BotaniGard ES
Label Worksheet

Instructions: Using the label provided, answer the following questions.

**Helpful vocab to know before you start:**

**Myco:** a prefix that means something to do with fungus.

**Spore:** a microscopic “seed” of a fungus. One way a fungus reproduces.

**Cuticle:** the outer shell of an insect.

1. What does the term Mycoinsecticide mean?

2. *Beauveria bassiana* is the scientific name for what?

   a. an insect
   b. a plant
   c. a scientist
   d. a type of fungus

3. What PPE (personal protective equipment) must you wear to apply or handle this insecticide?

4. Describe the active ingredient of this product.

5. How does this insecticide work? (Mode of Action)

6. If you spray this product on vegetables, how long do you have to wait until you may harvest?
7. Name a pest you have seen in our shop or greenhouse that this product would help to control.

8. When applying most pesticides, you spray the plant until "run off" (liquid is dripping off the leaf). Why do you think the label says to spray to wet but not complete run off?

9. Why do you think you shouldn’t store this product above 85F or below freezing, and shouldn’t get it wet?

10. In terms of IPM (Integrated Pest Management) BotaniGard ES is an example of:
    a. Monitoring
    b. Cultural Practice
    c. Pesticide
    d. Plant Breeding
    e. Biological Control

Extra Credit: The rate to apply this insecticide is 3 quarts of BotaniGard ES per 100 gal. water. If you were mixing 2 gallons, to spray our greenhouse, how much BotaniGard would you add to your sprayer?
PERSONAL PROTECTIVE EQUIPMENT
Applicators and other handlers must wear: Long-sleeved shirt and long pants. Shoes plus socks. 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.

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. 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.

GENERAL INFORMATION
ACTIVE INGREDIENT The active ingredient in BotaniGard ES is the living spores of the naturally occurring fungus, Beauveria bassiana. Spores are alive and may be adversely affected by extreme temperatures or prolonged contact with water (more than 24 hours). See storage instructions on this label.

MODE OF ACTION This product acts by contact. Spores must attach to the cuticle of the target insect to be effective. Spores may attach to insects by either direct contact from spray or from contact with sprayed foliage or soil. Spores germinate, penetrate through the insect cuticle and grow rapidly within the insect, causing mortality.

TANK MIX COMPATABILITY BotaniGard ES is physically and biologically compatible with a wide range of insecticides and spray adjuvants. It is not compatible with fungicides in tank mixtures. Fungicides will kill the spores.

PRE-HARVEST INTERVAL Pre-harvest interval for BotaniGard ES is zero (0) days. BotaniGard ES can be applied up to the day of harvest.

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.

BotaniGard™ ES
Emulsifiable Suspension Mycoinsecticide
For use in controlling Whitefly, Aphids, Thrips and Mealybugs in Ornamentals and Vegetables; for Indoor/Outdoor Nursery, Greenhouse and Landscape Use.

Active Ingredient:
Beauveria bassiana Strain GHA........................11.3%**
Inert Ingredients...........................................88.7%
** Based on the weight estimate of 4.78x10^12 grams per spore. Contains petroleum distillates
BotaniGard ES contains 2x10^13 viable Beauveria bassiana spores per quart.

KEEP OUT OF REACH OF CHILDREN
WARNING - AVISO
Si Usted no entienda 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.)

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse. Harmful if swallowed, inhaled, or absorbed through the skin. Minimize breathing mists or vapors. Use with adequate ventilation. Avoid contact with skin, eyes, or clothing. In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

FIRST AID
If Swallowed: Do not induce vomiting; call a physician immediately. If Inhaled: If irritation persists, contact physician. If On Skin: Wash with soap and water. If In Eyes: Flush with water.

NOTE TO PHYSICIAN
Product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

SEE LEFT PANEL FOR MORE PRECAUTIONARY INFORMATION

SPECIMEN LABEL

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. The requirements in this box only apply 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 12 hours.

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 over long-sleeved shirt and long pants
- Goggles, face shield or safety glasses
- Waterproof gloves
- Shoes plus socks

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 12 hours.

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

For use in controlling Whitefly, Aphids, Thrips and Mealybugs in Ornamentals and Vegetables; for Indoor/Outdoor Nursery, Greenhouse and Landscape Use.
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. BotaniGard 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 BotaniGard with a compatible insecticide.

GREENHOUSE DOSAGE RATE
Apply at a rate of up to three (3) quarts per 100 gallons spray volume. Mix well by external mixing, in-tank mixing, or pump circulation to form emulsion.

Typical Greenhouse Application Rates
Whiteflies, Mealybugs, Aphids…..1/2 quart to 1 quart
Thrips ........................................1 to 2 quarts

Use quantities of water sufficient to provide thorough coverage of infested plant parts. Crop size, spray equipment, and local practice will determine the final volume of water needed per 1000 square feet of crop treated.

100 gallons spray volume will typically treat 5,000 to 20,000 square feet of greenhouse or nursery area. SPRAY TO WET BUT NOT COMPLETE RUN OFF.

Contact your dealer or Mycotech Corporation for specific recommendations.

ADJUVANTS
BotaniGard ES is designed for application without additional wetting agents and spreaders. If adjuvants are needed for some other reason, contact your dealer of Mycotech Corporation for specific recommendations. Some wetting agents and spreaders kill the spores, the active ingredient in BotaniGard ES, or contribute to poor mixing and spray problems.

COMPATIBILITY WITH CHEMICAL INSECTICIDES
BotaniGard ES is compatible with most chemical insecticides. However some insecticide formulations can kill the fungal spores, the active ingredient in BotaniGard ES. If you are going to use BotaniGard ES in combination with other pesticides, contact your dealer of Mycotech Corporation for specific information. In all cases, pesticides should be used in accordance with their labels.

COMPATIBILITY WITH FUNGICIDES
BotaniGard ES is not compatible in tank mix with fungicides. Contact Mycotech or your dealer for specific recommendations on using BotaniGard ES with fungicides.

CHEMIGATION
Do not apply this product through any type of irrigation system.

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STORAGE AND DISPOSAL

STORAGE
- Do not contaminate water, food, or feed by storage or disposal.
- Store in a cool, dry place. Avoid storage below freezing temperatures or above 85°F. BotaniGard 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
- Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL
- Do not reuse as a container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONDITIONS OF SALE
BotaniGard 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.