and warranty]

US Patent Number: 5,403,584

EPA Reg. No.: 73314-1

EPA Establishment No.: 73314-TX-001

Novozymes BioAg Inc.
13100 W. Lisbon Road, Suite 600
Brookfield, WI 53005
1-800-245-4104

Net Contents:

[Batch code and expiry date]

FIRST AID	
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If Inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If Swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have a 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.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this product (including health concerns, medical emergencies, or pesticide incidents), call the Nation Pesticide Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific Time (PT) seven days a week. During other times, call the poison control center at 1-800-222-1222

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals. CAUTION: Avoid contact with skin, eyes, 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.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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 run off 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:

Actinovate® Soluble is a biological fungicide for the suppression/control of root rot and damping-off fungi and the suppression/control of foliar fungal pathogens. The active ingredient in Actinovate® Soluble is a patented bacterium that, when applied, grows around the root system (when soil drenched) and foliage of the plant (when sprayed on). Actinovate® Soluble uses several novel modes of antifungal action to protect plants and lawns. Actinovate® Soluble may be used on all 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 homes, greenhouses, and home landscapes.

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

DISEASES CONTROLLED/SUPPRESSED

Soil Diseases (When applied as a drench) (When watered in):

*Root Rot and Damping Off in ornamentals & vegetables (*Pythium, Phytophthora, Rhizoctonia, Fusarium* et al)

*Turf Brownpatch (*Rhizoctonia*)

*Turf Dollarspot (*Sclerotinia*)

*Turf Take-all Patch (*Gaeumannomyces graminis*)

Club Root (*Plasmodiophora brassicae*)

Gray Snow mold (*Typhula spp.)*

Pink Snow mold (*Microdocium nivale*)

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

*Powdery and Downy Mildew

*Grey Mold (*Botrytis*)

*Black Spot (*Diplocarpon rosae*)

*Leaf Spots and Rusts

*Fire Blight (*Erwinia*)

Walnut Blight (*Xanthomonas arboricola pv. juglandis*)

Bacterial Spot (*Xanthomonas perforans*)

Citrus Canker (*Xanthamonas axonopodis* pv *citri*)

Bacterial Blast (*Pseudomonas syringae*)

Peach Leaf Curl (*Taphrina deformans*)

APPLICATION DIRECTIONS (HOW TO APPLY):

SOIL APPLICATION

Dissolve 1-2 teaspoons (4-8 grams) of Actinovate® Soluble per 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 run-off. 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. Pre-dampened soil will allow the Actinovate® Soluble microorganism to work to the root system of the plant much more easily. Apply Actinovate® Soluble at any stage of the crop life. 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

Dissolve 1-2 teaspoons (4-8 grams) of Actinovate® Soluble per 2 gallons of water to create solution. For more severe disease pressure or likelihood of disease pressure, use higher rates. 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 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 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®, Agri-2®, Plant Camel® and yucca extract.)

HYDROPONICS AND INDOOR GARDEN USE

For Root Rot Diseases:

Dissolve Actinovate Soluble directly into nutrient water tank. Use ½-1 teaspoon per gallon (6-12 oz per 100 gallons). Reapply each time nutrient water is changed. Actinovate Soluble may also be applied to *each plant's root system individually. To do this dissolve ½-1 teaspoon into a gallon of water to create* solution. Apply solution as a watering directly to the plants base so as to water in to the roots. Reapply every 2-6 weeks.

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. For best results, use a wetting agent such as yucca extract, Coco-Wet®, Plant Camel® or Mega Wet® in conjunction with Actinovate® Soluble 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 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 run-off or leaching.

Pump-Up Sprayer Lawn Application

Initial Application: Mix 2 teaspoons Actinovate® Soluble per 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 run-off or leaching.

Maintenance Application: Use 0.5 teaspoons Actinovate® Soluble per 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 run-off or leaching.

HOSE-END SPRAYER SETTINGS FOR LAWNS

Make a liquid concentrate from the Actinovate® Soluble powder as follows:

Initial Application

Area Covered	Actinovate®	Water	Hose-end Setting
200 sq ft	2 tsp	4 oz	4 oz
1,000 sq ft	9 tsp.	20 oz	4 oz

Maintenance Application

Area Covered	Actinovate®	Water	Hose-end Setting
200 sq ft	0.5 tsp	4 oz	4 oz
1,000 sq ft	3 tsp.	20 oz	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. Optimum storage temperature is 40°F to 85°F.

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 or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

WARRANTY

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. Novozymes BioAg warrants that at the time of the first sale of this product it conforms to the chemical description on the label and when used according to the label directions under normal growing conditions is reasonably fit for the purposes referred to above. Buyers/Users of this product assume full risk for any use contrary to the specified directions. If this product does not perform as warranted above and to the extent consistent with applicable law, customer's sole remedy for breach of warranty shall be replacement of the product or refund of the purchase price paid, at the option of Novozymes BioAg.

EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESSED REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OR GUARANTEE TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, INCLUDING ANY OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.

[Note: The following information will affixed to the unit package]

ACTINOVATE® SOLUBLE [BIOLOGICAL FUNGICIDE]

(ALTERNATE BRAND NAME: ACTINOVATE® FOR LAWN AND GARDEN, ACTINOVATE® LAWN AND GARDEN)

ACTIVE INGREDIENT:	
*Streptomyces lydicus WYEC 108**	00.0371%
OTHER INGREDIENTS:	99.9629%
TOTAL	100.0000%

*End-use product contains not less than 1 X 10^7 colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at http://www.aapfco.org/metals.htm

KEEP OUT OF REACH OF CHILDREN

CAUTION

See attached booklet for [additional precautionary statements] [first aid] [complete directions for use] [and warranty]

US Patent Number: 5,403,584

EPA Reg. No.: 73314-1

EPA Establishment No.: 73314-TX-001

Novozymes BioAg Inc.

13100 W. Lisbon Road, Suite 600

Brookfield, WI 53005

1-800-245-4104

Net Contents:

[Batch code and expiry date]

FIRST AID	
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice
If Inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If on Skin or Clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If Swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have a 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.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this product (including health concerns, medical emergencies, or pesticide incidents), call the Nation Pesticide Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific Time (PT) seven days a week. During other times, call the poison control center at 1-800-222-1222

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. Optimum storage temperature is 40°F to 85°F.

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 or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

OPTIONAL LABEL CLAIMS

- Biological Fungus Control.
- For Use In Organic Farming
- For Organic Production
- For Organic Gardening
- For Organic Lawn Care
- For Use in Organic Production
- Biological Fungicide
- Controls soil-borne plant diseases such as *Pythium, Rhizoctonia, Phytophthora, Verticillium and Fusarium*
- 100% Soluble. Will not clog machinery.
- Enhances plant vitality.
- Encourages larger root systems.
- For Greenhouse, Nursery, Interiorscapes, Agriculture 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.
- Fungicide that attacks harmful garden diseases
- Controls/Suppresses foliar diseases such as Powdery Mildew, Rust, Grey Mold, Black Spot, and Botrytis
- Controls Damping Off, and Root Rot.
- Aids in Turf Recovery
- For Home, Garden and Lawn Care Use
- Concentrated Formula
- Treats Up to 5,000 sq. ft. of lawn or 550 6" potted plants
- Easy To Use
- Easy tear opening
- Concentrated Powder
- Re-Sealable [pouch] [bag]
- For use with [hose-end] [sprayer] [pump up sprayer] [water can]
- Fight lawn & garden diseases such as Summer patch, dollar spot, damping off and root rot
- For use on turfgrass and outdoor ornamental plants, interiorscapes and gardens on or around sites such as golf courses, residential & commercial lawns, athletic fields, parks, cemeteries, sod farms and similar locations.

- Controls/suppresses soil-borne plant diseases such as root rots, Damping Off, Brown Patch, Summer Patch and Dollar Spot

- For use on all major agricultural crops including alfalfa (hay, forage), bean (all types), cereals, corn (all types), oilseeds (canola, sunflower, safflower, peanut, etc), peanut, peas (dry, fresh, sweet), potato, soybean and sugarbeet.
- Controls/suppresses soil-borne plant diseases, damping-off, and root diseases caused by *Pythium, Rhizoctonia, Phytophthora, Sclerotinia, Verticillium, Fusarium* when applied according to label directions.
- Controls/Suppresses Foliar Disease such as Powdery Mildew, Downy Mildew, *Botrytis, Sclerotinia, Monilinia, Alternaria, Erwinia,* when applied according to label directions.
- 100% water soluble formula.
- For Suppression of Walnut Blight (*Xanthomonas arboricola pv. Juglandis)*, Bacterial Spot (*Xanthomonas perforans*), Citrus Canker (*Xanthamonas axonopodis* pv *citri*), Club Root (*Plasmodiophora brassicae*)
- Biological Nematicide
- Actinovate Soluble is approved for organic use under the guidelines of the USDA
- NOP logo

OMRI™ Listed