



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

January 28, 2026

Karen Murphy  
Regulatory Affairs Manager  
Liberty Crop Protection, LLC  
1880 Fall River Drive Suite 100  
Loveland, CO 80538

Subject: Label Amendment - Registration Review Mitigation for Lambda-cyhalothrin  
Product Name: Liberty Lambda-Cy 1 EC  
EPA Registration Number: 89168-16  
Case Number: 476857  
Application Date: January 25, 2022

Dear Karen Murphy:

The Agency, in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Lambda-cyhalothrin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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 Assurance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. 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 12 months from the date of this letter. After 12 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.

If you have any questions about this letter, please contact Concepción Rodríguez by phone at 202-566-0820, or via email at [rodriguez.concepcion@epa.gov](mailto:rodriguez.concepcion@epa.gov).

Sincerely,



Julie Javier, Team Leader  
Risk Mitigation and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

ENCLOSURE: Stamped label

# 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.

**ACCEPTED**

Jan 28, 2026

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under  
EPA Reg. No. 89168-16

Lambda-cyhalothrin GROUP 3A INSECTICIDE

## Liberty Lambda-Cy 1 EC

### Active Ingredient:

Lambda-cyhalothrin

[1 $\alpha$ (S\*), 3 $\alpha$ (Z)]-( $\pm$ )-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%

\*Contains petroleum distillates

For outdoor use only.

### 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"><li>Call a poison control center or doctor immediately for treatment advice.</li><li>Do not give any liquid to the person.</li><li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>Do not give anything by mouth to an unconscious person.</li></ul>
If on skin or clothing	<ul style="list-style-type: none"><li>Take off contaminated clothing.</li><li>Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>
If in eyes	<ul style="list-style-type: none"><li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>
If inhaled	<ul style="list-style-type: none"><li>Move person to fresh air.</li><li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>Call a poison control center or doctor for further treatment advice.</li></ul>

**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 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call **1-800-424-9300**

**EPA Reg. No. 89168-16**

**EPA Est. No.**

LIBERTY CROP PROTECTION, LLC  
1880 Fall River Drive, Suite 100  
Loveland, CO 80538

Net Contents: \_\_\_\_\_ Gallons (\_\_\_\_\_ L)

061917RD012626

## 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.

#### All pesticide handlers (mixers, loaders, and applicators) must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, 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 elastomeric half mask respirator with organic vapor (OV) cartridges; OR a NIOSH-approved full face respirator with OV cartridges; OR a gas mask with OV canisters; OR a powered air purifying respirator with OV cartridges.

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, 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 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 extremely is toxic to fish, aquatic invertebrates and toxic to 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 and other pollinating insects exposed to direct treatment or residues in/on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. **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.**

**DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours for corn as specified in the crop tables.**

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, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils.
- Chemical resistant footwear plus socks
- Protective eyewear
- Chemical resistant headgear for overhead exposure

Liberty Lambda-Cy 1 EC can be used for the control of the listed insects on Alfalfa, Alfalfa grown for seed, Beans and Peas, Broccoli, Brussels Sprouts, Canola, Cabbage, Cavallo 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, Tuberous and Corm Vegetables, Wheat (Wheat Hay and Triticale), 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 gal/acre by air or 10 gal/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, Liberty Lambda-Cy 1 EC may be applied before, during, or after planting. For soil-incorporated applications, use higher rates for improved control.

## RESISTANCE- MANAGEMENT

For resistance-management, **Liberty Lambda-Cy 1 EC** contains a Group 3A insecticide. Any insect population may contain individuals naturally resistant to **Liberty Lambda-Cy 1 EC** and other Group 3A 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 **Liberty Lambda-Cy 1 EC** or other Group 3A insecticides within a growing season, or among growing seasons, with different groups that control the same pests. Avoid application of more than the maximum seasonal use rate or the total number of consecutive sprays of **Liberty Lambda-Cy 1 EC** per season.
- 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/acaricides 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.
- For further information or to report suspected resistance, contact Liberty Crop Protection at 844- 425-8488. You can also contact your pesticide distributor or university extension specialist to report resistance

## Mandatory Spray Drift Management

### **Aerial Applications:**

- Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets in accordance with the most current version of the American Society of Agricultural & Biological Engineers Standard 641 (ASABE S641).
- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- If the windspeed is 10 miles per hour or less, applicators must use  $\frac{1}{2}$  swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use  $\frac{3}{4}$  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 15 mph 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 nozzle 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 droplets in accordance with the most current version of the American Society of Agricultural & Biological Engineers Standard 572 (ASAE S572).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

### **Ground Application:**

- Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

### **Boomless Ground Applications:**

- Applicators are required to select nozzle and pressure that deliver a Medium or coarser droplet size in accordance with the most current version of the American Society of Agricultural & Biological Engineers Standard 572 (ASAE S572) for all applications.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

- 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.

## 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.

## **NON-TARGET ORGANISM ADVISORY STATEMENT (Environmental Hazards):**

- 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.

## **Handheld Technology Applications:**

- Take precautions to minimize spray drift.

## **VEGETATIVE FILTER STRIPS**

Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing Lambda-Cyhalothrin onto fields where a maintained vegetative filter strip of **at least 25 feet** exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 25 feet may be reduced or removed under the following conditions:

- For Western irrigated agriculture, a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).
  - o For Western irrigated agriculture, if a sediment control basin is present, a vegetative filter strip is not required.
- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
  - o The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
  - o Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
  - o A functional terrace system is maintained on the area of application.
  - o Water and sediment control basins for the area of application are functional and maintained.
  - o The area of application is less than or equal to 10 acres.

Rice fields are not required to have a vegetative filter strip.

For further guidance on vegetated filter strips, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2008-0331-0175>

## **Buffer Zones to Water Bodies**

### **Ground Application**

- Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

### **Ultra Low Volume (ULV) Aerial Application**

- Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds). Applications made by mosquito control districts and other public health officials are exempt from this requirement.

### **Non-ULV Aerial Application**

- Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

## **Mixing and Loading**

Removable chemical extraction probes (also known as “stingers”) used in suction/extraction systems must be rinsed within the pesticide container prior to removal.

## **TANK MIX APPLICATION**

Fill the spray tank at least 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 Liberty Lambda-Cy 1 EC last. Add the remainder of water or diluent to the spray tank. Follow the precautions and limitations of the most restricted 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 Liberty Lambda-Cy 1 EC at rates and timing described elsewhere in this label. As local recommendations differ, 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 Liberty Lambda-Cy 1 EC 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 recommended rate of Liberty Lambda-Cy 1 EC 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. It is recommended that the product be injected 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.

In addition to the above recommendations, if application is being made during a normal irrigation set of a stationary sprinkler, the recommended rate of Liberty Lambda-Cy 1 EC for the area covered should be injected into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.

It is not recommended that Liberty Lambda-Cy 1 EC be applied 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.

Following best management practices can help reduce risk to terrestrial pollinators.

Examples of best management practices include applying pesticides in the evening and at night when pollinators are not foraging and checking to confirm hive locations before spraying. For additional resources on pollinator best management practices, visit

<https://www.epa.gov/pollinator-protection/find-best-management-practices-protectpollinators>

**Managed pollinator protection plans** are developed by states/tribes to promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees to pesticides. If available, visit state plans for additional information on how to protect pollinators.

### How to Report Bee Kills

It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at [beekill@epa.gov](mailto:beekill@epa.gov). To contact your state lead agency, see the current listing of state pesticide regulatory agencies at the National Pesticide Information Center's website: [http://npic.orst.edu/reg/state\\_agencies.html](http://npic.orst.edu/reg/state_agencies.html).

### SPECIFIC USE DIRECTIONS

#### AGRICULTURAL USES

Crop	Target Pests	Rate	
		lb a.i./A	fl oz/A
<b>ALFALFA AND ALFALFA GROWN FOR SEED</b>	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 <sup>1</sup> Grape Colaspis (Adult) Grasshopper species Green June Beetle (Adult) Green Peach Aphid <sup>3</sup> Japanese Beetle (Adult) Meadow Spittlebug Mexican Bean Beetle Pea Aphid Pea Weevil (Adult) Plant Bug species including Lygus species <sup>3</sup> Spotted Alfalfa Aphid Stink Bug species Sweet Clover Weevil (Adult) Thrips species <sup>4</sup> Western Yellowstriped Armyworm Whitefringed Beetle species (Adult) Yellowstriped Armyworm	0.02-0.03	2.56-3.84

	Beet Armyworm <sup>1,3</sup> Blotch Leafminer <sup>3</sup> Spider Mites <sup>2</sup>	0.03	3.84
--	--	------	------

**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 gal/A by air or 10 gal/A by ground. When foliage is dense and/or pest populations are high 5-10 gal/A by air or 20 gal/A by ground and higher use rates are recommended. 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. Avoid 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 season.
- **Do not** apply within 1 day of harvest for forage or within 7 days of harvest for hay.

<sup>1</sup>Use higher rates for large larvae.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

<sup>4</sup>Does not include Western Flower Thrips.

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 Lygus 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 pts)/A per year.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>CEREAL GRAINS</b>			
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 <sup>1</sup> Seedcorn Beetle Seedcorn Maggot White Grub species Wireworm species	0.005 lbs. a.i. per 1000 ft. of row <sup>2</sup>	0.66 fl. oz. per 1000 ft. of row <sup>2</sup>

**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 pts.)/A per crop at plant.
- For field corn, popcorn, and seed corn **do not** apply more than 0.12 lb. a.i. (0.96 pts.)/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.

<sup>1</sup> Suppression only.

<sup>2</sup> lbs. a.i. and fl. oz./A of Liberty Lambda-Cy 1 EC Applied at 0.66 fl. oz./1000 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
<b>CEREAL GRAINS</b>			
Corn (Foliar)	Corn Earworm <sup>1</sup>	0.015-0.025	1.92-3.20
Field Corn	Cutworm species		
Popcorn	Green Cloverworm		
Seed Corn	Meadow Spittlebug		
	Western Bean Cutworm <sup>1</sup>		
	Armyworm <sup>2</sup>	0.02 - 0.03	2.56-3.84
	Bean Leaf Beetle		
	Bird Cherry-Oat Aphid <sup>3</sup>		
	Cereal Leaf Beetle		
	Corn Leaf Aphid <sup>3</sup>		
	Corn Rootworm Beetle (Adult):		
	Mexican		
	Northern		
	Southern		
	Western		
	English Grain Aphid <sup>3</sup>		
	European Corn Borer <sup>1</sup>		
	Fall Armyworm <sup>2</sup>		
	Flea Beetle species		
	Grasshopper species		
	Hop Vine Borer <sup>1</sup>		
	Japanese Beetle (Adult)		
	Lesser Cornstalk Borer		
	Sap Beetle (Adult)		
	Seedcorn Beetle		
	Southwestern Corn Borer <sup>1</sup>		
	Stalk Borer <sup>1</sup>		
	Stink Bug species		
	Tobacco Budworm <sup>1,4</sup>		
	Webworm species		
	Yellowstriped Armyworm <sup>2</sup>		
	Beet Armyworm <sup>4</sup>	0.03	3.84
	Chinch Bug		
	Greenbug <sup>3,4</sup>		
	Mexican Rice Borer <sup>1</sup>		
	Rice Stalk Borer <sup>1</sup>		
	Southern Corn Leaf Beetle <sup>3</sup>		
	Sugarcane Borer <sup>1</sup>		

**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. Liberty Lambda-Cy 1 EC 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 acre 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).
- **Do not** apply more than a total of 0.06 lb ai (7.68 fl oz or 0.48 pt of product)/A after silk initiation with no more than 0.03 lb ai (3.84 fl oz or 0.24 pt of product) applied/A/application.
- **Restricted entry interval (REI) of 48 hours:** Hand detasseling or mechanically assisted detasseling of field corn grown for seed, popcorn grown for seed.

<sup>1</sup>For control before the larva bores into the plant stalk or ear.

<sup>2</sup>Use higher rates for large larvae.

<sup>3</sup>Suppression only.

<sup>4</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>CEREAL GRAINS</b>			
Sweet Corn (Foliar)	Aphid species <sup>2,3</sup> Army worm <sup>1</sup> Aster Leafhopper Beet Armyworm <sup>1,3</sup> Chinch Bug Common Cornstalk Borer Corn Earworm Corn Rootworm Beetle (Adult): Mexican Northern Southern Western Cutworm species European Corn Borer Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Japanese Beetle (Adult) Sap Beetle (Adult) Southern Armyworm <sup>1</sup> Southwestern Corn Borer Spider Mite species <sup>2</sup> Stink Bug species Tarnished Plant Bug Webworm species Western Bean Cutworm Yellowstriped Armyworm <sup>1</sup>	0.02 - 0.03	2.56-3.84
	Corn Silkfly (Adult) <sup>2</sup>	0.03	3.84

**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. (3.84pts.)/A per crop from at plant and foliar applications.
- **Do not** apply more than 0.03 lb ai/A (3.84 fl oz) in a single application.
- **Do not** apply more than a total of 0.06 lb ai ((7.68 fl oz or 0.48 pt of product)/A after silk initiation with no more than 0.03 lb ai (3.84 fl oz or 0.24 pt of product) applied/A/application.
- **Restricted entry interval (REI) of 48 hours:** Hand detasseling or mechanically assisted detasseling of sweet corn grown for seed, hand harvesting of sweet corn grown seed, sweet corn grown for grain.

<sup>1</sup>Use higher rates for large larvae.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>CEREAL GRAINS</b>			
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 <sup>1</sup> Mexican Rice Borer <sup>1</sup> Rice Seed Midge <sup>1</sup> Rice Stalk Borer <sup>1</sup> Sugarcane Borer <sup>1</sup>	0.03-0.04	3.84-5.12

**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.
- Liberty Lambda-Cy 1 EC 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, Liberty Lambda-Cy 1 EC 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. Liberty Lambda-Cy 1 EC may only provide suppression. If satisfactory control is not achieved with the first application of Liberty Lambda-Cy 1 EC, 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. ai/A, and treating 1200 acres (or more) per day must wear a minimum of a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges; OR a NIOSH-approved full face respirator with OV cartridges; OR a gas mask with OV canisters; OR a powered air purifying respirator with OV cartridges.
- **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 season.
- **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.

<sup>1</sup>For control before the larvae bores into the plant stalk.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>CEREAL GRAINS</b>			
Sorghum (Grain)	Cutworm species Sorghum Midge  Armyworm Beet Armyworm <sup>3</sup> Corn Earworm European Corn Borer <sup>2</sup> Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Lesser Cornstalk Borer <sup>2</sup> Southwestern Corn Borer <sup>2</sup> Stink Bug species Webworm species Yellowstriped Armyworm <sup>1</sup>	0.015-0.02	1.92-2.56
	Chinch Bug Mexican Rice Borer <sup>2</sup> Rice Stalk Borer <sup>2</sup> Sugarcane Borer <sup>2</sup>	0.02-0.03	2.56-3.84
		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 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 at 3 – 5 day intervals if needed. Liberty Lambda-Cy 1 EC may only suppress heavy infestations and/or subsequent migrations.
  - **Do not** apply more than 0.08 lb. a.i. (0.64 pt.)/A per season.
  - **Do not** apply more than 0.06 lb. a.i. (0.48 pt.)/A per season after crop emergence.
  - **Do not** apply more than 0.02 lb. a.i. (0.16 pt.)/A per season once crop is in soft-dough stage.
  - **Do not** apply within 30 days of harvest.

<sup>1</sup>Use higher rates for large larvae.

<sup>2</sup>For control before the larva bores into the plant stalk.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>CEREAL GRAINS</b>			
Barley	Army Cutworm	0.015-0.025	1.92-3.20
Buckwheat	Cutworm species		
Oats	Armyworm	0.02-0.03	2.56-3.84
Rye	Bird Cherry-Oat Aphid <sup>1</sup>		
Triticale	Cereal Leaf Beetle		
Wheat	English Grain Aphid <sup>1</sup>		
Wheat Hay	Fall Armyworm		
	Flea Beetle species		
	Grasshopper species		
	Hessian Fly <sup>4</sup>		
	Orange Blossom Wheat Midge		
	Russian Wheat Aphid <sup>1</sup>		
	Stink Bug species		
	Yellowstriped Armyworm		
	Grass Sawfly	0.025-0.03	3.20-3.84
	Chinch Bug	0.03	3.84
	Corn Leaf Aphid <sup>2</sup>		
	Greenbug <sup>1,3</sup>		
	Mite species <sup>2</sup>		

**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. Liberty Lambda-Cy 1 EC may only suppress heavy infestations and/or migrations.
- Greenbug is known to have many biotypes. Liberty Lambda-Cy 1 EC 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 season.

<sup>1</sup>Best control is obtained before insects begin to roll leaves. Once crop has started to boot, Liberty Lambda-Cy 1 EC

may provide suppression only. Higher rates and increased coverage will be necessary.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

<sup>4</sup>Make applications when adults emerge.

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

**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 as foliar broadcast application using a mechanically pressurized handgun.
- **Do not** apply within 1 day of harvest.
- **Do not** apply more than 0.24 lb. a.i. (1.92 pts.)/A per season.

<sup>1</sup>For control of first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

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

**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. Liberty Lambda-Cy 1 EC 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, Liberty Lambda-Cy 1 EC 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 season.
- **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.

<sup>1</sup>For control of the first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>CUCURBIT VEGETABLES</b> 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>Cucurbita pepo</i> var. <i>melopepo</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 <sup>1</sup> 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 Lygus Bug species <sup>1</sup> Melonworm Pickleworm Plant Bug species Rindworm species complex Saltmarsh Caterpillar Squash Beetle Squash Bug species Squash Vine Borer species Stink Bug species Thrips species <sup>1,2</sup> Tobacco Budworm <sup>1</sup> Webworm species	0.02-0.03	2.56-3.84
	Aphid species <sup>1</sup> Leafminer species <sup>1,3</sup> Whitefly species <sup>1,3</sup> Spider Mite species <sup>3</sup>	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 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 gal. total solution per acre. When applying by ground, a minimum of 10 gal. 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 Liberty Lambda-Cy 1 EC.

- **Do not** apply as foliar broadcast application using a mechanically pressurized handgun
- **Do not** apply more than 0.18 lb. a.i. (23 fl. oz. or 1.44 pts of product) per acre per season.
- **Do not** apply within 1 day of harvest.

<sup>1</sup>See **Resistance** statement under **Directions for Use**.

<sup>2</sup>Does not include Western Flower Thrips

<sup>3</sup>Suppression only.

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

**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 as foliar broadcast application using a mechanically pressurized handgun.
- **Do not** apply within 5 days of harvest.
- **Do not** apply more than 0.36 lb. a.i. (2.88 pts)/A per season.

<sup>1</sup>For control of first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

<sup>4</sup>For control before the larva bores into the plant stalk or fruit.

<sup>5</sup>Does not include Western Flower Thrips.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>GRASS FORAGE, FODDER AND HAY</b> 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  Beet Armyworm Billbug species <sup>3</sup> Bird Cherry-Oat Aphid <sup>1</sup> Black Grass Bug Black Turfgrass Beetle (adult) Blue Stem Midge Cereal Leaf Beetle Chinch Bug Crane Fly species Cricket species English Grain Aphid <sup>1</sup> Fall Armyworm Flea Beetle species Grass Mealybug Grass Sawfly (adult) Grasshopper species Green June Beetle (adult) Greenbug <sup>1,2</sup> Japanese Beetle (adult) Katydid species Leafhopper species Mite species <sup>3</sup> Russian Wheat Aphid <sup>1</sup> Southern Armyworm Spittlebug species Stink Bug species Sugarcane Aphid Thrips species Tick species True Armyworm Webworm species Yellowstriped Armyworm	0.015-0.02 0.02-0.03	1.92-3.2 2.56-3.84

**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 gal. total solution per acre. When applying by ground, a minimum of 7 gal. 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, Liberty Lambda-Cy 1 EC 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. Liberty Lambda-Cy 1 EC 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 pts. 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 pts. of product) per acre per season.**

<sup>1</sup>Best control is obtained before insects begin to roll leaves.

<sup>2</sup>See **Resistance** statement under **Directions for Use**.

<sup>3</sup>Suppression only.

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>LEGUME VEGETABLES (BEANS AND PEAS)</b>			
<b>Edible Podded (Only)</b> <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	0.015-0.025	1.92-3.20
<b>Edible Podded, Succulent Shelled or Dried Shelled</b> <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 <sup>4</sup> Armyworm <sup>2</sup> Bean Leaf Beetle Bean Leaf skeletonizer Blister Beetle species Corn Earworm Corn Rootworm Beetle species (Adult) Cucumber Beetle species (Adult) Curculio and Weevil species <sup>1</sup> (foliage and pod feeding adults and larvae) European Corn Borer Fall Armyworm <sup>2</sup> Flea Beetle species (Adult) Flea Hopper species Grasshopper species Japanese Beetle (Adult) Leaf hopper species Leaf tier species Looper Species Meadow Spittlebug Painted Lady Butterfly (Larva) Plant Bug species including Lygus species <sup>4</sup> Stalk Borer <sup>4</sup> Stink Bug species Threecornered Alfalfa Hopper Thrips species <sup>4,5</sup> Tobacco Budworm <sup>4</sup> Webworm species Western Bean Cutworm Western Yellowstriped Armyworm <sup>2</sup> Yellowstriped Armyworm <sup>2</sup>	0.02-0.03	2.56-3.84
<b>Succulent Shelled or Dried Shelled</b> <i>Vicia faba</i> - broadbean (favabean)			
<b>Dried Shelled (Only)</b> <i>Cicer arietinum</i> - chickpea (garbonzo 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			

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>LEGUME VEGETABLES (BEANS AND PEAS)</b>			
<b>Edible Podded (Only)</b> <i>Canavalia ensiformis</i> - jackbean <i>Canavalia gladiata</i> - sword bean <i>Glycine max</i> - soybean (immature seed)	Beet Armyworm <sup>3,4</sup> Leafminer species <sup>3,4</sup> Lesser Cornstalk Borer <sup>3</sup> Soybean Looper <sup>3,4</sup> Spider Mite species <sup>3</sup> Whitefly species <sup>3,4</sup>	0.03	3.84
<b>Edible Podded, Succulent Shelled or Dried Shelled</b> <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			
<b>Succulent Shelled or Dried Shelled</b> <i>Vicia faba</i> - broadbean (favabean)			
<b>Dried Shelled (Only)</b> <i>Cicer arietinum</i> - chickpea (garbonzo 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			

**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 as foliar broadcast application using a mechanically pressurized handgun.
- **Do not** apply more than 0.12 lb .a.i. (0.96 pts)/A per season.
- For succulent and dried shelled peas and beans, **do not** graze livestock in treated areas or harvest vines for forage or hay.

<sup>1</sup> For control before the larva bores into the plant stalk or pods.

<sup>2</sup> Use higher rates for large larvae.

<sup>3</sup> For suppression only.

<sup>4</sup> See **Resistance** statement under **Directions for Use**.

<sup>5</sup> Does not include Western Flower Thrips.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>LEGUME VEGETABLES (SOYBEANS)</b>			
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 <sup>4</sup> Threecornered Alfalfa Hopper Thrips species <sup>5</sup> Velvetbean Caterpillar Woollybear Caterpillar	0.015-0.025	1.92-3.20
	Armyworm <sup>1</sup> Blister Beetle species European Corn Borer Fall Armyworm <sup>1</sup> Grasshopper species Japanese Beetle (Adult) Plant Bug species Silverspotted Skipper Stink Bug species Tobacco Budworm <sup>3</sup> Webworm species Yellowstriped Armyworm <sup>1</sup>	0.025-0.03	3.20-3.84
Soybeans	Beet Armyworm <sup>2,3</sup> Lesser Cornstalk Borer <sup>2</sup> Soybean Looper <sup>2,3</sup> Spider Mite species <sup>2</sup>	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 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 pts.)/A per season.

<sup>1</sup>Use higher rates for large larvae.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

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

<sup>5</sup>Does not include Western Flower Thrips.

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 Aphid species <sup>2,3</sup> Armyworm Beet Armyworm <sup>1,3</sup> Corn Earworm Diamondback Moth <sup>3</sup> European Corn Borer Fall Armyworm <sup>1</sup> Flea Beetle species Grasshopper species Japanese Beetle (Adult) Leaf hopper species Meadow Spittlebug Plant Bug species including Lygus species <sup>3</sup> Southern Armyworm Spider Mite species <sup>2</sup> Stink Bug species Tobacco Budworm <sup>3</sup> Vegetable Weevil (Adult) Whitefly species <sup>2,3</sup>	0.015-0.025 0.02-0.03	1.92-3.20 2.56-3.84

**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 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 as foliar broadcast application using a mechanically pressurized handgun.
- **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 season.

<sup>1</sup> For control of first and second instar only.

<sup>2</sup> Suppression only.

<sup>3</sup> See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>ONION (BULB) AND GARLIC</b>	Cutworm species Leafminer species (Adult) Onion Maggot (Adult) Seedcorn Maggot (Adult)	0.015-0.025	1.92-3.20
	Aphid species <sup>2</sup> Armyworm species <sup>1</sup> Flower Thrips <sup>2,3</sup> Onion Thrips <sup>3</sup> Plant Bug species Stink Bug species Tobacco Thrips <sup>3</sup> Western Flower Thrips <sup>2,3</sup>	0.02 - 0.03	2.56-3.84

**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 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 as foliar broadcast application using a mechanically pressurized handgun.
- **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 season.

<sup>1</sup>For control of the first and second instar only.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>PEANUTS</b>	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 <sup>1</sup> 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 <sup>2</sup> Beet Armyworm <sup>2,3</sup> Lesser Cornstalk Borer <sup>2</sup> Soybean Looper <sup>2,3</sup> Spider Mite species <sup>2</sup>	0.03	3.84

**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 pints)/A per season.

<sup>1</sup>Use higher rates for large larvae.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>POME FRUITS</b> 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 Psyllia <sup>1</sup> Pear Sawfly Periodical Cicada Plant bug species Plum Curculio Rosy Apple aphid San Jose Scale (fruit infestations only) Spirea Aphid <sup>1</sup> 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

**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 season.
- **Do not** apply more than 0.16 lb. a.i. (1.28 pts.)/A per year post bloom.
- **Apple, Pear: Do not** apply more than 0.042 lb. a.i. (5.12 fl. oz. product) in a single application.

<sup>1</sup>Suppression only

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>STONE FRUITS</b> 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/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.)/acre per year. **Do not** apply more than 0.16 lb. a.i. (1.28 pts. )/A per year post bloom.
- **Apricot, Cherry, Nectarine, Plum, Prune, Peach:** **Do not** apply more than 0.042 lb. a.i. (5.12 fl. oz. product) in a single application.

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>SUGARCANE</b>	Mexican Rice Borer <sup>1</sup> Pygmy Mole Cricket Rice Stalk Borer <sup>1</sup> Sugarcane Aphid <sup>3</sup> Sugarcane Beetle (Adult) <sup>2</sup> Sugarcane Borer <sup>1</sup> West Indian Cranefly Yellow Sugarcane Aphid <sup>3</sup>	0.025 - 0.04	3.20-5.12

**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 gal. 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 season.

<sup>1</sup>For control before the larva bores into the plant stalk.

<sup>2</sup>Suppression only of beetles active above ground.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>SUNFLOWER</b>	Cutworm species Sunflower Beetle	0.015-0.025	1.92-3.20
	Banded Sunflower Moth Fall Army worm <sup>1</sup> 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	0.02 - 0.03	2.56-3.84
	Beet Armyworm <sup>2,3</sup> Spider Mite species <sup>2</sup>	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 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 pts.)/A per season.
- **Do not** apply more than 0.09 lb. a.i. (0.72 pts.)/A per season after bloom initiation.
- **Do not** apply as an ultra-low volume (ULV) spray.

<sup>1</sup>Use higher rates for large larvae.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
TOBACCO	Armyworm species <sup>1</sup> Blister Beetle species Cabbage Looper Corn Earworm Cucumber Beetle species (Adult) Cutworm species Grasshopper species Japanese Beetle (Adult) Katydid species Plant Bug species <sup>3</sup> Potato Tuberworm Salt Marsh Caterpillar Stinkbug species Tobacco Aphid species <sup>2,3</sup> Tobacco Budworm <sup>3</sup> Tobacco Flea Beetle (Adult) Tobacco Hornworm Tobacco Thrips species <sup>2</sup> Tomato Hornworm Tree Cricket species Vegetable Weevil (Adult) Webworm species	0.015-0.03	1.92-3.84

**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 as foliar broadcast application using a mechanically pressurized handgun.
- **Do not** apply within 40 days of harvest.
- **Do not** apply more than 0.09 lb. a.i. (0.72 pts.)/A per year.

<sup>1</sup>For control of first and second instars only.

<sup>2</sup>Suppression only.

<sup>3</sup>See **Resistance** statement under **Directions for Use**.

Crop	Target Pests	Rate	
		lb. a.i./A	fl. oz./A
<b>TREE NUTS</b>			
Almond	Ants	0.02 - 0.04	2.56-5.12
Beech Nut	Chinch Bug		
Brazil Nut	Codling Moth		
Butternut	Filbertworm		
Cashew	Leaffooted Bug		
Chestnut	Leafroller species		
Chinquapin	Navel Orangeworm		
Filbert (Hazelnut)	Peach Twig Borer		
Hickory Nut	Plant Bug species		
Macadamia Nut (Bush Nut)	Stink Bug species		
Pistachio	Walnut Aphid		
Walnut Black	Walnut Husk Fly species (Adult)		
Walnut English (Persian)			
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 pts.)/A per year post bloom.

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

**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 gal. total solution per acre. When applying by ground, a minimum of 10 gal. 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 Liberty Lambda-Cy 1 EC.
- **Do not** apply more than 0.12 lb. a.i. (15.36 fl. oz. or 0.96 pts. of product) per acre per season.
- **Do not** apply within 7 days of harvest.
- **Do not** apply as foliar broadcast application using a mechanically pressurized handgun.

<sup>1</sup>See **Resistance** statement under **Directions for Use**.

<sup>2</sup>Does not include Western Flower Thrips.

<sup>3</sup>Suppression only.

### NON-AGRICULTURAL and OTHER USES

Crop	Target Pests	Rate	
		Ib. a.i./A	fl. oz./A
<b>CONIFER AND DECIDUOUS TREES</b>			
Plantations and Nurseries	Bagworm Balsam Twig Aphid Balsam Wooly 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 <sup>1</sup> 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

#### **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.
- **Do not** apply as a foliar broadcast application using a mechanically pressurized handgun on orchards.
- **Do not** apply as a soil, drench, or ground-directed application using a mechanically pressurized handgun on orchards.
- **Do not** make applications during rain. Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours).
- Rainfall within 24 hours after application may cause unintended runoff of pesticide application.

#### **Outdoor Applications to Commercial Nurseries Restrictions**

- **Do not** apply when the wind speed is greater than 15 mph.
- Applicators are required to select the nozzle and pressure that deliver a medium or coarser droplet size in accordance with the most current version of the American Society of Agricultural & Biological Engineers Standard 572 (ASAE S572).
- Soil or foliar applications, do not apply by ground equipment within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

<sup>1</sup>Suppression only.

Crop	Target Pests	Rate	
		lb. a.i./A	fl.oz./A
<b>CONIFER AND DECIDUOUS TREES</b>			
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.
- **Do not** apply as a foliar broadcast application using a mechanically pressurized handgun on orchards and vineyards.
- **Do not** apply as a soil, drench, or ground-directed application using a mechanically pressurized handgun on orchards.

Crop	Target Pests	Rate	
		lb.a.i./A	fl. oz./A
<b>Non-Cropland (Excluding Public Land)</b>	See Crop Outlets on this Liberty Lambda-Cy 1 EC 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 pt.) per acre per year.
- **Do not** graze livestock in treated areas.
- **Do not** apply directly to residential lawns and turf in residential settings (e.g., homes, parks, schools, athletic fields or any other area frequented by the general public).

**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
0.06	7.68	0.48	16.5

## 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 Disposal

**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 LIBERTY LAMBDA-CY 1 EC. The contents of RETURNABLE CONTAINERS cannot be completely removed by cleaning. Refilling with materials other than Liberty Lambda-Cy 1 EC 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. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of LIBERTY CROP PROTECTION LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold LIBERTY CROP PROTECTION LLC and Seller harmless for any claims relating to such factors.

LIBERTY CROP PROTECTION 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. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or LIBERTY CROP PROTECTION LLC, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LIBERTY CROP PROTECTION LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, neither LIBERTY CROP PROTECTION LLC nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF LIBERTY CROP PROTECTION LLC 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 LIBERTY CROP PROTECTION, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

LIBERTY CROP PROTECTION LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of Sale and Limitation of Warranty and Liability which may not be modified except by written agreement signed by a duly authorized representative of LIBERTY CROP PROTECTION LLC.