Biobit® HP
Biological Insecticide

Wettable Powder

ACTIVE INGREDIENT: Bacillus thuringiensis subsp. kurstaki 6.4% w/w
INERT INGREDIENTS 93.6% w/w

TOTAL 100.0% w/w

POTENCY: 32,000 International Units of Potency per mg of product equivalent or 14.52 billion International Units per pound of product. Potency units should not be used to adjust use rates.

EPA Reg. No. 73049-54
EPA Est. No. 33762-IA-001 List No. 11379

KEEP OUT OF REACH OF CHILDREN

CAUTION

For MEDICAL and TRANSPORT Emergencies ONLY Call 24 Hours A Day 1-877-315-9819. For All Other Information Call 1-800-6-Valent.

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Flush with plenty of water. Get medical attention if irritation persists.

If on Skin: Wash skin with plenty of soap and water. Get medical attention if irritation persists.

WASH SKIN WITH PLENTY OF SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

CAUTION

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 by 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.

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 the 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 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.

For Smaller Spray Volumes:

If Rate is

1/2 lb / acre or 100 gals.
1/4 lb / acre or 100 gals.
1 lb / acre or 100 gals.
2 lb / acre or 100 gals.

For This Amount

Use This Amount

Per Gallon

1/2 tsp.
1 tsp.
2 tsp.
4 tsp.

CHEMIGATION USE DIRECTIONS

Chemigation directions apply only to the state of Florida and to the following crop categories: Flowers, bedding plants, ornamentals, greenhouse/shade house and outdoor nursery crops. Refer to these label sections under General Instructions for application rate information when chemigation is used.

Apply this product only through sprinkler including center pivot, lateral move, end tow (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 ½ to ¾ 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 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 insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or 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.

STORAGE AND DISPOSAL

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

Storage: Reclose containers of unused Biobit HP. Store in a dry place.

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

Container Disposal: Triple rinse (or equivalent). Then puncture and dispose of container. Do not burn in residential areas.

APPLICATION DIRECTIONS

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

Sites: Biobit HP is a highly selective insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestation 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 directed drop nozzles by ground machine are required.
• Under heavy pest population pressure, use the higher label rates, shorten the spray interval, and/or raise gallonage to improve spray coverage.

Recommended Application Rate Information

• Rate is 1 lb. per acre or 100 gals. 2 tsps. per gallon.
• For smaller volumes use:

<table>
<thead>
<tr>
<th>Rate</th>
<th>Use This Amount Per Gallon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 lb./</td>
<td>1/2 tsp.</td>
</tr>
<tr>
<td>acre</td>
<td></td>
</tr>
<tr>
<td>1/4 lb.</td>
<td>1 tsp.</td>
</tr>
<tr>
<td>acre</td>
<td></td>
</tr>
<tr>
<td>1 lb.</td>
<td>2 tsp.</td>
</tr>
<tr>
<td>acre</td>
<td></td>
</tr>
<tr>
<td>2 lb.</td>
<td>4 tsp.</td>
</tr>
<tr>
<td>acre</td>
<td></td>
</tr>
</tbody>
</table>
### General Precautions For Applications Through Sprinkler Irrigation Systems

Maintain continuous agitation in the mix tank during mixing and application to insure 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 nonuniform distribution of treated water. A person knowledgeable of the chemical 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. Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

**GENERAL INSTRUCTIONS—APPLICATION RATES**

### Biobit HP for Typical Crops

<table>
<thead>
<tr>
<th>Crop Group (Typical Crops)</th>
<th>Pest</th>
<th>Pounds/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root and Tubers such as Carrots, Potatoes, Beets and Sugarbeets</td>
<td>Loopers</td>
<td>1/2-1</td>
</tr>
<tr>
<td>Bulb such as Onions (green and bulb) and Garlic</td>
<td>Omnivorous Leafroller</td>
<td>1/2-1</td>
</tr>
<tr>
<td>Leafy and Cole Crops such as Lettuce (head and leaf), Kale, Celeriac, Spinach, Broccoli, Cabbage, Mustard, Greens, Brussels Sprouts, Cauliflower, Collards, Chinese Cabbage, Endive, Kohlrabi and Parsley</td>
<td>Hornworms</td>
<td>1/2-1</td>
</tr>
<tr>
<td>Fruiting Vegetables such as Tomatoes, Peppers and Eggplant</td>
<td>Loopers</td>
<td>1/2-1</td>
</tr>
<tr>
<td>Cucurbit Vegetables such as Melons, Cucumbers and Squash</td>
<td>Pinworm</td>
<td>2-3</td>
</tr>
<tr>
<td>Legume Vegetables such as Beans, Peas, Lentils and Soybeans</td>
<td>Loopers</td>
<td>1/2-1</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Tobacco Budworm</td>
<td>1/4-1</td>
</tr>
<tr>
<td>Safflower</td>
<td>Loopers</td>
<td>1/2-1</td>
</tr>
</tbody>
</table>

*Biobit HP may be used to control small armyworms (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.

### Crop Group (Typical Crops) Pounds/Acre

- **Avocado**
  - Amorbia Moth
  - Omnivorous Leafroller
  - Minnesota Looper
  - Orange Tortrix
  - Spawnworm
  - Saltmarsh Caterpillar
  - Armyworms*

- **Malanga**
  - Soldierworm
  - Omnivorous Leafroller
  - Diamondback Moth
  - Saltmarsh Caterpillar
  - Armyworms*

- **Kiwi Fruit**
  - Loopers
  - Armyworms*
  - Banana Skipper
  - Headworms

- **Bananas**
  - Armyworms*
  - Armyworms*
  - Armyworms*
  - Headworms

- **Asparagus**
  - Armyworms*
  - Armyworms*
  - Armyworms*
  - Headworms
  - Lawnworms

- **Corn (Sweet and Field) and Sorghum**
  - Armyworms*

- **Rape**
  - Armyworms*
  - Heliothis
  - Headworms
  - Saltmarsh Caterpillar
  - Armyworms*

- **Herbs, Spices and Mints such as Basil, Chillies, Dill, Leeks, and Peppermint**
  - Heliothis
  - Headworms
  - Armyworms*

- **Pineapple**
  - Gumnosos-Batrachedra
  - Comosus (Hodges)
  - Thecla-Thecla basilides

- **Turf**
  - Loopers
  - Tobacco Budworm
  - Omnivorous Looper
  - Omnivorous Leafroller
  - Diamondback Moth
  - Armyworms*
  - Ello Moth (Hornworm)
  - Lo Moth
  - Oleander Moth
  - Azalea Caterpillar
  - Armyworms*

- **Flowers, Bedding Plants and Ornamentals**
  - Loopers
  - Tobacco Budworm
  - Omnivorous Looper
  - Omnivorous Leafroller
  - Diamondback Moth
  - Armyworms*

- **Greenhouse/Outdoor Nursery Crops such as Leafy, Herbs, Brassica and Fruiting groups**
  - Loopers
  - Heliothis

*Biobit HP may be used to control small armyworms (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.

**Chemigation applications only in the state of Florida for flowers, bedding plants, ornamentals, greenhouse/warehouse and outdoor nursery crops.
**Biobit HP for Small Fruits and Grains**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Pest</th>
<th>Pounds/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Fruit and Berries such as Grapes, Strawberries, Blackberries and Cranberries</td>
<td>Grapeleaf Skeletonizer (ground only)</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Grape Leafroller</td>
<td>1/4 - 1/2</td>
</tr>
<tr>
<td></td>
<td>Achaema Sphinx</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Moth (Hornworm)</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Saltmarsh Caterpillar (ground only)</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Omnivorous Leafroller (ground only)</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Looper</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Orange Tortrix</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Oblique Banded Leafroller</td>
<td>1/4 - 3/4</td>
</tr>
<tr>
<td></td>
<td>Armyworms</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Tobacco Budworm</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Grape Berry Moth</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Looper</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Armyworms</td>
<td>1/2 - 2</td>
</tr>
</tbody>
</table>

*For commodities coarser than shelled corn, increase depth of treatment according to the habit of the pest.

**Biobit HP for Tree Fruits, Nuts, Citrus and Tropical Fruit**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Pest</th>
<th>Pounds/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone Fruit as such as Cherries, Plum, Peach, Prune and Nectarine</td>
<td>Redhumped Caterpillar</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Tent Caterpillars</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Omnivorous Leafroller</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Fall Webworm</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td>Pome Fruit as such as Apples and Pears</td>
<td>Walnut Caterpillar</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Cankerworms</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td>Tree Nuts such as such as Almonds, Pecan, Walnut and Filbert</td>
<td>Redbanded Leafroller</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Tufted Apple Budworm</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Fruittree Leafroller</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Filbert Leafroller</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Oblique Banded Leafroller</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Codling Moth</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Cutworms</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Fruittree Leafroller</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Orangedog</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Citrus Cutworm*</td>
<td>1/2 - 2</td>
</tr>
</tbody>
</table>

(*Apply to light to moderate populations of newly-hatched worms*)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Pest</th>
<th>Pounds/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus</td>
<td>Hornworms</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Leafrollers</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Omnivorous Looper</td>
<td>1/2 - 2</td>
</tr>
<tr>
<td></td>
<td>Looper</td>
<td>1/2 - 2</td>
</tr>
</tbody>
</table>

**Biobit HP for Stored Agricultural Commodities Grains, Soybeans, Sunflower Seed, Crop Seed, Condimental Seeds, Spices, Herbs, Birdseed, and Popcorn**

<table>
<thead>
<tr>
<th>Pest</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Meal Moth</td>
<td>1/4 lb/100 bu. (undiluted and diluted)*</td>
</tr>
<tr>
<td>Almond Moth</td>
<td>1/4 lb/100 bu.</td>
</tr>
</tbody>
</table>

*As a surface treatment, apply 1/2 lb. Biobit HP in 5-10 gal. of water per 500 sq. ft. of grain surface area, mix into top 4 inches.**

1*For all states except California*

For the control and prevention of these pests, apply Biobit HP in a constantly agitated water suspension to the top four inch surface layer of grain in the bin. Use a sprinkler or can sprayer to apply the dosage into the grain stream as the last (top) four inch layer is augered into the bin. Mix 1/2 lb. Biobit HP per gallon of water. Apply 0.6 pint of this mixture per bushel as grain is augered into storage. Or, sprinkle the dosage into the surface of the grain in the bin and mix thoroughly with a scoop or rake to the depth of four inches. More thorough coverage may be achieved by dividing the recommended dosage into three applications and mixing the grain between applications. For the protection of bagged grain including popcorn, apply the dosage to the entire grain mass and mix thoroughly prior to bagging.

Treatments can be applied to stored grain at any time, but for best results, make application immediately after harvest before moth activity occurs. In areas where late fall harvested grain is not subject to infestation because of low temperatures, application can be delayed until late winter or early spring before moth activity begins. Control for a full storage season should normally be expected; however, repeat application if infestation recurs.

This treatment controls the moth larvae. If an infestation is present when the grain is treated, moth emergence may continue for several days. If immediate control of severe infestations is desired, grain should be fumigated prior to application of this treatment. Biobit HP will not control weevils or other beetles. Grain treated with Biobit HP can be used at any time after treatment for any use.

**NOTICE TO USER**

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE CONCERNING THE ABILITY OF THIS PRODUCT OTHER THAN AS INDICATED ON THE LABEL. USER ASSUMES ALL RISKS OF USE, STORAGE OR HANDLING NOT IN STRICT ACCORDANCE WITH ACCOMPANYING DIRECTIONS.

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1-800-6-VALENT—www.valent.com
04-3342/R2