

# BoteGHA™ ES

## EMULSIFIABLE SUSPENSION MYCOINSECTICIDE

### Active Ingredient:

*Beauveria bassiana* Strain GHA..... 11.3%\*\*

**Inert Ingredients:**..... 88.7%\*

**Total:**..... 100.0%

\*Contains petroleum distillates

\*\*Based on the weight estimate of  $4.78 \times 10^{-12}$  grams per spore. BoteGHA™ ES contains  $2 \times 10^{13}$  viable spores per quart.

### KEEP OUT OF REACH OF CHILDREN CAUTION

See additional precautionary statements and first aid statements in attached booklet.

Store between 40°F and 85°F

**SHAKE WELL**

Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

Net Contents: 1 Gallon  
EPA Reg. No. 82074-1  
EPA Est. No. 65626-MT-02

Lot No.:

Expiration Date

### LAM International Corporation

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Manufactured by  
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### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Harmful if absorbed through the skin, inhaled or swallowed. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

#### FIRST AID

<b>If in eyes</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li><li>• Call poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 – 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If inhaled</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Immediately call a poison control center or doctor.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give any liquid to the person.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

#### NOTE TO PHYSICIAN

Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Protective eyewear (goggles, face shield, or shielded safety glasses)
- Chemical-resistant gloves such as nitrile rubber or butyl rubber
- Shoes plus socks

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least 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.

### USER SAFETY RECOMMENDATIONS

#### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This product is potentially pathogenic to honey bees. Avoid applying to areas where honey bees are actively foraging or around bee hives. This product may be toxic to fish. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

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 by cleaning of equipment or disposal of equipment wash waters or rinsate. Do not discharge into lakes, streams, ponds, or public waterways.

### 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.

May be applied aerially. Suitable for use with ultra low-volume application equipment.

### 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 apply only 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 4 hours unless wearing the appropriate personal protective equipment.

PPE required 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
- Chemical-resistant gloves such as nitrile rubber or butyl rubber
- Shoes plus socks
- Protective eyewear (goggles, face shield, or shielded safety glasses)

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this 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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours unless wearing the appropriate personal protective equipment.

Keep unprotected persons out of treated areas until sprays have dried.

## GENERAL INFORMATION

BoteGHA™ ES contains live spores of the naturally occurring fungus, *Beauveria bassiana* Strain GHA. Spores are alive and may be harmed by storage at high temperatures or contact with water for more than 24 hours. See STORAGE AND DISPOSAL instructions on the container label.

### MODE OF ACTION AND APPLICATION TIMING

Begin treatment of crops at the first appearance of the insect pest. Typically, it takes 7-10 days after the first spray to see control. Application rates, frequency, spray coverage and insect numbers impact the speed at which acceptable control is achieved. BoteGHA™ ES is most effective when used early, before high insect populations develop. Reapply as necessary under a pest management program that includes close scouting. Intense pest outbreaks may require combination of BoteGHA™ ES with a compatible insecticide.

Contact LAM International Corporation or your distributor for specific information on compatible insecticides.

### PRE-HARVEST INTERVAL

Pre-harvest interval for BoteGHA™ ES is zero (0) days. BoteGHA™ ES can be applied up to the day of harvest.

## GENERAL INFORMATION (FOR CORN ONLY)

BoteGHA™ ES contains live spores of fungus, *Beauveria bassiana* Strain GHA. This fungus is a naturally occurring disease organism of corn borers. Spores are alive and may be harmed by storage at high temperature or by contact with water for more than 24 hours. See STORAGE AND DISPOSAL instructions on the container label.

### MODE OF ACTION

BoteGHA™ ES acts by contact. Spores attach to the insect, germinate and penetrate through the insect cuticle. The fungus then grows rapidly within the insect, causing mortality.

*Beauveria bassiana* occurs naturally in close association with corn plants where it infects corn borers. When BoteGHA™ ES is applied to corn early in the season, the fungus persists in association with corn plants providing season long reduction in corn borer damage.

### PRE-HARVEST INTERVAL

Pre-harvest interval for BoteGHA™ ES is zero (0) days. BoteGHA™ ES can be applied up to the day of harvest.

## INSECTS FOR WHICH BOTE GHA™ ES MAY BE USED

**ORTHOPTERA** Grasshoppers, Locusts, Mole Crickets, Mormon Crickets

**WHITEFLY** Banded-winged Whitefly, Cassava Whitefly\*(Not for use in California), Citrus Blackfly, Citrus Whitefly, Giant Whitefly, Greenhouse Whitefly, Silverleaf Whitefly, Sweet Potato Whitefly (aka Tobacco Whitefly)

**APHIDS** Bean Aphid, Cabbage Aphid, Cowpea Aphid, Green Peach Aphid, Greenbug, Hop Aphid, Melon/Cotton Aphid, Pea Aphid, Potato Aphid, Rose Aphid, Russian Wheat Aphid, Spotted Alfalfa Aphid

**THRIPS** Greenhouse Thrips, Cuban Laurel Thrips, Pear Thrips, Potato/Onion Thrips, Thrips palmi, Western Flower Thrips

**PSYLLIDS** Pear Psylla, Tomato/Potato Psylla

**MEALYBUGS** Citrus Coccid\*(Not for use in California), Citrus Mealybug, Buffalo Grass Mealybug, Grape Mealybug, Longtailed Mealybug

**LEAFHOPPERS AND PLANTHOPPERS** Grape Leafhopper, Leafhoppers, Planthoppers, Potato Leafhopper, Rice Delphacid\*(Not for use in California), Variegated Grape Leafhopper, Virginia Creeper Leafhopper

**STEM-BORING LEPIDOPTERA** European Corn Borer, Lesser Cornstalk Borer, Rice Stem Borer, Southwestern Corn Borer, Sugar Cane Borer

**FOLIAGE-FEEDING LEPIDOPTERA** Diamondback Moth, Cabbage Looper, Fall Army Worm\*(Not for use in California), Imported Cabbage Worm

**LEAF-FEEDING BEETLES** Bean Leaf Beetle, Cereal Leaf Beetle, Colorado Potato Beetle, Corn Rootworm, Cucumber Beetles, Elm Leaf Beetle, Flea Beetles

**SCARAB BEETLES** Ataenius, Green June Beetle, White Grubs

**PLANT BUGS (HETEROPTERA)** Chinch Bugs, Fleahoppers, Lace Bugs, Lygus Bug, Seed Bugs, Stink Bugs, Tarnished Plant Bug

**WEEVILS** Alfalfa Weevil, Apple Curculio, Billbugs, Black Vine Weevil, Citrus Root Weevil, Cotton Boll Weevil, Fuller Rose Weevil, Palm Weevil\*(Not for use in California), Pecan Weevil, Pepper Weevil, Plantain Weevil\*(Not for use in California), Plum Curculio, Root Weevil, Rose Curculio, Strawberry Root Weevil, Sweet Potato Weevil, Vegetable Weevil

**ACARI** Twospotted Spider Mite\*(Not for use in California)

## CROPS ON WHICH BOTE GHA™ ES MAY BE USED

**VEGETABLES** acerola, arracacha, arrowroot, artichoke, arugula, asparagus, atemoya, balsam pear, bamboo shoots, beans (all varieties), beet, blackeyed peas, bokchoy, broccoli, broccoli raab, Brussels sprouts, burdock, cabbage, cantaloupe, carambols, carrots, casaba melons, cassava, catjang, cauliflower, celeriac, celery, celtuce, chayote, chervil, chickpeas, chicory, Chinese broccoli, Chinese cabbage, Chinese gai lon, Chinese longbeans, Chinese mustard, Chinese spinach, Chinese waxgourd, chrysanthemum (edible), chufa, cilantro, citron melon, collards, corn salad, crenshaw melon, cress, cucumber, dandelion, dasheen, daikon, dock, edamame, eggplant, endive, escarole, fennel, garlic, gherkin, ginger, golden pershaw melon, gourds (edible), groundcherry, guar, honey balls, honeydew melon, horseradish, kale, kohlrabi, leek, lentils, leren, lettuce, mango melon, muskmelon hybrids/varieties, mustard greens, New Zealand spinach, okra, onion, orach, parsley, parsnip, peas (all varieties), pepinos, pepper (all varieties), Persian melon, pimento (all varieties), pineapple melon, potato, pumpkin, purslane, radish, radicchio, rambutan, rape greens, rapini, rhubarb, rutabaga, salsify, shallot, snake melon, soybeans, spinach, squash (summer/winter), sugar beet, sweet potato, Swiss chard, tanager, tomatillo, tumeric, turnip, watermelon, yam, zucchini

**FRUITS AND BERRIES** apple, apricot, avocado, bananas, blackberry, blueberry, boysenberry, calamondin, carob, cherimoya, cherry (sweet/ sour), chironja, citrus citron, citrus hybrids, crabapple, cranberry, currant, dates, dewberry, durian, elderberry, fejoa, figs, gooseberry, grape (table, raisin, wine), grapefruit, guava, huckleberry, kiwi, kumquat, lemon, limes, loganberry, loquat, lychee, mandarin, mango, marionberry, nectarine, olallie berry, olives (all varieties), orange, oriental pear, papaya, passion fruit, peach, pear, persimmon, pineapple, plum, pomegranate, prune, pummelo, quihuna, quince, raspberry, sour cherry, strawberry, sweet cherry, tangelo, tangerine, youngberry

**TREE NUTS** almonds, beech nut, Brazil nut, butternut, cashew, chestnut, chinquapin, filbert, hickory nut, macadamia nut, pecan, pistachios, walnut

**AGRONOMIC CROPS** alfalfa, barley, buckwheat, clover, corn (field, sweet, pop, silage, seed, corn grown for meal/flour), cotton, flax, hay, hops, jojoba, millet, oats, oil seed rape (canola), peanuts, potato, rice, rye, safflower, sorghum, soybeans, sugarbeets, sugarcane, sunflower, sweet corn, sweet potato, tea, teosinte, triticale, wheat, wild rice

**FORESTRY, INCLUDING** Trees and conifers, tree and forest seedlings

**HERBS AND SPICES** allspice, anise, balm, basil, borage, burnet, chamomile, caperbuds, caraway, cardamom, catnip, celery seed, chervil, chicory, chives, cilantro/ coriander, cinnamon, clary, coriander, costmary, cumin, curry leaf, dill, fennel, fenugreek, ginseng, horehound, hyssop, mace, marjoram, mint, mustard, nasturtium, nutmeg, oregano, paprika, pennyroyal, pepper (black/white), peppermint, rosemary, rue, sage, saffron, savory, sesame, spearmint, sweet bay leaf, tansy, tarragon, thyme, wintergreen, woodruff, wormwood

**TURF, INCLUDING LAWN AND SOD TURF GRASSES** Bermuda grass, blue grass, fescue, St. Augustine grass, zoysia grass

## MIXING AND APPLICATION

**SHAKE WELL BEFORE USING.** Apply BoteGHA™ ES using hand-held, ground and/or aerial spray equipment, low-volume application equipment and chemigation (follow specific directions for chemigation in this booklet). BoteGHA™ ES contains emulsifiers and mixes readily in water. Mix well by external mixing, in-tank mixing, or pump circulation to form an emulsion. To mix, fill spray tank with half the desired amount of water and start agitation. Shake BoteGHA™ ES to suspend spores then with agitator running, slowly add desired quantity of BoteGHA™ ES to spray tank. Add remainder of desired amount of water. Continue agitation throughout loading and spraying. Triple rinse empty BoteGHA™ ES container with water and add rinse water to spray tank. For best results, continue agitation during spraying. Do not mix more BoteGHA™ ES than needed for that day. Do not mix BoteGHA™ ES the day before application. Spores will die if left overnight or longer in the spray tank.

Contact your dealer or LAM International Corporation for instructions about specific crops, insects and spray equipment.

## DOSAGE RATE FOR FIELD, AGRONOMIC AND VEGETABLE CROPS (EXCEPT CORN); RANGELAND, IMPROVED PASTURES AND FORESTRY

### Ground Application

Apply ¼ to 1 quart BoteGHA™ ES/acre. Apply in sufficient water to thoroughly cover foliage infested with insects, typically 5 to 100 gallons of water per acre. Final spray volume may be up to 400 gallons per acre. Water volume depends on spray equipment, crop canopy and target pest. **SPRAY TO WET, BUT AVOID RUNOFF.**

Apply BoteGHA™ ES up to a maximum of 3 quarts per acre for extreme insect pressure or dense foliage.

### Aerial Application

Apply ¼ to 1 quart BoteGHA™ ES/acre. Apply in sufficient water to thoroughly cover foliage infested with insects. For best results, apply in 5-10 gallons water per acre. Do not apply in less than 2 gallons water per acre.

### Leaf-Feeding Lepidoptera

For use against diamondback moth, imported cabbage worm and cabbage looper; BoteGHA™ ES can be used alone or in a tank mix with *Bacillus thuringiensis* (vars. *kurstaki*, *aizawai*) to control these insects in accordance with the more restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing. The tank mix provides control of later instars (3<sup>rd</sup> to 4<sup>th</sup>) and aids in the management of resistant populations. For additional information, contact LAM International Corporation.

### Typical Application Rates/Acre

Diamondback moth.....½ to 1 quart of BoteGHA™ ES/acre  
Imported cabbage worm.....½ to 1 quart of BoteGHA™ ES/acre  
Cabbage looper.....1 quart of BoteGHA™ ES/acre

### Leaf-Feeding Beetles

For use against Colorado potato beetle; BoteGHA™ ES can be used alone or in a tank mix with *Bacillus thuringiensis* (vars. *tenebrionis*) to control Colorado potato beetle in accordance with the more restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing. The tank mix provides control and aids in the management of resistant populations. For additional information, contact LAM International Corporation.

### Typical Application Rates/Acre

Colorado potato beetle .....½ to 1 quart of BoteGHA™ ES/acre

## DOSAGE RATE FOR TURF AND SOIL APPLICATIONS IN ORCHARDS

For most soil applications, apply 2-8 fluid ounces of BoteGHA™ ES per 1,000 square feet. For difficult to control soil pests, especially citrus root weevil (*Diaprepes abbreviatus*), apply BoteGHA™ ES at the upper rate (8 fl. oz. of BoteGHA™ ES per 1,000 square feet).

Do not apply to water-saturated soil. Apply BoteGHA™ ES in enough water to ensure good coverage of treated area, at least one gallon of water per 1,000 square feet. Irrigate treated area after application to disperse BoteGHA™ ES into soil.

### APPLICATION FREQUENCY

Apply BoteGHA™ ES at 5-10 day intervals. High insect populations, especially whitefly and aphids, may require application at 2-5 day intervals. Repeat applications for as long as pest pressure persists. There is no limit on the number of applications or total amount of BoteGHA™ ES which can be applied in one season.

### PHYTOTOXICITY

BoteGHA™ ES has shown plant safety but has not been tested on all plant varieties or in all tank mixes. Use caution when making applications to open blooms, especially on varieties known to be sensitive. Test BoteGHA™ ES on a small number of plants to check for potential damage before applying to larger number of plants.

### TANK MIX COMPATIBILITY

BoteGHA™ ES is physically and biologically compatible with a wide range of insecticides and spray adjuvants. It is compatible with some fungicides in tank mixtures. Fungicides may kill the spores. Do not exceed label dosage rates. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

**Adjuvants** BoteGHA™ ES is designed for application without additional wetting agents and spreaders. If adjuvants are needed for some other reason, contact your dealer or LAM International Corporation for specific instructions. Some wetting agents and spreaders kill the spores, the active ingredient in BoteGHA™ ES, or contribute to poor mixing and spray problems.

**Compatibility With Chemical Insecticides** BoteGHA™ ES is compatible with most chemical insecticides. However, some insecticide formulations can kill the fungal spores, the active ingredient in BoteGHA™ ES. If you are going to use BoteGHA™ ES in combination with other pesticides, contact your dealer or LAM International Corporation for specific information. In all cases, pesticides must be used in accordance with their labels.

**Compatibility With Fungicides** BoteGHA™ ES is compatible in tank mix with some fungicides. Contact LAM International Corporation or your dealer for specific instructions on using BoteGHA™ ES with fungicides.

## MIXING AND APPLICATION FOR CORN – GROUND AND AERIAL APPLICATION

**SHAKE WELL BEFORE USING.** Apply BoteGHA™ ES using ground and/or aerial spray equipment and chemigation using overhead sprinklers. (Follow specific directions for chemigation on this label). BoteGHA™ ES contains emulsifiers and mixes readily in water. To mix, fill spray tank with half the desired amount of water and start agitation. Shake BoteGHA™ ES to suspend spores, then with agitator running, slowly add desired quantity of BoteGHA™ ES to spray tank. Add remainder of desired amount of water. Triple rinse empty BoteGHA™ ES container with water and add rinse water to spray tank. For best results, continue agitation during spraying. Do not mix more BoteGHA™ ES than needed for that day. Do not mix BoteGHA™ ES the day before application. Spores will die if left overnight or longer in the spray tank.

Contact your dealer or LAM International Corporation for specific instructions.

### Dosage Rates for Corn

Apply 4 fluid ounces of BoteGHA™ ES per acre (2½ gallons of BoteGHA™ ES per 80 acres).

### Application Timing for Corn

Apply to corn when plants are 12-16 inches high (V6-V8 stage). A single application is sufficient to establish *Beauveria bassiana* association with corn plants. A second application prior to second generation corn borer flight may further reduce damage from corn borers.

### Ground Application for Corn

Apply with sufficient water to provide thorough coverage. Direct spray over row to obtain optimal coverage in whorl and leaf axils. The amount of water will depend on spray equipment, crop size and local conditions. Generally, a minimum of 10 gallons spray volume per acre is necessary to obtain adequate coverage.

### Aerial Application for Corn

Apply with sufficient water to provide thorough coverage. Use at least 2 gallons spray volume per acre; 5-10 gallons/acre will generally improve coverage. Contact your dealer or LAM International Corporation for specific instructions.

## CHEMIGATION

Apply BoteGHA™ ES only through the following types of chemigation systems: overhead sprinkler systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move; or drip (trickle and microjet) systems. Do not apply this product through any other type of irrigation system.

Apply BoteGHA™ ES undiluted (neat) or diluted for injection flow rate and irrigation volume. For best results, use one part water to one part BoteGHA™ ES. If BoteGHA™ ES is diluted, supply tank must be agitated to thoroughly mix BoteGHA™ ES in water. Add water to supply tank, start agitation, and then add BoteGHA™ ES. Continue supply tank agitation during chemigation cycle to maintain uniform emulsion. Supply tank agitation is not necessary if BoteGHA™ ES is used without dilution. Shake well to suspend spores before adding BoteGHA™ ES to supply tank. Use contents of supply tank within one day.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform 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 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.

### Sprinkler Chemigation

Use ½ to 1 quart BoteGHA™ ES per acre for most sprinkler chemigation applications. Apply up to 3 quarts of BoteGHA™ ES per acre for high insect pressure or dense foliage. For corn, apply at a rate of 4 fluid ounces of BoteGHA™ ES per acre.

For best results, time BoteGHA™ ES chemigation with the end of the irrigation water application. Time injection duration to apply BoteGHA™ ES in the minimum irrigation volume necessary to achieve uniform coverage immediately prior to shutting off irrigation water. Excessive irrigation during and after chemigation will wash active ingredient (spores) off foliage, reducing effectiveness.

With center pivot or other continuous move equipment, apply BoteGHA™ ES in ¼ to ½ inches of water per acre.

With stationary sets, wheel lines, solid sets or hand move sprinklers, apply BoteGHA™ ES during the last 20-30 minutes of the set.

Supply tank agitation is necessary if BoteGHA™ ES is diluted in water before injection into irrigation system. Tank agitation is not necessary if BoteGHA™ ES is used without dilution provided the product is shaken well to resuspend spores before adding to the tank and those contents of tank are used the same day.

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 contaminated from backflow.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

### **Drip (Trickle) and Microjet Chemigation**

Use 1½ to 3 quarts of BoteGHA™ ES per acre for most drip or microjet chemigation. For difficult to control pests, especially citrus root weevil (*Diaprepes abbreviatus*), apply BoteGHA™ ES at up to 8 fl. oz. of BoteGHA™ ES per 1,000 square feet.

Apply BoteGHA™ ES continuously for the duration of irrigation water application to achieve uniform distribution and penetration of active ingredient (spores) in the soil.

Supply tank agitation is necessary if BoteGHA™ ES is diluted in water before injection into irrigation system. Supply tank agitation is not necessary if BoteGHA™ ES is used without dilution provided the product is shaken well to resuspend spores before adding to the supply tank and that contents of supply tank are used the same day.

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 backflow.

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.

### **Chemigation Systems Connected to Public Water Systems**

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.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow 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 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.

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 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 or in cases where there is no water pump, 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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Supply tank agitation is necessary if BoteGHA™ ES is diluted in water before injection into irrigation system. Spray tank agitation is not necessary if BoteGHA™ ES is used without dilution provided the product is resuspended before adding to the other spray tank and that content of spray tanks are used the same day.

For best results in foliar applications by sprinkler, time BoteGHA™ ES chemigation with the end of irrigation water application. Time injection duration to apply BoteGHA™ ES in the minimum irrigation volume necessary to achieve uniform coverage immediately prior to shutting off irrigation water. Excessive overhead irrigation during and after chemigation will wash active ingredient (spores) off foliage, reducing effectiveness.

For best results in soil applications by drip trickle, apply BoteGHA™ ES continuously for the duration of irrigation water application. Apply sufficient volume of water to carry BoteGHA™ ES into proximity of the target pests.

## **SPRAY DRIFT LABELING**

The Agency has been working with the Spray Drift Task Force (made up of U.S. pesticide registrants), EPA Regional Offices, and State Lead Agencies for pesticide regulation to develop the best spray drift management practices. The Agency is now requiring the interim measures specified below for all products that can be applied by aircraft. Actions taken to reduce spray drift will help mitigate contamination of surface water, reduce risk to estuarine species, and reduce harm to nontarget crops and plants. The interim Spray Drift Labeling Requirements for aerial application are as follows:

### **Spray Drift for Aerial Application**

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 the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed ¼ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory Information](#).

### **Information on Droplet Size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

### **Controlling Droplet Size**

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles- Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

### **Boom Length**

For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

### **Application Height**

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### **Swath Adjustment**

When applications are made with a cross-wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

### **Wind**

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

### **Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops ) is minimal (e.g. when wind is blowing away from the sensitive areas).

## **STORAGE AND DISPOSAL**

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

### **PESTICIDE STORAGE**

Store in a cool, dry place. Avoid storage below freezing temperatures or above 85°F. BoteGHA™ ES stability decreases with time at elevated temperatures above 85°F. Tightly reclose the container of unused product. Do not contaminate unused product with water.

### **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 or by industry).

### **CONTAINER DISPOSAL**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later 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 puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

## **WARRANTY AND DISCLAIMER**

BoteGHA™ ES conforms to the description set forth on this label and is reasonably fit for the purposes described herein when used according to the label directions and specified conditions. The manufacturer disclaims any and all other express or implied warranties of merchantability and fitness for particular purpose. Buyers and users shall assume all risk and responsibility for potential loss or damage if this product is used, stored, handled or applied in a manner inconsistent with this labeling. To the extent permitted by law, manufacturer shall not be liable for more than the purchase price for the quantity involved including incidental, consequential or special damages.