



# TECHNICAL INFORMATION BULLETIN

## OVERVIEW

Actinovate® AG is a biological fungicide / bactericide from Valent U.S.A. Corporation for use in suppressing a broad range of diseases across multiple crops.

<b>Active Ingredient</b>	<i>Streptomyces lydicus</i> strain WYEC 108
<b>Formulation</b>	Water soluble powder (WSP)
<b>Modes of Action</b>	Exclusionism, anti-fungal metabolites, parasitism

**Actinovate® AG**  
BIOLOGICAL FUNGICIDE



## FEATURES

- Broad spectrum activity on both soil and foliar diseases
- Beneficial bacteria with multiple modes of action
- Fits organic and sustainable crop production systems



## MODES OF ACTION

- *Actinovate* AG contains a high concentration of the microorganism *Streptomyces lydicus* strain WYEC 108
- When introduced into the root zone or applied to foliage, *S. lydicus* **colonizes plant structures**
- *S. lydicus* forms a mutually beneficial relationship in the rhizosphere by feeding off of the plant's waste and **secreting beneficial by-products**:
  - High level of chitinase (an enzyme) that breaks down chitin, a key structural component of fungal cell walls
  - Siderophores ("iron carriers") that capture iron and starve competing microbes
  - Antibiotics that kill or repel other microbes
- This combination of colonization and protective secretions **forms a defensive barrier around the plant**, which in turn keeps pathogens out

## USES

Crop	Diseases Suppressed	Crop	Disease Suppressed
Strawberries	Gray Mold (Botrytis) Powdery Mildew, Anthracnose Crown Rot (Phytophthora)	Leafy Vegetables	Downy Mildew* Powdery Mildew
Blueberries	Mummy Berry	Potatoes	Early Blight Black Scurf
Melons	Powdery Mildew	Onions	Botrytis Leaf Blight
Grapes	Powdery Mildew	Almonds	Brown Rot
Citrus	Greasy Spot, Canker	Walnuts	Walnut Blight
Tomatoes	Bacterial Spot Early Blight	Cherries	Brown Rot, Botrytis Bacterial Canker
Peppers	Powdery Mildew Bacterial Spot	Greenhouse Vegetables and Herbs*	Powdery Mildew

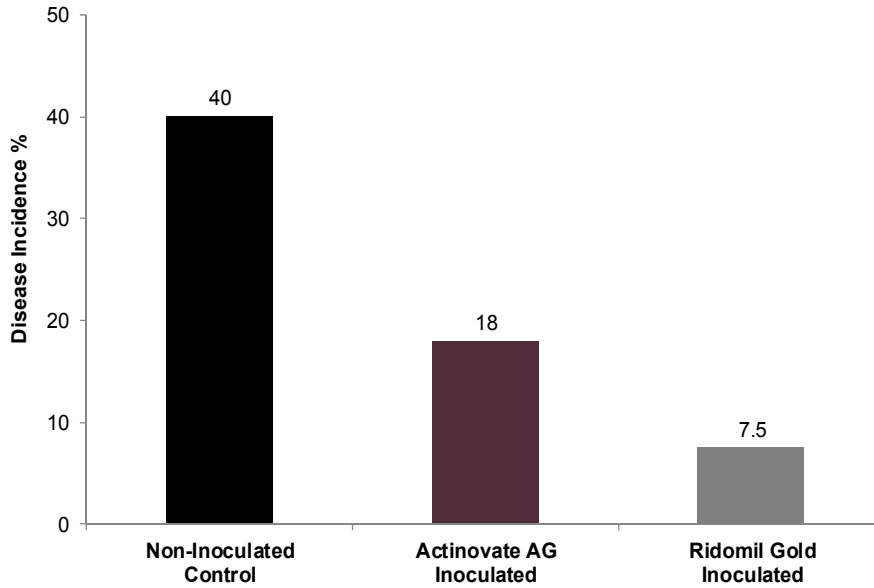
\*Not for use in CA

## ACTINOVATE AG LABEL INFORMATION

<b>Application Methods</b>	<ul style="list-style-type: none"> <li>• Soil—drench or chemigation</li> <li>• Foliar—spray</li> </ul> <p>For maximum coverage, aerial application is not recommended</p>
<b>Rate / Acre</b>	<ul style="list-style-type: none"> <li>• Ag Uses: <ul style="list-style-type: none"> <li>○ Foliar: 9–12 oz (recommended)</li> <li>○ Soil In-Furrow: 1–3 oz (field and row crops)</li> <li>○ Soil Drench: 3–12 oz (all other crops)</li> </ul> </li> <li>• Greenhouse Vegetables and Herbs*: <ul style="list-style-type: none"> <li>○ Foliar: 6–12 oz in 50–100 gal of water</li> <li>○ Soil Drench: 4–6 oz in 100 gal of water</li> <li>○ Application to Soil at Blending: 1.5–4 oz in an appropriate amount of water per yard of soil</li> <li>○ Hydroponics Systems: 0.5–1.5 oz per 1,000 sq ft of growing area</li> </ul> </li> </ul>
<b>Application—Foliar</b>	<p><i>Actinovate</i> contains live spores of a microbe and, for best results, should be used prior to disease onset</p> <ul style="list-style-type: none"> <li>• Foliar application interval = 7–14 days <ul style="list-style-type: none"> <li>○ 10–150 gallons of water per acre (outside CA)</li> <li>○ 20–150 gallons of water per acres (CA)</li> </ul> </li> </ul>
<b>Application—Soil</b>	<p><i>Actinovate</i> contains live spores of a microbe and, for best results, should be used prior to disease onset</p> <ul style="list-style-type: none"> <li>• <i>Actinovate</i> becomes active in the soil or on the plant foliage when the temperature is above 45°F but is not effective when temperatures remain cold</li> <li>• <i>Actinovate</i> can be applied to sterilized or fumigated soil after sterilization or fumigant has dissipated</li> <li>• For best results, apply to damp soil</li> </ul>
<b>Best Management Practices</b>	<ul style="list-style-type: none"> <li>• Always follow good agricultural practices, including but not limited to, crop rotation, planting resistant varieties, sanitation, irrigation control and fertility management</li> <li>• If high disease pressure is anticipated, tank mix high rates of <i>Actinovate</i> with another fungicide labeled for use on the target disease and shorten spray interval (within the label limits)</li> </ul>
<b>PHI / REI</b>	0 (can be applied up to and including the day of harvest) / 1 hour
<b>Tank Mix Compatibility</b>	<ul style="list-style-type: none"> <li>• <b>Do not tank mix</b> <i>Actinovate</i> with the following known incompatible products: Badge<sup>®</sup> SC, Nordox 75 WG, CSC Thiosperse, Phytan-27<sup>®</sup>, ProGanic<sup>™</sup> Micronized Sulfur, Timsen<sup>™</sup>, quaternary ammonia or hydrogen peroxide</li> <li>• <b><i>Actinovate</i> can be tank mixed</b> with the lowest labeled rate of the following products: Camelot<sup>®</sup> O, Champ<sup>®</sup> DP, Champ Formula 2, Copper-Count<sup>®</sup>-N, Cueva<sup>®</sup>, Kocide<sup>®</sup> 2000 / 3000, MultiGuard<sup>®</sup> Protect and Nu-Cop<sup>®</sup> 50 WP / Nu-Cop HB</li> <li>• <b><i>Actinovate</i> is fully compatible</b> with CaTs<sup>®</sup>, Cuprofix<sup>®</sup> and MagThio<sup>®</sup>. <b>Spray mixture should be used within 4 hours.</b></li> </ul>
<b>Storage</b>	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.
<b>Plantback Intervals</b>	Immediate (all labeled and non-labeled crops)
<b>Rainfastness</b>	4 hours after application
<b>PPE</b>	Coveralls, waterproof gloves, shoes plus socks

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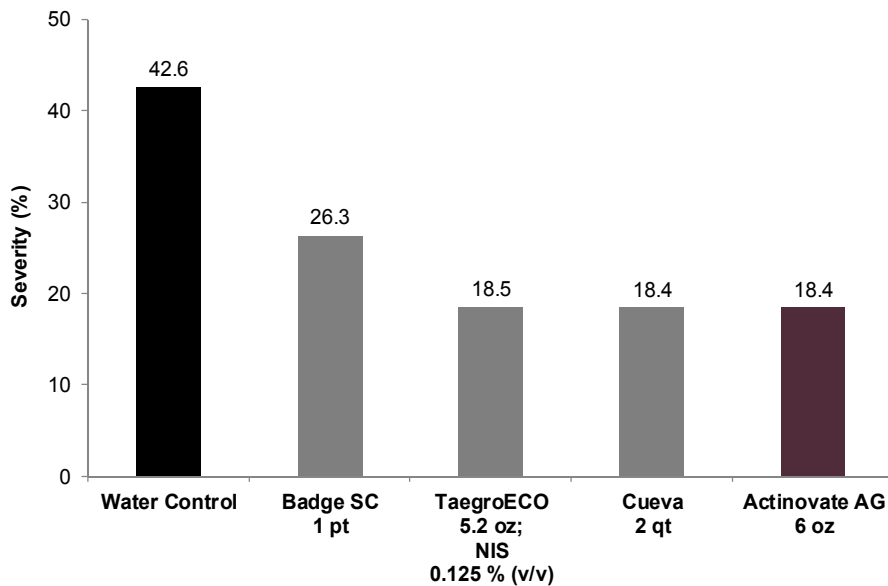
## ACTINOVATE AG PERFORMANCE



### Phytophthora Root Rot— Conventional Strawberries

*Actinovate* suppressed *Phytophthora* root rot in conventionally grown strawberries

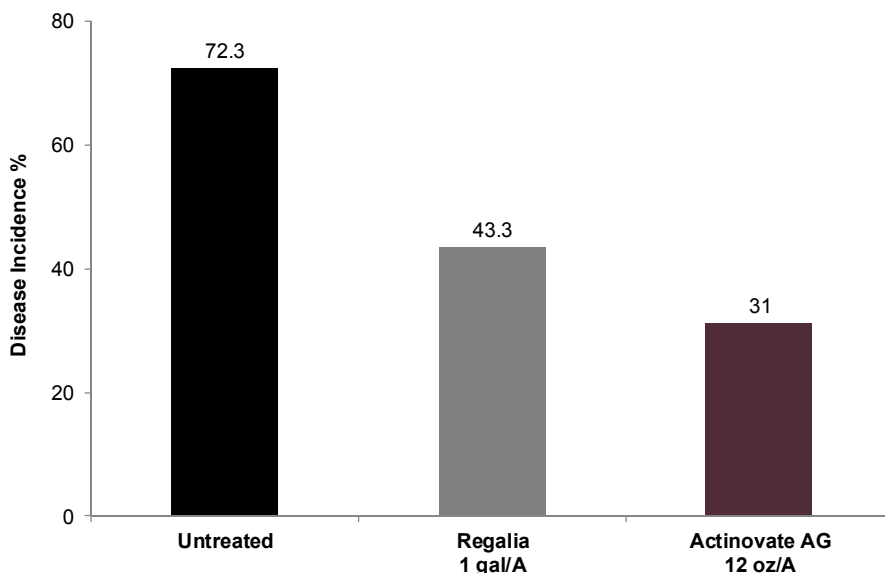
Source: University of Florida



### Bacterial Spot— Bell Peppers

*Actinovate* reduced bacterial spot severity as well as other OMRI-listed disease control materials

Source: University of Florida

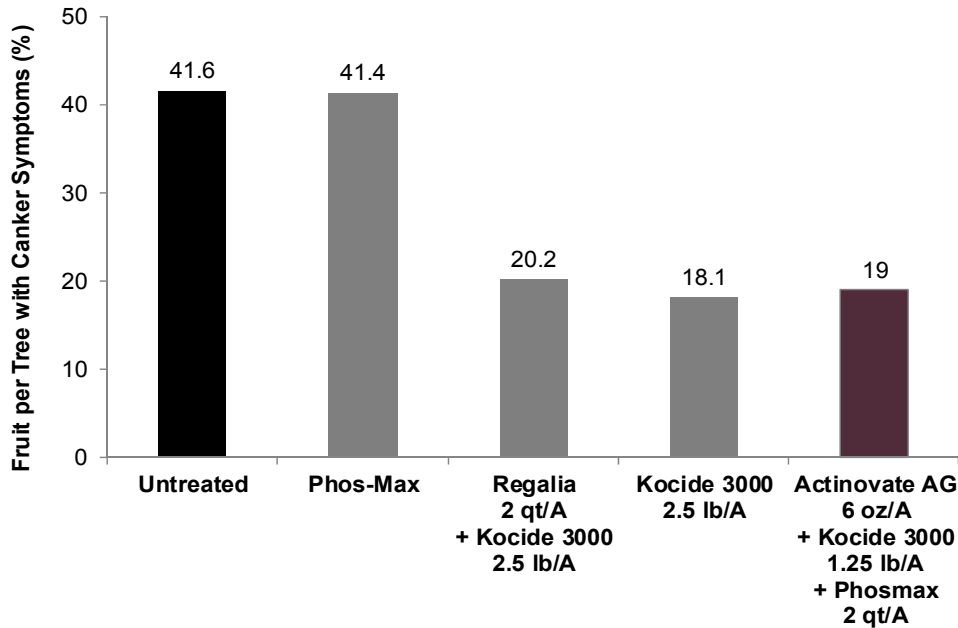


### Brown Rot—Almonds

*Actinovate* suppressed brown rot incidence as well as other biological pesticides

Source: University of California

## ACTINOVATE AG PERFORMANCE

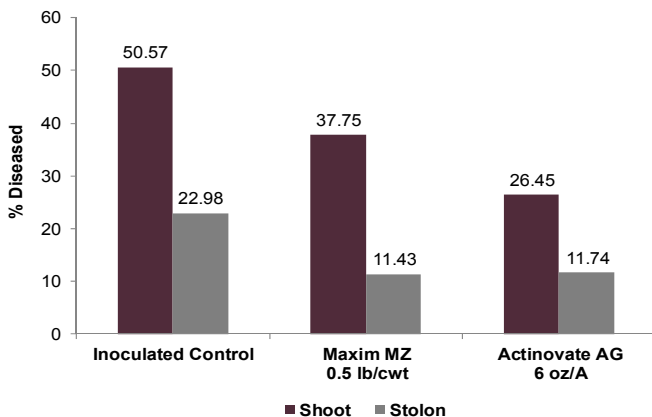


### Citrus Canker Symptoms—Grapefruit

The *Actinovate* tank mix treatment effectively reduced citrus canker symptoms

Source: University of Florida

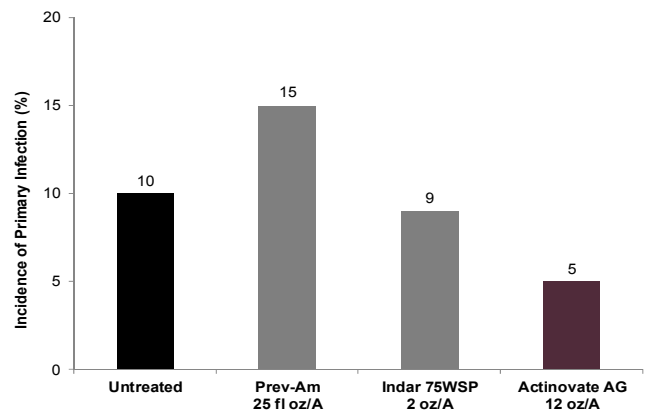
### Black Scurf (Rhizoctonia)—Potatoes



*Actinovate* reduced black scurf on shoot and stolon as effectively as the standard seed treatment

Source: University of Idaho

### Mummyberry—Blueberries



*Actinovate* reduced mummyberry incidence as effectively as conventional standards

Source: University of Georgia

## ENVIRONMENT PROFILE

Do not apply *Actinovate* 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 wash waters or rinse.



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**Always read and follow label instructions.**

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*Actinovate* is OMRI listed and NOP compliant for organic production.

