

43382-2

BACTOSPEINE

WETTABLE POWDER

ACTIVE INGREDIENT: *Bacillus thuringiensis* Berliner, var. *kurstaki*, primary powder fermentation product, potency of 16,000 International Units per milligram of product (equivalent to 7.3 billion International Units per pound of product) 20%
INERT INGREDIENTS: 80%
100%

KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS: Avoid inhalation or contact with eyes or open wounds

ENVIRONMENTAL HAZARDS

Avoid direct application to lakes, ponds, or streams.
Do not contaminate water by cleaning of equipment or disposal of wastes.

STORAGE AND DISPOSAL

STORAGE: Tightly reclose containers of unused Bactospeine. Store in cool, dry place.
DISPOSAL: Do not reuse empty container. Perforate or crush and discard container according to local trash disposal regulations and in a safe place.

DIRECTIONS FOR USE

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

BACTOSPEINE (*Bacillus thuringiensis*) Wettable Powder provides best control when caterpillars are newly hatched (1st or 2nd instar) and most susceptible to the product which must be eaten. Good leaf coverage is essential to achieve effective insect control. Higher rates are generally necessary when infestations are heavy and foliage is dense.

For armyworm control, apply to plants and thoroughly to adjacent soil when larvae are young.

To obtain a suitable mixture with water, pour the recommended amount into a 1/2 filled tank and agitate. Fill tank and maintain agitation until the mixing process is complete. Bactospeine is compatible with various insecticides, fungicides, spreaders, and stickers except those that are highly alkaline in nature.

Reagitate if dilute spray is allowed to stand for more than 6 hours.

For most trees, the recommended amount of product may be applied by high pressure hydraulic sprayers in 100 gallons of water per acre. Cover foliage thoroughly, but avoid runoff. Mist blower applications may use 10-20 gallons of water per acre.

Spreaders and stickers improve coverage and are recommended.

For vine, pome, citrus and tropical fruits, use recommended amount per 100 gallons water and apply 100 to 500 gallons of spray dilution per acre.

Aerial applications should use recommended rates in 1/4 to 10 gallons of water per acre during early morning or evening hours when winds are low. Spray systems which produce a 50-300 micron droplet size are preferable.

For small quantity, use 2 teaspoonfuls per gallon of water to provide an application rate of 1 lb/acre in 100 gallons of water.

NOTE: Because the active ingredient, *Bacillus thuringiensis*, is exempt from tolerance requirements, this product may be applied up to the day of harvest and in storage.

NOTICE: Local conditions may affect the use of Bactospeine. Consult State Agricultural Extension or Experiment Station Specialists for specific recommendations related to local crop protection problems. Biochem Products makes no warranty, express or implied, including the warranties of commercially acceptable quality and/or fitness for any particular purpose concerning this material, other than those which are contained on this label.

Manufactured by:



**Biochem
Products**

A Division of
Salsbury Laboratories, Inc.
A Member of
the Solvay Group
Montchanin, Delaware 19710

EPA Registration No.
43382-2

EPA Est. No.
43382-FR-01

Net Weight:
44 lb.

Lot No.

Product of France

APPLICATION RATES FOR BACTOSPEINE™ WP

Crop	Pest	Lb/Acre
Field and Greenhouse vegetables, including:		
Broccoli, Spinach, Collards,	Armyworms	1 - 2
Cauliflower, Kale, Lettuce	Tomato fruitworm/Corn earworm/Bollworm	1 - 2
Turnips, Turnip greens, Beets,	Variegated cutworm	1 - 2
Celery, Mustard greens, Beans,	Salt marsh caterpillar	1/4 - 1
Cabbage, Brussel Sprouts, Peas	Mimosa webworm	1/4 - 1
Chinese Cabbage, Sweet potato	Tobacco budworm	1/4 - 1
Kohlrabi, Endive, Sweet Corn,	Loopers, Melonworm, Pickleworm	1/4 - 1
Tomatoes, Peppers, Eggplant,	Diamondback moth	1/4 - 3/4
Escarole, Lentils, Potato	Imported cabbageworm	1/4 - 3/4
Spinach, Carrots, Cucumbers	Green cloverworm	1/4 - 3/4
Melons, Squash	Hornworm	1/4 - 3/4

To control tobacco moth during storage use 1/6 oz or 9 level tablespoons of BACTOSPEINE in one gallon water per 400 lbs tobacco uniformly applied as a spray mist to leaf surfaces before bundling or to opened bundles and to walls and floors of storage area.

Saltwater, Sugar beets,	Tobacco budworm/bollworm	1/4 - 1
Mints, Peanuts, Alfalfa	Loopers	1/4 - 1
Soybeans, Sunflower, Hay	Salt marsh caterpillar	1/4 - 1
Pastures, Small grains	Velvetbean caterpillar	1/4 - 1
Forage crops	Green cloverworm	1/4 - 1
	Skippers	1/4 - 1/2
	Alfalfa caterpillar	1/8 - 1/4
Turf,	Soil webworm	2 - 4
Rangeland	Rangeland caterpillar	1/8 - 1/4

Grapes, Blueberries	Grapeleaf skeletonizer	1/2 - 1
Blackberries, Currants	Loopers, Salt marsh caterpillar	1/2 - 1
Raspberries,	Grape leafroller/leafrollers	1/2 - 1
Strawberries	Hornworms	1/4 - 3/4
Dewberries		

Cotton	Loopers	1/2 - 1
	Tobacco budworm	1/4 - 1
	Bollworm	1/4 - 1

Apply at first sign of 1st and 2nd instar budworm or bollworm. Use at least 7 gallons in a spray with ground equipment or 2-5 gallons/acre with aerial equipment. To continue worm suppression reapply BACTOSPEINE at 3-5 day intervals or use scouting report recommendations.

BACTOSPEINE at 25 to 1:0 dilution may be tank mixed with methomyl at 225 to 675 lbs active ingredient (AI)/acre to suppress infestations of early instar larvae.

Crop	Pest	Lb/100 Gallons (Ground Application)	Lb/Acre (Aerial Application)
Peaches, Pears	Gypsy moth	1/2 - 2	1 - 2
Cherries, Walnuts	Walnut caterpillar, Loopers	1/2 - 1	1/2 - 1
Almonds, Pecans	Leafrollers, Green Fruitworm	1/2 - 1	1/2 - 1
Elberts	Cantharids	1/4 - 1	1/2 - 1
Apples, Pears	Tent caterpillars	1/4 - 1	1/2 - 1
Avocados	Redhumped caterpillar	1/4 - 1	1/2 - 1
	Fall webworm	1/2	1/2
Forests, Shade trees	Armyworms	1 - 2	-
Ornamental plants	Pine butterfly	1	1
Towers	Spruce budworm	1 - 2	1 - 2
	Western spruce budworm	1	1
	Douglas fir tussock moth	1	1
	Diamondback moth	1/4 - 3/4	1
	Gypsy moth	1/2 - 2	1 - 2
	Elm spanworm	1/2 - 1	1/2 - 1
	Bagsworm, Saddled prominent	1/2 - 1	1/2 - 1
	Saddleback caterpillar, Leafrollers	1/2 - 1	1/2 - 1
	Loopers, Western tussock moth	1/2 - 1	1/2 - 1
	Tobacco budworm/Bollworm/Corn earworm	1/2 - 1	1/2 - 1
	Lo moth, Mimosa webworm	1/2 - 1	1/2 - 1
	Jack pine budworm	1/2 - 1	1/2 - 1
	Osander moth	1/2 - 1	1/2 - 1
	Fall webworm	1/2	1/2
	Tent caterpillars	1/4 - 1	1/4 - 1
	Redhumped caterpillar	1/4 - 1	1/4 - 1
	Cantharids, Oak worms	1/4 - 1	1/4 - 1
	Hornworms	1/4 - 1	1/4 - 1

For best control of Gypsy moth, apply when young larvae are present and when leaf expansion is 40-50%. Repeat in 1 to 3 weeks.

For best control of spruce budworm, apply on populations below 35 larvae per 18-inch branch tip and when 50% of the larvae are in the 3rd and 4th instar.

Citrus	Leafrollers, Hornworms, Loopers	1/2 - 1	1/2 - 1
Tropical fruits	Orangebug	1/4 - 1/2	1/4 - 3/4
Stored Products:	Indian meal moth	10 lb/100 gallons	
grain legumes	Almond moth	(1/8 oz/gallon)	
peanuts, oilseeds	Mediterranean flour moth		
and other seeds			
and grains			

Continuously agitate spray solution and spray at the rate of six pints per ten bushels to grain going into storage bins or bags on a conveyor or sugar to obtain thorough mixing. Alternatively, the top 4-6 inches of grain in a bin may be treated during the unloading process or after filling with one pound BACTOSPEINE in ten gallons water per 500 square feet surface area and reloaded in.