



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

February 18, 2025

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

Subject: Label Amendment – Add crops including bushberries to label, ID language
Product Name: Liberty Bifenthrin 2EC
EPA Registration Number: 89168-19
Application Dates: 3/11/2021, 9/9/2021
Case Numbers: 473765, 474785

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

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

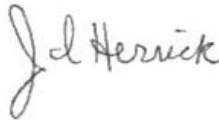
Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to

sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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

If you have any questions, please contact Rebecca Lasko at 202-565-2469 or at lasko.rebecca@epa.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Herrick". The signature is fluid and cursive, with the first letter of the last name being a large, stylized "H".

Jacquelyn Herrick, Product Manager 03
Invertebrate & Vertebrate Branch 1
Registration Division (7505T)
Office of Pesticide Programs

Enclosure

{Note to reviewer: Text in brackets [] denotes optional text.

Text in braces { } denotes explanatory language that will not be included on the final printed label}

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 BIFENTHRIN 2 EC

Insecticide/Miticide

[For use to control listed insects and mites on artichokes, beans, brassicas, bushberries, caneberries, canola, cilantro, citrus, conifer seed orchards coriander, corn, cotton, crambe, cucurbits, dried beans and succulent peas and beans, fruiting vegetables, head lettuce, hops, leafy brassicas, mayhaw, okra, pears, rapeseed, spinach, tobacco, tomatoes, tree nut crops, and tuberous and corm vegetables.]

[For use 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)*

*[*Not Registered for use By California]*

[DO NOT APPLY THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU OR SUFFOLK COUNTY, NEW YORK.]

[<PRODUCT NAME> contains Bifenthrin, the active ingredient used in <BRAND NAME>™ or ®.]

[<PRODUCT NAME> is not manufactured or distributed by <BASIC REGISTRANT / BRAND HOLDER>, seller of <BRAND>™ or ®.]

[<BRAND>™ or ® is a trademark of <TRADEMARK HOLDER>.]

ACTIVE INGREDIENT:

%BY WT.

Bifenthrin: (2 methyl[1,1 -biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate* 25.0%

OTHER INGREDIENTS:** 75.0%

TOTAL 100.0%

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

**Contains xylene range aromatic solvents.

This product contains 2 pounds active ingredient per gallon.

For outdoor use only.

KEEP OUT OF REACH OF CHILDREN

WARNING-AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail).

[See [side] [other] [inside label booklet] [panel] for additional precautionary statements.]

EPA Reg. No. 89168-19

LIBERTY CROP PROTECTION, LLC

1880 Fall River Drive, Suite 100

Loveland, CO 80538

Net Contents:___Gal (___L)

EPA Est. No.

80816RD021425

ACCEPTED

02/18/2025

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under

EPA Reg. No. 89168-19

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give any liquid to the person. • DO NOT give anything by mouth to an unconscious person.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN: 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. This product contains a petroleum distillate; vomiting may cause aspiration pneumonia.	

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center, doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time (NPIC Web site: www.npic.orst.edu). Outside of these times call your poison control center at 1-800-222-1222.

PRECAUTIONARY STATEMENTS **HAZARDS TO HUMANS AND DOMESTIC ANIMALS** **WARNING**

May be fatal if swallowed. Causes substantial but temporary eye injury. **DO NOT** get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Harmful if inhaled or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Handlers who may be exposed to the dilute through application or other tasks must wear:

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

Handlers who may be exposed to the concentrate through mixing, loading, application, or other tasks 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.
- Chemical resistant footwear plus socks
- Protective eyewear
- Chemical resistant apron when mixing and loading and cleaning equipment

Mixers and loaders supporting aerial applications to cotton 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 mil
- 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, 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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean 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 LIBERTY BIFENTHRIN 2 EC 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/CHEMICAL HAZARDS

DO NOT use or store near heat or open flame.

DIRECTIONS FOR USE

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

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the 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 and shoes plus socks.

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 Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries and greenhouses.

DO NOT allow people or pets on treated areas until the spray has dried.

RESISTANCE- MANAGEMENT RECOMMENDATIONS

For resistance-management, LIBERTY BIFENTHRIN 2 EC contains a Group 3A insecticide. Any insect population may contain individuals naturally resistant to LIBERTY BIFENTHRIN 2 EC and other Group 3A insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of LIBERTY BIFENTHRIN 2 EC or other Group 3A insecticides within a growing season, or among growing seasons, with different groups that control the same pests. Avoid application of more than the maximum seasonal use rate or the total number of consecutive sprays of LIBERTY BIFENTHRIN 2 EC per season.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. **DO NOT** rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - 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 bifenthrin 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).

Maximum Allowable LIBERTY BIFENTHRIN 2 EC Use Per Acre Per Year.

Refer to the individual crop sections for maximum allowable LIBERTY BIFENTHRIN 2 EC 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.

How to Report Bee Kills

It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at beekill@epa.gov. 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.

APPLICATIONS INSTRUCTIONS – FOOD CROPS

Application rates will vary according to pest pressure, timing of sprays, and field scouting. Use lower labeled rates under light to moderate infestations and higher labeled rates under heavy insect pressure and for mite control. Arid climates generally require higher labeled rates.

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.

CHEMIGATION USE DIRECTIONS

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system.

DO NOT connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation, a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers, or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent area.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain function interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

DO NOT apply when wind speed favors drift beyond the area intended for treatment.

LIBERTY BIFENTHRIN 2 EC should be applied continuously for the duration of the water application. LIBERTY BIFENTHRIN 2 EC should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

ROTATIONAL CROPS

Crops with existing bifenthrin tolerances may be rotated at any time. All other crops may be rotated 30 days following the final application of LIBERTY BIFENTHRIN 2 EC.

TANK MIXTURES

LIBERTY BIFENTHRIN 2 EC may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

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.

INDEX TO CROPS LISTED ON THIS LABEL

<u>CROP</u>	<u>PAGE</u>
Artichoke	
Brassica Crops	
Bushberries	
Caneberries	
Canola, Crambe, Rapeseed	
Cilantro, Coriander	
Citrus (Not for this use in Florida)	
Conifer Seed Orchards (AL, AR, FL, GA, LA, MS, OK, SC, TN, TX, VA only)	
Dried Beans and Peas	
Fruiting Vegetables (Eggplant, Pepper (Bell & Non-Bell), Groundcherry, Pepino, Tomato, Tomatillo)	
Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)	
Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)	
Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)	
Sweet Corn, Sweet Corn Grown for Seed (At Plant Use)	
Sweet Corn, Sweet Corn Grown for Seed (Foliar Use)	
Cotton	
Cucurbits	
Grapes	
Hops	
Leafy Brassicas	
Lettuce, Head	
Okra	
Pears	
Soybean	
Spinach	
Succulent Peas and Beans	
Tobacco	

Tree Nut Crops
Tuberous and Corm Vegetables
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)

FOOD CROP USE INSTRUCTIONS

ARTICHOKE

Apply as directed at a rate of 6.4 fl oz (0.1 lb ai) per acre.

PEST	APPLICATION INSTRUCTIONS
Artichoke Plume Moth Cribrate Weevil	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not apply 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 rate in a minimum of 10 gallons per acre.
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT exceed 0.5 lb ai per acre per year. • A 5-day preharvest interval must be observed. 	

BRASSICA CROPS

Apply as directed using the rates in the table below.

CROP	PEST/RATE	APPLICATION INSTRUCTIONS
Head and Stem Brassica Vegetables including: Broccoli Chinese Broccoli (gai lon, White flowering broccoli) Brussels sprouts Cauliflower Cavalo broccoli Kohlrabi Cabbage Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy)	PESTS: Cutworms Corn Earworm Tobacco Budworm Saltmarsh Caterpillar Leafhoppers Flea Beetles Imported Cabbageworm Cucumber Beetles Whitefly Armyworms Loopers Stink Bugs Crickets Ground Beetles Thrips Wireworm (adults) Diamondback Moth RATE: 2.1 to 6.4 fl oz/acre (0.033 to 0.1 lb ai/acre)	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. 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.
	PESTS: Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite <i>Lygus</i> spp.	

	RATE: 5.12 to 6.4 fl oz/acre (0.08 to 0.1 lb ai/acre)	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply more than 0.5 lb active ingredient (1 quart) per acre per year. • DO NOT make more than 5 applications after bloom. • DO NOT make applications less than 7 days apart. • DO NOT apply within 7 days of harvest. 		

BUSHBERRIES

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Blueberry, highbush and lowbush, Currant, Elderberry, Gooseberry, Huckleberry	Aphids Blueberry Maggot Fruitworms Japanese Beetle Leafhoppers Leafrollers Plum Curculio Spanworm	2.1- 6.4 fl. Oz (0.033 - 0.10 lb ai) per acre	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. Thorough coverage is essential to achieve control.
	Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	5.12- 6.4 fl oz (0.08 - 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT make applications less than 7 days apart.• DO NOT apply more than 0.50 lb ai (32 fl oz of product) per acre per year.• PHI = 1 day			

CANEBERRIES

Apply as directed using the rates in the table below.

CROP	PEST/RATE	APPLICATION INSTRUCTIONS
Caneberries including: Blackberries Bingleberries Dewberries Lowberries Marionberries Olallieberries Youngberries Loganberries Raspberries	PESTS: Leafrollers Orange Tortrix Root Weevils RATE: 3.2 to 6.4 fl oz/acre (0.05 to 0.1 lb ai/acre)	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 per acre post-harvest (fall) or pre-bloom (spring) as a drench application directed at the crown of plants in a minimum of 200 gallons of water per acre. Greater efficacy is observed at higher water gallonages (up to 400 gallons) or in an application prior to a significant rainfall event. DO NOT make both pre-bloom foliar and pre-bloom drench applications.
	PEST: Spider Mites Raspberry Crown Borer RATE: 6.4 fl oz/acre (0.1 lb ai/acre)	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply within 3 days of harvest.• DO NOT exceed 0.2 lb ai per acre per year.		

CANOLA, CRAMBE, RAPESEED

Apply as directed at a rate of 2.1 to 2.6 fl oz (0.033 to 0.04 lb ai) per acre.

PEST	APPLICATION INSTRUCTIONS
Aphids Armyworms Cutworms Diamondback Moth Loopers Other Lepidopterous Larvae Lygus Bugs Flea Beetle Flea Hopper Grasshoppers Plant Bugs Stink Bugs Seedpod Weevil Thrips Whitefly	<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>
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply more than 0.08 lb active ingredient (5.12 ounces) per acre per year. • DO NOT make applications less than 14 days apart. • DO NOT apply within 35 days of harvest. 	

CILANTRO, CORIANDER

Apply as directed using the rates in the table below.

Apply as directed using the rates in the table below:

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids Beet Armyworm Cabbage Looper Cutworm Flea Beetle Grasshoppers Leafminer Saltmarsh caterpillar Spotted Cucumber Beetle Thrips Whitefly	2.1 to 6.4 fl oz (0.033 to 0.1 lb ai) per acre	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft.
Two Spotted Spider Mite	5.12 to 6.4 fl oz (0.08 to 0.1 lb ai) per acre	

RESTRICTIONS:

- **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply more than 0.5 pound active ingredient per acre per year.
- **DO NOT** apply within 3 days of harvest.

CITRUS*

The use of LIBERTY BIFENTHRIN 2 EC protects citrus tree roots from **Diaprepes** and other citrus root weevil feeding by creating a barrier. As citrus root weevil eggs hatch, the newly hatched larvae (neonates) fall to the soil surface beneath the tree and come into contact with LIBERTY BIFENTHRIN 2 EC as they attempt to burrow into the root zone. Disturbance of the soil beneath the tree should be minimized.

Timing of application is very important. Peak emergence of **Diaprepes** adults varies by citrus growing region, and environmental factors such as soil moisture can affect emergence. Usually, two peaks occur for **Diaprepes**, first in the spring then late summer or early fall. **Southern Blue-Green and Blue-Green Citrus Weevils** and **Fuller Rose Beetle**

usually have a single emergence peak in the spring. **Brown** and **Little Leaf Notchers** usually have three emergence peaks, spring, summer and fall. Since emergence varies by region and season, the best way to time application is to observe the adults. By trapping adults when they are most active (in the morning or and late afternoon) during the spring and summer emergence periods an estimation of numbers can be obtained. Eggs are laid 8 to 10 weeks following the adult emergence from the soil; larvae invasion into the soil will begin 2 to 3 weeks following adult emergence. LIBERTY BIFENTHRIN 2 EC must be applied prior to the dropping of the neonates. Consult local university extension personnel for current information to protect citrus trees from **Citrus Root Weevils** and other pests.

Apply as directed using the rates in the table below.

*Use in California not permitted unless accompanied by a state approved supplemental label.

PEST	RATE	APPLICATION INSTRUCTIONS
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>)	16 to 32 fl oz (0.25 to 0.5 lb ai) per acre	Apply LIBERTY BIFENTHRIN 2 EC by ground equipment to bare soil beneath citrus trees. LIBERTY BIFENTHRIN 2 EC must be uniformly applied from the trunk to the drip line of the 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. 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 may also occur in the fall.
Fire Ant (<i>Solenopsis</i> spp.), Asian Cockroach (<i>Blattelia asahinae</i>)	6.4 to 16 fl oz (0.1 to 0.25 lb ai) per acre	If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fl oz formulated product should be used to obtain best results. If the citrus grove to be treated is in an area where weather conditions will promote more than one peak pest emergence, 16 fl oz formulated product can be applied early season and 16 fl oz formulated product can be applied later in the season. Follow spray drift precautions on this label.
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply through irrigation systems. • DO NOT allow any application of LIBERTY BIFENTHRIN 2 EC to contact fruit or foliage. • DO NOT apply a total of 32 fl oz of LIBERTY BIFENTHRIN 2 EC (0.5 lb ai) per acre per year. • Apply the specified dosage in a minimum of 40 gallons of finished spray per acre. • Ground application only. DO NOT apply by air. • DO NOT apply within 1 day of harvest. 		

CONIFER SEED ORCHARDS

For use only in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, and Virginia

PEST	RATE	APPLICATION INSTRUCTIONS
Brown Marmorated Stink-bug Cone Worms Seed Bugs Seed Worms	6.4 – 12.8 fl. Oz (0.1 - 0.2 lb ai) per acre	Apply in water in a minimum of 100-500 gallons/A by ground. Apply in water in a minimum of 10 gallons/A or in refined vegetable oil in a minimum of 0.5 gallons/A by air. Begin application 7 days following peak pollen flight and repeat at 30 day intervals to a maximum of 0.60 lb ai/A per year. For best control thorough coverage is necessary.
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT make more than 6 applications per year, or apply more than 0.60 lb ai (38.4 fl oz of product) per acre per year.• PHI = 1 day		

FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS		
Corn Rootworm Larvae (Northern, Southern, Western)	0.30 fl oz (.0046 lb ai) per 1,000 linear feet of row	Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe in front of the press wheel centered over the row. Use the table below to determine the LIBERTY BIFENTHRIN 2 EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre. Mix LIBERTY BIFENTHRIN 2 EC with water or fertilizer in the following manner. Fill the spray tank approximately one half full with water or liquid fertilizer, add the proper amount of LIBERTY BIFENTHRIN 2 EC, then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture. Applications of LIBERTY BIFENTHRIN 2 EC alone or in recommended tank mixtures, in conjunction with in-furrow pop-up fertilizers may be used. A jar compatibility test should be performed with the appropriate ratio of LIBERTY BIFENTHRIN 2 EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.		
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworms	0.15 to 0.30 fl oz (0.0023 to 0.0046 lb ai) per 1,000 linear feet of row			
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply to soil where there is greater than 30% cover of crop residue remaining.• DO NOT apply within 30 days of harvest.• DO NOT graze livestock in treated area or cut treated crops for feed within 30 days of treatment.• DO NOT apply more than 0.1 pound active per acre per season as an at-plant application.				
Row spacings (inches)	40	38	36	30
LIBERTY BIFENTHRIN 2 EC (pounds ai per acre)	0.060	0.064	0.069	0.080
LIBERTY BIFENTHRIN 2 EC (formulated product ounces per acre)	3.9	4.1	4.4	5.12

**FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED
(PRE- EMERGENT & PRE-PLANT INCORPORATED)**

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Black Cutworm White Grub Wireworm Seedcorn Maggot Armyworm spp. Stalkborer	3 to 4 fl oz (0.047 to 0.062 lb ai) per acre Pre-plant Incorporated (PPI)	The 3-4 oz/A rate must be applied as PPI and can be tank mixed and applied with PPI herbicides. DO NOT incorporate LIBERTY BIFENTHRIN 2 EC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate close to the intended seed planting depth.
Black Cutworm Armyworm spp. Stalkborer	2.56 fl oz (0.040 lb ai) per acre Pre-emergence (PRE)	The 2.56 oz/A rate may be applied PRE and can be tank mixed and applied with PRE herbicides.

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
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	2.1 to 6.4 fl oz (0.033 to 0.10 lb ai) per acre	<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>To Control Ear-Attacking Pests: Apply LIBERTY BIFENTHRIN 2 EC just before silking and repeat as necessary to maintain control but DO NOT exceed maximum labeled application rates and reapplication intervals listed elsewhere in this section.</p> <p>Southwestern Corn Borer, European Corn Borer: Make application for corn borer control with initial application at or shortly before egg hatch.</p> <p>For Control Of Other Insect Pests: Apply when pests first appear and repeat as necessary but DO NOT exceed maximum labeled application rates and reapplication intervals listed elsewhere in this section.</p>
Banks Grass Mite Carmine Mite Twospotted Spider Mite	5.12 to 6.4 fl oz (0.08-0.10 lb ai) per acre	<p>Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p>For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher labeled rates will be necessary for heavier initial populations and corn under heat or drought stress. Field</p>

		<p>experience with dimethoate at 0.5 lb active per acre in tank mixture has demonstrated good control under these conditions.</p> <p>For Mite Control In Texas, New Mexico, Oklahoma, and Arizona: 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>Restrictions:</p> <ul style="list-style-type: none"> • DO NOT apply more than 0.3 pound active ingredient per acre per year including pre and ppi, at-plant, plus foliar applications. • DO NOT apply within 30 days of harvest. • DO NOT graze livestock in treated areas or cut treated crops for feed within 30 days of the last application. • Use of ultra low volume (ULV) application on corn is prohibited. • DO NOT make aerial or ground applications to corn if heavy rainfall is imminent. • Use of LIBERTY BIFENTHRIN 2 EC on corn is prohibited in all coastal counties. 		

**SWEET CORN, SWEET CORN GROWN FOR SEED
(AT PLANT USE)**

Apply as directed using the rates in the table below.

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS			
Corn Rootworm Larvae (Northern, Southern, Western)	0.30 fl oz (0.0046 lb ai) per 1,000 linear feet of row	Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the LIBERTY BIFENTHRIN 2 EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.			
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm species Wireworms	0.15 to 0.30 fl oz (0.0023 to 0.0046 lb ai) per 1,000 linear feet of row	<p>Mix LIBERTY BIFENTHRIN 2 EC with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of LIBERTY BIFENTHRIN 2 EC, then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.</p> <p>Applications of LIBERTY BIFENTHRIN 2 EC alone or in recommended tank mixtures, in conjunction with in-furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of LIBERTY BIFENTHRIN 2 EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.</p>			
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply to soil where there is greater than 30% cover of crop residue remaining.• DO NOT apply within 30 days of harvest.• DO NOT graze livestock in treated area or cut treated crops for feed within 30 days of treatment.• DO NOT apply more than 0.1 pound active per acre per year as an at-plant application.					
Row spacings (inches)		40	38	36	30
LIBERTY BIFENTHRIN 2 EC (pounds per acre)		0.060	0.064	0.069	0.080
LIBERTY BIFENTHRIN 2 EC (formulated product ounces per acre)		3.9	4.1	4.4	5.12

**SWEET CORN, 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	2.1 to 6.4 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>To Control Ear-Attacking Pests: Apply LIBERTY BIFENTHRIN 2 EC 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>Southwestern Corn Borer, European Corn Borer: Make 2 applications for corn borer with the initial application at or shortly before egg hatch.</p> <p>For Control Of Other Insect Pests: 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	5.12 to 6.4 fl oz (0.08-0.10 lb ai) per acre	<p>Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p>For Twospotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.</p> <p>Higher labeled rates will be necessary for heavier initial populations and corn under heat or drought stress.</p>
<p>RESTRICTIONS:</p> <ul style="list-style-type: none"> • DO NOT apply more than 0.2 pound active ingredient (12.8 ounces formulated product) per acre per year. • DO NOT apply within one day of harvest. • DO NOT graze livestock in treated areas or cut treated crops for feed within 1 day of last application. • Use of ultra low volume (ULV) application on corn is prohibited. • DO NOT make aerial or ground applications to corn if heavy rainfall is imminent. • Use of LIBERTY BIFENTHRIN 2 EC on corn is prohibited in all coastal counties. 		

COTTON

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	1.3-6.4 fl oz/acre (0.02-0.10 lb ai/acre)	LIBERTY BIFENTHRIN 2 EC may be applied in water or refined vegetable oil (soybean/cottonseed). Application in Water: 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	2.6-6.4 fl oz/acre (0.04-0.10 lb ai/acre)	ULV Application: Apply the labeled rate of LIBERTY BIFENTHRIN 2 EC in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage. To Control Boll Weevil: Apply LIBERTY BIFENTHRIN 2 EC at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels. To Control Mites and Aphids: 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. Higher labeled rates will be required once a damaging threshold is established.
Beet Armyworm Carmine Spider Mite <i>Lygus</i> spp. Pink Bollworm Twospotted Spider Mite	3.8-6.4 fl oz/acre (0.06-0.10 lb ai/acre)	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply more than 0.5 pound active ingredient per acre per year. • DO NOT apply within 14 days of harvest. • DO NOT graze livestock in treated areas or cut treated crops for feed. • DO NOT make more than 10 synthetic pyrethroid applications (of one product or combinations or products) to a cotton crop in one growing year. 		

CUCURBITS

Apply as directed using the rates in the table below.

CROP	PEST/RATE	APPLICATION INSTRUCTIONS
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible (includes hyotan, cucuzza); (<i>Luffa</i> spp.) (includes hechima, Chinese okra), (<i>Momordica</i> spp.) (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars or <i>Cucumis melo</i>) (includes true cantaloupe,	PESTS: Aphids Armyworms Cabbage Looper Corn Earworm Cucumber Beetles Cutworms Grasshoppers Leafhoppers Melonworms Pickleworms Plant Bugs Rindworms Squash Bugs Squash Vine Borer Stink Bugs Tobacco Budworm	Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons 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.

cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin (<i>Cucurbita</i> spp.), Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini). Squash, winter (includes butternut squash, calabaza, hubbard squash (<i>C. mixta</i> ; <i>C. pepo</i>) (includes acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of <i>Citrullus</i> spp.).	RATE: 2.6 to 6.4 fl oz (0.04 to 0.1 lb ai) per acre	
	PESTS: Whitefly Banks Grass Mite Twospotted spider Mite Carmine Mite <i>Lygus</i> spp. RATE: 5.12 to 6.4 fl oz (0.08 to 0.1 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply more than 0.3 lb active ingredient (19.2 ounces formulated product) per acre per year.• DO NOT make more than two applications after bloom.• DO NOT make applications less than 7 days apart.• DO NOT apply within 3 days of harvest.		

DRIED BEANS AND PEAS

Apply as directed using the rates in the table below.

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Dried cultivars of Beans (<i>Lupinus</i>) Beans (<i>Phaseolus</i>) Field bean Kidney bean Lima bean (dry) Navy bean Pinto bean Tepary bean Bean (<i>Vigna</i>) Adzuk 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 Peas (<i>Pisum</i>)	Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers	1.6 to 6.4 fl oz (0.025 to 0.10 lb ai) per acre	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. 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.
	Aphids Beet Armyworm Fall Armyworm Southern Armyworm Yellowstriped Armyworm Bean Leaf Beetle Cucumber Beetle Japanese Beetle (Adult) Sap Beetle Plant Bugs Stink Bugs Tarnished Plant Bug Alfalfa Caterpillar Cloverworm European Corn Borer Cutworms Western Bean Cutworm Corn Earworm Loopers Corn Rootworm (Adult) Thrips Webworms	2.1 to 6.4 fl oz (0.033 to 0.10 lb ai) per acre	

Field pea Pigeon pea	Pea Weevil Pea Leaf Weevil Whitefly Imported cabbageworm Saltmarsh caterpillar Tobacco budworm Leafminer		
	Banks Grass Mite Twospotted Spider Mite Carmine Mite <i>Lygus</i> spp	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply more than 0.2 lb active ingredient (12.8 ounces formulated product) to peas, or 0.3 lb active ingredient (19.2 ounces formulated product) to beans per acre per year.• DO NOT apply within 14 days of harvest.• DO NOT make applications less than 7 days apart.			

FRUITING VEGETABLES

Apply as directed using the rates in the table below.

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Eggplant Pepper (Bell & Non-Bell) Groundcherry Pepino	Armyworms including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm Cabbage Looper Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper weevil Plant Bugs Stink Bugs Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly	2.1 to 6.4 fl oz (0.033 to 0.10 lb ai) per acre	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. 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.
	Banks Grass Mite Broad Mite Carmine Mite <i>Lygus</i> spp Pacific Spider Mite Twospotted Spider Mite	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT make applications less than 7 days apart. • DO NOT apply more than 0.2 lb active ingredient (12.8 ounces formulated product) per acre per year. • DO NOT apply within 7 days of harvest. 			
Tomato Tomatillo	Aphids Armyworms including Beet Armyworm, Fall Armyworm, Southern Armyworm, Yellowstriped Armyworm Bean Leaf Beetle Cabbageworm	2.1 to 5.2 fl oz (0.033 to 0.08 lb ai) per acre	Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment. Thorough coverage is essential to achieve control.

	Carmine Mite Cloverworm Corn Earworm Cucumber Beetle Cutworms Diamondback Moth European Corn Borer Flea Beetles Flea Hopper Grasshopper Japanese Beetle (Adult) Leafhoppers Loopers <i>Lygus</i> spp. Melonworm Pea Weevil Pea Leaf Weevil Pickleworm Plant Bug Rindworm Salt Marsh Caterpillar Sap Beetle Seedpod Weevil Squash Bugs Stink Bug species Tobacco Budworm Tarnished Plant Bug Thrips Whitefly		
	Twospotted Spider Mite	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none"> • A maximum of 4 applications may be applied per year. • DO NOT apply within 1 day of harvest. 			

GRAPES

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Cutworms ^[*] Eastern Grape Leafhopper Grape Berry Moth ^[*] Japanese Beetles Adults ^[*] Variegated Leafhopper Western Grape Leafhopper	3.2 to 6.4 fl oz (0.05 to 0.10 lb ai) per acre	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray 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.
Black Vine Weevil Glassywinged Sharpshooter Twospotted Spider Mite	6.4 fl oz (0.10 lb ai) per acre	Thorough coverage is essential to achieve control. When pest pressure is moderate to severe, use higher labeled rate.
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply more than 0.10 lb ai per acre per year. • DO NOT apply within 30 days of harvest. [*Not Registered for Use By California]		

HOPS

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids Armyworms Cutworms Leafrollers Loopers	3.8 to 6.4 fl oz (0.06 to 0.1 lb ai) per acre	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.
Root Weevils	3.2 to 6.4 fl oz (0.05 to 0.1 lb ai) per acre	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.
Twospotted Spider Mite	6.4 fl. oz (0.1 lb ai) per acre	Use of ultra low volume (ULV) application on hops is prohibited.

RESTRICTIONS:

- **DO NOT** exceed 0.1 lb ai per acre per application.
- **DO NOT** exceed 0.3 lb ai per acre per year.
- A spray interval of 21 days between applications must be maintained.
- A 14-day preharvest interval must be observed.

LEAFY BRASSICAS*, TURNIP GREENS*

Apply as directed using the rates in the table below.

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Broccoli Raab Bok Choy Collards Kale Mizuna Mustard Greens Mustard Spinach Rape Greens	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 Japanese Beetles (Adult) Grasshoppers	2.1 to 6.4 fl oz/acre (0.033 to 0.1 lb ai/acre)	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. 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. *See resistance Management Statement under Directions For Use section
	Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite <i>Lygus</i> spp.	5.12 to 6.4 fl oz/acre (0.08 to 0.1 lb ai/acre)	

RESTRICTIONS:

- **DO NOT** apply more than 0.4 lb active ingredient per acre per year.
- **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply within 7 days of harvest.

[*Not Registered for Use By California]

LETTUCE, HEAD

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids Armyworms Corn Earworm Cucumber Beetles Cutworms Diamondback Moth Flea Beetle Imported Cabbageworm Leafhoppers Loopers Salt marsh Caterpillar Stink Bug spp. Tobacco Budworm Whitefly	2.1 to 6.4 fl oz (0.033 to 0.10 lb ai) per acre	Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre with ground equipment and 5 gallons per acre by air. 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.
<i>Lygus</i> spp. Carmine Mite Twospotted Spider Mite	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT make applications less than 7 days apart. • A maximum of 0.5 lb active ingredient may be applied per acre per year. • DO NOT apply within 7 days of harvest. 		

MAYHAW [*]

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Plum Curculio	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	Apply as a foliar treatment using at least of 28 gallons per acre.
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT make applications less than 7 days apart. • DO NOT apply more than 0.2 pound active ingredient per acre per year. • DO NOT apply within 30 days of harvest. [*Not Registered for Use By California]		

OKRA

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids Armyworms Corn earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Japanese Beetle (Adult) Leafminers Loopers Stink bugs Thrips Whitefly	2.1 to 6.4 fl oz (0.033 to 0.1 lb ai) per acre	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft.

<i>Lygus</i> spp. Broad Mite Carmin Mite Two Spotted Spider Mite	5.12 to 6.4 fl oz (0.08 to 0.1 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT make applications less than 7 days apart. • DO NOT apply more than 0.2 pound active ingredient per acre per year. • DO NOT apply within 7 days of harvest. 		

PEANUT[*]

Apply as directed using the rates in the table below.

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	2.1 to 6.4 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 6.4 fl oz (0.1 lb active ingredient) per acre at a minimum of 14 days intervals.
Aphids Spider Mites Thrips Whitefly	5.12 to 6.4 fl oz (0.08 to 0.1 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT feed green immature plants and peanut hay to livestock.• DO NOT apply more than 0.5 pound active ingredient per acre per year.• DO NOT apply within 14 days of harvest. <p>[*Not Registered for use By California]</p>		

PEARS

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Aphids Codling Moth Cutworms Green Fruitworm Leafhopper Leafminer Leafroller <i>Lygus</i> spp. Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs	2.6 to 12.8 fl oz (0.04 to 0.2 lb ai) per acre	<p>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.</p> <p>Application by air: Apply the specified dosage in a minimum of 10 gallons per acre by air.</p> <p>Apply as necessary to maintain control using a minimum of 30 day spray interval.</p> <p>Apply up to 14 days prior to harvest.</p>

Tarnished Plant Bug		
Twospotted Spider Mite	3.8 to 12.8 fl oz	
Yellow Mite	(0.06 to 0.2 lb ai) per acre	
European Red Mite	5.12 to 12.8 fl oz (0.08 to 0.2 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply more than 0.5 pound active per acre per year with no more than 0.45 pound active per acre applied after petal fall. • DO NOT graze livestock in treated orchards or cut treated cover crops for feed. 		

ROOT CROPS

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 Fire Ants Flea Beetles Green Cloverworms Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped Armyworm	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	Apply foliar treatments in at least 25 gallons per acre.
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT make applications less than 7 days apart. • DO NOT apply more than 0.5 pound active per acre per year. • DO NOT apply within 21 days of harvest. 			
Garden Beet	Aphids Fire Ants Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	Apply foliar treatments in at least 25 gallons per acre.
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT make applications less than 7 days apart. • DO NOT apply more than 0.4 lb active ingredient per acre per year. • DO NOT apply within 1 day of harvest. 			

SOYBEAN

Apply as directed using the rates in the table below.

PEST	RATE	APPLICATION INSTRUCTIONS
Alfalfa Caterpillar Aphids Aster Leafhopper Bean Leaf Beetle Beet Armyworm* 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 ¹ Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm	2.1 to 6.4 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 6.4 fl oz (0.1 lb) per acre at a minimum of 30 day intervals. ¹ 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	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply more than 0.3 pound active ingredient per acre per year.• DO NOT apply within 18 days of harvest.		

SPINACH

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	2.1 to 6.4 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 Whiteflies , apply foliar treatments of LIBERTY BIFENTHRIN 2 EC by ground or air at rates of up to 0.4 pt. (0.1 lb active) per acre at minimum 7-day intervals up to a maximum of 4 applications.

Pepper Weevil Thrips Tomato Pinworm Tomato Hornworm Whitefly		For control of Fire Ants , apply LIBERTY BIFENTHRIN 2 EC to the soil (at planting) or as a foliar treatment by ground or air at rates up to 0.4 pt. (0.1 lb active) per acre at minimum 7-day intervals up to a maximum of 4 applications.
Broad mite Banks Grass Mite Twospotted Spider Mite Carmine Mite Pacific Spider Mite <i>Lygus</i> spp. Fire Ants	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT make applications less than 7 days apart.• DO NOT apply more than 0.4pound active ingredient per acre per year.• DO NOT apply within 40 days of harvest.		

SUCCULENT PEAS AND BEANS

Apply as directed at the table rates below.

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Peas (<i>Pisum</i> spp.) including: Dwarf pea Edible-pod pea English pea Garden pea Green pea Snow pea Sugar snap pea Pigeon pea Bean (<i>Phaseolus</i> spp.) including: Broadbean(succulent), Lima bean (green), Runner bean, Snap bean, Wax bean Bean (<i>Vigna</i> spp.) including: Asparagus bean, Blackeyed pea, Chinese longbean, Cowpea, Moth bean, Southern pea, Yardlong bean, Jackbean, Soybean (immature seed), Sword bean	Flea Beetle Grasshoppers Aster Leafhopper Leafhoppers	1.6 to 6.4 fl oz (0.025 to 0.10 lb ai) per acre	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.
	Aphids Beet Armyworm Fall Armyworm Southern Armyworm Yellowstriped Armyworm Bean Leaf Beetle Cucumber Beetle Japanese Beetle Adult Sap Beetle Plant Bugs Stink Bugs Tarnished Plant Bug Alfalfa Caterpillar Clover Worm European Corn Borer Cutworms Western Bean Cutworm Corn Earworm Loopers Corn Rootworm Adult Thrips Webworms Pea Weevil Pea Leaf Weevil Whitefly	2.1 to 6.4 fl oz (0.033 to 0.10 lb ai) per acre	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.
	Banks Grass Mite Twospotted Spider Mite Carmine Mite <i>Lygus</i> spp.	5.12 to 6.4 fl oz (0.08 to 0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none"> • DO NOT apply more than 0.2 lb active ingredient (12.8 ounces formulated product) per acre per year. • DO NOT apply within 3 days of harvest. 			

TOBACCO

Apply as directed using the rates in the table below.

Apply as directed using the rates in the table below:

PEST	RATE	APPLICATION INSTRUCTIONS
Cutworm spp. Tobacco Flea Beetle (larvae) White Grubs Wireworms Mole Crickets Armyworm spp. Stalkborers	4.0 to 6.4 fl oz (0.0625 to 0.10 lb ai) per acre	Pre-Transplant Soil Application: Apply 0.0625 to 0.1 pounds active ingredient in a minimum of 10 gallons per acre to control soil pests. Use of suitable equipment to incorporate into top 4" of the soil is required to control below ground pests. At-Plant Water Treatment Application: Apply 0.0625 to 0.1 pounds active ingredient in a water treatment application volume of 10 to 200 gallons per acre.
Aphid spp. Armyworm spp. Flea Beetle (Adult) Chinch bugs Stink bugs Japanese Beetles Grasshoppers Cutworm spp. Tarnished Plant Bugs Green bugs Thrips Whiteflies	2.56 to 6.4 fl oz (0.04 to 0.10 lb ai) per acre	Foliar Application: Apply 0.04 to 0.1 pounds active ingredient per foliar application up to and including layby in a minimum of 10 gallons per acre.
Spider Mites <i>Lygus</i> spp.	6.4 fl oz (0.10 lb ai) per acre	
RESTRICTIONS: <ul style="list-style-type: none">• DO NOT apply later than layby• DO NOT apply more than 0.2 pound active ingredient per acre per year.• May be tank mixed with other herbicides labeled for tobacco use.• DO NOT make more than 2 foliar applications per year.		

TREE NUT CROPS

Apply as directed using the rates in the table below.

CROP	PEST	RATE	APPLICATION INSTRUCTIONS
Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Pistachio, Walnut (black and English)	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 Walnut Aphid Yellow Pecan Aphid	3.2-12.8 fl oz (0.05 - 0.20 lb ai) per acre	Ground Application: Apply as a dilute (minimum of 200 gallons per acre) or concentrate (minimum of 50 gallons per acre) spray in sufficient water to provide thorough coverage. Air Application: Apply in a minimum of 10 gallons of finished spray per acre. Minimum Spray Intervals: Apply Liberty Bifenthrin 2 EC as needed to maintain control.
	European Red Mite Spider Mites	5.1-12.8 fl oz (0.08 - 0.20 lb ai) per acre	
	Fire Ants Walnut Husk Fly	6.4-12.8 fl oz (0.10 - 0.20 lb ai) per acre	

RESTRICTIONS:

- **DO NOT** apply at intervals sooner than 15 days.
- **DO NOT** apply more than 0.20 lb ai (12.8 fl oz of product) per acre per application.
- **DO NOT** apply more than 0.50 lb ai (32 fl oz of product) per acre per year.
- **DO NOT** graze livestock in treated orchards or cut treated cover crops for feed.
- PHI = Pecans 21 days, Others 7 days

TUBEROUS AND CORM VEGETABLES

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>In-Furrow At Planting Application: Apply LIBERTY BIFENTHRIN 2 EC to control wireworms, rootworms, and white grubs. Apply at the rate of 0.3 pounds active ingredient (19.2 ounces formulated product) per acre as an in-furrow or T-band spray at planting time.</p> <p>Lay-By Application: Apply LIBERTY BIFENTHRIN 2 EC to control wireworms, rootworms and white grubs. Apply to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area. Apply at the rate of 0.05 to 0.15 pounds active ingredient (3.2 to 9.6 ounces formulated product) in 10 gallons per acre of spray.</p> <p>Foliar Application: Apply LIBERTY BIFENTHRIN 2 EC to control the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), Whitefringed beetles and May/June beetles (White grubs). Apply at the rate of 0.1 lbs. active ingredient (6.4 ounce formulated product) per acre in 10 gallons of spray by ground equipment and 3 gallons of spray by air.</p>

RESTRICTIONS:

- **DO NOT** make more than 2 foliar applications per year no sooner than 21 days apart.
- **DO NOT** apply more than 0.5 lb active ingredient per acre per year, including soil application.
- **DO NOT** apply within 21 days of harvest.

APPLICATIONS INSTRUCTIONS – ORNAMENTALS*

* NOT REGISTERED FOR USE ON 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) BY CALIFORNIA.

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.

Note: Applicators to Christmas trees and sod farms must use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Applicators to Christmas trees and sod farms must conform to the labeling requirements outlined in the AGRICULTURAL USE REQUIREMENTS box. All other uses listed under this ORNAMENTALS section are not subject to the Worker Protection Standard, 40 CFR Part 170.

USE INSTRUCTIONS

LIBERTY BIFENTHRIN 2 EC 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 in 365 days following application.

Restrictions

- 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 application when rainfall is expected before the product has sufficient time to dry (minimum 4 hr). Rainfall within 24 hr after application may cause unintended runoff of pesticide application.
- **DO NOT** apply when the wind speed is greater than 15 mph.
- Spot treatments must not exceed two square feet in size (for example, 2 ft. by 1 ft. or 4 ft. by 0.5 ft.)
- **DO NOT** apply to pets, crops, or sources of electricity.
- Firewood is not to be treated.
- **DO NOT** allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.
- **DO NOT** apply this pesticide in livestock buildings (barns).
- Keep children and pets off treated areas following application until the spray has dried.
- **DO NOT** apply by air.
- **DO NOT** use in greenhouses.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply when a temperature inversion exists.
- **DO NOT** apply for surface feeding pests if rain is expected within 12 hours (or whatever time is necessary for the spray to dry).
- For turf treatment, apply with nozzles not more than 2 feet above the grass.
- **DO NOT** apply within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.
- **DO NOT** apply when grass areas are water logged or the soil is saturated with water (i.e., will not accept irrigation).
- Vinyl and Aluminum Siding: **DO NOT** spray directly onto vinyl or aluminum siding. If LIBERTY BIFENTHRIN 2 EC inadvertently contacts vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged), it may result in staining, bleaching or discoloration. Wash off thoroughly with detergent and water. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

LIBERTY BIFENTHRIN 2 EC may be tank-mixed with other products, including insect growth regulators. 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 BIFENTHRIN 2 EC 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.

The following procedure is recommended 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
Dendroctonus bark beetles such as mountain pine beetle, southern pine beetle, western pine beetle, and black turpentine beetle.	16 -32 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.)	16 – 32 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.
Other bark beetles such as ambrosia beetles, elm bark beetles, and metallic wood borers such as emerald ash borer.	16 – 32 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.
Clearwing moth borers such as ash borer, banded ash clearwing, dogwood borer, lesser peachtree borer, lilac borer, oak borer, peachtree borer, rhododendron borer	6.4 – 12.8 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 label rate.
Coleopteran borers such as bronze birch borer, flatheaded apple tree borer			

Treatment of Infested Trees to Control Emerging Brood

Make applications of a spray mixture containing 2.0 pints of LIBERTY BIFENTHRIN 2 EC 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 (12.8 fl oz) of this product to trees per acre.

DO NOT apply to trees on which all needles have turned brown generally have been vacated 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 (12.8 fl oz) of this product to trees per acre.

FOLIAR SPRAYS TO 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 applications to ornamentals (trees, shrubs, ground covers, bedding plants and foliage plants, conifers (field and container grown), Christmas Trees and pine seed orchards) apply 0.04 to 0.32 fl oz LIBERTY BIFENTHRIN 2 EC per 1,000 sq. ft. or 1.8 to 14.4 fl oz per 100 gallons. LIBERTY BIFENTHRIN 2 EC may be diluted and applied in various volumes of water providing that the maximum label rate (0.32 fl oz per 1,000 sq. ft. or 14.4 fl oz per 100 gallons) is not exceeded. LIBERTY BIFENTHRIN 2 EC may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (0.32 fl oz per 1,000 sq. ft. or 14.4 fl oz per 100 gallons) is not exceeded.

Calculating Dilution Rates Using the Ornamental Application Rates Table and the LIBERTY BIFENTHRIN 2 EC 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 0.08 to 0.16 fl oz of this product is to be applied per 1,000 sq. ft. You select an application rate of 0.16 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 to dilute 0.24 fl oz of this product in 10 gallons of water.

LIBERTY BIFENTHRIN 2 EC ORNAMENTAL DILUTION CHART							
Application Rate	Fluid Ounces (mL) of LIBERTY BIFENTHRIN 2 EC 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
0.04	0.018	0.5	0.09	2.6	0.18	5.3	1.8
0.08	0.036	1.1	0.18	5.3	0.36	10.6	3.6
0.16	0.072	2.1	0.36	10.6	0.72	21.3	7.2
0.32	0.144	4.3	0.72	21.3	1.44	42.6	14.4

$$\frac{(25)(\text{Fl oz of LIBERTY BIFENTHRIN 2 EC added to tank})}{(\text{gallons of finished spray mix})(128)} = \text{Percent Active Ingredient of Spray Mix}$$

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 0.32 fl oz per 1,000 sq. ft (14.4 fl oz. per 100 gallons) to control each of the pest listed in this table. Use the higher labeled application rates when maximum residual control is desired.

PEST	RATES	USE INSTRUCTIONS
Bagworms ¹ Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock moth	0.04 – 0.08 fl oz per 1,000 sq. ft. (1.8 – 3.8 fl oz per 100 gallons)	¹ Bagworms: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective. ² Beetles, Scale Crawlers, Twig Borers, and Weevils: May treat trunks, stems and twigs in addition to plant foliage.
Adelgids Ants Aphids Bees Beet Armyworm Beetles ² Black Vine Weevil (Adults) Scales, such as Brown Soft Scales California Red Scale (Crawlers) ² Elongated Hemlock Scale Pine Needle Scales (crawlers) ² San Jose Scales (Crawlers) ² Broad Mites Budworms Cicadas Citrus Thrips Clover Mites Crickets Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Glassywinged Sharpshooter Grasshoppers Japanese Beetle (Adult) Leafhoppers Leafrollers Mealybugs Mites Mosquitoes Nantucket Pine Tip Moth Pillbugs Pine sawflies Plant Bugs (including <i>Lygus</i> spp.) Psyllids+ Scorpions Spider Mites ³ Spiders Spittlebugs Thrips Tip Moths Treehoppers Twig Borers ² Wasps Weevils ² such as White Pine Weevil Pales Weevil Diaprepes adults	0.08 – 0.16 fl oz per 1,000 sq. ft. (3.6 – 7.2 fl oz per 100 gallons)	³ Spider Mites: LIBERTY BIFENTHRIN 2 EC provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher labeled rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer, as permitted by the label. 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 BIFENTHRIN 2 EC applications may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

Orchid Weevil White flies Zimmerman pine moths		
Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites ³	0.16 – 0.32 fl oz per 1,000 sq. ft. (7.2 – 14.4 fl oz per 100 gallons)	

**For foraging ants

BROADCAST SPRAYS TO TURFGRASS (including lawns, golf courses, sod farms, parks, etc).

Apply LIBERTY BIFENTHRIN 2 EC 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.

For low water volume usage, less than 2 gallons/1000 square feet, add a non-ionic or silicone based surfactant (0.25% v/v). Irrigation to treated area within a few hours following application can improve efficacy to listed sub-surface pests.

Restrictions:

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).

In New York State, do 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.

Spray Drift Precautions (For Turf & Ornamental Uses)

DO NOT apply when wind conditions favor downwind drift to nearby water bodies.

DO NOT apply when wind velocity exceeds 10 miles per hour. Avoid application when wind gusts approach 10 mph.

Apply using nozzles that provide the largest droplet size compatible with adequate coverage.

Turfgrass Application Rates

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 BIFENTHRIN 2 EC may be applied at up to 0.32 fl oz per 1000 square feet to control each of the pests listed in this table. Use the higher labeled application rates when maximum residual control is desired or heavy pest populations occur.

PEST	RATES
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	0.05 to 0.08 fl oz per 1,000 sq. ft.
Annual Bluegrass Weevil (<i>Hyperodes</i>) (Adult) ² Banks Grass Mite ⁶ Billbugs (Adult) ³ Black Turfgrass Ataenius (Adult) ⁴ Crickets Earwigs Grasshoppers Mealybugs Mites ⁶	0.08 to 0.16 fl oz per 1,000 sq. ft.
Ants* Chinch Bugs ⁵ Japanese Beetle (Adult) Mole Cricket (Adult) ⁷ Mole Cricket (Nymph) ⁸ *not including pharaoh, fire, harvester or carpenter ants	0.16 to 0.32 fl oz per 1,000 sq. ft.

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 0.32 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 (Carnes 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 turfgrass 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 this 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 labeled rates (up to 0.32 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 **Non-Biting 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 should be watered in 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:** Treat grass areas that received intense adult mole cricket pressure in the spring should be treated immediately 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 rates and more frequent applications, as permitted by the label, to maintain acceptable control. Apply as late in the day as possible and watered 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.

LIBERTY BIFENTHRIN 2 EC LAWN DILUTION CHART								
Application Volume: Gallons/ 1000 sq. ft.	Application Rate: Fl oz/ 1000 sq. ft.	Fluid Ounces (mL) of LIBERTY BIFENTHRIN 2 EC diluted to the Volumes of Finished Spray						
		1 Gallon		5 Gallons		10 Gallons		100 Gallons
		Fl oz	mL	Fl oz	mL	Fl oz	mL	Fl oz
1	0.05	0.05	1.48	0.25	7.39	0.50	14.8	5.00
1	0.08	0.08	2.37	0.40	11.83	0.80	23.7	8.00
1	0.16	0.16	4.73	0.80	23.66	1.60	47.3	16.00
1	0.32	0.32	9.46	1.60	47.32	3.20	94.6	32.00
2	0.05	0.025	0.74	0.13	3.70	0.25	7.4	2.50
2	0.08	0.040	1.18	0.20	5.91	0.40	11.8	4.00
2	0.16	0.080	2.37	0.40	11.83	0.80	23.7	8.00
2	0.32	0.160	4.73	0.80	23.66	1.60	47.3	16.00
3	0.05	0.017	0.49	0.08	2.46	0.17	4.9	1.67
3	0.08	0.027	0.79	0.13	3.94	0.27	7.9	2.67
3	0.16	0.053	1.58	0.27	7.89	0.53	15.8	5.33
3	0.32	0.107	3.15	0.53	15.77	1.07	31.5	10.67
4	0.05	0.013	0.37	0.06	1.85	0.13	3.7	1.25
4	0.08	0.020	0.59	0.10	2.96	0.20	5.9	2.00
4	0.16	0.040	1.18	0.20	5.91	0.40	11.8	4.00
4	0.32	0.080	2.37	0.40	11.83	0.80	23.7	8.00
5	0.05	0.010	0.30	0.05	1.48	0.10	3.0	1.00
5	0.08	0.016	0.47	0.08	2.37	0.16	4.7	1.60
5	0.16	0.032	0.95	0.16	4.73	0.32	9.5	3.20
5	0.32	0.064	1.89	0.32	9.46	0.64	18.9	6.40
10	0.05	0.005	0.15	0.03	0.74	0.05	1.5	0.50
10	0.08	0.008	0.24	0.04	1.18	0.08	2.4	0.80
10	0.16	0.016	0.47	0.08	2.37	0.16	4.7	1.60
10	0.32	0.032	0.95	0.16	4.73	0.32	9.5	3.20

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE AND SPILL PROCEDURES: Keep out of reach of children and animals. Store in original containers only, in a cool, dry place and avoid excess heat. **DO NOT** freeze. **DO NOT** store below 40 °F. Carefully open containers.

If crystals are observed, warm material to above 60 °F by placing container in warm location. Shake or roll container periodically to redissolve solids.

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.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, or commercial clay. If dry material, cover to prevent dispersal. 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.

DISPOSAL STATEMENTS:

Nonrefillable container: **DO NOT** reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. If recycling is not available puncture and dispose of in a sanitary landfill or by incineration or if allowed by state and local authorities by burning. If burned stay out of smoke.

For packages up to 5 gallons. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **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.

For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. 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.

For packages greater than 56 gallons: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For 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 from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

CONDITION 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.

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