

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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JAN 20 1995

Novo Nordisk A/S
c/o Ms. Joanne Olster
Novo Nordisk Bioindustrials, Inc.
33 Turner Road
Danbury, CT 06813-1907

Dear Ms. Olster:

Subject: Biobit® FC Label Amendment Revisions
Your Letter of 7/7/94 & 1/19/95
EPA Registration No. 58998-2

The master labeling referred to above, submitted with your 1/19/95 letter in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable, subject to the comments listed below.

1. Add the statement "This product can be mixed and used with other pesticides only in accordance with the most restrictive of label limitations and precautions. This product cannot be mixed with any product containing a label prohibition against such mixing. No label dosage rates may be exceeded." directly under the special instructions heading on page 13 and after "When these conditions are present, a contact insecticide should be used to enhance control." on page 2 of the master label agricultural applications directions for use.

2. Move the home garden use section out of the agricultural applications directions for use and into the nonagricultural applications directions for use and modify the instructions in this home garden use section by modifying "... specified rates on this label." to read "Biobit may be used for any labeled pest and crop using the rates and mixing instructions specified in the agricultural applications directions for use booklet."

3. Delete "The use of a spreader-sticker is recommended for hard to wet crops such as cole crops or to improve weather-fastness of the spray deposits." in the nonagricultural applications directions for use.

CONCURRENCES

SYMBOL	7501W	7501W					
SURNAME	Olster	TOALIN					
DATE	1/20/95	1/20/95					


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Biobit® FC Letter Page 2

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product with revised labeling constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records. Submit five (5) final printed labels.

Sincerely,



Flora Chow
Acting Deputy Director
Biopesticides and Pollution
Division (7501W)

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

KEEP OUT OF REACH OF CHILDREN CAUTION

3411

ACTIVE INGREDIENT *Bacillus thuringiensis* Berliner subspecies *kurstaki*, 8,000 International Units (IU)/mg of product (equivalent to 32 billion IU/GAL).....1.6%
Inert Ingredients.....98.4%

Directions For Use, Cont.

Refer to the Directions For Use Booklet attached to this container for further directions.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS Avoid contact with skin, eyes, or clothing.

STORAGE AND DISPOSAL:

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

USER SAFETY RECOMMENDATIONS: Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Storage: Store in a cool, dry place. Keep containers tightly closed when not in use. Store in temperatures above freezing and below 90°F.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear: Long-sleeved shirt and long pants, waterproof gloves, 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.

Pesticide Disposal: Pesticide waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility in accordance with federal and local regulations.

ENVIRONMENTAL HAZARDS Do not contaminate water when disposing of equipment washwaters.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning 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.

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.

HOME GARDEN USE DISPOSAL INSTRUCTIONS

Securely wrap original container in several layers of newspaper and discard in trash.

STATEMENT OF PRACTICAL TREATMENT: *If on Skin:* Wash with plenty of soap and water. Get medical attention. *If in eyes:* Flush with plenty of water. Call a physician if eye irritation persists.

NOTICE OF WARRANTY: NOVO NORDISK MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PURPOSE, OR OTHERWISE, EXPRESS OR IMPLIED, concerning this product or its uses which extend beyond the use of the product under normal conditions in accord with the statements made on this label. In no case shall the seller be liable for consequential, or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer. Novo Nordisk holds U.S. registrations for the active ingredient. Biobit is manufactured by Novo Nordisk.

DIRECTIONS FOR USE FOR AGRICULTURAL APPLICATIONS:

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 agency responsible for pesticide regulation. Do not apply this product through any type of irrigation system.

Agricultural Use Requirements: Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions For Use section for information about this standard.

NOVO NORDISK
Pesticide Division

JAN 20 1995

NOVO NORDISK
Pesticide Division
33 Turner Road, Danbury, CT 06813-1907

EPA Registration No. 58998-2
EPA Est. No. 58998-DN-002

MANUFACTURED FOR:
Novo Nordisk
33 Turner Road, Danbury, Connecticut 06813-1907

NET CONTENTS
U S Gallons

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

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

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 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 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, waterproof gloves, shoes plus socks.

APPLICATION

Biobit may be applied by ground or aerial equipment with quantities of water sufficient to provide thorough coverage of plant parts to be protected. The amount of water needed per acre will depend upon crop size, weather, spray equipment, and local experience.

MIXING

Fill spray or mixing tank half full of water. Begin agitation and pour Biobit into water while maintaining continuous agitation. Add other spray material (if any) and balance of water. Agitate as necessary to maintain suspension. Do not allow diluted mixture to remain in the tank for more than 48 hours.

The use of a spreader-sticker approved for use on growing crops is recommended for hard to wet crops such as cole crops or to improve weather-fastness of the spray deposits. Combinations with commonly used spray tank adjuvants are generally not deleterious to Biobit, if the mix is used promptly. Before mixing in the spray tank, it is advisable to test physical compatibility by mixing all components in a small container in proportionate quantities.

For smaller spray volumes mix the proper number of teaspoons of Biobit from the following chart to attain the desired rates:

<u>If the rate is:</u>	<u>Add this amount per gallon of mix:</u>
1.0 pts./acre	1 teaspoon
2.0 pts./acre	2 teaspoons
3.0 pts./acre	3 teaspoons
3.5 pts./acre	3.5 teaspoons

SPRAY VOLUMES

Ground Application: Use recommended amount of Biobit in ground equipment with quantities of water sufficient to provide thorough coverage of plant parts to be protected. The amount of water needed per acre will depend upon crop size, weather conditions, spray equipment used and local experience.

Aerial Application: Use recommended amount of Biobit in aerial equipment undiluted or with quantities of water sufficient to provide thorough coverage of plant parts to be protected. In the western U.S. 5-10 gallons per acre is the normal minimum; in the eastern regions a minimum of 2-3 gallons is normally used. The minimum amount of water needed per acre will depend upon crop size, weather conditions, spray equipment used and local experience.

GENERAL USE INSTRUCTIONS

Biobit is a biological insecticide for the control of lepidopterous larvae. Biobit must be ingested by the larvae to be effective. For consistent control, apply at first sign of newly hatched larvae (1st and 2nd instar larvae). Susceptible larvae that ingest Biobit cease feeding within a few hours and die within 2-5 days.

Biobit may be applied up to and on the day of harvest.

For maximum effectiveness the following is recommended:

Monitor fields to detect early infestations.

- Apply Biobit when eggs start hatching and larvae are small (early instars) and before significant crop damage occurs. Larvae must be actively feeding to be affected.

Repeat applications every 3 to 14 days to maintain control and protect new plant growth. Factors affecting spray interval include rate of plant growth, weather conditions, and reinfestation. Monitor populations of pests and beneficials to determine proper timing of applications.

Under conditions of heavy pest pressures or when large worms are present use the higher rate, shorten the application interval, and/or improve spray coverage to enhance control. When these conditions are present, a contact insecticide should be used to enhance control.

Thorough coverage is essential for optimum performance. Ground applicators equipped with directed drop nozzles can improve coverage.

APPLICATION RATES:

CROP GROUP				
FORAGE, FODDER, HAY				
	Crop	Pests	Rate (pts./acre)	Special Instructions
	Alfalfa (Hay & Seed) and Other Non-grass Animal Feeds, Grasses Grown For Feed (pasture, ranges, hay or silage)	Alfalfa Caterpillar Loopers	1.0-3.5	
		Armyworms	2.0-7.0	*
		European Skipper (Essex Skipper)	2.0-3.5	

CROP GROUP				
FRUITS & NUTS				
	Crop	Pests	Rate (pts./acre)	Special Instructions
	Pome and Stone Fruit Trees such as: Apples, Pears, Quince, Apricots, Cherries, Nectarines, Peaches, Plums, Prunes. Nut Trees such as: Almonds, Filbert, Chestnuts, Walnuts, Pecans.	Citrus Cutworm Navel Orangeworm Redhumped Caterpillar Tent Caterpillars Omnivorous Leafroller Tortrix Moths Cankerworms Peach Twig Borer Fruittree Leafroller Gypsy Moth Tufted Apple Budmoth Fall Webworm Variegated Leafroller Redbanded Leafroller Walnut Caterpillar Codling Moth Cutworms Filbert Leafroller Oblique Banded Leafroller	2.0-7.0	
		Filbert Webworm	2.0-3.5	
		Roughskinned Cutworm	1.0-2.0	

Crop	Pests	Rate (pts./acre)	Special Instructions
Citrus	Orangedog	1.0-3.5	
	Fruittree Leafroller Citrus Cutworm	2.0-7.0	
	Amorbia	3.5-5.5	** See Below
Small Fruit and Berries such as: Blackberries, Blueberries, Currants, Raspberries, Strawberries, Cranberries. Grapes	Gypsy Moth Blueberry Leafroller Loopers Fruittree Leafroller Grape Berry Moth Oblique Banded Leafroller Achema Sphinx Moth (Hornworm)	2.0-3.5	
	Armyworms	2.0-7.0	*
	Tobacco Budworm	7.0	**See Below
	Cherry Fruitworm Green Fruitworm	1.0-2.0	
	Grape Leaf folder Grapeleaf Skeletonizer Omnivorous Leafroller Orange Tortrix Saltmarsh Caterpillar	2.0-4.5	

CROP GROUP

OTHER FRUITS

Crop	Pests	Rate (pts./acre)	Special Instructions
Bānanas	Banana Skipper	2.0-3.5	
Tropical Fruits	Hornworms Leafrollers Loopers Omnivorous Looper	2.0-7.0	
Kiwi	Omnivorous Leafroller	2.0-7.0	

	Crop	Pests	Rate (pts./acre)	Special Instructions
	Pineapple	<i>Gummosos-Batrachedra commosae</i> (Hodges) <i>Thecla-Thecla basilides</i> (Geyr)	1.0-2.0	
	Melons	(See Vegetable Crops, Cucurbits)		

CROP GROUPS

**VEGETABLES AND
COLE CROPS**

	Crop	Pests	Rate (pts./acre)	Special Instructions
)	Root & Tuber Vegetables, and leaves of Root and Tuber vegetables such as: Beets, Carrot, Horseradish, Radish, Potato Sweet Potato, Turnip and Turnip Greens, Sugarbeets.	Imported Cabbageworm Green Cloverworm	1.0-3.5	
		----- Hornworms	0.50-3.5	
		----- Cutworms Loopers Webworms Saltmarsh Caterpillar Omnivorous Leafroller	2.0-3.5	
		----- Armyworms	2.0-7.0	*
		----- Diamondback Moth	1.0-3.5	
		----- European Corn Borer	3.5-5.5	
		----- Alfalfa Caterpillar	0.50-1.0	
)	-	

	Crop	Pests	Rate (pts./acre)	Special Instructions
	Legume and foliage of Legume vegetables, such as: Lentils, Peas, Beans, Soybeans	Loopers ----- Hornworms ----- Podworms Imported Cabbageworm Green Cloverworm Saltmarsh Caterpillar Soybean Loopers Velvetbean Caterpillar ----- Armyworms ----- Diamondback Moth ----- European Corn Borer ----- Cutworms	1.0-3.5 ----- 0.50-2.0 ----- 2.0-3.5 ----- ----- 2.0-7.0 ----- 1.0-3.5 ----- 3.5-5.5 ----- 2.0-5.5	----- ----- ----- ----- ----- * ----- ----- ----- -----
	Fruiting Vegetables such as: Eggplant, Peppers, Tomatoes.	Imported Cabbageworm Diamondback Moth Green Cloverworm ----- Hornworms ----- Tomato Fruitworm (<i>Heliothis</i>) Variegated Cutworm Saltmarsh Caterpillar Loopers ----- Armyworms ----- European Corn Borer	1.0-2.0 ----- ----- 0.50-3.5 ----- ----- 2.0-3.5 ----- ----- 2.0-7.0 ----- 3.5-5.5	----- ----- ----- ----- ----- ----- * ----- -----
	Brassica (cole) vegetables such as: Broccoli, Brussels sprouts, Cabbage, Cauliflower, Collards, Kohlrabi.	Hornworms ----- Webworms Loopers Cutworms Saltmarsh Caterpillar Omnivorous leafroller ----- Diamondback Moth Imported Cabbageworm Green Cloverworm ----- Armyworms ----- European Corn Borer	0.50-3.5 ----- 2.0-3.5 ----- ----- ----- 1.0-3.5 ----- ----- 2.0-7.0 ----- 3.5-5.5	----- ----- ----- ----- ----- ----- * ----- -----

Crop	Pests	Rate (pts./acre)	Special Instructions
Cucurbit vegetables such as: Cucumbers, Melons, Pumpkins, Squash, Watermelon.	Imported Cabbageworm Green Cloverworm Diamondback Moth Loopers	1.0-3.5	
	Saltmarsh Caterpillar Melonworm Pickleworm Rindworm complex		
	----- Armyworms	2.0-7.0	*
	----- European Corn Borer	3.5-5.5	
	----- Hornworms	0.50-2.0	

OTHER VEGETABLES

Crop	Pests	Rate (pts./acre)	Special Instructions
Artichokes	Artichoke Plume Moth	2.0-4.5	
	----- Armyworms	2.0-5.5	*
	----- Loopers	1.0-4.5	
Asparagus	Armyworms	2.0-7.0	*
	----- Diamondback Moth Green Cloverworm Imported Cabbageworm	1.0-2.0	
	----- Loopers	1.0-3.5	
	----- Armyworms	2.0-7.0	*
Malanga	Saltmarsh Caterpillar	2.0-3.5	
	----- Loopers Diamondback Moth	1.0-3.5	
Watercress	----- Armyworms	2.0-7.0	*
	----- Green Cloverworm Imported Cabbageworm	1.0-2.0	
	----- Saltmarsh Caterpillar	2.0-3.5	
	----- European Corn Borer	3.5-4.5	
	----- Armyworms	2.0-7.0	*
	----- Green Cloverworm Imported Cabbageworm	1.0-2.0	
Sweet Corn	(see Other Crops, Corn)		

CROP GROUP				
HERBS, SPICES, MINTS				
	Crop	Pests	Rate (pts./acre)	Special Instructions
	Such as: Basil, Dill, Oregano, Thyme, Peppermint.	Loopers	1.0-3.5	
		Diamondback Moth Green Cloverworm Imported Cabbageworm	1.0-2.0	
		Armyworms	2.0-7.0	*
		European Corn Borer	3.5-5.5	

CROP GROUP				
OTHER CROPS				
	Crop	Pests	Rate (pts./acre)	Special Instructions
	Avocadoes	Loopers	3.5-4.5	
		Orange Tortrix Omnivorous Leafroller Omnivorous Looper Spanworm	2.0-7.0	
		Amorbia	2.0-7.0	Suppression Only **
	Rice	Armyworms	2.0-5.5	*
		Loopers Saltmarsh Caterpillar	2.0-3.5	
		Cutworms	2.0-5.5	
		Green Cloverworm Velvetbean Caterpillar	1.0-2.0	
		<i>Heliothis</i> spp.	3.5	Suppression Only **

Crop	Pests	Rate (pts./acre)	Special instructions
Cotton (Except CA & AZ)	Loopers	2.0-3.5	
	Armyworms	2.0-7.0	*
	Cotton Bollworm Tobacco Budworm	1.0-7.0	See Below

Special Instructions: For early season management of *Heliothis/Helicoverpa* species, initiate applications at pinhead square stage when eggs are present. For best results, application should be timed to coincide with egg hatch. Continue applications on 5 day intervals. Addition of an ovicide may be beneficial. Preservation of beneficial insects should be considered in selecting an ovicide. Applications of Biobit may continue throughout the season. As the larval population increases through the season, increase rates of Biobit, and tank-mix with other larvicides for increased control. When the crop canopy is dense and larvae are feeding in the lower canopy, aerial application of Biobit may not provide adequate deposit for acceptable control. This product can be mixed and used with other pesticides only in accordance with the most restrictive of label limitations and precautions. This product cannot be mixed with any product containing a label prohibition against such mixing. No label dosage rates may be exceeded.

Cotton (CA & AZ)	Armyworms	2.0-7.0	*
	Cotton Leaf Perforator Cotton Leafworm Saltmarsh Caterpillar	2.0-3.5	
	Loopers	2.0-3.5	
	Cotton Bollworm Tobacco Budworm	2.0-7.0	See Below

Special Instructions: Repeat as necessary throughout the season to maintain control. If egg laying frequency indicates future moderate to heavy larval populations, time application to coincide with the second instar larvae. During periods of high temperatures, larvae will progress through first to third instars very rapidly and early application timing is necessary for control. When plant cover is dense and larvae are feeding in the lower 2/3 portion of the plant, aerial application of Biobit may not provide adequate deposit to achieve acceptable control.

Canola/Rape Seed	Armyworms	2.0-7.0	*
	Diamondback Moth	1.0-2.0	
	Loopers	2.0-3.5	
	<i>Heliothis</i> spp.	2.0-7.0	
Corn Such as: Field, Sweet, Popcorn.	Armyworms	2.0-7.0	*
	European Corn Borer (Whorl Stage Only)	2.0-5.5	
	Southwestern Corn Borer	3.5-5.5	Aids in Control

	Crop	Pests	Rate (pts./acre)	Special Instructions
	Hops	Armyworms	2.0-7.0	*
		Loopers	1.0-	
		Omnivorous Leaf-tier Spotted Cutworm Oblique Banded Leafroller	2.0-3.5	
	Jojoba	Looper (<i>Anacamptodes</i> spp.)	2.0-3.5	
	Peanuts	Green Cloverworm Loopers Velvetbean Caterpillar Podworms	2.0-3.5	
		<i>Heliothis</i> spp.	3.5	Suppression Only **
)	Persimmons, Pomegranate	Fall Webworm Filbert Webworm Omnivorous Leafroller Redhumped Caterpillar Tent Caterpillars	2.0-3.5	
		Citrus Cutworm	2.0-4.5	
.	Safflower	Armyworms	2.0-7.0	*
		Loopers Saltmarsh Caterpillar	2.0-3.5	
	Sorghum	Headworm	2.0-3.5	
)	Soybeans	(see Vegetable Crops, Legumes)		
	Sunflowers	Headmoth Loopers	2.0-3.5	
	Small Grains	Armyworms	2.0-7.0	*
		Loopers	2.0-3.5	
	Tobacco	Tobacco Hornworm	0.50-2.0	
		Loopers	1.0-3.5	
		Tobacco Budworm	3.5	Suppression Only **

CROP GROUP
**FLOWERS BEDDING PLANTS,
 AND ORNAMENTALS**

	<u>Crop</u>	<u>Pests</u>	<u>Rate (pts./acre)</u>	<u>Special Instructions</u>
	Ornamentals Flowers, Bedding Plants	Armyworms	2.0-7.0	*
		Azalea Moth Diamondback Moth Ello Moth (Hornworm) Io Moth Loopers Oleander Moth Omnivorous Leafroller Omnivorous Looper Tobacco Budworm	1.0-2.0	

CROP GROUP
**GREENHOUSE,
 AND OUTDOOR NURSERY CROPS**

	<u>Crop</u>	<u>Pests</u>	<u>Rate (pts./acre)</u>	<u>Special Instructions</u>
	Such as: Flowers, Brassica, Fruiting Groups, Herbs, and Leafy	Armyworms <i>Heliothis</i> spp.	2.0-7.0	*
		Loopers	2.0-3.5	

CROP GROUP
RF -

	<u>Crop</u>	<u>Pests</u>	<u>Rate (pts./acre)</u>	<u>Special Instructions</u>
	Turf	Sod Webworm	3.5-7.0	
		Tropical Sod Webworm	3.5	
		Armyworms	3.5	*

CROP GROUP				
	Crop	Pests	Rate (pts./acre)	Special Instructions
	Home Garden Use	Biobit may be used for any labeled pest and crop using the rates, mixing, and general use instructions specified rates on this label.		

CROP GROUP				
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees				
	Crop	Pests	Rate (pts./acre)	Special Instructions
	Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees, Seed Orchards, Ornamental Fruit, Nut & Citrus Trees	Elm Spanworm Gypsy Moth	2.0-10.0	
		Spruce Budworm Browntail Moth Douglas Fir Tussock Moth Coneworm Buckmoth	2.0-7.5	
		Tussock Moths Pine Butterfly Bagworm Leafrollers Tortrix Moths Mimosa Webworm Tent Caterpillars Jackpine Budworm Blackheaded Budworm Saddled Prominent Saddleback Caterpillars	1.5-4.0	
		Redhumped Caterpillar Spring Cankerworm Fall Cankerworm California Oakworm Fall Webworm	1.0-2.0	

Special Instructions

- * Armyworm Control: Biobit may be used to control small armyworms (first and second instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature larvae or heavy populations are present, a contact insecticide should be added to enhance control.
- ** Suppression Only: Use to aid in control of light to moderate populations of first and second instars in Integrated Pest Management conditions. Repeat treatments at four to five day intervals. The use of additional ovicidal or larvicidal insecticide will aid in control.

PRODUCT CONTAINER LABEL

DIRECTIONS FOR USE FOR NON-AGRICULTURAL APPLICATIONS

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product through any type of irrigation system.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior plantscapes, ornamental gardens or parks, or on golf courses or lawns and grounds.

Not for use on trees being grown for sale or other commercial use, or for commercial seed production, or for the production of timber or wood products, or for research purposes.

For use on plants in non-crop and non-timber areas only. Not for use on crops, timber, or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

APPLICATION

Biobit may be applied by ground or aerial equipment with quantities of water sufficient to provide thorough coverage of plant parts to be protected. The amount of water needed per acre will depend upon crop size, weather, spray equipment, and local experience.

MIXING

Fill spray or mixing tank half full of water. Begin agitation and pour Biobit into water while maintaining continuous agitation. Add other spray material (if any) and balance of water. Agitate as necessary to maintain suspension. Do not allow diluted mixture to remain in the tank for more than 48 hours.

The use of a spreader-sticker is recommended for hard to wet crops such as cole crops or to improve weather-fastness of the spray deposits. Combinations with commonly used spray tank adjuvants are generally not deleterious to Biobit, if the mix is used promptly. Before mixing in the spray tank, it is advisable to test physical compatibility by mixing all components in a small container in proportionate quantities.

SPRAY VOLUMES

Ground Application: Use recommended amount of Biobit in ground equipment with quantities of water sufficient to provide thorough coverage of plant parts to be protected. The amount of water needed per acre will depend upon crop size, weather conditions, spray equipment used and local experience.

Aerial Application: Use recommended amount of Biobit in aerial equipment undiluted or with quantities of water sufficient to provide thorough coverage of plant parts to be protected. In the western U.S. 5-10 gallons per acre is the normal minimum; in the eastern regions a minimum of 2-3 gallons is normally used. The minimum amount of water needed per acre will depend upon crop size, weather conditions, spray equipment used and local experience.

GENERAL USE INSTRUCTIONS

Biobit is a biological insecticide for the control of lepidopterous larvae. Biobit must be ingested by the larvae to be effective. For consistent control, apply at first sign of newly hatched larvae (1st and 2nd instar larvae). Susceptible larvae that ingest Biobit cease feeding within a few hours and die within 2-5 days.

Biobit may be applied up to and on the day of harvest.

For maximum effectiveness the following is recommended:

Monitor fields to detect early infestations.

Apply Biobit when eggs start hatching and larvae are small (early instars) and before significant crop damage occurs. Larvae must be actively feeding to be affected.

Repeat applications every 3 to 14 days to maintain control and protect new plant growth. Factors affecting spray interval include rate of plant growth, weather conditions, and reinfestation. Monitor populations of pests and beneficials to determine proper timing of applications.

Under conditions of heavy pest pressures or when large worms are present use the higher rate, shorten the application interval, and/or improve spray coverage to enhance control. When these conditions are present, a contact insecticide should be used to enhance control.

Thorough coverage is essential for optimum performance. Ground applicators equipped with directed drop nozzles can improve coverage.

CROP GROUP				
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees				
Crop	Pests	Rate (pts./acre)	Special Instructions	
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees, Ornamental Fruit, Nut & Citrus Trees	Elm Spanworm Gypsy Moth	2.0-10.0		
	Spruce Budworm Browntail Moth Douglas Fir Tussock Moth Coneworm Buckmoth	2.0-7.5		
	Tussock Moths Pine Butterfly Bagworm Leafrollers Tortrix Moths Mimosa Webworm Tent Caterpillars Jackpine Budworm Blackheaded Budworm Saddled Prominent Saddleback Caterpillars	1.5-4.0		
	Redhumped Caterpillar Spring Cankerworm Fall Cankerworm California Oakworm Fall Webworm	1.0-2.0		

Special Instructions

- * Armyworm Control: Biobit may be used to control small armyworms (first and second instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature larvae or heavy populations are present, a contact insecticide should be added to enhance control.
- ** Suppression Only: Use to aid in control of light to moderate populations of first and second instars in Integrated Pest Management conditions. Repeat treatments at four to five day intervals. The use of additional ovicidal or larvicidal insecticide will aid in control.