

LEPROTEC[®]



OPEN

**AQUEOUS BIOLOGICAL INSECTICIDE
FOR OUTDOOR FOOD, OUTDOOR NON-FOOD, AND GREENHOUSE USE**

Active Ingredient:

Bacillus thuringiensis ssp. *kurstaki* strain EVB-113-19

fermentation solids, spores, and insecticidal toxins 14.49%*

Other Ingredients 85.51%

Total 100.00%

*Potency: 76 billion Cabbage Looper Units (CLU) per gallon 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**

See back panel for additional first aid and precautionary statements.

FIRST AID

If on skin or clothing:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
If in eyes:	<ul style="list-style-type: none">• Hold eye open, and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or when going for treatment. For information on this pesticide product (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.

Manufactured for:

Vestaron Corporation
4025 Stirrup Creek Dr., Suite 400
Durham, NC 27703 USA

EPA Reg. No.: 89046-12-88847

EPA Est. No.: 89046-CAN-3

**Use this product within 18 months
of the date of manufacture.**

Date of Manufacture: _____

Lot number: _____

122320

NET CONTENTS: 1 GALLON (3.78 L)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if absorbed through skin. Causes moderate eye irritation. 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
- protective eyewear

Mixers/loaders and applicators must wear a NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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.

ENGINEERING CONTROLS

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 170.607(d), (e), and (f)], 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 "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

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. Do not contaminate water when disposing of equipment wash water or rinsate.

This product must not be applied aerially within ¼ mile of any habitats of threatened or endangered *Lepidoptera*. No manual applications 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. 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. For any requirements specific to your State or Tribe, consult the State or Tribal 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 (REI). 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
- Protective eyewear

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.

PRODUCT INFORMATION

Leprotec[®] is a water-based formulation that may be applied undiluted or diluted with water. Dilute with minimal quantities of water to improve coverage. The amount of water needed per acre will depend upon crop size, weather, spray equipment, and local experience.

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.

Apply the product when wind conditions allow good spraying coverage. Do not make applications when significant rainfall is imminent. It is best to allow 48 hours without rain after the application to retain activity.

MIXING

Add the specified amount of **Leprotec** to the required amount of water in the spray tank. Agitate as needed to maintain suspension. The pH of the water must be between 4 and 8 before the addition of **Leprotec** and remain within this pH range into the tank.

DO NOT store spray mixture in spray equipment for more than 18 hours.

APPLICATION INSTRUCTIONS (OTHER THAN LAWN APPLICATIONS)

Leprotec is toxic to select species of *Lepidopteran* larvae. **Leprotec** must be ingested by susceptible larvae to be effective. Thorough coverage of target foliage where larvae are feeding is essential. After ingestion, larvae cease feeding within a few hours and death occurs in 2-5 days.

Apply at first signs of infestation when larvae are small, when possible. Repeat applications according to economic threshold, as necessary to maintain control, usually 7-14 days, depending on plant growth rate, pest activity and rainfall after treating. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before crop damage occurs. If crop is in rapid growth phase or if ongoing egg laying and overlapping pest generations are occurring, increase frequency of application to 3-7 days. Thorough coverage of all foliage is essential. To improve the quality of coverage on difficult to wet foliage (e.g., crucifers), the addition of a spreader surfactant is recommended.

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

Use diluted spray mixtures within an 18-hour period.

Aerial Application:

In most situations, apply undiluted **Leprotec** with aerial equipment. Dilute with minimal quantities of water only when required to improve deposit. In the Western U.S., use a normal minimum of 5-10 gallons of water per acre; in the Eastern U.S., use a normal minimum of 2-3 gallons of water per acre. Best results can be expected when **Leprotec** is applied to dry foliage with calibrated aircraft capable of obtaining droplet sizes above 50 U.S. mesh (below 300 microns) and preferably in the range of 270-100 U.S. mesh (50-150 microns).

To dilute, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding **Leprotec**. Add the specified amount of **Leprotec** to the tank or plane hopper and agitate until uniformly suspended. Continuous mixing is not necessary when using undiluted product.

Chemigation Information:

Apply this product only through sprinkler irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. 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.

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 back flow.

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 that 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.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. Prepare a suspension of this product 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 this product and then the remaining volume of water. 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 this product into the irrigation water line so as to deliver the desired rate per acre. The suspension of this product must be injected with a positive displacement pump into the main line and ensure adequate mixing.

NOTE: When treatment with this product has been completed, do not allow further field irrigation over the treated area for 48 hours to prevent washing the material off the crop.

FOR AGRICULTURAL USES:

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
FORAGE, FODDER, STRAW AND HAY CROPS		
<p>Crop group 16 Forage, Fodder and Straw of Cereal Grains and</p> <p>Crop group 17 Grass Forage, Fodder, and Hay, including: Corn, Wheat, Other Cereal Grain Crops, Bermudagrass, Bluegrass, and Bromegrass, Fescue</p> <p>Crop group 18 Nongrass Animal Feeds, including: Alfalfa</p>	<p>Armyworms¹</p> <p>Alfalfa Caterpillar Loopers European Skipper Webworm (Essex Skipper)</p>	<p>1.00-3.50</p> <p>1.00-2.00</p>
FRUITS AND NUTS		
<p>Crop groups 11, 11-10, 12, and 12-12 Pome and Stone Fruits, including: Apples, Pears, Quince, Prunes (fresh), Apricots, Cherries, Nectarines, Peaches, Plums</p> <p>Crop groups 14 and 14-12 Tree Nuts, including: Almonds, Filberts, Chestnuts, Walnuts, Pecans, Pistachios</p>	<p>Pandemis Leafroller Hickory Shuckworm European Grapevine Moth</p>	<p>0.80-3.10</p>

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
<p>Crop groups 11, 11-10, 12, and 12-12 Pome and Stone Fruits, including: Apples, Pears, Quince, Prunes (fresh), Apricots, Cherries, Nectarines, Peaches, Plums</p> <p>Crop groups 14 and 14-12 Tree Nuts, including: Almonds, Filberts, Chestnuts, Walnuts, Pecans, Pistachios (continued)</p>	<p>Citrus Cutworm¹ Codling Moth Navel Orangeworm Cutworms¹ Redhumped Caterpillar Filbert Leafroller Tent Caterpillar Oblique Banded Leafroller Omnivorous Leafroller Cankerworms Tortrix Moth Fruitworms Peach Twig Borer Oriental Fruit Moth Fruittree Leafroller Spring Cankerworm Gypsy Moth Lesser Appleworm* Tufted Apple Budmoth Fall Cankerworm Fall Webworm Pecan Nut Casebearer* Variegated Leafroller Saddle Prominent Caterpillar Redbanded Leafroller Walnut Caterpillar</p>	<p>1.00-3.50</p>
<p>Crop groups 10 and 10-10 Citrus Fruits, including: Oranges, Lemons, Limes, Grapefruit</p>	<p>Winter Moth</p> <p>Orangedog</p> <p>Fruittree Leafroller Western Tussock Moth Citrus Cutworm¹ Variegated Leafroller Beet Armyworm^{1*}</p>	<p>0.40</p> <p>0.50-2.00</p> <p>1.00-3.50</p>
<p>Crop groups 13 and 13-07 Small Fruits and Berries, including: Blackberries, Currants, Grapes, Raspberries, Strawberries, Cranberries, Lowbush⁸ and Highbush⁹ Blueberries, Kiwifruit</p>	<p>Amorbia³</p> <p>Light Brown Apple Moth</p> <p>Gypsy Moth, Blueberry Leafroller Oblique Banded Leafroller Loopers, Fruittree Leafroller Achemon Sphinx Moth (Hornworm) Grape Berry Moth⁴</p> <p>Green and Brown Spanworm</p> <p>Bagworm⁵</p> <p>White Marked Tussock Moth⁶</p> <p>Pandemis Leafroller Variegated Leafroller Blossom Worm* Three-lined Leafroller* Sparganothis Fruitworm* Black-headed Fireworm* Fireworm* Cranberry Fruitworm Armyworms¹ Sparganothis Fruitworm* Tent Caterpillars Variegated Spanworm* Looper Saddle Prominent Caterpillar Black Cutworm^{1*}</p> <p>Tobacco Budworm (<i>Heliothis virescens</i>)¹²</p> <p>Cherry Fruitworm Green Fruitworm</p> <p>Grape Leafroller⁷ Orange Tortrix Grapeleaf Skeletonizer Saltmarsh Caterpillar Omnivorous Leafroller</p> <p>Grape Leafroller Roughskinned Cutworm¹</p>	<p>2.00-2.50</p> <p>2.75</p> <p>1.00-3.00</p> <p>0.40-0.80</p> <p>1.50</p> <p>2.20</p> <p>1.00-3.50</p> <p>3.50</p> <p>0.50-1.00</p> <p>1.00-3.50</p> <p>0.80-3.50</p>

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
Crop groups 13 and 13-07 Small Fruits and Berries, including: Blackberries, Currants, Grapes, Raspberries, Strawberries, Cranberries, Lowbush ⁸ and Highbush ⁹ Blueberries, Kiwifruit (continued)	Blueberry Spanworm (<i>Itame argillacearia</i>)	0.40-0.80
	Chainspotted Geometer (<i>Cingilia catenaria</i>)	
	Rannoch Looper (<i>Itame brunneata</i>)	
	Cranberry Fruitworm Cherry Fruitworm	1.50-2.20
	Fall Webworm	0.80
OTHER FRUITS		
Crop group 24 Tropical and Subtropical Fruits (Inedible Peel), including: Sugar Apples, Dragon Fruit, Lychee, Passionfruit, Prickly Pear, Avocados, Bananas, Persimmons, Pineapples, Pomegranates	Hornworms Loopers Leafrollers Omnivorous Looper	1.00-3.50
	<i>Batrachedra comosae</i> (Hodges) <i>Thecla basilides</i> (Geyr)	0.50-1.00
	Banana Skipper Banana Moth ²	1.00-2.00
	Fall Webworm Redhumped Caterpillar Filbert Webworm* Tent Caterpillar Omnivorous Leafroller	1.00-2.00
	Citrus Cutworm ¹	1.00-3.50
VEGETABLES AND COLE CROPS		
Crop group 1 Root & Tuber Vegetables Crop group 2 Leaves of Root & Tuber Vegetables, including: Beets, Carrots, Horseradish, Radish, Potatoes, Sweet Potatoes, Turnips, Sugar Beets	Diamondback Moth Green Cloverworm Imported Cabbageworm	0.50-2.00
	Hornworms	0.25-2.00
	Cutworms ¹ Saltmarsh Caterpillar Loopers Omnivorous Leafroller Webworms	1.00-3.50
	Armyworms ¹	1.00-3.50
	European Corn Borer	2.00-2.50
	Alfalfa Caterpillar	0.25-0.50
Crop groups 3 and 3-07 Bulb Vegetables, including: Garlic, Leeks, Onions, Shallots	Saltmarsh Caterpillar Cutworms ¹ Omnivorous Leafroller Webworms	1.00-3.50
	Hornworms	0.25-2.00
	Leek Moth ¹⁰	0.80-1.50
	Imported Cabbageworm Loopers Green Cloverworm	0.50-2.00
	Armyworms ¹	1.00-3.50
	Diamondback Moth	0.50-1.00
	European Corn Borer	2.00-2.50
	Corn Earworm, Cotton Bollworm, Tomato Fruitworm (<i>Helicoverpa zea</i>) ¹² Tobacco Budworm (<i>Heliothis virescens</i>) ¹²	2.00-3.50

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
Crop groups 8 and 8-10 Fruiting Vegetables, including: Eggplant, Peppers, Tomatoes	Imported Cabbageworm Diamondback Moth Loopers Green Cloverworm	0.50-2.00
	Hornworms	0.25-2.00
	Cutworms ¹ Tomato Fruitworm Loopers (<i>Helicoverpa zea</i>) ¹² Webworms Omnivorous Leafroller Saltmarsh Caterpillar	1.00-3.50
	Armyworms ¹	1.00-3.50
	European Corn Borer ¹¹	2.00-2.50
	Pinworm	1.50-3.50
Crop group 6 Legume Vegetables Crop group 7 Foliage of Legume Vegetables, including: Lentils, Peas, Beans, Soybeans	Diamondback Moth Loopers	0.50-2.00
	Hornworms	0.25-1.00
	Podworms Saltmarsh Caterpillar Imported Cabbageworm Soybean Loopers Green Cloverworm Velvetbean Caterpillar	1.00-2.00
	Armyworms ¹	1.00-3.50
	European Corn Borer ¹¹	2.00-2.50
	Cutworms ¹	1.00-3.50
Crop groups 4 and 4-16 Leafy Vegetables (Except Brassica Vegetables), including: Lettuce, Spinach, Celery, Endive, Parsley Crop groups 5 and 5-16 Brassica (Cole) Leafy Vegetables, including: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collards, Kohlrabi	Hornworms	0.25-2.00
	Webworms Saltmarsh Caterpillar Loopers Omnivorous Leafroller Cutworms ¹	1.00-3.50
	Diamondback Moth Green Cloverworm Imported Cabbageworm Cross Striped Cabbageworm	0.50-2.00
	Armyworms ¹	1.00-3.50
	European Corn Borer	2.00-2.50
	Crop group 9 Cucurbit Vegetables, including: Cucumbers, Melons, Pumpkins, Squash, Watermelon	Imported Cabbageworm Diamondback Moth Green Cloverworm
Loopers Pickleworm Saltmarsh Caterpillar Rindworm Complex Melonworm		
Armyworms ¹		1.00-3.50
European Corn Borer		2.00-2.50
Hornworms		0.25-1.00
OTHER VEGETABLES		
Globe Artichoke	Artichoke Plume Moth Armyworms ¹	1.00-2.50
	Loopers	0.50-2.50

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
Asparagus	Armyworms ¹	1.00-3.50
	Diamondback Moth Green Cloverworm	Imported Cabbageworm 0.50-1.00
	Loopers	0.50-2.00
Malanga	Armyworms ¹	1.00-3.50
	Saltmarsh Caterpillar	1.00-2.00
HERBS, SPICES, MINTS		
Crop group 19 Herbs & Spices, intended for human consumption, including: Basil, Dill, Oregano, Thyme, Peppermint	Loopers ¹³	0.50-2.00
	Diamondback Moth Green Cloverworm	Imported Cabbageworm 0.50-1.00
	Armyworms ¹	1.00-3.50
	European Corn Borer	2.00-2.50
	Saltmarsh Caterpillar	0.80-1.50
OTHER CROPS		
Rice	Armyworms ¹	1.00-3.50
	Loopers	Saltmarsh Caterpillar 1.00-2.00
	Green Cloverworm	Velvetbean Caterpillar 0.50-1.00
	Corn Earworm, Cotton Bollworm (<i>Helicoverpa zea</i>) ¹²	2.00-3.50
	Tobacco Budworm (<i>Heliothis virescens</i>) ¹²	
Cotton	Cotton Leaf Perforator Cotton Leafworm	Saltmarsh Caterpillar Loopers 1.00-2.00
	Armyworms ¹ Cotton Bollworm (<i>Helicoverpa zea</i>) ¹⁵	Variegated Leafroller Tobacco Budworm (<i>Heliothis virescens</i>) ¹⁵ 1.00-3.50
Coffee	Banana Moth ²	1.50-3.00
Canola/Rapeseed	Diamondback Moth	0.50-1.00
	Loopers	1.00-2.00
	Armyworms ¹ Corn Earworm, Cotton Bollworm (<i>Helicoverpa zea</i>) ¹²	Tobacco Budworm (<i>Heliothis virescens</i>) ¹² 1.00-3.50
Crop group 15 Cereal Grains, including: Barley, Millet, Oats, Rye, Wheat, Corn (field, sweet, popcorn)	Armyworms ¹ Corn Earworm (<i>Helicoverpa zea</i>) ¹² Western Bean Cutworm ^{1*}	Variegated Cutworm ¹ Webworms Fall Armyworm ^{1*} 1.00-3.50
	European Corn Borer (Whorl Stage Only)	Southern Cornstalk Borer 1.00-2.50
	Southwestern Corn Borer	2.00-2.50

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
Hemp	Loopers Cabbage Looper	Leafrollers 1.50-2.10
	European Corn Borer	0.75-1.50
	Corn Earworm (<i>Helicoverpa zea</i>) ¹² Budworms*	Cutworms ¹ Hemp Borer* Armyworms ¹ 1.00-3.50
Hops	Armyworms ¹ Common Gray Moth*	Oblique Banded Leafroller 1.00-3.50
	Omnivorous Leaf-tier	Spotted Cutworm ¹ 1.00-2.00
	European Corn Borer	1.00-2.50
Jojoba	Loopers (<i>Anacamptodes</i> spp.)	1.00-2.00
Peanuts	Green Cloverworm Loopers	Velvetbean Caterpillar Podworms 1.00-2.00
	Armyworms ¹	1.00-3.50
	Corn Earworm, Cotton Bollworm (<i>Helicoverpa zea</i>) ¹²	2.00-3.50
	Tobacco Budworm (<i>Heliothis virescens</i>) ¹²	
Safflower	Armyworms ¹	1.00-3.50
	Loopers	Saltmarsh Caterpillar 1.00-2.00
Sorghum	Headworm	1.00-2.00
Sugarcane	Sugarcane Borer	1.00-2.50
Sunflowers	Sunflower Head Moth ¹⁴ Loopers	Banded Sunflower Moth* Variegated Leafroller 1.00-2.00
Tobacco	Tobacco Hornworm	0.25-1.00
	Loopers	0.50-2.00
	Tobacco Budworm (<i>Heliothis virescens</i>) ³	2.00
FLOWERS, BEDDING PLANTS AND ORNAMENTALS		
Ornamentals, Flowers, Bedding Plants	Armyworms ¹ Box Tree Moth* Mimosa Webworm* Saddle Caterpillar	Variegated Leafroller Tobacco Budworm (<i>Heliothis virescens</i>) ¹² 1.00-3.50
	White Marked Tussock Moth ⁶	2.20
	Azalea Moth Diamondback Moth Ello Moth (Hornworm) Io Moth	Loopers Oleander Moth Omnivorous Leafroller Omnivorous Looper 0.50-1.00

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)	
GREENHOUSE AND OUTDOOR NURSERY CROPS			
Ornamental Plants, Flowers, Leafy Vegetables (Except Brassica Vegetables and Brassica (Cole) Leafy Vegetables (Crop groups 4, 4-16, 5, and 5-16) (e.g., Lettuce and Broccoli), Fruiting Vegetables (Crop groups 8 and 8-10) (e.g., Peppers), Herbs & Spices (Crop group 19) (e.g., Basil)	Tomato Hornworm	0.50-1.00	
	Omnivorous Leafroller	1.00	
	<i>Duponchelia fovealis</i> <i>Opogona sacchari</i>	0.90	
	Armyworms ¹ Corn Earworm, Cotton Bollworm, Tomato Fruitworm (<i>Helicoverpa zea</i>) ¹²	Tobacco Budworm (<i>Heliothis virescens</i>) ¹²	1.00-3.50
	Loopers	1.00-2.00	

*Not registered for use in California.

¹ Armyworms and Cutworms Control: Use to control small armyworms and cutworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature larvae or heavy populations are present, the use of higher rates is recommended. You may achieve greater control by adding a contact insecticide.

² Banana Moth: Drench the bark and the newly emerging verticals shortly after pruning and periodically thereafter as needed to achieve economic control.

³ Suppression Only (Amorbia, Tobacco Budworm on Tobacco): Use to aid in control of light to moderate populations of 1st and 2nd instar in Integrated Pest Management conditions. Repeat treatments at 4- to 5-day intervals. Use an additional ovicidal or larvicidal insecticide to aid in control.

⁴ Grape Berry Moth: Start applications before egg hatch and after seeing adult flight. Ensure complete coverage. Repeat application if needed every 7-10 days (6 total applications maximum per growing season).

⁵ Grape Bagworm: Make 1 application when larvae are observed feeding on grapes.

⁶ White Marked Tussock Moth: Make 2 applications. Apply the first application at peak 2nd instar larval development. Apply second application 2-5 days later.

⁷ Grape Leafroller: Repeat application if needed every 3-14 days (4 total applications maximum per growing season).

⁸ Lowbush Blueberries: Apply in a minimum of 31.25 gallons of water per acre. Apply when larvae are in the 1st or 2nd instar and are present at or above the economic threshold.

⁹ Highbush Blueberries: Apply by adjusting the application rate within this range as a function of the density of larvae or the density of the foliage to treat, i.e., when crop canopy is dense in late summer, the higher rate may be required. Allow 5-10 days between applications. Monitor for the pests and apply at hatching, when larvae are small. Apply from petal fall to green fruit stage. Weekly applications may be necessary if egg hatch is asynchronous. Ground application by boom sprayer or mist blower: Apply in a minimum of 31.25 gallons of water per acre. Sprays are most effective when no rain occurs within 48 hours after application, allowing time for larvae to ingest a lethal quantity of spray deposits.

¹⁰ Leek Moth (Shallots): The use of pheromone traps on the site of treatment is critical to determine the initial application timing. Apply 7-10 days following a peak leek moth flight to synchronise application with egg hatching and repeat at 5-day intervals.

¹¹ European Corn Borer: Beans: Apply 2.00-2.50 pints per acre. Adjust the rate per acre within this range as a function of the density of the foliage to treat, i.e., when crop canopy is dense in late summer, the higher dosage may be required. Allow 5-10 days between applications. Timing: Monitor for the pest and apply at hatching, before larvae bore into the plant tissues. Peppers: Apply to young larvae at first signs of infestation; repeat application 2-4 times as necessary to maintain control of young larvae; application interval is 7-10 days.

¹² Helicoverpa spp. and Heliothis spp.: Apply every 5-7 days based on pest monitoring. Use the higher rates for lepidopterans belonging to these two genera.

¹³ Herbs and Spices Loopers: Adjust the rate per acre as a function of the density of larvae or the density of the foliage to be treated. When crop canopy is dense in late summer, a higher rate may be required. Allow 5-10 days between applications (5 total applications maximum per growing season). Use diluted spray mixture within 18-hour period. Adjust timing by monitoring target pests to apply at hatching, when larvae are small.

¹⁴ Sunflower Head Moth: Apply aerially when 20-50% heads in bloom. Thorough coverage of larval feeding sites within flowers is necessary for adequate control.

¹⁵ For early season management, begin applications at pinhead square cotton stage when eggs are present. Time applications to coincide with egg hatch. Apply at 5-day intervals based on pest monitoring. Continue applications throughout the season, as needed. If additional activity is required, increase rates and/or tank mix with other larvicides. Before mixing, evaluate physical compatibility by mixing all components in a small container in appropriate quantities. Use and mix this product with other pesticides only in accordance with the most restrictive labeling limitations and precautions. Do not mix this product with any product containing label prohibition against such mixing. Do not exceed label application rates.

LAWN APPLICATION INSTRUCTIONS

Not for use on turf being grown for sale, other commercial use, for commercial seed production, or for research purposes.

For applications that will use irrigation, use 50 to 100 gallons of spray volume per acre of turf. Do not apply this product through the irrigation system. The treated area must be irrigated after spray application (1/8 inch of water) to increase penetration of turf surface. If irrigation is not possible, use a spray volume of 200 gallons per acre of turf. Best results are obtained if applications are made in the evening.

CROP	TARGET PESTS	RATE OF LEPROTEC (PINT/ACRE)
LAWNS	Cutworms ¹	3.00
	Armyworms ¹ Sod Webworm Tropical Sod Webworm	1.50-3.00

¹ **Armyworms and Cutworms Control:** Use to control small armyworms and cutworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature larvae or heavy populations are present, the use of higher rates is recommended. You may achieve greater control by adding a contact insecticide.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store **Leprotec** in the original container between 39°F (4°C) and 68°F (20°C) to ensure microbial purity and potency. Use product within 18 months of the date of manufacture. Store container upright and keep tightly closed when not in use. After extended storage, shake or stir contents to assure a uniform suspension.

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:

For containers equal to 5 gallons or less:

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 and drain for 10 seconds after the flow begins to drip. 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.

WARRANTY

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. User assumes all risks of use, storage or handling not in accordance with accompanying directions.

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