



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460**

**OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION**

May 20, 2021

Michelle Koularmanis  
Senior Regulatory Coordinator  
Valent BioSciences, LLC  
1910 Innovation Way, Suite 100  
Libertyville, IL 60048

**Subject:** Labeling Notification per Pesticide Registration Notice (PRN) 98-10 – to add alternate brand names, update the company's address, and adjust the year.  
Product Name: BIOBIT HP BIOLOGICAL INSECTICIDE WETTABLE POWDER  
EPA Registration Number: 73049-54  
Application Date: 04/19/2021  
Action Code Case No.: 00297777

Dear Michelle Koularmanis:

The U.S. Environmental Protection Agency (EPA) is in receipt of your application for notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Biopesticides and Pollution Prevention Division (BPPD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The labeling submitted with this application has been stamped "Notification" and will be placed in our records. The alternate brand names: Magic Gardener Caterpillar Killer, BioBit Home & Garden, and BioBit Caterpillar Killer have been added to the product's records. You must submit one (1) copy of the final printed labeling with the modifications.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Page 2 of 2  
EPA Reg. No. 73049-54  
OPP Decision No. 00297777

If you have any questions, please contact Andrew Queen by phone at 703-308-8135 or via email at [queen.andrew@epa.gov](mailto:queen.andrew@epa.gov).

Sincerely,

**DANIEL**  
**SCHOEFF**

Digitally signed by  
DANIEL SCHOEFF  
Date: 2021.05.20  
11:07:01 -04'00'

Daniel Schoeff, Acting Senior Regulator Advisor  
Microbial Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure: Label\_73049-54

**[Text in brackets [] indicates optional language or language intended for explanatory purposes to facilitate label review. Thus, this language will often not appear on final printed labeling.]**

**BIOBIT® HP  
BIOLOGICAL INSECTICIDE  
WETTABLE POWDER**

**[Alternate Brand Names: Magic Gardener Caterpillar Killer, BioBit Home & Garden, BioBit Caterpillar Killer]**



**For Organic Production**

**Active Ingredient:**

*Bacillus thuringiensis* subsp. *kurstaki* strain ABTS-351 fermentation solids, spores, and insecticidal toxins .....58.2%  
Other Ingredients .....41.8%  
Total .....100.0%

Potency: 32,000 Cabbage Looper Units (CLU) per mg of product or 14.52 billion Cabbage Looper Units (CLU) per pound of product.

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**NOTIFICATION**

73049-54

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

05/20/2021

**Manufactured For:**

Valent BioSciences LLC  
[1910 Innovation Way, Suite 100 870 Technology Way](#)  
Libertyville, IL 60048

EPA Registration No.: 73049-54

EPA Est. No.: 33762-IA-001

Batch Code: \_\_\_\_\_

Net Weight: \_\_\_\_\_

<b>FIRST AID</b>	
<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 eye.</li><li>• Call a 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></ul>

	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transportation emergency information. For all other information, call 1-800-323-9597.</p>	

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow the 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.

Agricultural Use Requirements:

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for “mixers/loaders and applicators” and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

Non-Agricultural Use Requirements:

Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

### **USER SAFETY RECOMMENDATIONS**

Users should:

- 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.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### **ENVIRONMENTAL HAZARDS**

For terrestrial uses, except when applying aurally over the forest canopy: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

This product must not be applied aurally within 1/4 mile of any habitats of threatened or endangered lepidoptera. No manual application can be made within 300 feet of any threatened or endangered lepidoptera.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

BioBit® HP Biological Insecticide Wettable Powder (hereafter referred to as BioBit HP).

### **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 only apply to uses of this product that are covered by the Worker Protection Standard.

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.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 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
- 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.

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

### **APPLICATION DIRECTIONS**

**Days to Harvest:** There are no restrictions on applying BioBit HP up to the time of harvest.

**Sites:** BioBit HP may be used for any labeled pest in both field and greenhouse uses.

BioBit HP is a highly selective insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larvae must eat deposits of BioBit HP to be affected. Always follow these directions:

- Treat when larvae are young (early instars) before the crop is extensively damaged.
- Larvae must be actively feeding on treated, exposed plant parts.
- Thorough spray coverage is needed to provide a uniform deposit of BioBit HP at the site of larval feeding. For some crops and pest combinations (i.e., grapeleaf skeletonizer, saltmarsh caterpillar, and omnivorous leafroller on berries and small fruit), directed drop nozzles by ground machine are required.
- Under heavy pest population pressure, use the higher label application rates, shorten the spray interval, and/or raise spray volume to improve spray coverage.
- Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days depending on plant growth rate, moth activity, rainfall after treating, and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before extensive crop damage occurs.
- A spreader-sticker, which has been approved for use on growing crops, should be added for hard-to-wet crops, such as cole crops, or to improve weather-fastness of the spray deposits.
- BioBit HP may be tank mixed with other labeled insecticides to enhance control. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not mix BioBit HP with any product containing a label prohibition against

such mixing. Do not exceed label dosage rates. Before mixing BioBit HP with other labeled products, including spreader-stickers check for tank mix compatibility.

After eating a lethal dose of BioBit HP, larvae stop feeding within the hour, and will die within several days. Dying larvae move slowly, discolor, then shrivel, blacken and die.

BioBit HP may be applied in conventional ground or aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. The volume of water needed per acre will depend on crop size, weather, spray equipment, and local experience. Unless otherwise indicated, use at least 2 gallons of water per acre by air; except in the Western U.S., where 5 to 10 gallons is the usual minimum. Add water to the spray or mixing tank at the level that provides maximum agitation. With the agitator running, slowly sprinkle in the BioBit HP. Continue agitation. Then add other spray materials (if any). Add the balance of the water and agitate until mixed. Maintain the suspension while loading and spraying. Do not mix more BioBit HP than can be used in a 12-hour period.

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/treatment coordinator are responsible for considering all of these factors when making decisions.

For Smaller Spray Volumes:

<b><u>If Application Rate is</u></b>	<b><u>Use This Amount of BioBit HP Per Gallon of Water</u></b>	
1/4 lb BioBit HP/acre (crop) or 100 gals. water	1/2 tsp.	(0.04 oz)
1/2 lb BioBit HP/acre (crop) or 100 gals. water	1 tsp.	(0.08 oz)
1 lb BioBit HP/acre (crop) or 100 gals. water	2 tsps.	(0.16 oz)
2 lb BioBit HP/acre (crop) or 100 gals. water	4 tsps.	(0.32 oz)

## **CHEMIGATION USE DIRECTIONS**

ATTENTION: BioBit HP may be applied by chemigation ONLY in Florida and ONLY to the following crops: flowers, bedding plants, ornamentals, and greenhouse/shadehouse and outdoor nursery crops. Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move, irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

### **Spray Preparation**

First, prepare a suspension of BioBit HP in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of BioBit HP, and then the remaining volume of water. Then, set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of BioBit HP into the irrigation water line so as to deliver the desired application rate per acre. The suspension

of BioBit HP should be injected with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or to other experts.

**NOTE:** When treatment with BioBit HP has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the material off the crop.

### **Precautions for Applications Through Sprinkler Irrigation Systems**

Maintain continuous agitation in the mix tank during mixing and application to ensure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume for a more dilute solution per unit time.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. 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. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.



## APPLICATION INSTRUCTIONS/RATES FOR BIOBIT HP

CROP OR CROP GROUP	PESTS	POUND/ACRE
<p><b>Vegetable, root and tuber (Crop group 1)</b>                      Including: Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; beet, garden; beet, sugar; burdock, edible; canna, edible; carrot; cassava, bitter and sweet; celeriac; chayote (root); chervil, turnip-rooted; chicory; chufa; dasheen (taro); ginger; ginseng; horseradish; leren; parsley, turnip-rooted; parsnip; potato; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; sweet potato; tanier; turmeric; turnip; yam bean; yam, true.</p>	Loopers Omnivorous Leafroller Hornworms Imported Cabbageworm Diamondback Moth Green Cloverworm Webworm Saltmarsh Caterpillar Armyworms* Cutworms	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2 1/2 - 1
<p><b>Vegetable, bulb (Crop group 3-07)</b>                      Including: Chive, fresh leaves; chive, Chinese, fresh leaves; daylily, bulb; elegans hosta; fritillaria, bulb; fritillaria, leaves; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; kurrat; lady's leek; leek; leek, wild; lily, bulb; onion, Beltsville bunching; onion, bulb; onion, Chinese, bulb; onion, fresh; onion, green; onion, macrostem; onion, pearl; onion, potato, bulb; onion, tree, tops; onion, Welsh, tops; shallot, bulb; shallot, fresh leaves; cultivars, varieties, and/or hybrids of these.</p>	Loopers Omnivorous Leafroller Hornworms Imported Cabbageworm Diamondback Moth Green Cloverworm Webworm Saltmarsh Caterpillar Armyworms* Cutworms	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2 1/2 - 1
<p><b>Vegetable, leafy, except brassica (Crop group 4)</b> Including: Amaranth (Chinese spinach); arugula (roquette); cardoon; celery; celery, Chinese; celtuce; chervil; chrysanthemum, edible-leaved; chrysanthemum, garland; corn salad; cress, garden; cress, upland; dandelion; dock (sorrel); endive (escarole); fennel, Florence; lettuce, head and leaf; orach; parsley; purslane, garden; purslane, winter; radicchio (red chicory); rhubarb; spinach, New Zealand; spinach, vine; Swiss chard.</p>	Loopers Omnivorous Leafroller Hornworms Imported Cabbageworm Diamondback Moth Green Cloverworm Webworm Saltmarsh Caterpillar Armyworms* Cutworms	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2 1/2 - 1

CROP OR CROP GROUP	PESTS	POUND/ACRE
<b>Vegetable, brassica (cole) leafy (Crop group 5)</b> Including: Broccoli; broccoli, Chinese (gai lon); broccoli raab (rapini); Brussels sprouts; cabbage; cabbage, Chinese (bok choy); cabbage, Chinese (napa); cabbage, Chinese mustard (gai choy); cauliflower; cavalo broccolo; collards; kale; kohlrabi; mizuna; mustard greens; mustard spinach; rape greens.	Loopers Omnivorous Leafroller Hornworms Imported Cabbageworm Diamondback Moth Green Cloverworm Webworm Saltmarsh Caterpillar Armyworms* Cutworms	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2 1/2 - 1
<b>Legume vegetables (succulent or dried) (Crop group 6)</b> Including: Bean ( <i>Lupinus</i> spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean ( <i>Phaseolus</i> spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean ( <i>Vigna</i> spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; Pea ( <i>Pisum</i> spp.) (includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea); pigeon pea; soybean; soybean (immature seed); sword bean.	Loopers Soybean Looper Green Cloverworm Velvetbean Caterpillar Armyworms* Podworms*	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2 1/2 - 1
<b>Vegetable, fruiting, except cucurbits (Crop group 8-10)</b> Including: African eggplant; bush tomato; bell pepper; cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; nonbell pepper; roselle; scarlet eggplant; sunberry; tomatillo; tomato; tree tomato; cultivars, varieties, and/or hybrids of these.	Loopers Hornworm Tomato Fruitworm Variegated Cutworm Saltmarsh Caterpillar Armyworms* Pinworm	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2 1 - 2

<b>CROP OR CROP GROUP</b>	<b>PESTS</b>	<b>POUND/ACRE</b>
<b>Vegetable, cucurbit (Crop group 9)</b> Including: Chayote (fruit); Chinese waxgourd (Chinese preserving melon); citron melon; cucumber; gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); <i>Momordica</i> spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber); muskmelon (includes cantaloupe); pumpkin; squash, summer; squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon.	Loopers Melonworms Rindworm complex Armyworms*	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2
<b>Fruit, citrus (Crop group 10-10)</b> Including: Australian desert lime; Australian finger lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; Mount White lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russell River lime; Satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these.	Fruittree Leafroller Orangedog Citrus Cutworm****	1/2 - 2 1/4 - 1 1/2 - 2
<b>Fruit, pome (Crop group 11-10)</b> Including: Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these.	Redhumped Caterpillar Tent Caterpillars Omnivorous Leafroller Fall Webworm Walnut Caterpillar Cankerworms Gypsy Moth Variegated Leafroller Redbanded Leafroller Tufted Apple Budworm Fruittree Leafroller Filbert Leafroller Obliquebanded Leafroller Codling Moth Cutworms	1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2

CROP OR CROP GROUP	PESTS	POUND/ACRE
<b>Fruit, stone (Crop group 12)</b> Including: Apricot; cherry, sweet; cherry, tart; nectarine; peach; plum; plum, Chickasaw; plum, Damson; plum, Japanese; plumcot; prune (fresh).	Redhumped Caterpillar Tent Caterpillars Omnivorous Leafroller Fall Webworm Walnut Caterpillar Cankerworms Gypsy Moth Variegated Leafroller Redbanded Leafroller Tufted Apple Budworm Fruittree Leafroller Filbert Leafroller Obliquebanded Leafroller Codling Moth Cutworms	1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2

CROP OR CROP GROUP	PESTS	POUND/ACRE
<p><b>Berry and small fruit (Crop group 13-07)</b>  Including: Amur river grape; aronia berry; bayberry; bearberry; bilberry; blackberry (<i>Rubus</i> spp.) (includes Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); blueberry, highbush; blueberry, lowbush; buffalo currant; buffaloberry; che; Chilean guava; chokecherry; cloudberry; cranberry; cranberry, highbush; currant, black; currant, red; elderberry; European barberry, gooseberry; grape; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); kiwifruit, fuzzy; kiwifruit, hardy; lingonberry; maypop; mountain pepper berries; mulberry; muntries; native currant; partridgeberry; phalsa; pincherry; raspberry, black and red; riberry; salal; schisandra berry; sea buckthorn; serviceberry; strawberry; wild raspberry; cultivars, varieties, and/or hybrids of these.</p>	<p>Grapeleaf Skeletonizer (ground application only)  Grape Leafroller  Achemia Sphinx Moth (Hornworm)  Saltmarsh Caterpillar (ground application only)  Omnivorous Leafroller (ground application only)  Loopers  Orange Tortrix  Obliquebanded Leafroller  Armyworms*  Tobacco Budworm  Grape Berry Moth</p>	<p>1/2 - 1   1/2 - 1  1/2 - 1  1/2 - 1  1/2 - 1  1/2 - 1  1/2 - 1  1/2 - 1  1/2 - 2  1/2 - 2  1/2 - 1</p>

<b>CROP OR CROP GROUP</b>	<b>PESTS</b>	<b>POUND/ACRE</b>
<b>Nut, tree (Crop group 14)</b> Including: Almond; beech nut; Brazil nut; butternut; cashew; chestnut; chinquapin; filbert (hazelnut); hickory nut; macadamia nut; pecan; walnut, black and English.	Redhumped Caterpillar Tent Caterpillars Omnivorous Leafroller Fall Webworm Walnut Caterpillar Cankerworms Gypsy Moth Variegated Leafroller Redbanded Leafroller Tufted Apple Budworm Fruittree Leafroller Filbert Leafroller Obliquebanded Leafroller Codling Moth Cutworms	1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2
<b>Grain, cereal (Crop group 15)</b> Including: Barley; buckwheat; corn; millet, pearl; millet, proso; oats; popcorn; rice; rye; sorghum (milo); teosinte; wheat; wild rice.	Loopers Armyworms* Headworms	1/2 - 1 1/2 - 2 1/2 - 1
<b>Grass forage, fodder, and hay (Crop group 17)</b> Including: Any grass, <i>Gramineae</i> family (either green or cured) except sugarcane and those included in the cereal grains group, that will be fed to or grazed by livestock, all pasture and range grasses and grasses grown for hay or silage.	Loopers Alfalfa Caterpillar European Skipper (Essex Skipper) Armyworms*	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2
<b>Nongrass animal feeds (forage, fodder, straw, and hay) (Crop group 18)</b> Including: Alfalfa; bean, velvet; clover; kudzu; lespedeza; lupin; sainfoin; trefoil; vetch; vetch, crown; vetch, milk.	Loopers Alfalfa Caterpillar European Skipper (Essex Skipper) Armyworms*	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 2

<b>CROP OR CROP GROUP</b>	<b>PESTS</b>	<b>POUND/ACRE</b>
<b>Herbs and spices (Crop group 19) and mint</b> Including: Allspice; angelica; anise; anise, star; annatto (seed); balm; basil; borage; burnet; chamomile; caper buds; caraway; caraway, black; cardamom; cassia bark; cassia buds; catnip; celery seed; chervil (dried); chive; chive, Chinese; cinnamon; clary; clove buds; coriander leaf (cilantro or Chinese parsley); coriander seed (cilantro); costmary; culantro (leaf); culantro (seed); cumin; curry (leaf); dill (dillweed); dill (seed); fennel (common); fennel, Florence (seed); fenugreek; grains of paradise; horehound; hyssop; juniper berry; lavender; lemongrass; lovage (leaf); lovage (seed); mace; marigold; marjoram; mustard (seed); nasturtium; nutmeg; parsley (dried); pennyroyal; pepper, black; pepper, white; peppermint; poppy (seed); rosemary; rue; saffron; sage; savory, summer and winter; sweet bay; tansy; tarragon; thyme; vanilla; wintergreen; woodruff; wormwood.	Looper Saltmarsh Caterpillar Armyworms*	1/2 - 1 1/2 - 1 1/2 - 2
<b>Oilseed (Crop group 20)</b> Including: Borage; calendula; castor oil plant; Chinese tallowtree; cottonseed; crambe; cuphea; echium; euphorbia; evening primrose; flax seed; gold of pleasure; hare's ear mustard; jojoba; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; niger seed; oil radish; poppy seed; rapeseed (canola); rosehip; safflower; sesame; stokes aster; sunflower; sweet rocket; tallowwood; tea oil plant; veronia; cultivars, varieties, and/or hybrids of these.	Loopers Armyworms* Tobacco Budworm** Cotton Bollworm** Saltmarsh Caterpillar Head Moth <i>Heliothis</i>	1/2 - 1 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 1 1/2 - 1 1/2 - 2
<b>Asparagus</b>	Armyworms*	1/2 - 2
<b>Avocado</b>	Amorbia Moth Omnivorous Leafroller Omnivorous Looper Orange Tortrix Spanworm	1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2
<b>Corn (Sweet and Field) and Sorghum</b>	Armyworms* Headworms	1/2 - 2 1/2 - 1

<b>CROP OR CROP GROUP</b>	<b>PESTS</b>	<b>POUND/ACRE</b>
<b>Cotton</b>	Tobacco Budworm** Cotton Bollworm** Loopers Saltmarsh Caterpillar Armyworms*	1/2 - 2 1/2 - 2 1/2 - 1 1/2 - 1 1/2 - 2
<b>Flowers, Bedding Plants and Ornamentals***</b>  (Note: Aerial application should be applied in a minimum of 5 gallons per acre)	Loopers Tobacco Budworm Omnivorous Looper Omnivorous Leafroller Diamondback Moth Armyworms* Ello Moth (Hornworm) Io Moth Oleander Moth Azalea Caterpillar	1/4 - 1/2 1/4 - 1/2 1/4 - 1/2 1/4 - 1/2 1/4 - 1/2 1/2 - 2 1/4 - 1/2 1/4 - 1/2 1/4 - 1/2 1/4 - 1/2
<b>Fruit, tropical (grown in U.S.A.)</b> Including: Anonna; banana/plantain; caimito; carambola (star fruit); guava; longan; sapodilla; papaya; passion fruit; mango; lychee; jakfruit; dragon fruit; mamey sapote; coconut; cherimoya; canistel; monstera; wax jambu; rambutan; pulasan; Pakistani mulberry; langsat; chempedak; durian; fig; pineapple; jaboticaba; mountain apples.	Banana Skipper Hornworm Leafrollers Loopers Omnivorous Leafroller Omnivorous Looper <i>Batrachedra comosae</i> (Hodges) Thecla Moth	1/2 - 1 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/2 - 2 1/4 - 1/2 1/4 - 1/2
<b>Hops</b>	Loopers Armyworms*	1/2 - 1 1/2 - 2
<b>Malanga</b>	Saltmarsh Caterpillar Armyworms*	1/2 - 1 1/2 - 2
<b>Peanuts</b>	Loopers Velvetbean Caterpillar Green Cloverworm Podworms*	1/2 - 1 1/2 - 1 1/2 - 1 1/2 - 1



CROP OR CROP GROUP	PESTS	POUND/ACRE
<b>Pomegranates</b>	Redhumped Caterpillar	1/2 - 2
	Tent Caterpillars	1/2 - 2
	Omnivorous Leafroller	1/2 - 2
	Fall Webworm	1/2 - 2
	Walnut Caterpillar	1/2 - 2
	Cankerworms	1/2 - 2
	Gypsy Moth	1/2 - 2
	Variegated Leafroller	1/2 - 2
	Redbanded Leafroller	1/2 - 2
	Tufted Apple Budworm	1/2 - 2
	Fruittree Leafroller	1/2 - 2
	Filbert Leafroller	1/2 - 2
	Obliquebanded Leafroller	1/2 - 2
	Codling Moth	1/2 - 2
	Cutworms	1/2 - 2
<b>Tobacco</b>	Tobacco Budworm	1/2 - 1
	Hornworms	1/4 - 1/2
	Loopers	1/2 - 1
<b>Turf</b>	Sod Webworm	1 - 2
<b>Water Cress</b>	Loopers	1/2 - 1
	Armyworms*	1/2 - 2
	Diamondback Moth	1/2 - 1
<b>GREENHOUSE/SHADEHOUSE AND OUTDOOR NURSERY</b>		
Crops including, but not limited to:  Vegetable, leafy, except brassica ( <b>Crop group 4</b> ); Vegetable, brassica (cole) leafy ( <b>Crop group 5</b> ); Vegetable, fruiting, except cucurbits ( <b>Crop group 8-10</b> ); Herbs and spices ( <b>Crop group 19</b> )***	Loopers	1/2 - 1
	<i>Heliothis</i>	1/2 - 2

\* BioBit HP may be used to control small armyworms and/or podworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature worms or heavy populations are present, a contact insecticide should be used to enhance control.

\*\* Use to control light to moderate populations of newly hatched worms in integrated pest management conditions. Repeat treatments at 4- to 5-day intervals as long as necessary and results are acceptable. Use in combination with ovicidal rates of labeled *Heliothis* ovicides.

\*\*\* BioBit HP may be applied by chemigation ONLY in Florida and ONLY to the following crops: flowers, bedding plants, ornamentals, and greenhouse/shadehouse and outdoor nursery crops.

\*\*\*\* Apply to light to moderate populations of newly hatched worms.

## BIOBIT HP FOR TREES AND FORESTS

<b>Crop</b>	<b>Pest</b>	<b>Pounds/100 Gallons (Ground Application)*</b>	<b>Pounds/Acre (Aerial Application)**</b>
Forest, Shade, Sugar Maple Trees and Ornamentals	Gypsy Moth	1/4 - 3/4	1/2 - 1 1/2
	Bagworm	1/4 - 3/4	1/2 - 1 1/2
	Redhumped Caterpillar	1/4 - 3/4	1/2 - 1 1/2
	Spring & Fall Cankerworm	1/4 - 3/4	1/2 - 1 1/2
	Fall Webworm	1/4 - 3/4	1/2 - 1 1/2
	Elm Spanworm	1/4 - 3/4	1/2 - 1 1/2
	Tent Caterpillars	1/4 - 3/4	1/2 - 1 1/2
	California Oakworm	1/4 - 3/4	1/2 - 1 1/2
	Pine Butterfly	1/4 - 3/4	1/2 - 1 1/2
	Spruce Budworms	1/4 - 3/4	1/2 - 1 1/2
	Saddle Prominent Caterpillar	1/4 - 3/4	1/2 - 1 1/2
	Douglas Fir Tussock Moth	1/4 - 3/4	1/2 - 1 1/2
	Western Tussock Moth	1/4 - 3/4	1/2 - 1 1/2
	Fruittree Leafroller	1/4 - 3/4	1/2 - 1 1/2
	Blackheaded Budworm	1/4 - 3/4	1/2 - 1 1/2
	Mimosa Webworm	1/4 - 3/4	1/2 - 1 1/2
	Jack Pine Budworm	1/4 - 3/4	1/2 - 1 1/2
Saddleback Caterpillar	1/4 - 3/4	1/2 - 1 1/2	
Greenstriped Mapleworm	1/4 - 3/4	1/2 - 1 1/2	

\*BioBit HP application rate for hydraulic sprayer. For mist blowers, mix the applicable amount of BioBit HP (pounds) in 10 gallons of water.

\*\*For aerial application, use in one to five gallons of water depending on type and density of trees. For best results, spray systems that deliver droplet size of LESS THAN 150 microns should be used.

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Reclose containers of unused BioBit HP. Store in a dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** 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 1/4 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 or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### NOTICE TO USER

To the extent consistent with applicable law, Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on this label. To the extent consistent with applicable law, User assumes all risks of use, storage or handling not in accordance with accompanying directions.

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