

# BOTANIGARD<sup>®</sup> ES

## Emulsifiable Suspension Mycoinsecticide



An American Vanguard Company

FOR USE ON FOOD CROPS AND ORNAMENTALS IN GREENHOUSES, SHADE HOUSES, NURSERIES, LANDSCAPES, INTERIORSCAPES, AND ON TURF

### Product Information Bulletin

186

#### GENERAL INFORMATION

**BOTANIGARD ES** is a botanical insecticide that offers activity on a wide range of insect pests as a foliar spray, drench, or dip. **BOTANIGARD ES** should be used at the first sign of pest activity and may be used multiple times in a crop. **BOTANIGARD ES** contains the live spores of the entomopathogenic fungus, *Beauveria bassiana* strain GHA.

**Common Name:** *Beauveria bassiana* strain GHA.

**Class:** Biopesticide fungal agents

GROUP	UNF	INSECTICIDE
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**Packaging:** quart, 10 per case; gal., 4 per case.

#### RESTRICTED ENTRY INTERVAL (REI) AND SIGNAL WORD

REI = **4 hours** Signal Word = **CAUTION**

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicator and other handlers must wear:

- Coveralls, Chemical-resistant gloves made of barrier laminate, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, or viton  $\geq 14$  mils, shoes plus socks.
- Mixers/loaders and applicators must wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; or a NIOSH-approved elastomeric particulate respirator with any R or P filter; or a NIOSH-approved powered air-purifying respirator with an HE filter. See label for complete PPE requirements.

#### ADVANTAGES OF BOTANIGARD

- Broad labeling including food crop uses
- Compatible with BCAs and IPM practices
- 0-day Pre-Harvest Interval (PHI)
- No resistance development
- No limit on number of applications



**CAN BE USED IN ORGANIC PRODUCTION**

#### MODE OF ACTION

**BOTANIGARD ES** acts by contact. Fungal spores attach to the pest, germinate, and penetrate through the cuticle. The fungus then grows within the pest, causing infection and mortality. It may take 7-10 days after treatment to control the target pest.

#### USE SITES

**BOTANIGARD ES** may be used on crops grown in greenhouses, indoor/outdoor nurseries, shade houses, mushroom houses, commercial landscapes, interiorscapes, and on turf.

#### INSECTS CONTROLLED

Aphids	Loopers
Armyworms	Mealybugs
Caterpillars	Psyllids
Flea Beetles	Root Weevils
Leaf Beetles	Stink Bugs
Lace Bugs	Thrips
Leafminers	Whiteflies
Leafhoppers	

(See label for complete list of insects controlled)

#### APPLICATION RATES

**BOTANIGARD ES** rates range from  $\frac{1}{2}$  to 2 qts. per 100 gal. of water depending on target pest. Use higher rates when pest pressure is high. Refer to the label for specific rates.

#### TANK MIXING

**BOTANIGARD ES** is physically and biologically compatible with a wide range of insecticides, fungicides, and spray adjuvants although some fungicides and insecticides may kill spores. Follow the most restrictive label limitations with tank mix partners.

#### RESISTANCE MANAGEMENT

There has been no reported resistance to the active ingredient in **BOTANIGARD ES**. There is no limit on the number of applications or total amount of product that can be applied in one season.

## OHP BIOSOLUTIONS AND THEIR USE WITH BOTANIGARD ES

Genus	OHP Recommendation
Ancora	OMRI listed naturally-occurring unguis ( <i>Isaria fumosorosea</i> ) that infects both foliage and soil dwelling insects. For use on vegetables, fruits, and ornamentals. 4-hour REI.
Azatin O	OMRI listed biological insect growth regulator (IGR) for larval control of insects and lepidoptera species on herbs, vegetables, ornamentals, and berries. 4-hour REI.
BotaniGard 22WP	OMRI-listed biological insecticide ( <i>Beauveria bassiana</i> ) for control of a wide range of insects on vegetables, herbs, ornamentals, and fruits. 4-hour REI
BotaniGard ES	OMRI-listed biological insecticide ( <i>Beauveria bassiana</i> ) for control of a wide range of insects on vegetables, herbs, ornamentals, and fruits. 4-hour REI
BotaniGard MAXX	Combination of natural pyrethrins and <i>Beauveria bassiana</i> for quick activity on many important pests in the greenhouse, nursery, and on vegetable and orchard crops.
FireWorxx	Organic post-emergent non-selective herbicide for rapid burndown of troublesome broadleaf and grassy weeds, as well as algae and moss. OMRI-listed.
Grotto	OMRI-listed copper octanoate fungicide/bactericide for broad-spectrum prevention and control of diseases on ornamentals including vegetables and herbs. 4-hour REI.
Kalmor	High-quality copper hydroxide fungicide/bactericide for prevention and control of diseases on a variety of ornamentals and greenhouse vegetables.
Kopa	Potassium salt of fatty acid insecticidal soap that aids in control of insects, mites, and powdery mildew. OMRI-listed, Kopa may be used on fruits and vegetables indoors and outdoors.
Mycotrol ESO	OMRI-listed liquid formulation of <i>Beauveria bassiana</i> for control of a range of insects on vegetables, herbs, ornamentals, and fruits. 4-hour REI.
Mycotrol WP	OMRI-listed wettable powder formulation of <i>Beauveria bassiana</i> for control of a range of insects on vegetables, herbs, ornamentals, and fruits. 4-hour REI.
Triact 70	clarified hydrophobic extract of Neem oil that offers both fungicidal and insecticidal/miticidal activity on fruits, vegetables, and ornamentals. OMRI listed.
Triathlon BA	Broad-spectrum preventative biofungicide for control of many fungal and bacterial diseases on ornamentals, fruits, vegetables, and herbs and spices. OMRI listed for indoor and outdoor use.

\*Resources were reviewed for the compatibility of the BOTANIGARD active ingredient with BCAs and a summary of the findings is provided. Please refer to product label for proper application and your BCA supplier for further information.

Use of BOTANIGARD ES according to the labeling is subject to the use precautions and limitations imposed by the label affixed to the container of BOTANIGARD ES. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Always read product label prior to product use.

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