

ACTINOVATE® AG

ACTIVE INGREDIENT:

*Streptomyces lydicus**00.0371%

OTHER INGREDIENTS:99.9629%

*End-use product contains not less than 1 X 10⁷ 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 back panel for additional precautionary statements.

US Patent Number: 5,403,584

EPA Reg. No.: 73314-1

EPA Establishment No.: 73314-TX-001

Manufactured by:

Natural Industries, Inc.

6223 Theall Road

Houston, Texas 77066

Questions? (888) 261-4731

Net Contents: 18-oz



PRECAUTIONARY STATEMENTS

Hazard to humans and domestic animals: Caution. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

Personal Protective Equipment (PPE): Applicators and other handlers must wear long-sleeved shirt and long pants, and 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. Keep and wash PPE separately from other laundry.

User Safety Requirements: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove PPE immediately after handling this product. If gloves are worn, wash the outside of gloves before removing. Users should remove clothing immediately if pesticide gets inside. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater.

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 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 intervals (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

For foliar application do not 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 (such as landscape, ornamental bulbs, seed coating and drench) the Worker Protection Standard, under certain circumstances, allows workers to enter treated area if there is no contact with anything that has been treated.

PPE requirements for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water) is: coveralls, waterproof gloves and 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 or dusts have settled.

General Information:

Actinovate® AG is a biological fungicide for the suppression of root rot and damping-off fungi and the suppression of foliar fungal pathogens. When used as a soil drench or seed treatment, soil borne fungi suppressed include *Fusarium*, *Rhizoctonia*, *Pythium*, *Phytophthora*, *Phymatotrichum omnivorum* (cotton root rot), *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, *Postia*, *Verticillium*, *Geotrichum*, and other root-decay fungi. The active ingredient in Actinovate® AG colonizes the root system and protects it from harmful fungi. When used as a spray, Actinovate® AG effectively suppresses foliar diseases such as Powdery and Downy Mildew, *Botrytis*,

Monilinia, *Anthracnose*, Greasy Spot, *Sclerotinia*, *Alternaria*, *Erwinia* and others.

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

INTEGRATED PEST MANAGEMENT (IPM)

Integrate Actinovate® AG into an overall disease and pest management strategy whenever fungicide use is necessary. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

USE RATE DETERMINATION –Agricultural Use

Carefully read and follow all label directions, use rates and restrictions. Actinovate® AG should be applied prior to or in the early stages of disease development. For proper foliar application, determine the number of acres to be treated, the recommended label use rate and select the appropriate gallonage to give thorough uniform coverage of all plant parts to be protected.

For proper soil application, determine the number of acres to be treated, the recommended 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.

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 – Agricultural Use

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

APPLICATION DIRECTIONS:

Compatibility

Actinovate® AG is completely soluble and does not require agitation to keep suspended in a solution. Actinovate® AG is compatible with chemical fungicides, insecticides and fertilizers. If tank mixes are desired, observe all directions, precautions and limitations on labeling of all products used. Actinovate® AG can be tank mixed and dry mixed with all chemical fungicides, insecticides, and fertilizers unless otherwise restricted. Avoid applying soil fumigants to the areas treated with Actinovate® AG. Consult manufacturer for compatibility questions.

Application Timing

Apply Actinovate® AG throughout the growing season from early spring to late fall on all types of production agriculture crops.

Note: Actinovate® AG contains live spores of a microbe that should be used prior to disease onset to obtain best results. Actinovate® AG 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® AG can be applied to sterilized or fumigated soil but it must be applied after sterilization or fumigation.

Application Uses:

Actinovate® AG is a biological fungicide for use in soil applications (drench and in furrow), seed treatment and foliar applications in greenhouse (vegetable and herb use only) and in or on all raw agricultural commodities, food and fiber crops, and other agricultural production crops.

GREENHOUSE VEGETABLES AND HERBS:

For use on all greenhouse vegetable and herb crops listed in the section "Crops on which Actinovate® AG may be used".

Drench: 4-6 oz per 100 gallons as a soil drench. For hydroponics systems use 18-54 ounces per acre (0.5-1.5 ounces per 1,000 square feet of growing area).

Foliar Spray: 6-12 oz per acre in 50-150 gallons of water. Use of a spreader-sticker (adjuvant) in conjunction with foliar application is recommended.

AGRICULTURE PRODUCTION

For soil treatment and seed treatment for the control of *Pythium*, *Rhizoctonia*, *Phytophthora*, *Fusarium*, *Verticillium*, *Phymatotrichum omnivorum* (cotton root rot) and other root decay fungi.

For foliar treatment of Powdery Mildew, *Botrytis*, *Sclerotinia*, *Monilinia*, Greasy Spot, *Alternaria*, Downy Mildew and other foliar fungi.

Soil Treatment At Planting:

Use at planting, seeding, or transplant. Apply 3-12 oz of Actinovate® AG dissolved in appropriate amount of water, per acre.

Soil Treatment Through Irrigation:

Actinovate® AG may be used in drip, overhead or other type of irrigation system at any stage of the plant growth as a soil treatment. Use 3-12 oz of AG, dissolved in enough water, per acre.

Foliar Treatment

Use 3-12 oz of Actinovate® AG in 20-150 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® AG can be used in all types of spray equipment including aerial applications.

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 per 100-lb of bulbs, corms, tubers, rhizomes or seeds.

Crops on which Actinovate® AG may be used

CROPS	RATE	
	Soil Drench	Foliar Spray
Agronomic Field and Row Crops: buckwheat, corn (all types), 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	3-oz per acre	3-12 oz/acre Reapply every 7-14 days. For best results use spreader-sticker.
Cucurbit Vegetables: cucumbers, melons, gourds, squash, cantaloupe, and other cucurbits Fruiting Vegetables: Eggplant, sweet peppers, hot peppers, tomatoes, tomatillos and other fruiting vegetables Herb, Spices and Mints: sage, rosemary, thyme, peppermint, dill, basil. Oregano and other herbs and spices Leafy Vegetables and Cole Crops: Broccoli, brussel 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, succulent and dry peas, peanuts, soybeans and other legume/vegetable crops Small Grains: rye, sorghum, millet and other small grains Root/Tuber and Bulb Crops: Garlic, onions, white potatoes, sweet potatoes, carrot, ginger, ginseng, horseradish, turnip, beets, 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 Corn Popcorn, seed corn, sweet corn and other corn 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	3-12 oz/acre	3-12 oz./acre. Reapply every 7-14 days. For best results use spreader-sticker
Turf Grass All grass grown for seed or sod production	18-54 oz/acre	3-12 oz/acre

flow systems, 6) sprinkler and drip irrigation systems including central pivot, lateral move, end tow, side wheel roll, traveler, solid set or hand move 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. Questions concerning calibration should be directed to your State Extension Service Specialist, the equipment manufacturer or other expert.

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.

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.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise.

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

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

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

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

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

If you have any questions regarding calibrations, contact equipment manufacturers, state extension specialists or other experts.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or 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 40⁰ F to 85⁰ F.

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

Container Disposal: Completely empty package into application equipment. Then dispose of empty package in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Limited Warranty / Disclaimer

Manufacturer warrants that this product is suited for the labeled use when applied according to label directions. Manufacturer makes no warranty of merchantability. There are no warranties that extend beyond the description on this label and in no event shall manufacturer be liable for any consequential damages.

Manufactured By:
 Natural Industries, Inc.
 6223 Theall Rd.
 Houston, TX 77066
 Questions? (888) 261-4731
www.naturalindustries.com

BEST IF USED BY:

LOT NUMBER:

CHEMIGATION

Apply 3-12 ounces of Actinovate® AG in 20-200 gallons of water per acre. Actinovate® AG may be applied through 1) overhead boom and mist-type systems, sprinklers such as impact or micro-sprinklers 2) pressurized drench (flood) or drip (trickle) systems 3) micro irrigation such as spaghetti-tube or individual tube irrigation, 3) hand-held calibrated irrigation equipment such as hand-held wand with injector and 5) ebb and