



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

January 31, 2022

Katie Woodall
Willowood, LLC
c/o Wagner Regulatory Associates, Inc.
P.O. Box 640
Hockessin, DE 19707

Subject: Label Amendment – Add turf restriction for the state of NY
Product Name: Willowood Lambda-Cy 1EC
EPA Registration Number: 87290-24
Application Date: 12/13/2018
Decision Number: 547246

Dear Ms. Woodall:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

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with FIFRA section 6. If you have any questions, you may contact Hester Dingle at 202-566-2596 or via email at dingle.hester@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kable Bo Davis', enclosed within a hand-drawn oval.

Kable Bo Davis
Senior Regulatory Specialist
Registration Division (7505P)
Office of Pesticide Programs

Enclosure

[Master Label]

LAMBDA-CYHALOTHRIN GROUP 3 INSECTICIDE

RESTRICTED USE PESTICIDE

DUE TO TOXICITY TO FISH AND AQUATIC ORGANISMS

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

Willowood Lambda-Cy 1EC

ACTIVE INGREDIENT:

Lambda-cyhalothrin

[1α(S*), 3α(Z)]-(±)-cyano-(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate 13.1%

OTHER INGREDIENTS: 86.9%

TOTAL: **100.0%**

Willowood Lambda-Cy 1EC contains 1 pound of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN
WARNING/AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN

Contains petroleum distillate-vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER

For Emergency Information concerning this product, call the National Pesticides Information Center (NPIC) at **1-800-858-7378** Mon.-Fri., 8:00 a.m. to 12:00 p.m. Pacific Time or your poison control center at **1-800-222-1222**.

[Optional referral statements when booklets and container labels are used:]

[See label booklet for [complete] [additional] [First Aid,] [Precautionary Statements,] [Directions For Use,] and [Storage and Disposal.]]

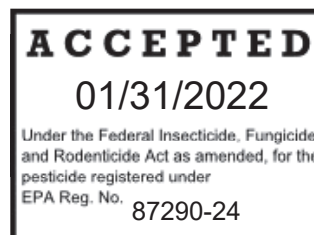
EPA Reg. No. 87290-24

EPA Est. No.

Manufactured For [By]:

Willowood, LLC
385 Interlocken Crescent, Suite 240
Bloomfield, CO 80021

Net Contents:



PRECAUTIONARY STATEMENTS**Hazards to Humans and Domestic Animals****WARNING/AVISO**

May be fatal if swallowed or inhaled. Causes substantial but temporary eye injury. Causes skin irritation. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Harmful if absorbed through skin. Wear appropriate protective clothing and eye wear as specified in the Personal Protective Equipment (PPE) section of this label. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hrs. after exposure and may last 2-30 hrs., without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below.

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves, made of barrier laminate, nitrile rubber, neoprene rubber or Viton® ≥ 14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading
- Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N*, R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any R or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- 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

This pesticide is toxic to fish, aquatic invertebrates and wildlife. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

Non-Target Organism Advisory Statement

This product is highly toxic to bees and other pollinating insects exposed to direct treatment or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and reduce pesticide risk to these organisms.

Physical and Chemical Hazards

Combustible liquid. Do not use or store near heat or open flame.

DIRECTIONS FOR USE**RESTRICTED USE PESTICIDE**

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

SHAKE WELL BEFORE USING.

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 agency responsible for pesticide regulation.

This labeling must be in the possession of the user at the time of application.

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 enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 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 over short-sleeved shirt and short pants
- Chemical-resistant gloves, made of barrier laminate, nitrile rubber, neoprene rubber or Viton® ≥ 14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

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.

Non-crop weed control is not within the scope of the Worker Protection Standard. Keep unprotected persons out of treated areas until sprays have dried.

Willowood Lambda-Cy 1EC can be used for the control of the listed insects on: Alfalfa, Alfalfa grown for seed, Beans and Peas, Broccoli, Brussels Sprouts, Canola, Cabbage, Cavalo Broccoli, Cauliflower, Cereal Grains, Chinese Broccoli (gai lon), Chinese Cabbage (napa), Chinese Mustard Cabbage (gai choy), Corn (Field, Seed, Sweet, Popcorn), Cotton, Cucurbits, Eggplant, Garlic, Grass Forage, Fodder and Hay, Ground Cherry, Kohlrabi, Lettuce (Head and Leaf), Onions (Bulb), Peanuts, Peppers (Bell and Non-Bell), Pepinos, Pome Fruits (Apples, Crabapple, Loquat, Mayhaw, Pears, Quince), Rice and Wild Rice, Sorghum (grain), Soybeans, Stone Fruits (Apricot,

Plums, Nectarine, Peach, Prune, Cherries), Sugarcane, Sunflowers, Tobacco, Tomato and Tomatillo, Tree Nuts, Tuberos and Corm Vegetables, Wheat (Wheat Hay and Triticale), turf and ornamentals and non-agricultural uses (Conifer and Deciduous Trees; see also under **Specific Use Directions**).

Initial and residual control is contingent upon thorough crop coverage. Apply with ground or aerial equipment using sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gals./acre by air or 10 gals./acre by ground unless otherwise specified in this label. When foliage is dense or pest pressure is high (heavier insect or egg pressure, larger larval stages), use of higher application volumes and/or higher use rates may improve initial and residual control.

For cutworm control, Willowood Lambda-Cy 1EC may be applied before, during, or after planting. For soil-incorporated applications, use higher rates for improved control.

RESISTANCE MANAGEMENT

For resistance management, Willowood Lambday-Cy 1EC contains a Group 3 insecticide. Any insect population may contain individuals naturally resistant to Willowood Lambda-Cy 1EC and other Group 3 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of Willowood Lambda-Cy 1EC or other Group 3 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Willowood, LLC.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications:

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzle and pressure that deliver a Medium or coarser

droplet size (ASABE S641).

- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- The boom length must not exceed 75% of the wingspan for airplanes or 90% of the rotor diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply during temperature inversions.

Airblast applications:

- Sprays must be directed into the canopy.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplet size (ASABE S572).
- Do not apply when wind speeds exceed 10 mph at the application site.
- Do not apply during temperature inversions.

Boomless Ground Applications:

- Applicators are required to select nozzle and pressure that deliver a Medium or coarser droplet size (ASABE S572) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- **Adjust Nozzles** - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.**

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES, OR NATURAL PONDS, ESTUARIES, AND COMMERCIAL FISH FARM PONDS.

- Do not apply by ground within 25 ft. or by air within 150 ft. of lakes, reservoirs, rivers, permanent streams, marshes, pot holes, or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 ft. when ultralow volume (ULV) application is made.
- All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.
- For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or rotor diameter.
- Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- Spray at the lowest height consistent with pest control and flight safety. Do not make applications more than 10 ft. above the crop canopy.
- Make aerial or ground applications when the wind velocity favors on-target product deposition (approximately 3-10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.
- Risk of exposure to aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.
- Do not cultivate within 10 ft. of the aquatic area so as to allow growth of a vegetative filter strip.
- Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.
- Do not make aerial or ground applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- In the State of New York, a 25 ft. vegetated, non-cropped buffer strip untraversed by drainage tiles must be maintained between a treated field and a coastal salt marsh or stream that drains into a coastal salt marsh, for both aerial or ground application. For aerial applications, the 25 ft. vegetated non-cropped buffer strip for runoff protection would be part of the larger 150 ft. buffer strip (or 450 ft. buffer strip for ULV application) required for spray drift.
- In the state of New York, this product may not be applied to turf within 100 feet of a coastal

marsh or streams that drain into a coastal marsh.

TANK MIX APPLICATION

Fill the spray tank at least $\frac{1}{3}$ full of clean water or diluents. With the pump and agitator running continuously, add the specified amount of each product in the tank mix to the spray tank and allow to fully disperse, adding Willowood Lambda-Cy 1EC last. Add the remainder of water or diluent to the spray tank. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Compatibility testing for tank mixing partners: Test compatibility of the intended tank mixture by adding proportionate amounts of each ingredient to a pint or quart jar, cap, shake, and let set for 15 minutes. Formation of precipitates that do not readily redisperse indicates an incompatible mixture that should not be used.

CHEMIGATION

Sprinkler Irrigation Application

Apply Willowood Lambda-Cy 1EC at rates and timing described elsewhere in this label. Consult your local State Extension Service or other local experts for recommendations on adjuvant or diluent types, rates and mixing instructions. These recommendations should be proven, through university and extension field trials, to be effective with Willowood Lambda-Cy 1EC applied by chemigation.

Check the irrigation system to insure uniform application of water to all areas. Thorough coverage of foliage is required for good control. Good agitation in the pesticide supply tank should be maintained prior to and during the entire application period.

Apply by injecting the specified rate of Willowood Lambda-Cy 1EC into the irrigation system using a metering device that will introduce a constant flow and by distributing the product to the target area in 0.1-0.2 acre-inch of water. In general, use the least amount of water required for proper distribution and coverage. Inject the product into the main irrigation line ahead of a right angle turn in the line to insure adequate dispersion or mixing in the irrigation water. Once the application is completed, flush the entire irrigation and injection system with clean water before stopping the system.

If application is being made during a normal irrigation set of a stationary sprinkler, inject the specified rate of Willowood Lambda-Cy 1EC for the area covered into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.

Do not apply Willowood Lambda-Cy 1EC through an irrigation system connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Use Precautions - Sprinkler Irrigation Applications

- A. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.
- B. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- C. If you have any questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers, or other experts.
- D. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label prescribed safety devices for public water systems are in place.
- E. 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.

- F. 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.
- G. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
- H. 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.
- I. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- J. 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.
- K. 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 are capable of being fitted with a system interlock.
- L. Any alternatives to the above required safety devices must conform to the list of EPA-approved alternative devices.
- M. **Do not** apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.
- N. **Do not** apply through chemigation systems connected to public water systems.

SPECIFIC USE DIRECTIONS

AGRICULTURAL USES

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
ALFALFA AND ALFALFA GROWN FOR SEED	Alfalfa Caterpillar Army Cutworm Cutworm species Green Cloverworm Leafhopper species Looper species Threecornered Alfalfa Hopper Velvetbean Caterpillar Webworm species	0.015-0.025	1.92-3.20
	Alfalfa Seed Chalcid (Adult) Alfalfa Weevil Armyworm Bean Leaf Beetle (Adult) Blister Beetle species Blue Alfalfa Aphid Clover Leaf Weevil species Clover Root Borer (Adult) Clover Root Curculio species (Adult) Clover Stem Borer (Adult) Corn Earworm Cowpea Aphid Cowpea Curculio (Adult) Cowpea Weevil (Adult) Cucumber Beetle species (Adult) Egyptian Alfalfa Weevil Fall Armyworm ¹ Grape Colaspis (Adult) Grasshopper species Green June Beetle (Adult)	0.02-0.03	2.56-3.84

	Green Peach Aphid ³ Japanese Beetle (Adult) Meadow Spittlebug Mexican Bean Beetle Pea Aphid Pea Weevil (Adult) Plant Bug species including <i>Lygus</i> species ³ Spotted Alfalfa Aphid Stink Bug species Sweet Clover Weevil (Adult) Thrips species ⁴ Western Yellowstriped Armyworm Whitefringed Beetle species (Adult) Yellowstriped Armyworm		
	Beet Armyworm ^{1,3} Blotch Leafminer ³ Spider Mites ²	0.03	3.84

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

⁴Does not include Western Flower Thrips.

Remarks:

- Apply only to fields planted to pure stands of alfalfa.
- Apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gals./A by air or 10 gals./A by ground. When foliage is dense and/or pest populations are high use 5-10 gals./A by air or 20 gals./A by ground with higher labeled use rates. Use higher rates for increased residual control.
- Avoid application when bees are actively foraging by applying during the early morning or during the evening hours. Be aware of bee hazard resulting from a cool evening and/or morning dew. It may be advisable to remove bee shelters during and for 2-3 days following application. Do not make direct application to bee shelters.
- **Do not** apply more than 0.03 lb. a.i. (0.24 pt.) per acre per cutting.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.) per acre per year.
- **Do not** apply within 1 day of harvest for forage or within 7 days of harvest for hay.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CANOLA	Armyworm species Cabbage Seedpod Weevil Cutworm species Diamondback Moth Flea Beetle Grasshoppers Looper species <i>Lygus</i> Bug	0.015-0.03	1.92-3.84
	Cabbage Aphid	0.03	3.84

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.
- Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply a minimum of 2 gals. of water/A.
- **Do not** apply within 7 days of harvest.
- **Do not** apply more than 0.09 lb. a.i. (0.72 pt.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CEREAL GRAINS			
Corn (At-Plant): Field Corn Popcorn Seed Corn Sweet Corn	Corn Rootworm (Larvae): Mexican Northern Southern Western Cutworm species Lesser Cornstalk Borer Red Imported Fire Ant ¹ Seedcorn Beetle Seedcorn Maggot White Grub species Wireworm species	0.005 lb. a.i. per 1,000 ft. of row ²	0.66 fl. oz. per 1,000 ft. of row ²

¹Suppression only.**Remarks:**

- **Banded Applications** - Apply at-planting as a 5-7 inch T-band sprayed across the open seed furrow between the furrow openers and the press wheels or as a band application behind the press wheel.
- **In-Furrow Applications** - Apply into the seed furrow through spray nozzles or microtubes, behind the planter furrow openers and in front of the press wheel.
- Apply a minimum of 3 gals. finished spray per acre.
- **Do not** harvest or graze livestock or cut treated crops for feed within 21 days of at-plant application.
- **Do not** apply more than 0.09 lb. a.i. (0.72 pt.)/A per crop at-plant.
- For field corn, popcorn, and seed corn, **do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per crop from at-plant and foliar applications. For sweet corn, **do not** apply more than 0.48 lb. a.i. (3.84 pts.)/A per crop from at-plant and foliar applications.

²Lbs. A.I. and Fl. Oz./A of Willowood Lambda-Cy 1EC Applied at 0.66 fl. oz./1,000 ft. of Row for Various Row Spacings

Row Spacing	40"	38"	36"	34"	32"	30"
Linear Ft./A	13,068	13,756	14,520	15,374	16,335	17,424
Lbs. A.I./A	0.067	0.07	0.075	0.079	0.084	0.09
Fl. Oz./A	8.6	9.1	9.6	10.1	10.8	11.5

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CEREAL GRAINS			
Corn (Foliar) Field Corn Popcorn Seed Corn	Corn Earworm ¹ Cutworm species Green Cloverworm Meadow Spittlebug Western Bean Cutworm ¹	0.015-0.025	1.92-3.20
	Armyworm ² Bean Leaf Beetle Bird Cherry-Oat Aphid ³ Cereal Leaf Beetle Corn Leaf Aphid ³ Corn Rootworm Beetle (Adult): Mexican Northern Southern Western English Grain Aphid ³	0.02-0.03	2.56-3.84

	European Corn Borer ¹ Fall Armyworm ² Flea Beetle species Grasshopper species Hop Vine Borer ¹ Japanese Beetle (Adult) Lesser Cornstalk Borer Sap Beetle (Adult) Seedcorn Beetle Southwestern Corn Borer ¹ Stalk Borer ¹ Stink Bug species Tobacco Budworm ^{1,4} Webworm species Yellowstriped Armyworm ²		
	Beet Armyworm ⁴ Chinch Bug Greenbug ^{3,4} Mexican Rice Borer ¹ Rice Stalk Borer ¹ Southern Corn Leaf Beetle ³ Sugarcane Borer ¹	0.03	3.84

¹For control before the larva bores into the plant stalk or ear.

²Use higher rates for large larvae.

³Suppression only.

⁴See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gals. of water/A.
- For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small corn. Direct spray to the base of corn plants. Repeat applications at 3-5 day intervals if needed. Willowood Lambda-Cy 1EC may only suppress heavy infestations and/or subsequent migrations.
- For control of adult corn rootworm beetles (*Diabrotica* species) as part of an aerial applied corn rootworm control program, use a minimum of 0.03 lb. a.i./A (3.84 fl. oz./A).
- **Do not** apply within 21 days of harvest.
- **Do not** allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after last treatment.
- **Do not** feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per crop from at-plant and foliar application.
- **Do not** apply more than 0.06 lb. a.i. (0.48 pt.)/A after silk initiation.
- **Do not** apply more than 0.03 lb. a.i. (0.24 pt.)/A after corn has reached the milk stage (yellow kernels with milky fluid).

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CEREAL GRAINS			
Sweet Corn (Foliar)	Aphid species ^{2,3} Army worm ¹ Aster Leafhopper Beet Armyworm ^{1,3} Chinch Bug Common Cornstalk Borer	0.02-0.03	2.56-3.84

	Corn Earworm Corn Rootworm Beetle (Adult): Mexican Northern Southern Western Cutworm species European Corn Borer Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Sap Beetle (Adult) Southern Armyworm ¹ Southwestern Corn Borer Spider Mite species ² Stink Bug species Tarnished Plant Bug Webworm species Western Bean Cutworm Yellowstriped Armyworm ¹		
	Corn Silk Fly (Adult) ²	0.03	3.84

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 4 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods and should be targeted for control before insects enter the stalk or ear.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage and ears (if present). When applying by air, apply in a minimum of 2 gals. of water/A.
- For control of adult corn rootworm beetles (*Diabrotica* species) as part of an aerial applied corn rootworm control program, use a minimum of 0.025 lb. a.i. (3.2 fl. oz.)/A.
- **Do not** apply within 1 day of harvest.
- **Do not** allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after last treatment. **Do not** feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment.
- **Do not** apply more than 0.48 lb. a.i. (3.84 pts.)/A per crop from at-plant and foliar applications.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CEREAL GRAINS			
Rice Wild Rice	Bird Cherry-Oat Aphid Chinch Bug Fall Armyworm Grasshopper species Greenbug Leaf hopper species Rice Stink Bug Rice Water Weevil (Adult) Riceworm Sharpshooter species True Armyworm Yellow Sugarcane Aphid Yellowstriped Armyworm	0.025-0.04	3.20-5.12

	European Corn Borer ¹ Mexican Rice Borer ¹ Rice Seed Midge ¹ Rice Stalk Borer ¹ Sugarcane Borer ¹	0.03-0.04	3.84-5.12
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¹For control before the larvae bores into the plant stalk.

Remarks:

- Apply as required by scouting. Timing and frequency of application should be based upon insect populations reaching locally determined economic thresholds. Determine the need for repeat applications, usually at intervals of 5-7 days, by scouting.
- Willowood Lambda-Cy 1EC can be safely used when propanil products are being used for weed control.
- Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water (or total carrier volume) per acre, but ensure sufficient volume is used to provide adequate coverage. In addition, adding an emulsified crop oil (e.g., 1 pt. per acre) when lower aerial application volumes are used is recommended to help improve coverage, reduce evaporation and improve efficacy.
- For control of rice water weevil in dry-seeded rice, make a foliar application as indicated by scouting for the presence of adults and/or feeding scars, usually within a time-frame of 0-5 days after permanent flood establishment. **Do not** exceed 10 days from starting permanent flood until insecticide application unless scouting indicates weevils have not been previously present. Adults may also be treated at later stages of rice development to reduce overwintering populations.
- For control of rice water weevil in water-seeded rice, make the first foliar application after pinpoint flood as indicated by scouting for the presence of adults and/or feeding scars, usually when rice has emerged 0.5 inch above the waterline. Under conditions of prolonged migration into the field, start field scouting for rice water weevil adults and/or feeding scars 3-5 days after the initial treatment and, if needed, apply a second application within 7-10 days of the first application. Adults may also be treated at later stages of rice development to reduce overwintering populations.
- **California:** In addition to above directions for control of rice water weevil in water seeded rice, Willowood Lambda-Cy 1EC may be applied at the 1-3 leaf growth stage, with the majority at the 2 leaf growth stage. Adults are vulnerable on levees and in the water. Larvae are vulnerable while feeding on the leaf prior to entering the soil. Monitor for adults, based upon field history and density of population. Monitor field edges and levee areas for adults. Treat in the following manner: a) spray the inside perimeter of the field, or b) spray the entire field.
- Greenbug is known to have many biotypes. Willowood Lambda-Cy 1EC may only provide suppression. If satisfactory control is not achieved with the first application of Willowood Lambda-Cy 1EC, a resistant biotype may be present. Use alternate chemistry for control.
- For control of stem borers, scout fields, when rice growth is near panicle differentiation, for early symptoms of damaging populations exhibited as discoloration (orange-tan) around the junction of the leaf sheath and leaf blade which is caused by feeding of young larvae within the sheath. Applications must be made before larvae bore into rice stems. Make the first application at panicle differentiation to 2 inch panicle for partial control. Make the second application at boot to heading for maximum control. All rice varieties are susceptible to stem borer damage, but Cocodrie and Priscilla are particularly susceptible.
- Mixers/loaders supporting aerial applications to wild rice at a rate of 0.04 lb. a.i./A, and treating 1,200 acres (or more) per day must wear dust-mist respirator.
- **Do not** release flood water within 7 days of an application.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per year.
- **Do not** apply more than 0.04 lb. a.i. (0.32 pt.)/A within 21 to 27 days of harvest.
- **Do not** apply within 21 days of harvest.
- **Do not** use treated rice fields for the aquaculture of edible fish and crustacea.
- **Do not** apply as an ultra-low volume (ULV) spray.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CEREAL GRAINS			
Sorghum (Grain)	Cutworm species	0.015-0.02	1.92-2.56

	Sorghum Midge		
	Armyworm Beet Armyworm ³ Corn Earworm European Corn Borer ² Fall Armyworm ¹ Flea Beetle species Grasshopper species Lesser Cornstalk Borer ² Southwestern Corn Borer ² Stink Bug species Webworm species Yellowstriped Armyworm ¹	0.02-0.03	2.56-3.84
	Chinch Bug Mexican Rice Borer ² Rice Stalk Borer ² Sugarcane Borer ²	0.03	3.84

¹Use higher rates for large larvae.

²For control before the larva bores into the plant stalk.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or aerial equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gals. of water per acre.
- For sorghum midge control, begin applications when 25% of the sorghum heads have emerged and are in tip bloom. Repeat applications at 5-day intervals if needed.
- For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of sorghum plants. Repeat applications 3-5 day intervals if needed. Willowood Lambda-Cy 1EC may only suppress heavy infestations and/or subsequent migrations.
- **Do not** apply more than 0.08 lb. a.i. (0.64 pt.)/A per year.
- **Do not** apply more than 0.06 lb. a.i. (0.48 pt.)/A per year after crop emergence.
- **Do not** apply more than 0.02 lb. a.i. (0.16 pt.)/A per year once crop is in soft-dough stage.
- **Do not** apply within 30 days of harvest.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CEREAL GRAINS			
Barley Buckwheat	Army Cutworm Cutworm species	0.015-0.025	1.92-3.20
Oats Rye Triticale Wheat Wheat Hay	Armyworm Bird Cherry-Oat Aphid ¹ Cereal Leaf Beetle English Grain Aphid ¹ Fall Armyworm Flea Beetle species Grasshopper species Hessian Fly ⁴ Orange Blossom Wheat Midge Russian Wheat Aphid ¹ Stink Bug species Yellowstriped Armyworm	0.02-0.03	2.56-3.84
	Grass Sawfly	0.025-0.03	3.20-3.84
	Chinch Bug Corn Leaf Aphid ²	0.03	3.84

	Greenbug ^{1,3} Mite species ²		
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¹Best control is obtained before insects begin to roll leaves. Once crop has started to boot, Willowood Lambda-Cy 1EC may provide suppression only. Higher labeled rates and increased coverage will be necessary.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

⁴Make applications when adults emerge.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- For chinch bug control, repeat applications at 3-5 day intervals if needed. Willowood Lambda-Cy 1EC may only suppress heavy infestations and/or migrations.
- Greenbug is known to have many biotypes. Willowood Lambda-Cy 1EC may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.
- **Do not** apply within 30 days of harvest.
- **Do not** allow livestock to graze in treated areas or harvest treated wheat forage as feed for meat or dairy animals within 7 days after treatment. **Do not** feed treated straw to meat or dairy animals within 30 days after the last treatment.
- **Do not** apply more than 0.06 lb. a.i. (0.48 pt.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
COLE CROPS (HEAD AND STEM BRASSICA)			
Broccoli Brussels Sprouts Cabbage Cauliflower Cavalo Broccoli Chinese Broccoli (gai lon) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi	Alfalfa Looper Cabbage Looper Cabbage Webworm Cutworm species Imported Cabbageworm Southern Cabbageworm	0.015-0.025	1.92-3.20
	Aphid species ^{2,3} Armyworm Beet Army worm ^{1,3} Corn Earworm Diamondback Moth ³ Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leaf hopper species Meadow Spittlebug Plant Bug species including <i>Lygus</i> species ³ Spider Mite species ² Stink Bug species Thrips species ² Vegetable Weevil (Adult) Whitefly species ^{2,3} Yellowstriped Armyworm	0.02-0.03	2.56-3.84

¹For control of first and second instar only.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of

applications should be based upon insect populations reaching locally determined economic thresholds.

- Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A.
- **Do not** apply within 1 day of harvest.
- **Do not** apply more than 0.24 lb. a.i. (1.92 pts.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
COTTON			
	Cutworm species Soybean Thrips Tobacco Thrips	0.015-0.02	1.92-2.56
	Cabbage Looper Cotton Fleahopper Cotton Leafperforator Cotton Leafworm <i>Lygus</i> Bug species ³ Pink Bollworm Saltmarsh Caterpillar	0.02-0.03	2.56-3.84
	Bandedwing Whitefly ^{2,3} Beet Army worm ^{1,3} Boll Weevil Brown Stink Bug Cotton Aphid ^{2,3} Cotton Bollworm European Corn Borer Fall Armyworm Green Stink Bug Southern Green Stink Bug Sweet Potato Whitefly ^{2,3} Tobacco Budworm ³ Twospotted Spider Mite ²	0.025-0.04	3.20-5.12

¹For control of the first and second instar only.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 5-7 days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or aerial equipment using sufficient water to obtain full coverage of foliage.
- Applications may also be made with equipment adapted and calibrated for ULV sprays. Willowood Lambda-Cy 1EC may be mixed with once-refined vegetable oil and applied in a minimum of at least one qt. of finished spray per acre.
- Under light bollworm/budworm infestation levels, 0.02 lb. a.i./A may be applied in conjunction with intense field monitoring.
- For boll weevil control, spray on a 3-5 day schedule.
- When applied according to label directions for control of cotton bollworm and tobacco budworm, Willowood Lambda-Cy 1EC also provides ovicidal control of unhatched *Heliothine* species eggs.
- **Do not** apply within 21 days of harvest.
- **Do not** graze livestock in treated areas.
- **Do not** apply more than 0.2 lb. a.i. (1.6 pints)/A per year.
- **Do not** make more than a total of 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season.

Crop	Target Pests	Rate	
		Ib. a.i./A	Fl. Oz./A
CUCURBIT VEGETABLES			
Chayote (fruit) Chinese Waxgourd (Chinese preserving melon) Citron Melon Cucumber Gherkin Gourd (edible) <i>Lagenaria</i> species - includes: hyotan, cucuzza <i>Luffa acutangula</i> , <i>L. cylindrical</i> - includes: hechima, Chinese okra <i>Momordica</i> species - includes: balsam apple, balsam pear, bitter melon, Chinese cucumber Muskmelon (hybrids and/or cultivars of <i>Cucumis melo</i>) - includes: true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon Pumpkin Squash, summer (<i>Cucurbits pepo</i> var. <i>melo</i>) - includes: crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini Squash, winter (<i>Cucurbita maxima</i> ; <i>C. moschata</i>) - includes: butternut squash, calabaza, hubbard squash (<i>C. mixta</i> ; <i>C. pepo</i>) - includes: acorn squash, spaghetti squash Watermelon - includes: hybrids and/or varieties of <i>Citrullus lanatus</i>	Armyworm species ¹ Blister Beetle species Cabbage Looper Corn Earworm Cricket species Cucumber Beetle species (Adults) Cutworm species Flea Beetle species Grasshopper species June Beetle species Leaffooted Bug Leaf hopper species <i>Lygus</i> Bug species ¹ Melonworm Pickleworm Plant Bug species Rindworm species complex Saltmarsh Caterpillar Squash Beetle Squash Bug species Squash Vine Borer species Stink Bug species Thrips species ^{1,2} Tobacco Budworm ¹ Webworm species	0.02-0.03	2.56-3.84
	Aphid species ¹ Leafminer species ^{1,3} Whitefly species ^{1,3} Spider Mite species ³	0.03	3.84

¹See Resistance statement under Directions for Use.

²Does not include Western Flower Thrips

³Suppression only.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of all plant parts. When applying by air, apply in a minimum of 2 gals. total solution per acre. When applying by ground, a minimum of 10 gals. total solution per acre is recommended.
- Use higher application volumes and/or rates when foliage is dense, pest populations are high, larvae are large, weather conditions are adverse and/or as plant size increases. Use higher rates

for longer residual.

- Insects that bore or tunnel into leaves, vines, stems or fruit must be controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of Willowood Lambda-Cy 1EC.
- **Do not** apply more than 0.18 lb. a.i. (23 fl. oz. or 1.44 pts. of product) per acre per year.
- **Do not** apply within 1 day of harvest.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
FRUITING VEGETABLES			
Eggplant	Cabbage Looper	0.015-0.025	1.92-3.20
Ground cherry	Cutworm species		
Pepino	Hornworm species	0.02-0.03	2.56-3.84
Peppers (bell and Non-bell)	Aphid species ^{2,3} Beet Armyworm ^{1,3}		
Tomatillo	Blister Beetle species		
Tomato	Colorado Potato Beetle ³		
	Cucumber Beetle species (Adult)		
	European Corn Borer ⁴		
	Fall Armyworm ¹		
	Flea Beetle species		
	Grasshopper species		
	Japanese Beetle (Adult)		
	Leaf hopper species		
	Leaf miner species ²		
	Meadow Spittlebug		
	Pepper Weevil (Adult) ²		
	Plant Bug species		
	Southern Armyworm ¹		
	Spider Mite species ²		
	Stalk Borer ⁴		
	Stink Bug species		
	Thrips ⁵		
	Tobacco Budworm ³		
	Tomato Fruitworm		
	Tomato Pinworm		
	Tomato Psyllid ^{2,3}		
	Vegetable Weevil (Adult)		
	Whitefly species ^{2,3}		
	Yellowstriped Armyworm ¹		

¹For control of first and second instar only.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

⁴For control before the larva bores into the plant stalk or fruit.

⁵Does not include Western Flower Thrips.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- **Do not** apply within 5 days of harvest.
- **Do not** apply more than 0.36 lb. a.i. (2.88 pts.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
GRASS FORAGE, FODDER AND HAY			
Pasture and Rangeland Grass, Grass Grown for Hay or Silage and Grass Grown for Seed	Army Cutworm Cutworm species Essex Skipper Range Caterpillar Striped Grass Looper	0.015-0.02	1.92-3.2
	Beet Armyworm Billbug species ³ Bird Cherry-Oat Aphid ¹ Black Grass Bug Black Turfgrass Beetle (Adult) Blue Stem Midge Cereal Leaf Beetle Chinch Bug Crane Fly species Cricket species English Grain Aphid ¹ Fall Armyworm Flea Beetle species Grass Mealybug Grass Sawfly (Adult) Grasshopper species Green June Beetle (Adult) Greenbug ^{1,2} Japanese Beetle (Adult) Katydid species Leafhopper species Mite species ³ Russian Wheat Aphid ¹ Southern Armyworm Spittlebug species Stink Bug species Sugarcane Aphid Thrips species Tick species True Armyworm Webworm species Yellowstriped Armyworm	0.02-0.03	2.56-3.84

¹Best control is obtained before insects begin to roll leaves.

²See **Resistance** statement under **Directions for Use**.

³Suppression only.

Remarks:

- Apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. total solution per acre. When applying by ground, a minimum of 7 gals. total solution per acre is recommended.
- Use higher application volumes and rates when foliage is dense, pest populations are high, larvae are large and/or weather conditions are adverse. Use higher rates for longer residual.
- For chinch bug control, Willowood Lambda-Cy 1EC may only suppress heavy infestations and/or migrations. In this situation, a second application using an alternative chemistry may be needed.
- Greenbug is known to have many biotypes. Willowood Lambda-Cy 1EC may provide suppression only. In this situation, a second application using an alternative chemistry may be needed.
- Pasture and rangeland grass may be used for grazing or cut for forage 0 days after application. **Do not** cut grass to be dried and harvested for hay until 7 days after the last application.

- Grass grown for seed:
Straw, hay and mature seed (seed screenings) may be used as feed 7 days after the last application. Regrowth of grass grown for seed may be used for grazing, cut for forage or cut to be dried and harvested for hay.
- **Do not** apply more than 0.03 lb. a.i. (3.84 fl. oz. or 0.24 pt. of product) per acre per cutting for pastures, rangeland and grasses grown for seed. A minimum re-treatment interval (RTI) of 30 days is required for pastures and rangeland receiving 0.03 lb. a.i. per acre which have not been cut between applications.
- **Do not** apply more than 0.09 lb. a.i. (11.52 fl. oz. or 0.72 pt. of product) per acre per year.

Crop	Target Pests	Rate	
		Ib. a.i./A	Fl. Oz./A
LEGUME VEGETABLES (BEANS AND PEAS)			
Edible Podded (Only) <i>Canavalia ensiformis</i> - jackbean <i>Canavalia gladiata</i> - sword bean <i>Glycine max</i> - soybean (immature seed)	Cutworm species Green Cloverworm Imported Cabbageworm Mexican Bean Beetle Saltmarsh Caterpillar Velvetleaf Caterpillar	0.015-0.02 5	1.92-3.20
Edible Podded, Succulent Shelled or Dried Shelled <i>Cajanus cajan</i> - Pigeon pea <i>Phaseolus</i> species - includes: field, kidney, lima, navy, pinto, runner, snap, tepary, and wax beans <i>Pisum</i> species - includes: dwarf, edible-pod, English, field, garden, green, snow, and sugar snap peas <i>Vigna</i> species - includes: adzuki, asparagus, moth, mung, rice, urd, and yardlong beans, black-eye pea, catjang, Chinese longbean, cowpea, Crowder pea, and Southern pea	Alfalfa Caterpillar Aphid species ⁴ Armyworm ² Bean Leaf Beetle Bean Leafskeletonizer Blister Beetle species Corn Earworm Corn Rootworm Beetle species (Adult) Cucumber Beetle species (Adult) Curculio and Weevil species ¹ (foliage and pod feeding adults and larvae) European Corn Borer Fall Armyworm ² Flea Beetle species (Adult) Flea Hopper species Grasshopper species Japanese Beetle (Adult) Leaf hopper species Leaftier species Looper species Meadow Spittlebug Painted Lady Butterfly (Larva) Plant Bug species including <i>Lygus</i> species ⁴ Stalk Borer ⁴ Stink Bug species Threecornered Alfalfa Hopper Thrips species ^{4,5} Tobacco Budworm ⁴ Webworm species Western Bean Cutworm Western Yellowstriped Armyworm ² Yellowstriped Armyworm ²	0.02-0.03	2.56-3.84
Succulent Shelled or Dried Shelled <i>Vicia faba</i> . - broadbean (favabean)	Beet Armyworm ^{3,4} Leafminer species ^{3,4} Lesser Cornstalk Borer ³ Soybean Looper ^{3,4}	0.03	3.84
Dried Shelled (Only) <i>Cicer arietinum</i> - chickpea (garbanzo bean) <i>Cyamopsis tetragonoloba</i> - guar <i>Lablab purpureus</i> - Lablab bean (hyacinth bean) <i>Lupinus</i> species - includes: grain, sweet, white and sweet white lupines			
<i>Lens esculata</i> - Lentils			

	Spider Mite species ³ Whitefly species ^{3,4}		
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¹For control before the larva bores into the plant stalk or pods.

²Use higher rates for large larvae.

³For suppression only.

⁴See **Resistance** statement under **Directions for Use**.

⁵Does not include Western Flower Thrips.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- For edible podded and succulent shelled legume vegetables, **do not** apply within 7 days of harvest.
- For dried shelled legume vegetables, **do not** apply within 21 days of harvest.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per year.
- For succulent and dried shelled peas and beans, **do not** graze livestock in treated areas or harvest vines for forage or hay.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
LEGUME VEGETABLES (SOYBEANS)			
Soybeans	Bean Leaf Beetle Cabbage Looper Corn Earworm Corn Rootworm Beetle (Adult): Mexican Northern Southern Western Cutworm species Green Cloverworm Mexican Bean Beetle Painted Lady (Thistle) Caterpillar Potato Leafhopper Saltmarsh Caterpillar Soybean Aphids ⁴ Threecornered Alfalfa Hopper Thrips species ⁵ Velvetbean Caterpillar Woollybear Caterpillar	0.015-0.025	1.92-3.20
	Armyworm ¹ Blister Beetle species European Corn Borer Fall Armyworm ¹ Grasshopper species Japanese Beetle (Adult) Plant Bug species Silverspotted Skipper Stink Bug species Tobacco Budworm ³ Webworm species Yellowstriped Armyworm ¹	0.025-0.03	3.20-3.84
	Beet Armyworm ^{2,3} Lesser Cornstalk Borer ²	0.03	3.84

	Soybean Looper ^{2,3} Spider Mite species ²		
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¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

⁴Use lower rates for early season applications and/or lighter populations.

⁵Does not include Western Flower Thrips.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- **Do not** graze or harvest treated soybean forage, straw, or hay for livestock feed.
- Apply with ground or aerial equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- For control of adult corn rootworm beetles (*Diabrotica* species) as part of an aerial-applied corn rootworm control program use a minimum of 0.02 lb. a.i. (2.56 fl. oz.)/A.
- **Do not** apply within 30 days of harvest.
- **Do not** apply more than 0.06 lb. a.i. (0.48 pt.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
LETTUCE (HEAD AND LEAF)			
	Alfalfa Looper Cabbage Looper Cutworm species Green Cloverworm Imported Cabbageworm Saltmarsh Caterpillar	0.015-0.025	1.92-3.20
	Aphid species ^{2,3} Armyworm Beet Armyworm ^{1,3} Corn Earworm Diamondback Moth ³ European Corn Borer Fall Armyworm ¹ Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leaf hopper species Meadow Spittlebug Plant Bug species including <i>Lygus</i> species ³ Southern Armyworm Spider Mite species ² Stink Bug species Tobacco Budworm ³ Vegetable Weevil (Adult) Whitefly species ^{2,3}	0.02-0.03	2.56-3.84

¹For control of first and second instar only.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.

- **Do not** apply within 1 day of harvest.
- **Do not** apply more than 0.3 lb. a.i. (2.4 pts. of product)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
ONION (BULB) AND GARLIC			
	Cutworm species Leafminer species (Adult) Onion Maggot (Adult) Seedcorn Maggot (Adult)	0.015-0.025	1.92-3.20
	Aphid species ² Armyworm species ¹ Flower Thrips ^{2,3} Onion Thrips ³ Plant Bug species Stink Bug species Tobacco Thrips ³ Western Flower Thrips ^{2,3}	0.02 - 0.03	2.56-3.84

¹For control of the first and second instar only.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Use the higher label rates as thrips population increases and avoid rescue situations.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- **Do not** apply within 14 days of harvest.
- **Do not** apply more than 0.24 lb. a.i. (1.92 pts. of product) per acre per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
PEANUTS			
	Cutworm species Green Cloverworm Potato Leafhopper Rednecked Peanut Worm Threecornered Alfalfa Hopper Velvetbean Caterpillar	0.015-0.025	1.92-3.20
	Bean Leaf Beetle Corn Earworm Fall Armyworm ¹ Grasshopper species Southern Corn Rootworm (Adult) Stink Bug species Tobacco Thrips Vegetable Weevil Whitefringed Beetle (Adult)	0.02-0.03	2.56-3.84
	Aphid species ² Beet Armyworm ^{2,3} Lesser Cornstalk Borer ² Soybean Looper ^{2,3} Spider Mite species ²	0.03	3.84

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **Directions for Use**

Remarks:

- Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or aerial equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- **Do not** apply within 14 days of harvest.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
POME FRUITS			
Apple Crabapple Loquat Mayhaw Oriental Pear Pear Quince	Apple Aphid Apple Maggot (Adult) Cherry Fruit Fly species (Adult) Codling Moth Green Fruitworm Japanese Beetle Leaf hopper species Leafroller species Lesser Appleworm Omnivorous Leafroller Orange Tortrix Oriental Fruit Moth Pear Psylla ¹ Pear Sawfly Periodical Cicada Plant bug species Plum Curculio Rosy Apple Aphid San Jose Scale (fruit infestations only) Spirea Aphid ¹ Stink Bug species Tent Caterpillar species Tentiform Leaf Miner species Tree Borer species Tufted Apple Budworm Webworm species	0.02-0.04	2.56-5.12

¹Suppression only.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds and IPM recommendations.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gals. of water/per acre, but use higher volumes as appropriate for thorough coverage.
- **Do not** apply within 21 days of harvest.
- **Do not** apply more than 0.2 lb. a.i. (1.6 pts. of product)/A per year.
- **Do not** apply more than 0.16 lb. a.i. (1.28 pts.)/A per year post bloom.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
STONE FRUITS			
Apricot Chickasaw Plum Damson Plum Japanese Plum Nectarine Peach Plum Plumcot Prune Sweet and Tart Cherry	American Plum Borer Apple Maggot (Adult) Black Cherry Aphid Cherry Fruit Fly species (Adult) Codling Moth Green Fruitworm Japanese Beetle June Beetle Leaf hopper species Leafroller species Oriental Fruit Moth Peach Twig Borer Peachtree Borer species Pear Sawfly Periodical Cicada Plant Bug species Plum Curculio Rose Chafer Stink Bug species Tent Caterpillar species Thrips species	0.02-0.04	2.56-5.12

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold and IPM recommendations.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply a minimum of 5 gals. of water/per acre, but use higher volumes as appropriate for thorough coverage.
- **Do not** apply within 14 days of harvest.
- **Do not** apply more than 0.2 lb. a.i. (1.6 pts.)/A per year.
- **Do not** apply more than 0.16 lb. a.i. (1.28 pts.)/A per year post bloom.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
SUGARCANE			
	Mexican Rice Borer ¹ Pygmy Mole Cricket Rice Stalk Borer ¹ Sugarcane Aphid ³ Sugarcane Beetle (Adult) ² Sugarcane Borer ¹ West Indian Crane Fly Yellow Sugarcane Aphid ³	0.025-0.04	3.20-5.12

¹For control before the larva bores into the plant stalk.

²Suppression only of beetles active above ground.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply a minimum of 2 gals. of water per acre.
- **Do not** apply within 21 days of harvest.

- **Do not** apply more than 0.16 lb. a.i. (1.28 pts.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
SUNFLOWER			
	Cutworm species	0.015-0.025	1.92-3.20
	Sunflower Beetle		
	Banded Sunflower Moth	0.02-0.03	2.56-3.84
	Fall Armyworm ¹		
	Grasshopper species		
	Head-Clipper Weevil (Adult)		
	Japanese Beetle (Adult)		
	Leaf hopper species		
	Meadow Spittlebug		
	Painted Lady (Thistle)		
	Caterpillar		
	Seed Weevil (Adult)		
	Spotted Cabbage Looper		
	Stem Weevil (Adult)		
	Stink Bug species		
Sunflower Maggot (Adult)			
Sunflower Moth			
Woollybear Caterpillar			
Beet Armyworm ^{2,3}	0.03	3.84	
Spider Mite species ²			

¹Use higher rates for large larvae.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water to obtain full coverage of sunflower heads and/or foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- **Do not** apply within 45 days of harvest.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per year.
- **Do not** apply more than 0.09 lb. a.i. (0.72 pt.)/A per year after bloom initiation.
- **Do not** apply as an ultra-low volume (ULV) spray.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
TOBACCO			
	Armyworm species ¹	0.015-0.03	1.92-3.84
	Blister Beetle species		
	Cabbage Looper		
	Corn Earworm		
	Cucumber Beetle species (Adult)		
	Cutworm species		
	Grasshopper species		
	Japanese Beetle (Adult)		
	Katydid species		
	Plant Bug species ³		
	Potato Tuberworm		
	Saltmarsh Caterpillar		
	Stinkbug species		
	Tobacco Aphid species ^{2,3}		
	Tobacco Budworm ³		

	Tobacco Flea Beetle (Adult) Tobacco Hornworm Tobacco Thrips species ² Tomato Hornworm Tree Cricket species Vegetable Weevil (Adult) Webworm species		
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¹For control of first and second instars only.

²Suppression only.

³See **Resistance** statement under **Directions for Use**.

Remarks:

- Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage. When applying by air, apply in a minimum of 2 gals. of water per acre.
- **Do not** apply within 40 days of harvest.
- **Do not** apply more than 0.09 lb. a.i. (0.72 pt.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
TREE NUTS			
Almond Beech Nut Brazil Nut Butternut Cashew Chestnut Chinquapin Filbert (Hazelnut) Hickory Nut Macadamia Nut (Bush Nut) Pistachio Walnut Black Walnut English (Persian)	Ants Chinch Bug Codling Moth Filbertworm Leaffooted Bug Leafroller species Navel Orangeworm Peach Twig Borer Plant Bug species Stink Bug species Walnut Aphid Walnut Husk Fly species (Adult)	0.02-0.04	2.56-5.12
Pecan	Hickory Shuckworm Pecan Aphid species Pecan Casebearer species Pecan Phylloxera species Pecan Spittlebug Pecan Weevil Stink Bug species	0.02-0.04	2.56-5.12

Remarks:

- Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold.
- Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gals. of water/per acre, but use higher rates as appropriate for thorough coverage.
- **Do not** apply within 14 days of harvest.
- **Do not** apply more than 0.16 lb. a.i. (1.28 pts.)/A per year.
- **Do not** apply more than 0.12 lb. a.i. (0.96 pt.)/A per year post bloom.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
TUBEROUS AND CORM VEGETABLES (Potato, Sweet Potato, Yams and Related)			
Arracacha Arrowroot Artichoke (Chinese and Jerusalem only) Canna (edible) Cassava (bitter and sweet) Chayote (root) Chufa Dasheen Ginger Leren Potato Sweet Potato Tanier Turmeric Yam (bean and true)	Cutworm species Leaf hopper species Saltmarsh Caterpillar Sweet Potato Hornworm Woollybear Caterpillar species	0.015-0.025	1.92-3.20
	Aphid species ¹ Armyworm species ¹ Blister Beetle species Colorado Potato Beetle ¹ Corn Earworm Cricket species Cucumber Beetle species (Adults) European Corn Borer Flea Beetle species (Adults) Grasshopper species Looper species ¹ <i>Lygus</i> Bug species ¹ Plant Bug species Potato Psyllid Potato Tuberworm Stink Bug species Sweet Potato Leaf Beetle (Adults) Sweet Potato Vine Borer Thrips species ^{1,2} Tortoise Beetle species Webworm species Weevil species (Adults)	0.02-0.03	2.56-3.84
	Leaf miner species ^{1,3} Spider Mite species ³ Whitefly species ^{1,3}	0.03	3.84

¹See **Resistance** statement under **Directions for Use**.

²Does not include Western Flower Thrips.

³Suppression only.

Remarks:

- Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of all above ground plant parts. When applying by air, apply in a minimum of 2 gals. total solution per acre. When applying by ground, a minimum of 10 gals. total solution per acre is recommended.
- Use higher application volumes and/or rates when foliage is dense, pest populations are high, larvae are large, weather conditions are adverse and/or as plant size increases. Use higher rates for longer residual.
- Insects that bore or tunnel into leaves, vines, stems, tubers or corms must be controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of Willowood Lambda-Cy 1EC.
- **Do not** apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pt. of product) per acre per year.
- **Do not** apply within 7 days of harvest.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A

CONIFER AND DECIDUOUS TREES			
Plantations and Nurseries	Bagworm Balsam Twig Aphid Balsam Woolly Aphid Birch Leafminer Black Pine Weevil Elm Leaf Beetle European Elm Bark Beetle Gypsy Moth Japanese Beetle June Beetle species Leaf Beetle species Leaf roller species May Beetle species Mealybug species ¹ Pales Weevil Pine Chafer Pine Colaspis Beetle Pine Conelet Bug Pine Leaf Chermid Pine Needle Scale Pine Sawfly species Pine Tip Moth species Pine Tortoise Scale Pine Weevil species Poplar Aphid species Sawfly species Spittlebug species Spruce Budworm Tent Caterpillar species Tussock Moth species Webworm species	0.02-0.04	2.56-5.12

¹Suppression only.

Remarks:

- To control exposed foliage, flower, cone, seed and bark feeding insects, apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds.
- Apply with ground equipment using sufficient water to obtain full coverage of target site. When applying by air, apply a minimum of 2 gals. of water per acre.
- **Do not** apply more than 0.24 lb. a.i. (1.92 pts.)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
CONIFER AND DECIDUOUS TREES			
Seed Orchards	Coneworm species Seed Bug species Thrips species	See Remarks	See Remarks

Remarks:

- For high volume sprayers, dilute 5.12 fl. oz. per 100 gals. of water and apply 5-10 gals. of finished spray per tree.
- For low volume sprayers, dilute 20 fl. oz. per 100 gals. of water and apply 100 gals. of finished spray per acre.
- For aerial applications, apply 15 fl. oz./A in a minimum of 10 gals. finish spray per acre.
- **Do not** apply more than 0.5 lb. a.i. (4 pts.)/A per year.

TURF AND ORNAMENTALS

Make applications of Willowood Lambda-Cy 1EC to ornamentals grown in commercial greenhouses, shade houses, and nurseries, and turf grown on sod farms or for commercial seed production.

Make applications of Willowood Lambda-Cy 1EC to maintain indoor or outdoor areas where turf and ornamentals grow: non-residential landscapes around institutional, public, commercial, and industrial buildings, parks, recreational areas, golf courses, and athletic fields.

Make applications of Willowood Lambda-Cy 1EC to golf course fairways, greens, greens aprons, and tee areas.

IMPORTANT: Time application to flowering plants during periods when pollinating insects are not present, such as early morning or late evening.

Restrictions:

- In the state of New York, this product may not be applied to turf within 100 feet of a coastal marsh or streams that drain into a coastal marsh.
- **Do not** apply this product through any type of irrigation system for turf and ornamental uses.
- **Do not** apply this product to edible crops or crops grown for food/feed when applied to turf or ornamentals.
- **Do not** apply this product by aerial application for turf and ornamental uses.

SPRAY DRIFT PRECAUTIONS

Observe restrictions found elsewhere on this label. Do not make applications when wind speed is 15 miles per hour or greater. Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Avoid spraying during conditions of low humidity and/or high temperature.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when the wind direction is toward the aquatic area. Do not make outdoor applications during temperature inversions. Inversions are characterized by stable air and increasing temperature with height above ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

APPLICATION

Willowood Lambda-Cy 1EC mixes easily with water and may be used in all types of application equipment. Mix product with the required amount of water and apply as a dilute application to the point of runoff. Apply product using spray nozzles which produce a coarse droplet size. Formation of very small droplets may be minimized by appropriate nozzle selection and by avoiding excessive spray pressure. For application to plants like holly, pine, or ivy which have hard-to-wet foliage, add a spreader-sticker to enhance knockdown and increase residual activity. If application is made as a concentrate or mist-type application, use the same amount of product as would be used in a dilute application.

MIXING

Willowood Lambda-Cy 1EC is to be diluted with water for spray application and may be used in all types of application equipment. First fill application tank with $\frac{1}{2}$ - $\frac{3}{4}$ volume of water. It is suggested that the pH of the water be between 5 and 7; use a buffering agent if necessary to adjust the pH. Next slowly add Willowood Lambda-Cy 1EC to the applicator tank water with maximum agitation. Finally, fill tank to desired volume and continue to agitate while making applications. If application is interrupted, agitate or re-suspend spray solution before resuming sprays. Always add Willowood Lambda-Cy 1EC last if other chemicals are to be added to the applicator tank. If mixed with EC formulations or oils, use within 24 hours. Make up only amount of application volume as required. See mixing charts below.

Willowood Lambda-Cy 1EC Mixing Chart for Ornamental Insect Pest Control

Use Rate per 100			
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gallons	1.3 fl. oz.	2.6 fl. oz.	4.4 fl. oz.
Spray Tank Volume (gallons)	Amount of Willowood Lambda-Cy 1EC to use		
25	0.33	0.65	1.1
50	0.65	1.3	2.2
100	1.3	2.6	4.4
200	2.6	5.2	8.8
300	4.0	7.9	13.3

Willowood Lambda-Cy 1EC Mixing Chart for Turf Insect Pest Control

Use Rate per Acre	4.4 fl. oz.	8.8 fl. oz.	17.6 fl. oz.
Application Volume (GPA)	Amount of Willowood Lambda-Cy 1EC to use per 100 gallon spray tank		
2	5.0	10.0	20.0
4	2.5	5.0	10.0
6	1.7	3.3	6.7
8	1.2	2.5	5.0
10	1.0	2.0	4.0

Conversion Rate: 1 Fluid ounce (fl. oz.) equals 29.6 milliliters (mL).

COMPATIBILITY

Willowood Lambda-Cy 1EC has been found to be compatible with most commonly used fungicides, miticides, liquid fertilizers, and other insecticides. Use a jar test to check physical compatibility using the correct proportion of products if local experience is unavailable.

Note: While phytotoxicity testing has been carried out on a wide range of ornamental plants under various environmental conditions, and no phytotoxicity has been observed, certain cultivars may be sensitive to the final spray solution. It is advised to prespray a selection of ornamental plants and observe them for 7-10 days prior to treating large areas if local use experience is unavailable.

USE INSTRUCTIONS

ORNAMENTALS

Ornamentals in Greenhouses, Shadehouses, and Nurseries

Ornamentals (Trees, Shrubs, Flowers, Evergreens, Foliage Plants, and Ground Covers) in Landscaped Areas Around Institutional, Public, Commercial, and Industrial Buildings, Parks, Recreational Areas, Golf Courses, and Athletic Fields

Pest	Rate of Willowood Lambda-Cy 1EC per 100 gallons	Instructions
Ants (Including Imported fire ants) Aphids Armyworms Azalea Caterpillars Bagworms ¹ Black Vine Weevils (Adult) Boxelder Bugs Budworms California Oakworms Cankerworms Cockroaches Crickets Cutworms	1.3 - 4.4 fl. oz. (38 - 128 mL)	Begin application to ornamentals before high insect pest populations become established. Reapply as necessary to keep pest populations under control, using higher rates as pest pressure increases. Good spray coverage is necessary to provide the most effective level of control. For ornamentals with waxy, hard-to-wet foliage, add a spreader-sticker at recommended rates to enhance the control of insects.

<p>Eastern Tent Caterpillars Elm Leaf Beetles European Sawflies Fall Webworms Flea Beetles Forest Tent Caterpillars Gypsy Moth Larvae Japanese Beetles (Adult) June Beetles (Adult) Lace Bugs Leaf-feeding Caterpillars Leafhoppers Leafminers (Adult) Leaf Rollers Leaf Skeletonizers Midges Mosquitoes Oleander Moth Larvae Pillbugs Pine Sawflies Pine Shoot Beetles Pine Tip Moths Plant Bugs Root Weevils Sawflies Scale Insects (Crawlers)² Spiders Spittlebugs Striped Beetles Striped Oakworms Thrips Tip Moths Tussock Moth Larvae Wasps</p>		<p>For spot treatments, use 0.44 fl. oz. Willowood Lambda-Cy 1EC per 1-2.5 gallons of water.</p> <p>Apply at 7-day intervals if retreatment is necessary.</p> <p>Do not apply more than 0.36 lb. a.i. (46 fl. oz. of product)/A per year.</p> <p>Consult your state university or local Cooperative Extension Service office for specific pest control application timing in your area.</p> <p>¹Bagworm: Apply Willowood Lambda-Cy 1EC when bagworm larvae begin to hatch and spray directly on the larvae. Control will be best if the larvae are young.</p> <p>²Scale: Cover the plant thoroughly with Willowood Lambda-Cy 1EC spray, including trunks, stems, twigs, and foliage.</p>
<p>Broad Mites Brown Soft Scales California Red Scales (Crawler) Clover Mites Mealybugs Pine Needle Scales (Crawler) Spider Mites Whiteflies</p>	<p>2.6 - 4.4 fl. oz. (75 - 128 mL)</p>	

TURFGRASS

Sod Farms

Lawns around Institutional, Public, Commercial, and Industrial Buildings, Parks, Recreational Areas, Golf Courses, and Athletic Fields, Golf Course and Athletic Field Turf

Pest	Amount of Willowood Lambda-Cy 1EC	Instructions
<p>Ants (Including Imported fire ants) Armyworms Centipedes Crickets Cutworms Earwig Fleas (Adult) Grasshoppers</p>	<p>2.9 - 6 mL/1,000 sq. ft. (4.4 - 8.8 fl. oz./A)</p>	<p>Begin application to turf before the establishment of high insect pest populations and before significant turf damage has occurred. Reapply as necessary to keep pest populations under control, using higher rates as pest pressure increases. Apply at 7-day intervals</p>

Japanese Beetles (Adult) Millipedes Mites Pillbugs Sod Webworms Sow Bugs Ticks (Including species which transmit Lyme disease)		if retreatment is necessary. Do not apply more than 0.36 lb. a.i. (46 fl. oz. of product)/A per year. For spot treatments, use 0.44 fl. oz. of Willowood Lambda-Cy 1EC per 1-2.5 gals. of water.
Bluegrass Billbugs (Adult) Black Turfgrass Ataenius (Adult) Chiggers Fleas (Adult) Grub (Suppression) Hyperodes Weevils (Adult) Mole Crickets (Nymphs and Young Adults)	6 mL/1,000 sq. ft. (8.8 fl. oz./A)	Do not apply when turfgrass is waterlogged or when soils are saturated with water (i.e., will not accept irrigation). Keep children and pets off treated areas until spray has dried following the application.
Chinch Bugs Mole Crickets (Mature Adults) (Not for use on mature adult mole crickets and chinch bugs in New York State.)	12 mL/1,000 sq. ft. (17.6 fl. oz./A)	See additional instructions below for specific pests.
<p>Armyworms, cutworms, fleas, and other Surface Insects: For best results, apply Willowood Lambda-Cy 1EC in 2-5 gals. of water per 1,000 sq. ft. If high rainfall amounts are forecast, a spreader-sticker may be useful; otherwise the addition of adjuvants is not necessary under normal conditions for surface insect control in turf. Delay watering or mowing for 12-24 hours for optimum control of surface-feeding insect pests.</p> <p>Chinch bugs, billbugs, and other Thatch Inhabiting Insects: For best results, apply Willowood Lambda-Cy 1EC in 2-10 gals. of water per 1,000 sq. ft. Use of a nonionic wetting agent, penetrant, or similar adjuvant at label rates. Irrigate lightly after application with up to ½ inch of water to move the Willowood Lambda-Cy 1EC into the thatch layer. If irrigation is not available, then use high water application rates for optimum results.</p> <p>Mole crickets, grubs, and other Subsurface Insects: For best results, apply Willowood Lambda-Cy 1EC in 4-10 gals. of water per 1,000 sq. ft. Use a nonionic wetting agent, penetrant, or similar adjuvant following label rates. Use the highest water application rates possible with your sprayer. Apply Willowood Lambda-Cy 1EC to turf which is wet with dew, rain, or irrigation. Water-in immediately after application with ¼ - ½ inch of water for optimum results.</p> <p>Fire Ants: Treat individual mounds with a drench application by means of a watering can. Use 0.32 fl. oz. of Willowood Lambda-Cy 1EC per 2.5 gals. of water. Thoroughly soak each mound as well as a 3 ft. diameter circle around each mound. Apply the mixture gently to avoid disturbing the mound; disturbing the mound may cause the ants to migrate and reduce the effectiveness of the treatment. For best results, apply in early morning or late evening hours. Make additional treatments if necessary, but not more than every 7 days.</p> <p>Mosquitoes: Apply as a general spray around landscape plantings, turf, and building foundations to control mosquitoes. For best results, apply Willowood Lambda-Cy 1EC in 2-5 gals. of water per 1,000 sq. ft.</p>		

NON-AGRICULTURAL USES

Crop	Target Pests	Rate	
		lb. a.i./A	Fl. Oz./A
Non-Cropland (Excluding Public Land)	See Crop Outlets on this Willowood Lambda-Cy 1EC label for target pests and rates.	See Crop Outlets	See Crop Outlets

Remarks:

- Spray non-cropland adjacent to agricultural areas to control migratory insects, which may

threaten crops.

- Follow **Use Directions**, rates and spray recommendations found elsewhere in this label for the adjacent crop outlet and target pests.
- Use highest labeled rates for dense/large foliage, high insect populations and larger larval stages.
- Repeat as necessary to maintain control.
- **Do not** exceed 0.2 lb. a.i. (1.6 pts.) per acre per year.
- **Do not** graze livestock in treated areas.

Rate Conversion Chart

Lb. A.I. Per Acre	Fl. Oz. Per Acre	Pints Per Acre	Treated Acres Per Gal.
0.015	1.92	0.12	66
0.02	2.56	0.16	50
0.025	3.20	0.20	40
0.03	3.84	0.24	33
0.04	5.12	0.32	25

STORAGE AND DISPOSAL

Prohibitions

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

Storage

Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling

NONREFILLABLE CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS): 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 $\frac{1}{4}$ 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. Offer for recycling, if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

NONREFILLABLE CONTAINER (GREATER THAN 5 GALLONS): 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. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

REFILLABLE CONTAINER: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person

disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

REFILL ONLY WITH WILLOWOOD LAMBDA-CY 1EC. The contents of RETURNABLE CONTAINERS cannot be completely removed by cleaning. Refilling with materials other than Willowood Lambda-Cy 1EC will result in contamination and may weaken container.

After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Willowood, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold Willowood, LLC and Seller harmless for any claims relating to such factors.

Willowood, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or Willowood, LLC and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, WILLOWOOD, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL. To the extent permitted by applicable law, in no event shall Willowood, LLC be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF WILLOWOOD AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF WILLOWOOD, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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