

# BOTANIGARD® 22WP

Wettable Powder Mycoinsecticide

For use in controlling Whitefly, Aphids, Thrips, Psyllids, Weevils and Mealybugs in Ornamentals and Vegetables, Indoor/Outdoor Nursery, Greenhouse, Shadehouse, Commercial Landscape, Interiorscape and Turf.

**Active Ingredient:** *Beauveria bassiana* Strain GHA.....22.0%\*  
**Inert Ingredients**.....78.0%\*\*  
**Total:**.....100.0%

\*Based on the weight estimate of  $4.78 \times 10^{-12}$  grams per spore.

\*\*Contains petroleum distillates.

BotaniGard 22WP contains  $2 \times 10^{13}$  viable spores per pound.

## 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**

### LAM INTERNATIONAL CORPORATION

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Ph: (406)782-2386; Fax: (406)782-9912

EPA Registration Number 82074-2 EPA Establishment Number 65626-MT-02  
ED131101C Net Contents: Pound; 500gm

Lot No.:

Expiration Date:



**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.)**

### 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 or dust. 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
- 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.

For use in controlling Whitefly, Aphids, Thrips, Psyllids, Weevils and Mealybugs in Ornamentals and Vegetables, Indoor / Outdoor Nursery, Greenhouse, Shadehouse, Commercial Landscape, Interiorscape and Turf. 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

### **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

BotaniGard 22WP contains live spores of the naturally occurring fungus, *Beauveria bassiana* Strain GHA. Spores are alive and can 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.

BotaniGard 22WP 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 22WP with a compatible insecticide.

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

### PRE-HARVEST INTERVAL

Pre-harvest interval for BotaniGard 22WP is zero (0) days. BotaniGard 22WP can be applied up to and including the day of harvest.

### INSECTS FOR WHICH BOTANIGARD 22WP MAY BE USED

#### WHITEFLY

Banded-winged Whitefly	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
<i>Thrips palmi</i>	Western Flower Thrips

#### PSYLLIDS

Pear Psylla	Tomato/Potato Psylla
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#### MEALYBUGS

Citrus Mealybug	Buffalo Grass Mealybug
Grape Mealybug	Longtailed Mealybug

#### LEAFHOPPERS AND PLANTHOPPERS

Grape Leafhopper	Leafhoppers
Planthoppers	Potato Leafhopper
Variegated Grape Leafhopper	Virginia Creeper Leafhopper

#### SCARAB BEETLES

Atenius	Green June Beetle
White Grubs	

#### PLANT BUGS (HETEROPTERA)

Chinch Bugs	Lace Bugs
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#### WEEVILS

Billbugs	Black Vine Weevil
Fuller Rose Weevil	Rose Curculio
Root Weevil	Strawberry Root Weevil

### CROPS ON WHICH BOTANIGARD 22WP MAY BE USED

#### VEGETABLES

acerola	arracacha	arrowroot
artichoke	arugula	asparagus
atermoya	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	cross	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	tanier
tomatillo	tomatoes	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	coffee
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

#### **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	

**ORNAMENTALS, INCLUDING FLOWERS, FLOWERING AND FOLIAGE PLANTS, BEDDING PLANTS, GROUNDCOVERS, SHRUBS, VINES, EVERGREENS AND TREES**

African lily	African violet	ageratum
alyssum	anthurium	arborvitae
ash	asparagus sprengeri	aster
atlas cedar	azalea	bald cypress
balsam fir	bamboo	barberry
beech	begonia	birch
Boston fern	bougainvillea	boxwood
bridal veil	cacti	caladium
calceolaria	calendula	calla lily
camella	camellias	carissa
carnation	ceanothus	celosia
chenille plant	cherro	Christmas cactus
chrysanthemum	cineraria	cleyera
coleus	cordyline	corylus avellana
cotoneaster	cottonwood	crabapple
crepe myrtle	crossandra	croton
cyclamen	cypress	daffodil
dahlia	daisy	delphinium
deodar cedar	dichondra	dieffenbachia
dogwood	Douglas fir	dracaena
dumb cane	Dusty Miller	elm
eucalyptus	ferns	figus
fig	firethorn	fittonia
floss flower	foliage plants	forsythia
freesia	fuchsia	gardenia
geranium	gerbera	gerber daisy
gladiolus	gloxinia	grape
gynura	gypsophila	hackberry
hawthorn	hedera	hemlock
hibiscus	hickory	holly
honey suckle	hop bush	horsechestnut
hyacinth	hydrangea	iceplant
imitari	impatiens	India hawthorn
iris	ivy	Japanese aucuba
Japanese barberry	Japanese boxwood	Japanese spindle tree
Japanese yew	juniper	kalanchoe
lantana	larch	larkspur
laurel	leasianthus	leatherleaf fern
linden	lilac	lily
lithodora	lobelia	loquat
magnolia	mandevilla	maple
marigold	Mediterranean fan palm	mesembryanthemum
mimosa	monstera	mother-in-law plant
mountain laurel	myrtle	nandina
narcissus	oak	oleander
olive	orchid	ornamental kale
pachysandra	palms	pansy
parasol pine	pelargonium	peony
petunia	philodendron	phlox
photina	piggyback plant	pine
pink	pittosporum	planetree
podocarpus	poinsettia	poplar
pothos ivy	prayer plant	primrose
privet	pteris fern	pyracantha
rhododendron	rose	rubber plant
salvia	scabiosa	schefflera
schlumbergera	sedum	shrub verbena
shrubby cinquefoil	smoke tree	snapdragon
spathiphyllum	spruce	stock
sweet gum	sweet pea	sweet William
sycamore	syngonium	taxus
Texas sage	tulip	tulip tree
verbena	viburnum	vinca
Virginia creeper	walnut	wandering Jew
willow	yew	yucca
zinnia		

**TURF, INCLUDING LAWN AND SOD TURF GRASSES**

Bermuda grass	blue grass	fescue
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St. Augustine grass

zoysia grass

### **MIXING AND APPLICATION**

Apply BotaniGard 22WP using hand-held, ground spray equipment and/or low-volume application equipment. Fill spray tank with half the desired amount of water, start agitation. Use a measuring cup, spoon or calibrated container to add BotaniGard 22WP to the spray tank and mix thoroughly. Add remainder of desired amount of water. Triple rinse empty container and add rinse water to spray tank. For best results, continue agitation during application. Do not mix more BotaniGard 22WP than can be sprayed in one day. One (1) cup contains approximately 4.5 ounces of BotaniGard 22WP. After mixing in water, spray within one day. Fungal spores in BotaniGard 22WP will die and lose effectiveness if left overnight or longer in water.

### **DOSAGE RATE FOR GREENHOUSE, NURSERY, LANDSCAPE AND INTERIORSCAPE**

#### **Typical Application Rates/100 Gallons of Spray Volume**

Whitefly and Aphids.....½ to 1 pound of BotaniGard 22WP/100 gallons spray volume  
Thrips .....1 to 2 pounds of BotaniGard 22WP/100 gallons spray volume  
Other labeled insects..... to 2 pounds of BotaniGard 22WP/100 gallons spray volume  
Rate depends on insect population.

Apply BotaniGard 22WP up to a maximum of 3 pounds per 100 gallons spray volume for high insect populations or dense foliage.

Use quantity of spray sufficient to thoroughly cover foliage infested with insects. Crop size, spray equipment and local practice will determine the volume of water needed. One hundred gallons of spray volume will typically cover 5,000-20,000 square feet. **SPRAY TO WET, BUT AVOID RUNOFF.**

#### **Low Volume Application**

Apply at a rate equivalent to area coverage of high volume spray. This would normally be ½ pound to 2 pounds of BotaniGard 22WP for 5,000 to 20,000 square feet. Follow spray equipment manufacturer's instructions for final spray volume to obtain adequate coverage. **DO NOT APPLY THROUGH A THERMAL PULSE FOGGER.**

#### **Cuttings Dip**

Applications of BotaniGard 22WP may be used as pre-plant dips for cuttings as noted below. To prepare dip solution, thoroughly mix ¼ - ½ oz. BotaniGard 22WP per gallon of water (2 ½ -5 oz. BotaniGard 22WP per 10 gallons water). Prepare only as much dip solution as can be used in one day. Do not use dip solution for more than one day. Spores in water for more than 24 hours will die. Dip a small number of plants in dip solution and observe for plant damage before using dip treatment. Do not use dips if there is any visible damage to test plants.

#### **Unrooted Cuttings**

Dip the unrooted cuttings in the BotaniGard 22WP solution just long enough to wet all surfaces, then removing to a flat area. For water-sensitive varieties, cover to protect until dry. Then proceed with normal planting and misting.

#### **Rooted Cuttings**

Holding by the roots, briefly dip in the BotaniGard 22WP solution just long enough to wet all surfaces, including leaves and stems. Once removed from the dip solution, cuttings can be potted, but allow plants to dry before watering.

### **DOSAGE RATE FOR TURF AND SOIL APPLICATIONS IN CONTAINER ORNAMENTALS**

For most soil applications, apply 1-4 oz. (up to ¼ lb.) BotaniGard 22WP per 1,000 square feet. For difficult to control soil pests, especially citrus root weevil (*Diaprepes abbreviatus*), BotaniGard 22WP can be applied at 4 oz. per 1,000 square feet.

Do not apply to water-saturated soil. Apply BotaniGard 22WP in enough water to ensure good coverage of treated area, at least one gallon per 1,000 square feet. Irrigate treated area after application to disperse BotaniGard 22WP into soil.

### **APPLICATION FREQUENCY**

Apply BotaniGard 22WP 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 BotaniGard 22WP which can be applied in one season.

### **PHYTOTOXICITY**

BotaniGard 22WP has shown plant safety but has not been tested on all plant varieties or in all available tank mixes. Use caution when making applications to open blooms, especially on varieties known to be sensitive. BotaniGard 22WP is non-phytotoxic to

melons, tomatoes, cole crops and a wide variety of ornamentals at specified label dosage rates.

For best results, foliage should be dry at time of spraying. Test BotaniGard 22WP on a small number of plants to check for potential damage before applying to larger number of plants

### **TANK MIX COMPATIBILITY**

BotaniGard 22WP 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. No label dosage should be exceeded. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

**Adjuvants** BotaniGard 22WP 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 BotaniGard 22WP, or contribute to poor mixing and spray problems. In all cases, pesticides must be used in accordance with their labels.

**Compatibility With Chemical Insecticides** BotaniGard 22WP is compatible with most chemical insecticides. However, some insecticide formulations can kill the fungal spores, the active ingredient in BotaniGard 22WP. If you are going to use BotaniGard 22WP 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** BotaniGard 22WP is compatible in tank mix with some fungicides. Contact LAM International or your dealer for specific instructions on using BotaniGard 22WP with fungicides.

### **CHEMIGATION**

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

### **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. BotaniGard 22WP 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**

(For plastic containers) 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. 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.

(For foil bags) Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling, if available, or dispose of empty bag in sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

### **WARRANTY AND DISCLAIMER**

BotaniGard 22WP 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.