

BoteGHAES

For control of a wide range of soft-bodied insects, including psyllids, whiteflies, thrips, aphids and mites*.





BoteGHA[®] A new Beauveria bassiana biological insecticide in a superior and stable formulation.

High spore concentration Introducing BoteGHA ES, a biological insecticide that features the highly effective entomopathogenic fungus: *Beauveria bassiana* strain GHA. BoteGHA controls a wide range of difficult-to-control soft-bodied insects, including psyllids, whiteflies, thrips, aphids and mites*. It is formulated to provide growers with a stable shelflife of 18 months.

Tank mix compatible

Flexible

Application

How it Works

BoteGHA controls insects by entering their bodies and growing inside them. When insects come into contact with BoteGHA, its fungal spores adhere to the body of the insect and germinate. The germinated spores produce enzymes that dissolve the insect cuticle allowing the fungus to penetrate and grow within the insect's body, killing it. The infected insect can darken or turn pink before or as it dies. Dead insects blacken and dry out. Mycosis may be observed when high humidity favors massive fungal growth and sporulation from the already dead insect.

Shelf stability 18 months at room temperature

Resistance management solution

 Mycoinsecticide Mode of Action: Fungal Infection

 Penetration of insect cuticle and proliferation of entomopathogenic fungus in the host body cavity.

 Host insect is killed by internal proliferation of the fungus.

 appressorium
 germ tube
 spore
 spore

 attachment

enzymes hydrostatic pressure exocuticle cuticle endocuticle penetrating hypha epidermis basement membrane hemocael ("bloodstream") Blastospores bud from hypha, spread internally Diagrammatic (not to scale) Uninfected Infected 2nd instar

It is not necessary to see fungal growth outside the insect to know that BoteGHA is working. There is no mycelial growth observed on these dead nymphs controlled in low humidity.

0 day PHI

Exempt from residue tolerance and MRL

	dead nymphs controlled in low numidity.
4 hr REI	Mode of Action The nontoxic mode of action of BoteGHA presents low risk to applicators and handlers and is considered safe on beneficial species and the environment compared to many other insecticides. BoteGHA is exempt from residue tolerance with no preharvest interval (PHI) requirements or Maximum Residue Limits (MRLs) and carries the minimum allowed restricted entry interval (REI) of 4 hours.
Minimal PPE	
	Application
Cost effective treatment Ease of use	 Apply BoteGHA at 1/2 qt. to 2 qt./acre. Because BoteGHA is a contact bioinsecticide, complete coverage of the foliage will help achieve maximum control. Apply BoteGHA proactively for optimum performance. A spray program of BoteGHA applied at 7-day intervals helps keep the crop clean and limits pest flare-ups. If insect populations are high, increase spray frequency to every 3 to 5 days and/or add a knockdown material to the tank mix. Always consult the compatibility chart or contact a Certis USA sales representative.
Made in	Sustainable, Made in America
America	The development of BoteGHA reflects Certis USA's commitment to provide innovative, value-added technologies to growers worldwide who are in need of sustainable crop protection solutions. Be sure to visit www.CertisUSA.com to view our in-depth line of products that answer the needs of both the conventional and organic grower.

*Mites are not on the label in California.







Variety: Climax. Treatment plots were 4 rows of 5 blueberry bushes. 15-20 flowers were sampled per plot for thrips. Cooperator: O. Liburd, Univ FL. Citra, FL, 2010 CER-2018-589. Delegate™ is a trademark of Dow AgroSciences.

Sweetpotato Whitefly (Bemisia tabaci) Control on Tomato Number per 10 leaflets (mean ± std error) 400 Live nymphs Live nymphs and eggs Eggs 300 Columns of the same color bearing the same letter are not a significantly different (p>0.05. Tukey's Studentized Range test). 200 100 ь ab hc hc bcd bcde de cde de cde 0 Untreated Venerate® Grandevo[®] Requiem[®] M-Pede® BoteGHA ES Sivanto™ DF 3 lb EĊ 3 qt 2 gal SL 14 fl oz check l gal l qt

Greenhouse trial by H. Smith, Univ FL (Balm), funded by IR4 Biopesticides Program. 4 weekly applications using a hand-held sprayer to runoff. Rates are given per 100 gal of water.

Venerate, Grandevo are trademarks of Marone BioInnovations. Requiem, Sivanto are trademarks of Bayer CropScience. M-Pede is a trademark of Gowan.

Green Peach Aphid (Myzus persicae) Control on Nectarine



Variety: Venus. Treatment: 4 apps; I=May 8, 2=May 15, 3=May 22, 4=May 29. Assessment made at 7 days after application 4. Cooperator: M. Dimartino, SAGEA (GEP certified). Southwest Italy, CER-2017-5795. Beleaf is a trademark of FMC. PyGanic is a trademark of Valent.

CERTIS USA

Always read and carefully follow label instructions.