BACTOSPEINE
50-FCW FLOWABLE CONCENTRATE

DIRECTIONS FOR USE

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

Bactospeine 50-FCW (*Bacillus thuringiensis*) 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.

To obtain a suitable mixture with water, pour the recommended amount into a ½ 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 application should use recommended rates in up 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 qt/acre in 100 gallons of water.

Note: Because the active ingredient, *Bacillus thuringensis*, 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.

BACTOSPEINE®
50-FCW
FLOWABLE CONCENTRATE

ACTIVE INGREDIENTS: *Bacillus thuringiensis* Berliner, var. *kurstaki*, fermentation solids*	14.5%
INERT INGREDIENTS:	85.5%
	100%

*Bactospeine 50 FCW contains 11,600 International Units per milligram which is equivalent to 50 billion International Units per gallon.

CAUTION: KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS
Hazards to Humans: Avoid inhalation or contact with eyes or open wounds.

STORAGE AND DISPOSAL
Storage: Tightly reclose containers of unused Bactospeine. Store in cool place. Activity may be impaired by storage at temperatures above 90° F. Protect from freezing.
Disposal: Drums can be used for non-food products after thorough cleaning with water. Smaller sized containers should not be reused. Perforate or crush and discard container according to local trash disposal regulations and in a safe place.

Biochem Products
A Division of
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A Member of
the Solvay Group
Montchanin, Delaware 19710

BACTOSPEINE®

FLOWABLE CONCENTRATE

50-FCW

EPA Registration No. 43382-12

EPA Est. No.

Net Contents

Net Weight: 9.65 lb./gal.

Lot No.

APPLICATION RATES FOR BACTOSPEINE® 50-FCW

Crop	Pest	Fl. Oz./Acre
Field and Greenhouse vegetables, including		
Broccoli, Collards, Cauliflower, Kale, Lettuce, Rappini, Artichokes, Ti, Turnips, Turnip greens, Beets, Celery, Mustard greens, Beans, Cabbage, Brussels Sprouts, Peas, Chinese Cabbage, Sweet Potato, Kohlrabi, Endive, Sweet Corn, Tomatoes, Peppers, Eggplant, Escarole, Lentils, Potato, Spinach, Carrots, Cucumbers, Melons, Squash, Watercress	Armyworms	22-45
	Tomato fruitworm/Corn earworm/ Bollworm	22 (every 5-7 days)
	Variegated cutworm	22
	Salt marsh caterpillar	6-22
	Mimosa webworm	6-22
	Tobacco budworm	6-22
	Loopers, Melonworm, Pickleworm	6-22
	Diamondback moth	6-17
	Imported cabbageworm	6-17
	Green cloverworm	6-17
	Hornworm, Artichoke plume moth	6-17
Tobacco	Tobacco budworm	11-22
	Loopers	11-22
	Hornworms	6-17
To control tobacco moth during storage use 2 fluid oz. or 4 tablespoonfuls in one gallon water per 400 lbs tobacco uniformly applied as a spray mist to leaf surface before bundling or to opened bundles and to walls and floors of storage area		
Safflower, Sugar beets, Mints, Peanuts, Alfalfa, Soybeans, Sunflowers, Hay, Pastures, Small grains, Forage crops, Grain Sorghum, Rice, Wild Rice	Armyworms	22-45
	Tobacco budworm/bollworm	6-22
	Loopers, Sunflower moth	6-22
	Salt marsh caterpillar	6-22
	Velvetbean caterpillar	6-22
	Green cloverworm, Sorghum headworm, Hornworms	6-22
	Skippers	6-11
	Alfalfa caterpillar	3-6
Turf, Rangeland	Sod webworm, Rangeland caterpillar	45-90
		3-6
Grapes, Blueberries, Blackberries, Currants, Raspberries, Hops, Strawberries, Dewberries	Grapeleaf skeletonizer	11-22
	Loopers, Salt marsh caterpillar	11-22
	Grape leaffolder/leafrollers	11-22
	Hornworms	6-17
Cotton	Loopers	11-22
	Tobacco budworm	6-22
	Bollworm	6-22

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

Bactospeine at 6 to 22 fl. oz./acre may be tank mixed with methomyl at 225 to 675 lbs. active ingredient (AI)/acre to suppress infestations of early instar larvae.

Crop	Pest	Fl. Oz./100 Gallons (Ground Application)	Fl. Oz./Acre (Air Application)
Peaches, Plums, Cherries, Walnuts, Almonds, Pecans, Filberts, Prunes, Apples, Pears, Avocados, Kiwis	Gypsy moth	11-55	22-55
	Walnut caterpillar, Loopers	11-22	11-22
	Leafrollers, Green fruitworm	11-22	11-22
	Cankerworms	6-22	11-22
	Tent caterpillars	6-22	11-22
	Redhumped caterpillar	6-22	11-22
	Fall webworm	11	11
Forests, Shade trees, Ornamental plants, Flowers, Shrubs	Armyworms	22	—
	Pine butterfly	22	22
	Spruce budworm	22-45	22-45
	Western spruce budworm	22-45	22-45
	Douglas fir tussock moth	22-45	22-45
	Diamondback moth	6-17	22
	Gypsy moth	11-55	22-55
	Elm spanworm	11-22	11-22
	Bagworm, Saddled prominent	11-22	11-22
	Saddleback caterpillar, Leafrollers	11-22	11-22
	Loopers, Western tussock moth	11-22	11-22
	Tobacco budworm/Bollworm/ Corn earworm	11-22	11-22
	Io moth, Mimosa webworm	11-22	11-22
	Jack pine budworm	22-45	22-45
	Oleander moth	11-22	11-22
	Fall webworm	11	11
	Tent caterpillars	6-22	6-22
	Redhumped caterpillar	6-22	6-22
	Cankerworms, Oakworms	6-22	6-22
	Hornworms	6-22	6-22

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, Tropical fruits	Leafrollers, Hornworms, Loopers	11-22	11-22
	Orangedog	6-11	6-17
Stored Products - grain legumes, peanuts, oilseeds, and other seeds and grains	Indian meal moth, Almond moth, Mediterranean flour moth	10 quarts/100 gallons (3.2 fluid oz/gallon)	

Continuously agitate spray solution and spray at the rate of 66 Fl. Oz. per ten bushels to grain going into storage bin or bags on a conveyor or auger to obtain thorough mixing. Alternately, the top 4-5 inches of grain in a bin may be treated during the bin filling process or after filling with 22 Fl. Oz. in ten gallons water per 500 square feet surface area and raked in.