



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

March 27, 2024

Karen Murphy  
Regulatory Manager  
Liberty Crop Protection, LLC  
1880 Fall River Drive, Suite 100  
Loveland, CO 80528

Subject: Approval of Label Amendment; Only Indicated Changes Reviewed – Adding several use sites  
Product Name: Liberty Bifen SC  
EPA Registration Number: 89168-126  
Application Date: July 28, 2022  
Case Number: 478319

Dear Karen Murphy:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. However, EPA reviewed only the label changes highlighted, marked, or otherwise indicated on the submitted label. Any other changes to the previously approved label that were not clearly highlighted, marked, or otherwise indicated in your submission were not reviewed and may form the basis of regulatory and/or enforcement action if later discovered by the Agency. Further, submission of a label amendment application with unidentified changes may be considered a knowing submission of false information to the Agency. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

The label submitted with the application has been stamped “Accepted Only Indicated Revisions Reviewed” and is enclosed for your records.

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

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website contains any false or misleading statement, design, or graphic, the product may be misbranded

and unlawful to sell or distribute under FIFRA Sections 2(q)(1)(A) and 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on the product label, claims made as part of the product's sale or distribution may not substantially differ from those claims approved through the registration process under FIFRA Section 12(a)(1)(B). 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 product will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Rebecca Lasko at 202-565-2469 or at [lasko.rebecca@epa.gov](mailto:lasko.rebecca@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Campbell". The signature is fluid and cursive, with the first name "Scott" and last name "Campbell" clearly distinguishable.

Scott Campbell, Acting Product Manager 03  
Invertebrate and Vertebrate Branch I  
Registration Division (7505T)  
Office of Pesticide Programs

Enclosure

{Note to reviewer: [Text] in brackets denotes optional or explanatory language}

# RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.  
For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

**Bifenthrin** **GROUP 3A** **INSECTICIDE**

## LIBERTY BIFEN SC

For Mixing directly with liquid fertilizer to control listed soil insect pests

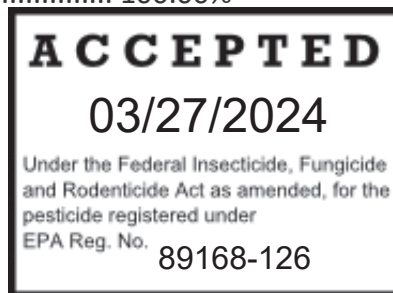
<b>Active Ingredient:</b>	<b>By Wt.</b>
Bifenthrin*:	17.15%
Other Ingredients:	82.85%
<b>TOTAL</b>	<b>100.00%</b>

\*Cis isomers 97% minimum, trans isomers 3% maximum.

This product contains 1.5 pounds active ingredient per gallon.

For both indoor and outdoor use.

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



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

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.)

See other panels for additional precautionary information.

FIRST AID	
<b>If Swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If On Skin or Clothing</b>	<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>
<b>If In Eyes</b>	<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>
<b>HOTLINE NUMBER</b> - Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-800-222-1222. FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call 1-800-424-9300.	
<b>NOTE TO PHYSICIAN</b> - This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and should be avoided.	

EPA Reg. No. 89168-126

EPA Est. No.: \_\_\_\_\_

Net Contents: \_\_\_\_\_ Gallons

{Batch/Lot # \_\_\_\_\_} **Note to Reviewer: to be added by inkjet on bottle or on printed label}**

**Manufactured For:**  
Liberty Crop Protection LLC  
1880 Fall River Drive, Suite 100  
Loveland CO, 80538

072622RD032124

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**Warning** - May be fatal if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

### Personal Protective Equipment:

**Applicators and other handlers (other than mixers and loaders) must wear:** Long-sleeved shirt and long pants, Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils, Shoes plus socks and Protective eyewear (goggles, face shield, or safety glasses)

### Mixers, and Loaders must wear:

- Long-sleeved shirt and long pants,
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks,
- Protective eyewear

### Mixers and loaders supporting aerial applications to cotton, and those using mechanically pressurized handguns for applications to tuberous and corm vegetables must wear at a minimum:

- Long-sleeved shirt and long pants,
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

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

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing /PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change clothing.

### Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. **Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.**

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

### PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow coming into contact with oxidizing agents, hazardous chemical reaction may occur.

## DIRECTIONS FOR USE

### RESTRICTED USE PESTICIDE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product through any type of irrigation system.

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.

#### **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 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls,
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, polyvinyl chloride  $\geq$  14 mils, or viton  $\geq$  14 mils,
- Shoes plus Socks and
- Protective Eyewear (goggles, face shield, or safety glasses)

#### **Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow people or pets on treated areas until the spray has dried.

#### **RESISTANCE- MANAGEMENT RECOMMENDATIONS**

For resistance-management, LIBERTY BIFEN SC contains a Group 3A insecticide. Any insect population may contain individuals naturally resistant to LIBERTY BIFEN SC 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 BIFEN SC 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 BIFEN SC 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):
  - o 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.
  - o Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - o When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - o Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - o 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.

- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact 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 ft 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 (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 ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ 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 (ASABE S572).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

#### **SPRAY DRIFT ADVISORIES**

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

#### **IMPORTANCE OF DROPLET SIZE**

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

#### **Controlling Droplet Size – Ground Boom**

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

#### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles - Follow nozzle manufacturer's 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 (name of pyrethroid) 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 Directions for Use 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.

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>

## GROUND APPLICATIONS

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).



### **Application and Mixing Instructions**

LIBERTY BIFEN SC is an insecticide/miticide that contains 1.5 pounds of bifenthrin per gallon. LIBERTY BIFEN SC can be mixed directly with liquid fertilizer or with water. The rate of application is variable according to pest pressure, timing of treatments and field scouting. Use lower rates under light to moderate pest infestations, and higher rates under heavier pest pressure. In arid climates, applications rates are generally higher. Fill the tank one-half full with liquid fertilizer or water and begin spray tank agitation. Add the proper amount of LIBERTY BIFEN SC and then add the rest of the fertilizer or water. Maintain agitation until the mixture has been applied.

### **SHAKE WELL BEFORE USING**

Agitate the LIBERTY BIFEN SC spray solutions in nurse tanks prior to moving the solution to spray system. Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

LIBERTY BIFEN SC can be applied in-furrow with the seed, as a T-band (band over the open furrow), as a broadcast application, as a band over the row, as a pre-emergent (PRE) application, as a post plant incorporated (PPI) application, as a foliar application (includes chemigation), or as a transplant-water drench during setting. Refer to the tables below for pest control or suppression instructions.

LIBERTY BIFEN SC can be mixed with commonly used liquid starter or pop-up fertilizers. Follow liquid fertilizer recommendations regarding seed safety and use guidelines. Conduct a preliminary jar test using the appropriate ratio of fertilizer and LIBERTY BIFEN SC. Do not allow a tank mixture to set overnight, but if this occurs agitate tank mixture prior to application.

### **Crop Rotation Restrictions**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days following the final application of bifenthrin.

### **Tank Mixtures**

LIBERTY BIFEN SC may be applied in tank mixtures with other products approved for use on registered crops. To insure successful applications, product compatibility tests should be conducted.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **Maximum Allowable LIBERTY BIFEN SC Use Per Acre Per YEAR**

Refer to the individual crop sections for maximum allowable LIBERTY BIFEN SC usage per acre per year. The maximum allowable use must include all registered use patterns including at-plant, soil applied and/or foliar applications for the 12 month period. The 12 month period is to begin upon the initial application to the acre.

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-bestmanagement-practices-protect-pollinators>.

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.

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).



## ARTICHOKE (Globe)

### At-Plant

Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed.

PEST	USE RATES		
	Fluid oz/A	Fluid oz/1000 Linear ft.	Pound ai/acre
Cribrate Weevil (Grubs)	8.5	0.49	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"><li>Do not apply more than 0.5 lb ai/A per year including at-plant, PPI, PRE and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li></ul>			

### PPI & PRE

**LIBERTY BIFEN SC** can be tank mixed and applied with PRE herbicides.

**LIBERTY BIFEN SC** can be tank mixed and applied with PPI herbicides. Incorporation of **LIBERTY BIFEN SC** should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth.

PEST	USE RATES	
	Fluid oz/A	Pound ai/acre
Cribrate Weevil (Grubs)	8.5	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"><li>Do not apply more than 0.5 lb ai/A per year including at-plant, PPI, PRE and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li></ul>		

### Foliar

Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15-day intervals.

**Application by ground:** Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.

**Application by air:** Apply specified dosage in a minimum of 10 gallons of finished spray per acre.

PEST	USE RATES	
	Fluid oz/A	Pound ai/acre
Artichoke Plume Moth Cribrate Weevil (Grubs)	8.5	0.1
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>Do not apply within 5 days of harvest.</li></ul>		

**BRASSICAS**

**Head and Stem Brassica Vegetables including: Broccoli, Chinese, Broccoli (gailon, white flowering broccoli), Brussels Sprouts, Cauliflower, Cavalo broccolo, Kohlrabi, Cabbage, Chinese Cabbage (napa), and Chinese Mustard Cabbage (gai choy)**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5-7 inch band (T-band) over the open seed furrow, or in-furrow with the seed. Cutworm and armyworm treatments may be applied as broadcast treatments to the soil surface.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Seedcorn maggot Cabbage maggot Root maggots Root aphids Army cutworm Cutworm spp. Armyworm spp.	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per year as an at-plant application.</li> <li>Do not apply more than 0.5 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**BUSHBERRIES (FOLIAR)**

Blueberry, highbush and lowbush, Currant, Elderberry, Gooseberry, Huckleberry

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Blueberry maggot, Fruitworms, Lecanium scale (crawlers) Plum curculio Obliquebanded leaf roller Red banded leafroller Variegated leafroller Spanworm Leafhoppers Aphids	3.4 to 8.5	0.04 to 0.1
Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite Lygus Spp.	6.8 to 8.5	0.08 to 0.1
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons finished spray per acre with ground equipment. Thorough coverage is essential to achieve control.</li> <li>Do not apply more than 0.5 lb active ingredient per acre per season.</li> <li>Do not make applications less than 7 days apart.</li> <li>Do not apply within 1 day of harvest.</li> </ul>		

**CANEBERRIES (Crop Subgroup 13-07A)[\*]**

Caneberries including Bingleberries, Blackberries, Dewberries, Loganberries, Lowberries, Marionberries, Olallieberries, Raspberries, and Youngberries.

**At-Plant**

Apply as a 5 to 7 inch band (T-band) over an open furrow in sufficient water for planting, or in-furrow with the seed. May be applied through transplant water at time of transplanting

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Wireworm White Grubs	8.5	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not exceed 0.2 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li> </ul>		

**PPI (Site Preparation) & PRE**

**LIBERTY BIFEN SC** can be tank mixed and applied with PPI pesticides labeled for site preparation. Incorporation of **LIBERTY BIFEN SC** should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended planting depth.

**LIBERTY BIFEN SC** can be tank mixed and applied with PRE herbicides.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Wireworm White Grubs	8.5	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not exceed 0.2 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li> </ul>		

**Foliar**

Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).

One application may be made pre-bloom and a second application may be made post-bloom.

For Crown Borer, apply 0.1 lb ai/a post harvest (fall) or pre bloom (spring), as a drench application directed at the crown of plants in a minimum of 200 gallons water per acre. Greater efficacy is observed at higher gallons (up to 400 gallons/a) or in an application prior to a significant rainfall event.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Leafrollers Orange Tortrix Root Weevils Spotted Winged Drosophila	4.3 – 8.5	0.05 - 0.1
Raspberry Crown Borer Spider Mites	8.5	0.1
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>Do not make both pre bloom foliar and pre bloom drench applications.</li> <li>One application may be made pre bloom and a second application may be made post bloom.</li> <li>Do not apply within 3 days of harvest.</li> <li>Do not exceed 0.2 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li> </ul>		

[\*][Not for Use in California]

**CANOLA, CRAMBE, RAPESEED[\*]**

**At-Plant**

Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Stalkborer Sugarcane beetle True armyworm Wireworm	6.83	0.08
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.08 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li> </ul>		

**PPI & PRE**

**LIBERTY BIFEN SC** can be tank mixed and applied with PRE herbicides

**LIBERTY BIFEN SC** can be tank mixed and applied with PPI herbicides. Incorporation of **LIBERTY BIFEN SC** should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Stalkborer Sugarcane beetle True armyworm Wireworm (PPI only)	6.83	0.08
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.08 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li> </ul>		

## Foliar

Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.

When applying by air, 1 - 2 quarts of emulsified oil may be substituted for 1 - 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Aphids Armyworms Cutworms Diamondback Moth Loopers Other Lepidopterous Larvae Flea Beetle Flea Hopper Grasshopper Plant Bug Stink Bugs (including Brown marmorated stink bugs) Seedpod Weevil Thrips Whitefly	2.8 - 3.4	0.033 - 0.04
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>Do not make applications less than 14 days apart.</li> <li>Do not apply within 35 day of harvest.</li> <li>Do not apply more than 0.08 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of <b>LIBERTY BIFEN SC</b> and other bifenthrin containing products.</li> </ul>		

[\*][Not for Use in California]

## CILANTRO, CORIANDER

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band) in-furrow with the seed, or broadcast to the soil surface.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Wireworm Flea beetle larvae Cutworm spp. Armyworm spp.	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.5 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**CITRUS (BARE SOIL SURFACE UNDER DRIP LINE)** When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply LIBERTY BIFEN SC by ground equipment to bare soil beneath citrus trees. LIBERTY BIFEN SC must be uniformly applied from the trunk to the drip line of tree. Apply in a minimum of 40 gallons of dilute spray per acre. Greater spray volume should insure greater uniformity of coverage. A pre and post application irrigation may aid in the uniformity of coverage as well.

LIBERTY BIFEN SC protects citrus tree roots from Diaprepes and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with LIBERTY BIFEN SC as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.

Timing of LIBERTY BIFEN SC applications is critical. Current information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture. Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue-Green and Blue-Green Citrus Weevils and Fuller Rose Beetle typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer and fall. Since emergence varies seasonally and by location, timing of LIBERTY BIFEN SC application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2 to 3 weeks following adult emergence. It is critical to have the LIBERTY BIFEN SC soil barrier in place prior to drop of the neonates.

LIBERTY BIFEN SC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Apply LIBERTY BIFEN SC in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

Apply to individual citrus resets, when not in solid planted rows, using hand gun or shielded sprayer.

Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall.

If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 42.5 fluid ounces formulated product should be used to obtain the longest residual management of Diaprepes root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 21.25 fluid ounces formulated product can be applied early season and 21.25 fluid ounces formulated product can be applied later in the season.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Asian cockroach ( <i>Blattella asahinae</i> )	8.5 to 21.25	0.1 to 0.25
Diaprepes Root Weevil ( <i>Diaprepes abbreviatus</i> ) Southern Blue Green Citrus Root Weevil ( <i>Pachnaeus litus</i> ) Blue Green Citrus Root Weevil ( <i>Pachnaeus opalus</i> ) Brown Leaf Notcher ( <i>Epicaerus mexicanus</i> ) Little Leaf Notcher ( <i>Artipus floridanus</i> )	21.25 to 42.5	0.25 to 0.50
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply through irrigation systems.</li> <li>Do not allow any application of LIBERTY BIFEN SC to contact fruit or foliage.</li> <li>Do not apply more than a total of 42.5 fluid ounces of formulated product (0.5 lb active ingredient) per acre per year.</li> <li>Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.</li> <li>Do not apply by air.</li> </ul>		

**CORN (AT PLANT)**

**Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band (T band) over an open furrow, or in-furrow with the seed. Position the spray nozzle behind the planter shoe in front of the press wheel centered over the row. For Army cutworm, Stalkborer, Cutworm spp., True armyworm or Armyworm spp., apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Corn Rootworm larvae (Northern, Southern and Western)	6.8 to 17.0	0.39 to 0.98	0.08 to 0.2
Wireworm Grape colaspis Grubs Seedcorn maggot Root aphids Army cutworm Cutworm spp. True armyworm Armyworm spp. Stalkborer Seed corn beetle Sugarcane beetle	3.4 to 13.6	0.2 to 0.78	0.04 to 0.16

**Restrictions:**

- Do not apply more than 0.2 lb active per acre per season as an at-plant application.
- **For field corn-** Do not apply more than 0.3 lb active ingredient per acre per season including ppi, at-plant, pre-emergence, and foliar applications of other bifenthrin products.
- **For sweet corn-** Do not apply more than 0.2 lb active ingredient per acre total per season including ppi, at-plant, pre-emergence, and foliar applications of other bifenthrin products.

**CORN (PRE & PPI)**

**Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. For PPI treatments, the 4 to 5.3 fluid oz/A rate must be used. LIBERTY BIFEN SC can be tank mixed and applied with PPI herbicides. Incorporate LIBERTY BIFEN SC no deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.

For PRE treatments, the 3.4 fluid oz/A rate may be applied and can be tank mixed and applied with PRE herbicides.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Black Cutworm Grape colaspis White Grub Wireworm Seedcorn Maggot Armyworm spp. Seed corn beetle	4 to 5.3 Pre-Plant Incorporated (PPI)	0.047 to 0.062 Pre-Plant Incorporated (PPI)
Black Cutworm Armyworm spp. Stalkborer Seed corn beetle	3.4 Pre-Emergence (PRE)	0.04 Pre-Emergence (PRE)

**Restrictions:**

- **For field corn-** Do not apply more than 0.3 lb active ingredient per acre total per season including ppi, at-plant, pre-emergence, and foliar applications of other bifenthrin products.
- **For sweet corn -** Do not apply more than 0.2 lb active ingredient per acre total per season including ppi, at-plant, pre-emergence, and foliar applications of other bifenthrin products.



**FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
<p>Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adult Cucumber Beetle Adults Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm</p>	<p>2.8 to 8.6 fl. oz. (0.033 to 0.10 lb. ai) per acre</p>	<p>Apply in a minimum of 2 to 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p> <p><b>To Control Ear-Attacking Pests:</b> Apply LIBERTY BIFEN SC just before silking and repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p> <p><b>Southwestern Corn Borer, European Corn Borer:</b> Make application for corn borer control with initial application at or shortly before egg hatch.</p> <p><b>For Control Of Other Insect Pests:</b> Apply when pests first appear and repeat as necessary but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p>
<p>Banks Grass Mite Carmine Mite Twospotted Spider Mite</p>	<p>6.9 to 8.6 fl. oz. (0.08-0.10 lb. ai) per acre</p>	<p>Apply for <b>Banks Grass Mite</b> control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p>For <b>Twospotted Spider Mite</b> and <b>Carmine Mite</b> control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.</p> <p><b>For Mite Control In Texas, New Mexico, Oklahoma, and Arizona:</b> Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.</p>
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 0.3 lb active ingredient per acre per season including pre and ppi, at-plant, plus foliar applications.</li> <li>• Do not apply within 30 days of harvest.</li> <li>• Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.</li> <li>• Use of ultra low volume (ULV) application on corn is prohibited.</li> <li>• Do not make aerial or ground applications to corn if heavy rainfall is imminent.</li> <li>• Use of LIBERTY BIFEN SC on corn is prohibited in all coastal counties.</li> </ul>		

**SWEET CORN (GRAIN AND SILAGE), SWEET CORN GROWN FOR SEED (FOLIAR USE)**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbugs Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	2.8 to 8.6 fl. oz. (0.033-0.10 lb. ai) per acre	<p>Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.</p> <p>When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p> <p><b>To Control Ear-Attacking Pests:</b> Apply LIBERTY BIFEN SC when silking begins and repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p> <p><b>Southwestern Corn Borer, European Corn Borer:</b> Make 2 applications for corn borer with the initial application at or shortly before egg hatch.</p> <p><b>For Control Of Other Insect Pests:</b> Apply when pests first appear and repeat as necessary but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p>
Banks Grass Mite Carmine Mite Twospotted Spider Mite	6.9 to 8.6 fl. oz. (0.08-0.10 lb. ai) per acre	<p>Apply for <b>Banks Grass Mite</b> control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p>For <b>Twospotted Spider Mite</b> and <b>Carmine Mite</b> control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.</p> <p>Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.</p>
<p><b>RESTRICTIONS:</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 0.2 lb active ingredient (12.8 ounces formulated product) per acre per season.</li> <li>• Do not apply within one day of harvest.</li> <li>• Do not graze livestock in treated areas or cut treated crops for feed within 1 day of last application.</li> <li>• Use of ultra low volume (ULV) application on corn is prohibited.</li> <li>• Do not make aerial or ground applications to corn if heavy rainfall is imminent.</li> <li>• Use of LIBERTY BIFEN SC on corn is prohibited in all coastal counties.</li> </ul>		

**COTTON**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	2.3-8.6 fl. oz./acre  (0.02-0.10 lb. ai/acre)	LIBERTY BIFEN SC may be applied in water or refined vegetable oil (soybean/cottonseed).  <b>Application in Water:</b> Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellowstriped Armyworm	4.3-8.6 fl. oz./acre  (0.04-0.10 lb. ai/acre)	<b>ULV Application:</b> Apply the labeled rate of LIBERTY BIFEN SC in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.  <b>To Control Boll Weevil:</b> Apply LIBERTY BIFEN SC at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.  <b>To Control Mites and Aphids:</b> Apply when pests first appear. Repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section. Apply higher label rates once a damaging threshold is established.
Beet Armyworm Carmine Spider Mite <i>Lygus</i> spp. Pink Bollworm Twospotted Spider Mite	5.1-8.6 fl. oz./acre  (0.06-0.10 lb. ai/acre)	
<p><b>RESTRICTIONS:</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 0.5 lb active ingredient per acre per season.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Do not graze livestock in treated areas or cut treated crops for feed.</li> <li>• Do not make more than 10 synthetic pyrethroid applications (of one product or combinations or products) to a cotton crop in one growing season.</li> </ul>		

**CUCURBITS**

Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Gourd, edible *Lagenaria* spp. (includes hyotan, cucuzza), *Luffa* spp. (includes hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo*) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin (*Cucurbita* spp.), Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Squash, winter (includes butternut squash, calabaza, hubbard squash (*C. mixta*; *C. pepo*) includes acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus* spp.).

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. To control rootworm larvae, apply as a 5 to 7 inch band over an open furrow (T-band), or in-furrow with the seed.

To control wireworm, grubs, and fleabeetle larvae, apply as a 5 to 7 inch band over an open furrow (T-band), or in-furrow with the seed or transplant.

To control army cutworm, cutworm spp, true armyworm and armyworm spp, apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, broadcast to the soil surface or banded over the row.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Cucumber beetle larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Flea beetle larvae Army cutworm Cutworm spp. True armyworm Armyworm spp.	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>• Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>• Do not apply more than 0.3 lb active ingredient per acre per season including at-plant plus</li> <li>• foliar applications of other bifenthrin products.</li> </ul>			

**DRIED BEANS AND PEAS**

**Dried cultivars of: Bean (Lupinus); Bean (Phaseolus), Field bean, Kidney bean, Lima bean (dry), Navy bean, Pinto bean, Tepary bean; Bean (Vigna), Adzuki bean, Blackeyed pea, Catjang, Cowpea, Crowder pea, Moth bean, Mung bean, Rice bean, Southern pea, Urd bean; Broad bean (dry), Chickpea, Guar, Lablab bean, Lentil; Pea (Pisum), Field pea, Pigeon pea**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm spp., True armyworm, or Armyworm spp.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Corn rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Grape colaspis Wireworm Grubs Root maggot Army cutworm Cutworm spp. True armyworm Armyworm spp.	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>• Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>• Do not apply more than 0.2 lb active ingredient (17.0 ounces formulated) to peas or 0.3 lb active ingredient (25.5 ounces formulated) to beans per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

## EGGPLANT

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army Cutworm, Cutworm Species, True Armyworm or Armyworm species.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Root maggot Army cutworm Cutworm spp. True armyworm Armyworm spp.	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.2 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

## GRAPES[\*]

### At-Plant

Apply at time of planting over an open furrow in sufficient water for planting. May be applied through transplant water at time of transplanting.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Grape Phylloxera (suppression only) White Grubs Wireworms	8.5	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.10 lb ai per acre per year including at-plant, PPI, PRE and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li> </ul>		

### PPI (Site Preparation) & PRE

**LIBERTY BIFEN FC** can be tank mixed and applied with PRE pesticides.

Post Plant Soil Applied: Apply through drip or Drop Tape. Apply when soil is moist towards the end of the irrigations run.

**LIBERTY BIFEN FC** can be tank mixed and applied with PPI pesticide labeled for site preparation. Incorporation of **LIBERTY BIFEN FC** should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth.

Post Plant Soil Applied: Apply through drip or Drop Tape. Apply when soil is moist towards the end of the irrigations run.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Grape Phylloxera (suppression only) Vine Mealybug	8.5	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.10 lb ai per acre per year including at-plant, PPI, PRE and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li> </ul>		

**Foliar**

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Cutworms Eastern Grape Leafhopper Grape Berry Moth Japanese Beetles (Adults) Lady Beetle (Scymnus spp.) Variegated Leafhopper Western Grape Leafhopper Grapevine root borer	4.3 – 8.5	0.05 - 0.1
Black Vine Weevil Glassywinged Sharpshooter Twospotted Spider Mite	8.5	0.1
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply within 30 days of harvest.</li> <li>Do not apply more than 0.10 lb ai per acre per year including at-plant, PPI, PRE and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li> </ul>		

[\*][Not for Use in California]

**HEAD LETTUCE**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm spp., True armyworm, armyworm spp. or bulb mites.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Root maggot Lettuce root aphid Army cutworm Cutworm spp. True armyworm Armyworm spp. Bulb mites	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.5 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

## HOPS[\*]

### At-Plant

Apply in a T-band that ensures coverage of the entire furrow, immediately prior to planting, or at planting. May also be applied as a soil drench with transplant water at time of transplanting.

Apply in a minimum of 10 gallons per acre of spray.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Grape colaspis Rootworms Sweet potato flea beetle White grub Wireworm	5.1 – 8.5	0.06 - 0.1
<b>Restrictions:</b> <ul style="list-style-type: none"><li>• Do not exceed 0.3 lb ai per acre per year including at-plant, PRE, PPI, Layby and foliar application of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li><li>• Use of ultra low volume (ULV) application on hops is prohibited.</li></ul>		

### Lay-By

Apply **LIBERTY BIFEN FC** to the transplant area and incorporate with cultivation equipment set to throw soil towards the hill.

Apply in a minimum of 10 gallons per acre of spray.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Grape colaspis Rootworms White grub Wireworms	5.1 – 8.5	0.06 - 0.1
<b>Restrictions:</b> <ul style="list-style-type: none"><li>• Do not exceed 0.3 lb ai per acre per year including at-plant, PRE, PPI, Layby and foliar application of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li><li>• Use of ultra low volume (ULV) application on hops is prohibited.</li></ul>		

### PPI

Apply **LIBERTY BIFEN FC** to the transplant area and incorporate to planting depth.

Apply in a minimum of 10 gallons per acre of spray.

May be applied as a broadcast application or an incorporated band application

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Grape colaspis Rootworms White grub Wireworms	5.1 – 8.5	0.06 - 0.1
<b>Restrictions:</b> <ul style="list-style-type: none"><li>• Do not exceed 0.3 lb ai per acre per year including at-plant, PRE, PPI, Layby and foliar application of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li><li>• Use of ultra low volume (ULV) application on hops is prohibited.</li></ul>		



**PRE & Post Plant Soil Applied**

Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Grape colaspis Rootworms White grub Wireworms	5.1 – 8.5	0.06 - 0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not exceed 0.3 lb ai per acre per year including at-plant, PRE, PPI, Layby and foliar application of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li> <li>Use of ultra low volume (ULV) application on hops is prohibited.</li> </ul>		

**Foliar**

**Application by ground:** For best results, full coverage is essential. Early season recommend 100 – 150 gallons of spray per acre. Late season recommend 200 – 250 gallons of spray per acre.

**For Root Weevil control,** make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.

**Application by air for late season control of twospotted spider mites:** Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per acre.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Aphids Grape colaspis Rootworms White grub Wireworms	5.1 – 8.5	0.06 - 0.1
Root Weevils	4.3 – 8.5	0.05 - 0.1
Twospotted spider mite	8.5	0.1
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>Do not exceed 0.1 lb ai per acre per foliar application.</li> <li>Do not make applications less than 21 days apart</li> <li>Do not apply within 14 days of harvest</li> <li>Do not exceed 0.3 lb ai per acre per year including at-plant, PRE, PPI, Layby and foliar application of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li> <li>Use of ultra low volume (ULV) application on hops is prohibited.</li> </ul>		

[\*][Not for Use in California]

**LEAFY BRASSICAS, TURNIP GREENS**

Broccoli Raab, Bok Choy, Collards, Kale, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T- band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm spp., True armyworm or armyworm spp.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Root maggot Lettuce root aphid Army cutworm Cutworm spp. True armyworm Armyworm spp. Bulb mites	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.4 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**LEAFY PETIOLE VEGETABLES (FOLIAR)**

Celery, Cardoon, Chinese celery, Celtuce, Florence fennel, Rhubarb, Swiss chard

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons of finished spray per acre with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Cutworms Corn Earworm Tobacco Budworm Saltmarsh Caterpillar Leafhoppers Flea Beetles Imported Cabbageworm Cucumber Beetles Aphids Whitefly Armyworms Loopers Stink Bugs Crickets Ground Beetles Thrips Wireworm (adults) Diamondback Moth	3.4 to 8.5	0.04 to 0.1

Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite Lygus Spp.	6.8 to 8.5	0.08 to 0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>• Do not apply more than 0.5 lb active ingredient per acre per season.</li> <li>• Do not make applications less than 7 days apart.</li> <li>• Do not apply within 7 days of harvest.</li> </ul>		

**MAYHAW[\*]**

**PPI & PRE**

**LIBERTY BIFEN FC** can be tank mixed and applied with labeled PRE pesticides.

**LIBERTY BIFEN FC** can be tank mixed and applied with PPI pesticides labeled for site preparation. Incorporation of **LIBERTY BIFEN FC** should not be any deeper than the intended planting depth. Incorporation depth should be close to the intended depth.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
White Grub Wireworm	8.5	0.1
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>• Do not apply more than 0.2 lb ai per acre per year including at-plant, PRE, PPI and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products</li> </ul>		

**Foliar**

Apply foliar treatments in at least 28 gallons per acre

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Plum Curculio	6.8 – 8.5	0.8 – 0.1
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• Apply no more than once every 7 days.</li> <li>• Do not apply within 30 days of harvest</li> <li>• Do not apply more than 0.2 lb ai per acre per year including at-plant, PRE, PPI and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products</li> </ul>		

**[\*][Not for Use in California]**

**OKRA**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Wireworm Armyworm Cutworm Flea beetle larvae	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.2 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**PEANUT [\*] (FOLIAR)**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Beet Armyworms Corn earworm Cucumber Beetles Cutworm species Fall Armyworm Grasshoppers Green cloverworm Leafhoppers Lesser Cornstalk Borer Loopers Rednecked Peanut Worm Southern Armyworm Southern Corn Rootworm Stink Bugs Threecornered Alfalfa Hopper Velvetbean Caterpillar Yellowstriped Armyworm	2.5 to 8.6 fl. oz. (0.033 to 0.1 lb. ai) per acre	Apply foliar treatments in at least 10 gallons per acre at the rate of 8.6 fl. oz. (0.1 lb. active ingredient) per acre at a minimum of 14 days intervals.
Aphids Spider Mites Thrips Whitefly	6.9 to 8.6 fl. oz. (0.08 to 0.1 lb. ai) per acre	
<b>RESTRICTIONS:</b>		
<ul style="list-style-type: none"> <li>Do not feed green immature plants and peanut hay to livestock.</li> <li>Do not apply more than 0.5 lb active ingredient per acre per season.</li> <li>Do not apply within 14 days of harvest.</li> </ul>		
<b>[*][Not for Use in California]</b>		

**PEARS[\*]**

**Foliar**

**Application by ground:** Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.

**Application by air:** Apply the specified dosage in a minimum of 10 gallons per acre by air.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Aphids Codling Moth Cutworms Green Fruitworm Leafhoppers Leafminers Leafrollers Lygus species Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs (including brown marmorated stink bugs) Tarnished Plant Bugs	3.4 – 17.1	0.04 – 0.2
Twospotted Spider mite Yellow Mite	5.1 – 17.1	0.06 - 0.2
European Red Mite	6.8 – 17.1	0.08 - 0.2
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• Do not make applications less than 30 days apart.</li> <li>• Apply up to 14 days prior to harvest.</li> <li>• Do not graze livestock in treated orchards or cut treated cover crops for feed</li> <li>• Do not apply more than 0.5 pound active per acre per year including at-plant, PRE, PPI and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products with no more than 0.45 pound active per acre applied after petal fall.</li> </ul>		

**[\*][Not for Use in California]**

**PEPPERS (BELL and NON-BELL)**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm spp., True armyworm, Armyworm spp. or Stalk borer.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Root maggot Flea beetle larvae Pepper maggot Root aphid Army cutworm Cutworm spp. True armyworm Armyworm spp. Stalk borer	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08

**Restrictions:**

- Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.
- Do not apply more than 0.2 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.

**ROOT CROPS (FOLIAR)**

Apply as directed using the rates in the table below.

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Burdock, edible Carrot Celeriac Chervil, turnip rooted Chicory Ginseng Horseradish Parsley, turnip rooted Parsnip Radish Radish, oriental Rutabaga Salsify Salsify, black Salsify, Spanish Skirret Turnip	Aphids Beet Armyworm Celery leaf-tier Corn Earworm Cross-Striped Cabbageworm Cutworms Diamondback moth European Corn Borer Fall Armyworm Flea Beetles Green Cloverworms Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped Armyworm	6.9 to 8.6 fl. oz. (0.08 to 0.10 lb. ai) per acre	Apply foliar treatments in at least 25 gallons per acre.

**RESTRICTIONS:**

- Do not make applications less than 7 days apart.
- Do not apply more than 0.5 lb active per acre per season.
- Do not apply within 21 days of harvest.

Garden Beet	Aphids Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	6.9 to 8.6 fl. oz. (0.08 to 0.10 lb. ai) per acre	Apply foliar treatments in at least 25 gallons per acre.
-------------	--	--	--

**RESTRICTIONS:**

- Do not make applications less than 7 days apart.
- Do not apply more than 0.4 lb active ingredient per acre per season.
- Do not apply within 1 day of harvest.

## SOD FARMS (FOLIAR)

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a broadcast treatment.

Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests including mole crickets. The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, LIBERTY BIFEN SC may be applied at up to 0.4 fluid oz. per 1000 square feet to control each of the pests listed in this table. Use higher application rates when maximum residual control is desired or heavy pest populations occur.

PEST	USE RATES	
	Fluid oz/acre	Fluid oz/ 1000 sq. ft.
Armyworms <sup>1</sup> Cutworms <sup>1</sup> Sod Webworm <sup>1</sup>	2.8 to 4.35	0.066 to 0.1
Annual Bluegrass Weevil ( <i>Hyperodes</i> ) (Adult) <sup>2</sup> Banks Grass Mite <sup>6</sup> Billbugs (Adult) <sup>3</sup> Black Turfgrass <i>Ataenius</i> (Adult) <sup>4</sup> Crickets Earwigs Grasshoppers Mealybugs Mites <sup>6</sup>	4.35 to 8.7	0.1 to 0.2
Chinch Bugs <sup>5</sup> Japanese Beetle (Adult) Mole Cricket (Adult) <sup>7</sup> Mole Cricket (Nymph) <sup>8</sup>	8.7 to 17.42	0.2 to 0.4
<b>Restrictions</b> <ul style="list-style-type: none"> <li>• Do Not apply more than 17.42 fl oz (0.2 lb ai)/A per application.</li> <li>• Do Not make more than 2 applications per year.</li> <li>• Do Not apply more than 34.84 fl oz (0.4 lb ai) per acre per year as a foliar application.</li> <li>• Do Not make applications less than 14 days apart.</li> <li>• In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).</li> <li>• In New York State, make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application</li> </ul>		

### Comments

**1 Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.4 fluid oz. per 1000 square feet) may be required during periods of high pest pressure.

**2 Annual Bluegrass Weevil (*Hyperodes*) adults:** Time applications to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when *Forsythia* is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

**3 Billbug adults:** Apply when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

**4 Black Turfgrass *Ataenius* adults:** Apply during May and July to control the first and second generation of black turf-grass *ataenius* adults, respectively. Time the May application to coincide with the full bloom stage of *Vanhoutte spiraea* (*Spiraea vanhouttei*) and horse chestnut (*Aesculus hippocastanum*). Time the July application to coincide with the blooming of *Rose of Sharon* (*Hibiscus syriacus*).

**5 Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the



most difficult pests to control in grasses and the higher application rates (up to 0.4 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

**6 Mites:** To ensure optimal control of eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

**7 Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Apply as late in the day as possible and water with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Treat grass areas that receive pressure from adult mole crickets at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

**8 Mole Cricket nymphs:** Immediately treat grass areas that received intense adult mole cricket pressure in the spring prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher labeled application rates and more frequent applications to maintain acceptable control. Apply as late in the day as possible and water with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

### SOYBEANS

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm spp., True armyworm, or Armyworm spp.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grape colaspis Grubs Root maggot Seedcorn maggot Army cutworm Cutworm spp. True armyworm Armyworm spp. Seed corn beetle	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.2 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

### SOYBEANS (PPI & PRE)

For PPI treatments, the 4 to 5.3 fluid oz/A rate must be used. LIBERTY BIFEN SC can be tank mixed and applied with PPI herbicides. Incorporate LIBERTY BIFEN SC no deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.

For PRE treatments, apply at the 3.4 fluid oz/A rate and can be tank mixed and applied with PRE herbicides.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Black Cutworm White grub Wireworm Seed corn Maggot Armyworm spp. Seed corn beetle	4 to 5.3 Pre-Plant Incorporated (PPI)	0.47 to 0.062 Pre-Plant Incorporated (PPI)

Black Cutworm Armyworm Stalkborer Seed corn beetle	3.4 Pre-Emergence (PRE)	0.04 Pre-Emergence (PRE)
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as PPI or PRE application.</li> <li>Do not apply more than 0.2 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>		

**SOYBEAN (FOLIAR)**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Alfalfa Caterpillar Aphids Aster Leafhopper Bean Leaf Beetle Beet Armyworm <sup>1</sup> Cloverworm Corn Earworm Corn Rootworm Adult Cucumber Beetles Cutworms European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Imported cabbageworm Japanese Beetle Adult Leafhoppers Leafminer Loopers Mexican Bean Beetle Adult Pea Leaf Weevil Pea Weevil Plant Bug Saltmarsh caterpillar Sap Beetle Southern Armyworm Stink Bugs Tarnished Plant Bug Thrips Tobacco budworm <sup>1</sup> Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm	2.8 to 8.6 fl. oz. (0.033 to 0.1lb. ai) per acre	Apply as a foliar treatment using at least of 10 gallons per acre at the rate of 8.6 fl. oz. (0.1 lb.) per acre at a minimum of 30 day intervals.  <sup>1</sup> Pyrethroid resistance is common for Beet Armyworm and Tobacco Budworm. Consult your local or state agricultural authority to determine if resistant pest populations are in your area. If so refer to the Resistance Management statement in the Directions For Use section of this label.
Lygus Species Whitefly Two-Spotted Spider Mite	6.9 to 8.6 fl. oz. (0.08 to 0.10 lb. ai) per acre	

<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.3 lb active ingredient per acre per season.</li> <li>Do not apply within 18 days of harvest.</li> </ul>
--

**SPINACH**

Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm spp., True armyworm, or Armyworm spp.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Root maggot Seedcorn maggot Army cutworm Cutworm spp. True armyworm Armyworm spp.	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.4 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**SPINACH (FOLIAR)**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Tomato Pinworm Tomato Hornworm Whitefly	2.8 to 8.6 fl. oz. (0.033 to 0.10 lb. ai) per acre	Apply the specified dosage in 5-50 gallons of finished spray per acre by air or 10-50 gallons of finished spray per acre by ground.  For control of <b>Whiteflies</b> , apply foliar treatments of LIBERTY BIFEN SC by ground or air at rates of up to 0.5 pt. (0.1 lb active) per acre at minimum 7-day intervals up to a maximum of 4 applications.
Banks Grass Mite Broad Mite Carmine Mite Lygus species Pacific Spider Mite Twospotted spider mite	6.9 to 8.6 fl. oz. (0.08 to 0.10 lb. ai) per acre	
<b>RESTRICTIONS:</b>		
<ul style="list-style-type: none"> <li>Do not make applications less than 7 days apart.</li> <li>Do not apply more than 0.4 lb active ingredient per acre per season.</li> <li>Do not apply within 40 days of harvest.</li> </ul>		

**SUCCULENT PEAS AND BEANS**

Pea (*Pisum* spp.): Dwarf pea, Edible-pod pea, English pea, Garden pea, Green pea, Snow pea, Sugar snap pea, Pigeon pea; Bean (*Phaseolus* spp.): Broadbean (succulent), Lima bean (green), Runner bean, Snap bean, Wax bean; Bean, *Vigna* spp.): Asparagus bean, Blackeyed pea, Chinese longbean, Cowpea, Moth bean, Southern pea, Yardlong bean, Jackbean, Soybean (immature seed), Sword bean

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T- band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm spp., True armyworm, or Armyworm spp.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
Grape colaspis			
Grubs			
Root maggot			
Seedcorn maggot			
Army cutworm			
Cutworm spp.			
True armyworm			
Armyworm spp.			
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>Do not apply more than 0.2 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**TOBACCO (PRE-TRANSPLANT and AT-TRANSPLANT)**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below.

**Pre-transplant soil applications:**

Use of suitable equipment to incorporate into top 4" of the soil is required to control below ground pests.

**At-transplant water treatment application:**

Apply 0.0625 to 0.1 pound ai/A in a water treatment application volume of 10 to 200 gal/A.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Cutworm spp.	3.4 to 8.5	0.2 to 0.49	0.04 to 0.1
Flea beetle larvae			
White grubs			
Wireworm			
Mole cricket			
Armyworm spp.			
Stalkborer			
<b>Restrictions:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.2 lb active ingredient per acre per season.</li> <li>Do not apply later than layby.</li> <li>May be tank mixed with herbicides approved for tobacco use.</li> </ul>			

**TOBACCO (FOLIAR)**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply 0.04 to 0.10 lb ai/A per foliar application up to, and including, layby in a minimum of 10 gal/A. Do not make more than 2 foliar applications per season.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Aphid spp.* Armyworm spp. Chinch bugs Cutworm spp. Flea beetle (Adults) Grasshoppers Green bugs Japanese beetles Stink Bugs Thrips White flies Tarnished plant bugs	3.4 to 8.5	0.04 to 0.1
Hornworm Tobacco Budworm	6.8 to 8.5	0.08 to 0.1
Spider mites Lygus spp.	8.5	0.1
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Do not make more than 2 foliar applications per season.</li> <li>• Do not apply more than 0.2 lb active ingredient per acre per season.</li> <li>• Do not apply later than layby.</li> <li>• May be tank mixed with herbicides approved for tobacco use.</li> </ul> <p>*See resistance management statement under “Directions for Use” section.</p>		

**TOMATOES**

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm spp., True armyworm, Armyworm spp. or Stalkborer.

PEST	USE RATES		
	Fluid oz/acre	Fluid oz/1000 Linear ft.	Pound ai/acre
Rootworm larvae	6.8 to 8.5	0.39 to 0.49	0.08 to 0.1
Wireworm Grubs Root maggot Flea beetle larvae Army cutworm Cutworm spp. True armyworm Armyworm spp. Stalkborer	3.4 to 6.8	0.2 to 0.39	0.04 to 0.08
<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 0.1 lb active ingredient per acre per season as an at-plant application.</li> <li>• Do not apply more than 0.32 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.</li> </ul>			

**TREE NUTS[\*]**

African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these

**Foliar**

Apply by ground or air equipment using sufficient water to obtain full coverage of foliage. Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) by ground or apply the specified amount in a minimum of 10 gallons of finished spray per acre by air.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Black Pecan Aphid Codling Moth Filbert Worm Hickory Shuckworm Leaffooted Bugs Navel Orangeworm Oblique Banded Leafroller Peach Twig Borer Pecan Leaf Casebearer Pecan Nut Casebearer Pecan Phylloxera Plant Bugs Stink Bugs (including brown marmorated stink bugs) Walnut Aphid Yellow Pecan Aphid	4.3 – 17.1	0.05 - 0.2
European Red Mite Pecan Weevil Spider Mite species	6.8 – 17.1	0.08 - 0.2
Fire ants Walnut Husk Fly	8.5 – 17.1	0.1 - 0.2
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• Do not make applications less than 15 days apart.</li> <li>• Do not apply within 21 days of harvest for pecans and 7 days for all other registered tree nut crops.</li> <li>• Do not graze livestock in treated orchards or cut treated cover crops for feed.</li> <li>• Do not apply more than 0.5 lb active ingredient (1 quart) per acre per year including at-plant, PRE, PPI and foliar applications of <b>LIBERTY BIFEN FC</b> and other bifenthrin containing products.</li> </ul>		

**[\*][Not for Use in California]**

**TUBEROUS AND CORM VEGETABLES (AT-PLANT)**

Potato, Sweet potato, Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Edible canna, Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Tanier, Turmer, Yam bean, True yam.

When applied as directed, LIBERTY BIFEN SC will provide control of the pests listed in the table below. Apply LIBERTY BIFEN SC as a soil incorporated broadcast, directed bed spray or a T-band spray into the planting furrow for the control of wireworms, rootworms, sweet potato flea beetle and white grubs. Apply LIBERTY BIFEN SC at the rate of 0.15 to 0.3 pounds active ingredient (12.75 to 25.5 fluid ounces formulated) per acre in a minimum of 10 gallons per acre of spray.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Wireworms Grape colapsis White grub Sweet potato flea beetle Rootworms	12.75 to 25.5	0.15 to 0.3

**Restrictions:**

- Do not apply more than 0.3 lb active ingredient per acre per season as an at-plant application.
- Do not apply more than 0.5 lb active ingredient per acre per season including at-plant plus foliar applications of other bifenthrin products.

**TUBEROUS AND CORM VEGETABLES (LAY-BY)**

Potato, Sweet potato, Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Edible canna, Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Tanier, Turmer, Yam bean, True yam.

When applied as directed, LIBERTY BIFEN SC will provide control of the following pests listed in the table below. Apply LIBERTY BIFEN SC as one or more soil directed and incorporated treatments at cultivation or lay-by for the control of wireworms, rootworms and white grubs. Apply LIBERTY BIFEN SC to the drill area and incorporate by cultivation equipment set to throw soil towards the drill area. Apply LIBERTY BIFEN SC at a rate of 0.15 to 0.3 pound active ingredient (12.75 to 25.5 fluid ounces formulated) per acre in a minimum of 10 gallons per acre of spray.

PEST	USE RATES	
	Fluid oz/acre	Pound ai/acre
Wireworms Grape colapsis White grub Rootworms	12.75 to 25.5	0.15 to 0.3

**Restrictions:**

- Do not apply more than 0.5 lb active ingredient per acre per season including soil plus foliar applications of other bifenthrin products.



**TUBEROUS AND CORM VEGETABLES (FOLIAR)**

Apply as directed using the rates in the table below.

CROP	PEST	APPLICATION INSTRUCTIONS
Potato Sweet potato Arracacha Arrowroot Chinese artichoke Jerusalem artichoke Edible canna Cassava (bitter & sweet) Chayote (root) Chufa Dasheen (taro) Ginger Leren Tanier Turmer Yam bean True yam	Corn wireworm Tobacco wireworm Southern potato wireworm Japanese beetle grubs June beetle Sweetpotato flea beetle Cucumber beetle Sweetpotato Weevil Banded Cucumber Beetle Black flea beetle Whitefringed beetle White grub Sugarcane beetle Rootworms	<p><b>Foliar Application:</b> Apply LIBERTY BIFEN SC to control the adult life stages of <b>flea beetles, click beetles (wireworms), cucumber beetles (rootworms), Whitefringed beetles and May/June beetles (White grubs)</b>. Apply at the rate of 0.1 lbs. active ingredient (8.6 ounce formulated product) per acre in 10 gallons of spray by ground equipment and 3 gallons of spray by air.</p>
<p><b>RESTRICTIONS:</b></p> <ul style="list-style-type: none"> <li>• Do not make more than 2 foliar applications per season no sooner than 21 days apart.</li> <li>• Do not apply more than 0.5 lb active ingredient per acre per season, including soil application.</li> <li>• Do not apply within 21 days of harvest.</li> </ul>		

**APPLICATIONS INSTRUCTIONS – ORNAMENTALS [\*]**

**NON-AG USE:** INTERIORSCAPES AND PLANTSCAPES, LAWNS, TREES AND SHRUBS, AND ON GOLF COURSES AND SOD FARMS

**AG USE:** ORNAMENTALS AND TREES (INCLUDING FIELD AND CONTAINER GROWN NURSERY STOCK, CHRISTMAS TREES), Nurseries, Conifers (field and container grown), and pine seed orchards

**[\*] [NOT FOR USE IN CALIFORNIA TO CONTROL LISTED INSECT PESTS ON ORNAMENTALS AND TREES (INCLUDING FIELD AND CONTAINER GROWN NURSERY STOCK, CHRISTMAS TREES, INTERIORSCAPES AND PLANTSCAPES, LAWNS, TREES AND SHRUBS, AND ON GOLF COURSES AND SOD FARMS).]**

For use on plants intended for aesthetic purposes or climatic modifications and being grown in interior plantscapes and on outdoor ornamentals, Christmas trees, nurseries, lawns, sod farms and golf courses.

For soil or foliar applications, do not apply by ground within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

- Do not spray the product into fish pools, ponds, streams, or lakes.
- Do not apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
- Do not allow the product to enter any drain during or after application.
- Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
- Do not apply or irrigate to the point of runoff.
- 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.
- Do not apply when the wind speed is greater than 15 mph.

**For outdoor applications to commercial nurseries:**

- 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 (ASABE S572).
- For 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.

**All outdoor spray applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:**

1. Application to pervious surfaces such as soil, lawn, turf, and other vegetation;
2. Perimeter band treatments of 7 feet wide or less from the base of a man-made structure to pervious surfaces (e.g., soil, mulch, or lawn);
3. Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
4. Applications around potential exterior pest entry points into man-made structures such as doorways and windows, when limited to a band not to exceed one inch;
5. Applications to vertical surfaces (such as the side of a man-made structure) directly above impervious surfaces (e.g., driveways, sidewalks, etc.), up to 2 feet above ground level;
6. Applications to vertical surfaces directly above pervious surfaces, such as soil, lawn, turf, mulch or other vegetation) only if the pervious surface does not drain into ditches, storm drains, gutters, or surface waters.

Spot treatments must not exceed two square feet in size (for example, 2 ft. by 1 ft. or 4 ft. by 0.5 ft.).

Crack and crevice treatments: Treat surfaces to ensure thorough coverage but avoid runoff.

To treat insects harbored in voids and cracks-and-crevices, applications must be made in such a manner to limit dripping and avoid runoff onto untreated structural surfaces and plants.

### **PRODUCT INSTRUCTIONS**

LIBERTY BIFEN SC mixes with water and other aqueous carriers to control listed insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes, including hotels, shopping malls, office buildings and outdoor plantscapes: nurseries, residential dwellings, parks, institutional buildings, recreational areas, athletic fields, golf courses, sod farms, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity 365 days after application.

LIBERTY BIFEN SC may be tank-mixed with other products, including insect growth regulators. When tank mixing LIBERTY BIFEN SC with other products observe all precautions and limitations on each separate product label. **It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.** The addition of spreader stickers is not necessary. The physical compatibility of LIBERTY BIFEN SC may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

Follow this procedure for preparation of a new tank mix, unless specified otherwise in label directions:

1. Add wettable powders to tank water
2. Agitate
3. Add fluids and flowables
4. Agitate
5. Add emulsifiable concentrates
6. Agitate

If a mixture is found to be incompatible following the order of addition, try reversing the order of addition, or increase the volume of water. **Note:** If the tank mixture is found to be compatible after increasing the amount of water then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight. When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution.

### **APPLICATION RATES**

#### **TRUNK SPRAYS TO ORNAMENTAL TREES (including Christmas trees)**

##### **For Control of Bark Beetles and Boring Beetles**

Refer to the table below. Application rates and timing differ according to the target pest and other factors specific to each local situation. Consult your local State Extension specialist or other qualified expert for recommendations. **Note:** Do not apply more than 12.8 fl. oz. (0.2 lbs. AI) per acre of this product to trees. Repeat application may be necessary if reinfestation is likely.

PEST	RATE	SPRAY VOLUME	USE INSTRUCTIONS
<b>Dandroctonus bark beetles</b> such as mountain pine beetle, southern pine beetle, western pine beetle, and black turpentine beetle.	21 - 43 fl. oz. per 100 gallons (0.25 – 0.5 lb. AI per 100 gallons)	Use 1-4 gallons of finished spray per tree.	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation.
Engraver beetle ( <i>Ips</i> spp.)	21 - 43 fl. oz. per 100 gallons (0.25 – 0.5 lb. AI per 100 gallons)	Use 10-14 gallons of finished spray per tree.	Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet.
<b>Other bark beetles</b> such as ambrosia beetles, elm bark beetles, and metallic wood borers such as emerald ash borer.	21 - 43 fl. oz. per 100 gallons (0.25 – 0.5 lb. AI per 100 gallons)	Use 2-5 gallons of finished spray per tree.	Make applications of a spray mixture to the trunk, scaffolding and limbs of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestations. Spray until the bark is thoroughly wet.
<b>Clearwing moth borers</b> such as ash borer, banded ash clearwing, dogwood borer, lesser peachtree borer, lilac borer, oak borer, peachtree borer, rhododendron borer  <b>Coleopteran borers</b> such as bronze birch borer, flatheaded apple tree borer	8.6 – 17.2 fl. oz. per 100 gallons (0.1 – 0.2 lb. AI per 100 gallons)	Use 1-4 gallons of finished spray per tree.	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wet. For maximum residual control, use highest recommended rate.

#### Treatment of Infested Trees to Control Emerging Brood

Make applications of a spray mixture containing 2.0 pints of LIBERTY BIFEN SC per 100 gallons of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. AI (19.4 fl. oz.) of this product to trees per acre.

Trees on which all needles have turned brown generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 lbs. AI (19.4 fl. oz.) of this product to trees per acre.

#### FOLIAR SPRAYS TO ORNAMENTALS AND TREES

**(Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms**

For applications to ornamentals (trees, shrubs, ground covers, bedding plants and foliage plants, conifers (field and container grown), Christmas Trees and pine seed orchards) apply 0.06 to 0.44 fl. oz. LIBERTY BIFEN SC per 1,000 sq. ft. or 2.4 to 19.4 fl. oz. per 100 gallons. LIBERTY BIFEN SC may be diluted and applied in various volumes of water providing that the maximum label rate (0.44 fl. oz. per 1,000 sq. ft. or 19.4 fl. oz. per 100 gallons) is not exceeded. LIBERTY BIFEN SC may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (0.44 fl. oz. per 1,000 sq. ft. or 19.4 fl. oz. per 100 gallons) is not exceeded.

#### Calculating Dilution Rates Using the Ornamental Application Rates Table and the LIBERTY BIFEN SC Dilution Chart

Use the following steps to determine the appropriate dilution of this product required to control the specific pests:

1. Find the least susceptible target pest (the pest that requires the highest application rate for control).
2. Select an application rate in terms of fluid ounces of this product.
3. Find your application volume and how much spray you want to prepare.
4. Use the **Ornamental Dilution Chart** to determine the appropriate volume of this product that must be mixed in your desired volume of water.

For example, to control black vine weevil adults on rhododendron, the **Ornamental Application Rates** table shows that 0.12 to 0.20 fl. oz. of this product should be applied per 1,000 sq. ft. You select an application rate of 0.20 fl. oz. per 1,000 sq. ft. because maximum residual control is desired. Your application volume is approximately 300 gallons per acre which is equivalent to 6.9 gallons per 1,000 sq. ft. Consulting the **Ornamental Dilution Chart** shows that you should dilute 0.72 fl. oz. of this product in 10 gallons of water.

LIBERTY BIFEN SC ORNAMENTAL DILUTION CHART							
Application Rate	Fluid Ounces (mL) of LIBERTY BIFEN SC diluted to the Volumes of Finished Spray						
	1 Gallon		5 Gallons		10 Gallons		100 Gallons
Fl. oz./1,000 sq. ft.	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.
0.06	0.018	0.5	0.09	2.6	0.18	5.3	1.8
0.12	0.036	1.1	0.18	5.3	0.36	10.6	3.6
0.20	0.072	2.1	0.36	10.6	0.72	21.3	7.2
0.44	0.144	4.3	0.72	21.3	1.44	42.6	14.4

$(17.15)(\text{Fl. Oz. of LIBERTY BIFEN SC added to tank}) = \text{Percent Active Ingredient of Spray Mix}$   
 $(\text{gallons of finished spray mix})(128)$

### ORNAMENTAL AND TREE FOLIAR APPLICATION RATES

The application rates listed in the following table will provide excellent control of the noted pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.44 fl. oz. per 1,000 sq. ft (19.4 fl. oz. per 100 gallons) to control each of the pest listed in this table. The higher labeled application rates should be used when maximum residual control is desired.

PEST	RATES	USE INSTRUCTIONS
Bagworms <sup>1</sup> Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock moth	0.06 – 0.12 fl. oz. per 1,000 sq. ft.  (1.8 – 3.8 fl. oz. per 100 gallons)	<sup>1</sup> Bagworms: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.  <sup>2</sup> Beetles, Scale Crawlers, Twig Borers, and Weevils: May treat trunks, stems and twigs in addition to plant foliage.
Adelgids Ants (Excluding fire, carpenter, harvester, and pharaoh ants) Aphids Bees Beet Armyworm Beetles <sup>2</sup> Black Vine Weevil (Adults) Scales, such as Brown Soft Scales California Red Scale (Crawlers) <sup>2</sup> Elongated Hemlock Scale Pine Needle Scales (crawlers) <sup>2</sup> San Jose Scales (Crawlers) <sup>2</sup> Broad Mites Budworms Cicadas Citrus Thrips Clover Mites Crickets Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Glassywinged Sharpshooter Grasshoppers	0.12 – 0.20 fl. oz. per 1,000 sq. ft.  (3.6 – 7.2 fl. oz. per 100 gallons)	<sup>3</sup> Spider Mites: LIBERTY BIFEN SC provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher labeled application rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of this product with other registered miticides have also proven effective. Alternately, LIBERTY BIFEN SC applications may be rotated with those of other products that have different modes of action in control programs that <i>are</i> designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

<p>Japanese Beetle (Adult)  Leafhoppers  Leafrollers  Mealybugs  Mites  Nantucket Pine Tip Moth  Pillbugs  Pine sawflies  Plant Bugs (including <i>Lygus</i> spp.)  Psyllids+  Spider Mites<sup>3</sup>  Spittlebugs  Thrips  Tip Moths  Treehoppers  Twig Borers<sup>2</sup>  Weevils<sup>2</sup> such as  White Pine Weevil  Pales Weevil  Diaprepes adults  Orchid Weevil  White flies  Zimmerman pine moths</p>		
<p>Leafminers  Pecan Leaf Scorch Mite  Pine Shoot Beetle (Adults)  Spider Mites<sup>3</sup></p>	<p>0.20 – 0.44 fl. oz. per 1,000  sq. ft.    (7.2 – 14.4 fl. oz. per 100  gallons)</p>	

## STORAGE AND DISPOSAL

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

Do not pour or dispose down-the-drain or sewer. Call your local solid waste agency for local disposal options.

### Pesticide Storage

DO NOT STORE BELOW 40 °F.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (Transportation and Spills): (800) 424-9300.

To confine spill: Dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

### Pesticide Disposal

Pesticide wastes are toxic. 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 of the nearest EPA Regional Office for guidance.

### Container Handling

**Non-refillable container (in sizes 5 gallons or less)** - Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds, pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

**Non-refillable container (in sizes greater than 5 gallons)** - Do not reuse or refill this container. Triple rinse or pressure rinse. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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 back and forth several times. Turn the container over onto its other end and tip 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. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Returnable/Refillable Containers:** 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 into application equipment or mix tank. Fill the container about 10% 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.

## 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 TO THE EXTENT CONSISTENT WITH APPLICABLE LAW Buyer and User assume the risk of any such use. 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.