



**OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION**

WASHINGTON, D.C. 20460

June 3, 2024

Blake Cowen  
Product Registration Manager  
Albaugh, LLC  
1525 NE 36<sup>th</sup> Street  
Ankeny, IA 50021

Subject: Label Amendment – Add uses for Sod Farms and Sunflowers and Bifenthrin  
Registration Review  
Product Name: Bifenthrin 17.15 FC  
EPA Registration Number: 45002-36  
Application Date: 2/28/2023  
Case Number: 479703 & 613486

Dear Blake Cowen:

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.

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.

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 Final and/or Interim Decision, and has concluded that your submission is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under 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 Elizabeth Andrews at 202-566-2467 or at [Andrews.Elizabeth@epa.gov](mailto:Andrews.Elizabeth@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Campbell", is positioned above the typed name.

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

Enclosure

**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 those uses covered by the certified applicator's certification.

**ACCEPTED**

06/03/2024

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 45002-36

BIFENTHRIN GROUP 3A INSECTICIDE

**BIFENTHRIN 17.15 FC**

[Alternate Brand Name: Lancer FC]  
SOIL INSECTICIDE

For mixing directly with liquid fertilizer to control listed soil insect pests.

**ACTIVE INGREDIENT:**

Bifenthrin: (2 methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate\*.....17.15%

OTHER INGREDIENTS: .....82.85%

TOTAL:..... 100.00%

\*Cis isomers 97% minimum, trans isomers 3% maximum.  
This product contains 1.5 LBS active ingredient per gallon.

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

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

**FIRST AID****IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- **DO NOT** induce vomiting unless told to do so by a poison control center or doctor.
- **DO NOT** give anything by mouth to an unconscious person.

**IF IN EYES:**

- 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.

**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 so should be avoided.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.  
**For non-emergency exposure information on this product, call 1-888-347-6732 (7 days/week, 24-hr). For medical emergencies, dial 911.**

[See [inside] booklet for [additional] [complete] [First Aid,] [Precautionary Statements,] [Directions For Use,] [Storage and Disposal,] [and] [Conditions of Sale and Warranty].]

For 24-hour chemical spill, leak, fire, exposure or accident response information, call CHEMTREC toll free at 1-800-424-9300.

EPA Reg. No. 45002-36

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

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

**MANUFACTURED FOR:**

Albaugh, LLC  
1525 NE 36th St.  
Ankeny, IA 50021

# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS & DOMESTIC ANIMALS

**WARNING.** May be fatal if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers (other than mixers and loaders) must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of: barrier laminate, butyl rubber ( $\geq 14$  mils), nitrile rubber ( $\geq 14$  mils), neoprene rubber ( $\geq 14$  mils), natural rubber ( $> 14$  mils), polyethylene, polyvinyl chloride (PVC) ( $\geq 14$  mils), or viton ( $\geq 14$  mils)
- Shoes plus socks

**Mixers and Loaders must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of: barrier laminate, butyl rubber ( $\geq 14$  mils), nitrile rubber ( $\geq 14$  mils), neoprene rubber ( $\geq 14$  mils), natural rubber ( $> 14$  mils), polyethylene, polyvinyl chloride (PVC) ( $\geq 14$  mils), or viton ( $\geq 14$  mils)
- Shoes plus socks
- Protective eyewear

**Mixers and loaders supporting aerial applications to cotton must wear at a minimum:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber ( $> 14$  mils), nitrile rubber ( $> 14$  mils), neoprene rubber ( $> 14$  mils), natural rubber ( $> 14$  mils), polyethylene, polyvinyl chloride (PVC) ( $> 14$  mils), or viton ( $> 14$  mils)
- Shoes plus socks

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

## USER SAFETY RECOMMENDATIONS

1. User should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. User should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
3. User should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

This pesticide is 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 while bees are visiting the treatment area. **Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to those organisms.**

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to

use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

## **DIRECTIONS FOR USE**

### **RESTRICTED USE PESTICIDE**

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

Do not apply this product 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:

1. Coveralls,
2. Chemical-resistant gloves, such as barrier laminate, butyl rubber (> 14 mils), nitrile rubber (> 14 mils), neoprene rubber (> 14 mils), natural rubber (> 14 mils), polyethylene, polyvinyl chloride (PVC) (> 14 mils), or viton (> 14 mils)
3. Shoes plus socks.

Mixers and loaders supporting aerial applications to cotton must wear at a minimum:

1. Long-sleeved shirt and long pants,
2. Chemical-resistant gloves, such as barrier laminate, butyl rubber (> 14 mils), nitrile rubber (> 14 mils), neoprene rubber (> 14 mils), natural rubber (> 14 mils), polyethylene, polyvinyl chloride (PVC) (> 14 mils), or viton (> 14 mils)
3. shoes plus socks

### **RESISTANCE MANAGEMENT**

BIFENTHRIN 17.15 FC contains a Group 3A Insecticide. Any insect population may contain individuals naturally resistant to BIFENTHRIN 17.15 FC and other Group 3A insecticides. The resistant individuals may dominate the insect population if this group of insecticides is 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 BIFENTHRIN 17.15 FC or other Group 3 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture.

In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):

- Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticidal activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
  - Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
  - Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
  - For further information, or to report suspected resistance, contact Albaugh LLC at 1-800-247-8013.

Base insecticide applications on comprehensive IPM programs. This program should include an insect management program that includes cultural and biological control where possible.

Use good resistance management strategies established for the use area. This may include the use of insecticide rotations or tank mixes with other groups of insecticide and miticides in an IPM program.

Always apply BIFENTHRIN 17.15 FC at the labeled rates and according to label directions. Do not use less than label rates alone or in tank mixtures unless directed otherwise in supplemental labeling supplied by Albaugh, LLC.

Monitor treated populations in the field for loss of control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain may be present. Immediately consult your local Albaugh, LLC representative or agricultural advisor for the best alternative method of control for your area.

Consult your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and /or IPM guidance for the specific site and resistant pest problems.

## **CHEMIGATION USE DIRECTIONS**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, drip irrigation, 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 diluents, 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 areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on theirrigation 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 functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distributions 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. BIFENTHRIN 17.15 FC should be applied continuously for the duration of the water application. BIFENTHRIN 17.15 FC should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inches 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.

## **APPLICATION AND MIXING INSTRUCTIONS**

BIFENTHRIN 17.15 FC is an insecticide that contains 1.5 LBS of bifenthrin per gallon. BIFENTHRIN 17.15 FC can be mixed directly with liquid fertilizer or with water. The rate of application is variable according to pest pressure, timing of treatments and field scouting. Use lower labeled rates under light to moderate pest infestations, and higher labeled rates under heavier pest pressure. In arid climates applications rates are generally higher. Fill the tank one-half full with liquid fertilizer or water and begin spray tank agitation. Add the proper amount of BIFENTHRIN 17.15 FC, and then add the rest of the fertilizer or water. Maintain agitation until the mixture has been applied.

Shake well before using.

Agitate the BIFENTHRIN 17.15 FC spray solutions in nurse tanks prior to moving the solution to spray system.

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.

BIFENTHRIN 17.15 FC can be applied in-furrow with the seed, as a T-band (band over the open furrow), as a broadcast application, as a band over the row, as a pre-emergent (PRE) application, as a pre-plant incorporated (PPI) application, as a foliar application (includes chemigation), or as a transplant-water drench during setting.

Use labeled rates in the individual crop sections for at-plant soil applications are listed as Fluid oz/1000 Linear ft based on 30-inch row spacings. For conversion to application rates applicable to other row spacings see the table below.

DO NOT exceed the maximum application rate per acre per year (LBS active ingredient /acre/year) as listed under the use directions for each crop. This yearly maximum includes at-plant plus foliar applications of BIFENTHRIN 17.15 FC and other products containing bifenthrin.



For at-plant applications, BIFENTHRIN 17.15 FC can be mixed with commonly used liquid starter or pop-up fertilizers. Follow liquid fertilizer recommendations regarding seed safety and use guidelines. Conduct a preliminary jar test using the appropriate ratio of fertilizer and BIFENTHRIN 17.15 FC. Do not allow a tank mixture to set overnight, but if this occurs agitate tank mixture prior to application.

<b>BIFENTHRIN 17.15 FC Required Per Acre for Various Row Spacings</b>					
<b>Row Spacing</b>	<b>36"</b>	<b>30"</b>	<b>20"</b>	<b>15"</b>	<b>Twin Row 30" centers</b>
Linear row ft/acre	14,520 ft	17,424 ft	26,136 ft	34,848 ft	34,848 ft
<b>Conversion</b>	<b>Fluid oz / acre</b>				
0.2 Fluid oz/1000 Linear ft =	2.9	3.5	5.2	7.0	7.0
0.24 Fluid oz/1000 Linear ft =	3.5	4.2	6.3	8.4	8.4
0.3 Fluid oz/1000 Linear ft =	4.4	5.2	7.8	10.5	10.5
0.39 Fluid oz/1000 Linear ft =	5.7	6.8	10.2	13.6	13.6
0.49 Fluid oz/1000 Linear ft =	7.1	8.5	12.8		
0.73 Fluid oz/1000 Linear ft =	10.6	12.7			
0.78 Fluid oz/1000 Linear ft =	11.3	13.6			
0.98 Fluid oz/1000 Linear ft =	14.2	17.1			
1.47 Fluid oz/1000 Linear ft =	21.3	25.6			

## **CROP ROTATION RESTRICTIONS**

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

## **TANK-MIXTURES**

BIFENTHRIN 17.15 FC 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. To ensure successful applications, product compatibility tests should be conducted.

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

## **MAXIMUM ALLOWABLE BIFENTHRIN 17.15 FC USE / ACRE / YEAR**

Refer to the individual crop sections for maximum allowable BIFENTHRIN 17.15 FC 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 months period. The 12 month period is to begin upon the initial application to the acre.

## **BUFFER ZONES**

### **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).
  - 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:



- The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
- Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
- A functional terrace system is maintained on the area of application.
- Water and sediment control basins for the area of application are functional and maintained.
- 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-OPP2008-0331-0175>

## **Buffer Zones to Water Bodies**

### **Ground Application**

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

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

- Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

### **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).

## **MANDATORY SPRAY DRIFT MANAGEMENT**

### **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 mph at the application site.
- 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.

### **Aerial Applications**

- Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (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 1/2 swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use 3/4 swath displacement upwind at the downwind edge of the field.
- 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. TAKE PRECAUTIONS TO MINIMIZE SPRAY DRIFT.**

### **IMPORTANCE OF DROPLET SIZE**

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

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

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

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

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

#### **BOOM HEIGHT – Ground Boom**

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

#### **RELEASE HEIGHT - Aircraft**

- Higher release heights increase the potential for spray drift.

### **SHIELDED SPRAYERS**

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

### **TEMPERATURE AND HUMIDITY**

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

### **TEMPERATURE INVERSIONS**

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

### **WIND**

- Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
- Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

**NON-TARGET ORGANISM ADVISORY STATEMENT:** 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.

### **POLLINATOR BEST MANAGEMENT PRACTICES**

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](mailto:beekill@epa.gov). To contact your state lead agency, see the current listing of state pesticide regulatory agencies at the National Pesticide Information Center's website: [http://npic.orst.edu/reg/state\\_agencies.html](http://npic.orst.edu/reg/state_agencies.html)

## CROP USE RATES

### ARTICHOKE

#### AT-PLANT

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Cribrate Weevil (Grubs)	8.5	0.49	0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed.

#### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Cribrate Weevil (Grubs)	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tankmixed and applied with PRE herbicides.
	PPI8.5	PPI0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. Do not incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.

#### FOLIAR

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Cribrate Weevil Artichoke Plume Moth	8.5	0.1	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals. <b>Application by ground:</b> Apply a full cover spray in a minimum of 75 gallons of finished spray per acre. <b>Application by air:</b> Apply specified dosage in a minimum of 10 gallons of finished spray per acre.
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> make more than 5 foliar applications per year.</li> <li><b>DO NOT</b> apply within 5 days of harvest.</li> </ul>			

#### Artichoke Restrictions:

- DO NOT** apply more than 0.5 lb ai/A per year including at-plant, PPI, PRE and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## BRASSICAS, HEAD AND STEM (CROP SUBGROUP 5A)

Broccoli, Chinese, Broccoli (gai lon, white flowering broccoli), Brussels Sprouts, Cauliflower, Cavalo broccoli, Kohlrabi, Cabbage, Chinese Cabbage (napa), and Chinese Mustard Cabbage (gai choy)

### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Army cutworm Armyworm species Cabbage maggot Cutworm species Grubs Root aphids Root maggot Seedcorn maggot Wireworm	3.4 – 6.8	0.2 – 0.39	0.04-0.08	Apply as a 5-7 inch band (T-band) over the open seed or transplant furrow, or in-furrow with the seed or transplant. Cutworm and armyworm treatments may be applied as broadcast treatments to the soil surface. May be applied through transplant water at time of transplanting
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> apply more than 0.1lb ai/A per year as an at-plant application</li> </ul>				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Root Aphids Root Maggots Seed corn maggot Wireworms	PRE 3.4 – 6.8	PRE 0.04 – 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE labeled herbicides and fungicides for pre-transplant application.
Garden Symphylans	PPI 3.4 – 6.8	PPI 0.04 - 0.08	DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting or transplant depth.

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Cutworms Corn Earworm Crickets Cucumber Beetles Diamondback Moth Flea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm	2.8 – 8.5	0.033 – 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.  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 - 2 quarts of emulsified oil may be substituted for 1 - 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

Whitefly Wireworm (adults) Black burrowing bug			
Banks Grass Mite Carmin Mite Lygus Species Pacific Spider Mite Two spotted Spider Mite	6.8 – 8.5	0.08 – 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> make more than 5 applications after bloom.</li><li>• <b>DO NOT</b> make applications less than 7 days apart.</li><li>• <b>DO NOT</b> apply within 7 days of harvest.</li></ul>			

**Brassicas, Head and Stem (Crop Subgroup 5A) Restrictions:**

- **DO NOT** apply more than 0.5 lb ai/A per year including At-Plant, PRE, PPI, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**BUSHBERRIES (CROP SUBGROUP 13-07B) (NOT REGISTERED FOR USE BY CALIFORNIA.)**

Aronia berry; blueberry, highbush; blueberry, lowbush; buffalo currant; Chilean guava; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); lingonberry; native currant; salal; sea buckthorn; cultivars, varieties, and/or hybrids of these

**At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Wireworm White Grubs	8.5	0.1	Apply as a (T-band) over an open furrow immediately prior to transplanting, or in-furrow with the transplant in sufficient water for planting. May also be applied as a solid drench with transplant water at time of transplanting.

**PPI (Site Preparation) & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Wire worm White Grubs Blueberry Maggot (larvae)	PRE 3.4 – 8.5	PRE 0.04 – 0.1	BIFENTHRIN 17.15 FC can be tankmixed and applied with PRE herbicides.
	PPI 8.5	PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides, insecticides and fungicides where allowed. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended planting depth.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Blueberry maggot Fruitworms Japanese beetle Leafhoppers Leaf rollers Lecanium scale (crawlers) Obliquebanded leafroller Plum curculio Red banded leafroller Spanworm Variegated leafroller Spotted Winged Drosophila	3.4 – 8.5	0.04 - 0.1	Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. Thorough coverage is essential to achieve control. Make application at the onset of infestation reaching locally determined economic thresholds.
Carmine Mite Lygus species Pacific Spider Mite Twospotted Spider Mite	6.8 - 8.5	0.08 - 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> make more than 5 foliar applications per year.</li><li>• <b>DO NOT</b> make applications less than 7 days apart.</li><li>• <b>DO NOT</b> apply within 1 day of harvest.</li></ul>			

**Bushberries (Crop Subgroup 13-07B) Restrictions:**

- **DO NOT** apply more than 0.5 lb ai/A per year including at-plant, PPE, PRE and foliar application of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**CANEBERRIES (Crop Subgroup 13-07A) (NOT REGISTERED FOR USE BY CALIFORNIA.)**

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

**At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Wireworm White grubs	8.5	0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow in sufficient water for planting, or in-furrow with the seed. May be applied through transplant water at time of transplanting.

**PPI (Site Preparation) & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Wireworm White Grubs	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI pesticides labeled for site preparation. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended planting depth.
	PPI 8.5	PPI 0.1	

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Leafrollers Orange Tortrix Root Weevils Spotted Winged Drosophila	4.3 – 8.5	0.05 - 0.1	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).
Raspberry Crown Borer Spider Mites	8.5	0.1	One application may be made pre-bloom and a second application can be made post-bloom.  For Crown Borer, apply 0.1 lb ai/a post harvest (fall) or pre bloom (spring), as a drench application directed at the crown of plants in a minimum of 200 gallons water per acre. Greater efficacy is observed at higher gallons (up to 400 gallons/a) or in an application prior to a significant rainfall event. Do not make both pre-bloom foliar and pre-bloom drench applications.

**Foliar Restrictions:**

- **DO NOT** make more than 2 foliar applications per year.
- One application may be made pre bloom and a second application may be made post bloom.
- **DO NOT** apply within 3 days of harvest.

**Caneberries (Crop Subgroup 07A) Restrictions:**

- **DO NOT** exceed 0.2 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.



**CANOLA, CRAMBE, RAPESEED (NOT REGISTERED FOR USE BY CALIFORNIA.)****At-Plant**

<b>PEST</b>	<b>USE RATES</b>		<b>DIRECTIONS</b>
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Stalkborer Sugarcane beetle True armyworm Wireworm	6.83	0.08	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed.

**PPI & PRE**

<b>PEST</b>	<b>USE RATES</b>		<b>DIRECTIONS</b>
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Stalkborer Sugarcane beetle True armyworm Wireworm (PPI only)	PRE 6.83	PRE 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides
	PPI 6.83	PPI 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.

**Foliar**

<b>PEST</b>	<b>USE RATES</b>		<b>DIRECTIONS</b>
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Cutworms Diamondback Moth Loopers Other Lepidopterous Larvae Flea Beetle Flea Hopper Grasshopper Plant Bug Stink Bugs Seedpod Weevil	2.8 - 3.4	0.033 - 0.04	<p>Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. .</p> <p>When applying by air, 1 - 2 quarts of emulsified oil may be substituted for 1 - 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.</p>

Thrips Whitefly			
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make 2 foliar applications per year.</li> <li>• <b>DO NOT</b> make applications less than 14 days apart.</li> <li>• <b>DO NOT</b> apply within 35 days of harvest.</li> </ul>			

**Canola, Crambe, and Rapeseed Restrictions:**

- **DO NOT** apply more than 0.08 lb ai/A per year including at-plant, PPI, PRE, and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## CILANTRO, CORIANDER

### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Armyworm species Cutworm species Flea beetle larvae Wireworm	3.4 – 6.8	0.2 – 0.39	0.04–0.08	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band) in-furrow with the seed, or broadcast to the soil surface.
<b>At-plant Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application.</li> </ul>				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Wireworms (PPI Only)	PRE 3.4 – 6.8    PPI 3.4 – 6.8	PRE 0.04 – 0.08    PPI 0.04 – 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides  BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Beet Armyworm Cabbage Looper Cutworm Flea beetle Grasshoppers Leafminer Saltmarsh caterpillar Spotted Cucumber beetle Thrips Whitefly	2.8 – 8.5	0.033 - 0.1	Apply using sufficient water to obtain uniform coverage.  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	6.8 – 8.5	0.08 - 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> make more than 5 foliar applications per year.</li> <li><b>DO NOT</b> make applications less than 7 days apart.</li> <li><b>DO NOT</b> apply within 3 days of harvest.</li> </ul>			

**Cilantro and Coriander Restrictions:**

- DO NOT** apply more than 0.5 lb ai/A per year including at-plant, PPI, PRE and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**CITRUS (Crop Group 10-10)**

Australian desert lime; Australian finger-lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; mount white lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these

**General Use Directions:**

When applied as directed, BIFENTHRIN 17.15 FC will provide control of the following pests listed in the table below. Apply BIFENTHRIN 17.15 FC by ground equipment to bare soil beneath citrus trees. BIFENTHRIN 17.15 FC must be uniformly applied from the trunk to the drip line of tree. Apply in a minimum of 40 gallons of dilute spray per acre. Greater spray volume should ensure uniformity of coverage. Perform a pre- and post-application irrigation may aid in the uniformity of coverage as well.

BIFENTHRIN 17.15 FC protects citrus tree roots from Diaprepes and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with BIFENTHRIN 17.15 FC as they attempt to burrow into the root zone. Minimize disturbance of the soil beneath trees.

Timing of BIFENTHRIN 17.15 FC applications is critical. Current information suggests that peak emergence of adult Diaprepes root weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture. Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern blue-green citrus root weevils, blue-green citrus root weevils and Fuller rose beetle typically exhibit a single emergence peak in the spring. Brown leaf notchers and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer and fall. Since emergence varies seasonally and by location, timing of BIFENTHRIN 17.15 FC application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2 to 3 weeks following adult emergence. It is critical to have the BIFENTHRIN 17.15 FC soil barrier in place prior to drop of the

neonates.

BIFENTHRIN 17.15 FC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of BIFENTHRIN 17.15 FC should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

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

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

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

#### BARE SOIL SURFACE UNDER DRIP LINE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Asian cockroach Fire ants ( <i>Solenopsis species</i> )	8.5 - 21.25	0.1 - 0.25	Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.
Blue Green Citrus Root Weevil Brown Leaf Notcher Diaprepes Root Weevil Little Leaf Notcher Southern Blue Green Citrus Root Weevil	21.25- 42.5	0.25 - 0.5	
<b>Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> allow any application of BIFENTHRIN 17.15 FC to contact fruit or foliage.</li><li>• <b>DO NOT</b> apply more than a total of 42.5 fluid ounces of formulated product (0.5 LBS active ingredient) per acre per year.</li><li>• <b>DO NOT</b> make more than 2 applications per year.</li><li>• <b>DO NOT</b> apply by air.</li></ul>			

## CORN

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

#### General Use Directions:

Heavy Corn Rootworm Pressure Management Program: In areas where large corn rootworm populations are present, a multi-approach system may be needed for optimal pest management. However, if the population level is not known and if a corn rootworm adult scouting program along with threshold adult control measures were not completed during the previous growing year, then utilize a maximum dosage seed treatment program or genetically modified corn rootworm resistant hybrid in addition to BIFENTHRIN 17.15 FC.

**At-Plant**

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Corn rootworm larvae (Northern, Southern and Western	8.5 – 17.0	0.49 - 0.98	0.1 - 0.2	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. For Army cutworm, Stalkborer, Cutworm species, True armyworm or Armyworm species, apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface.
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Stalkborer Sugarcane beetle True armyworm Wireworm	3.4 – 17.0	0.2 - 0.98	0.04 - 0.2	
<b>At-Plant Restrictions:</b> <ul style="list-style-type: none"><li><b>DO NOT</b> apply more than 0.2 LBS active per acre per year as an at-plant application.</li></ul>				

**PPI & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Armyworm species Black Cutworm Grape colaspis Seed corn beetle Seed corn maggot White Grub Wireworm	PPI 4 to 5.3	PPI 0.047 to 0.062	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.
Armyworm species Black Cutworm Seed corn beetle Stalkborer	PRE 3.4	PRE 0.04	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm <sup>1</sup> Corn Rootworm	2.8 – 8.5	0.033 - 0.1	Apply in a minimum of 2-5 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.

Adults Cucumber Beetle Adult Cutworm species European Corn Borer <sup>2</sup> Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer <sup>2</sup> Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm species Webworms Western Bean Cutworm Yellowstriped Armyworm			<p>When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p>Thorough coverage is essential to achieve control.</p> <p><b><sup>1</sup>To Control Ear Attacking Pests:</b> Apply BIFENTHRIN 17.15 FC just before silking and repeat as necessary to maintain control.</p> <p><b><sup>2</sup>Southwestern Corn Borer, European Corn Borer:</b> Make application for corn borer control with initial application at or shortly before egg hatch.</p> <p><b>For Control of Other Insect Pests:</b> Apply when pests first appear and repeat as necessary.</p> <p><b><sup>3</sup>For Control of Mites:</b> 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><b>For Twospotted Spider Mite and Carmine Mite control,</b> 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 experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.</p> <p><b>For Mite Control in Texas, New Mexico, Oklahoma, and Arizona:</b> Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment</p>
Banks Grass Mite <sup>3</sup> Carmine Mite <sup>3</sup> Twospotted Spider Mite <sup>3</sup>	6.8 – 8.5	0.08 - 0.1	

#### Foliar Restrictions:

- For field corn
  - **DO NOT** make more than 3 foliar applications per year.
  - **DO NOT** apply within 30 days of harvest for field corn (grain and silage), popcorn, field corn grown for seed.
  - **DO NOT** graze livestock in treated areas or cut treated crops for feed within 30 days of the last application for field corn (grain and silage), popcorn, field corn grown for seed.
- For sweet corn
  - **DO NOT** make more than 2 foliar applications per year .
  - **DO NOT** apply within 1 day of harvest for sweet corn or sweet corn grown for seed.
  - **DO NOT** graze livestock in treated areas or cut treated crops for feed within 1 day of the last application for sweet corn or sweet corn grown for seed.
- 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.

#### Corn Restrictions:

- For field corn
  - **DO NOT** apply more than 0.3 lb ai/A total per year including PPI, at-plant, pre-emergence, and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin products.
- For sweet corn
  - **DO NOT** apply more than 0.2 lb ai/A total per year including PPI, at-plant, pre-emergence, and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin products.

# COTTON (NOT REGISTERED FOR USE BY CALIFORNIA.)

## At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Cutworm spp White Grub Wireworm Grape colaspis Root Maggot Seedcorn Maggot	1.7 – 8.5	0.1 – 0.5	0.02 – 0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed.

## PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Cutworm species	PRE 3.4-8.5	PRE 0.04 - 0.1	
Cutworm species White Grub Wireworm Grape colaspis Root maggot Seedcorn maggot	PPI 3.4 – 8.5	PPI 0.04 - 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.

## Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	1.7 – 8.5	0.02 - 0.1	Apply as needed using sufficient water to obtain uniform coverage. Apply with ground equipment using a minimum of 5 gallons of finished spray per acre or a minimum of 1 gallon per acre by aircraft. BIFENTHRIN 17.15 FC may be applied in water or refined vegetable oil (soybean/cottonseed).
Boll Weevil <sup>1</sup> Bollworm Cabbage Looper Cotton Aphid <sup>2</sup> Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellow Striped Armyworm	3.4 – 8.5	0.04 - 0.1	<p><b>Application in Water:</b> Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.</p> <p><b>ULV Application:</b> Apply the labeled rate of BIFENTHRIN 17.15 FC in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.</p> <p><b><sup>1</sup>Boll Weevil:</b> Apply BIFENTHRIN 17.15 FC at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.</p> <p><b><sup>2</sup>Aphids and Mites:</b> Apply when pests first appear. Repeat as necessary to maintain control. Higher labeled rates will be required once a damaging threshold is established.</p>



Beet Armyworm Carmine Spider Mite <sup>2</sup> Lygus species Pink Bollworm Twospotted Spider Mite <sup>2</sup>	5.1 – 8.5	0.06 - 0.1
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 5 foliar applications per year except in California.</li> <li>• For California, <b>DO NOT</b> make more than 3 foliar applications per year.</li> <li>• <b>DO NOT</b> apply within 14 days of harvest.</li> <li>• <b>DO NOT</b> graze livestock in treated areas or cut treated crops for feed.</li> </ul>		

#### Cotton Restrictions:

- **DO NOT** apply more than 0.5 lb ai/A per year including at-plant, PRE, PPI, and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products in all states except in California
  - For California do not apply more than 0.3 LBS active per acre per year.
- **DO NOT** make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing year.

### CUCURBITS (Crop Group 9)

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

#### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Cucumber beetle larvae	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting.
Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs True Armyworm Wireworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	<p>To control cucumber beetle larvae, apply as a 5 to 7 inch band over an open furrow (T-band), or in-furrow with the seed.</p> <p>To control wireworm, grubs, and flea beetle larvae, apply as a 5 to 7 inch band over an open furrow (T-band), or in-furrow with the seed or transplant</p> <p>To control army cutworm, cutworm species, true armyworm and armyworm species, apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, broadcast to the soil surface or banded over the row.</p>
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application</li> </ul>				

**PPI & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Seed Corn Maggot Wireworms Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs True Armyworm	PRE 6.8 – 8.5	PRE 0.08 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides. Apply through drip of drip tape. Apply when soil is moist towards the end of the irrigation run.
	PPI 6.8 – 8.5	PPI 0.08 - 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. DO NOT incorporate BIFENTHRIN FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth. Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Cabbage Looper Corn Earworm Cucumber beetles Cutworms Grasshopper Leafhoppers Melonworm Pickleworm Plant Bug Rindworm Squash Bugs Squash Vine Borer Stink Bugs Tobacco Budworm	3.4 – 8.5	0.04 – 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds  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 1-2 quarts of emulsified oil may be substituted for 1 – 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control
Carmin Mite Lygus species Mite Twospotted Spider Mite Whitefly	6.8 – 8.5	0.08 – 0.1	

**Foliar Restrictions:**

- **DO NOT** make more than 3 foliar applications 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

**Cucurbits (Crop Group 9) Restrictions:**

- **DO NOT** apply more than 0.3 lb ai/A per year including At-plant, PRE & PPI, and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**DRIED BEANS AND PEAS (Crop Subgroup 6C)**

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

pea., purple hulled peas

### At-Plant

At Plant				
PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Corn rootworm larvae	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5 to 7 inch band over the row on the soil surface, 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. Apply broadcast to the soil surface for control of Armycutworm, Cutworm species, True armyworm, or Armyworm species.
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root maggot True armyworm Wireworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"><li><b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application.</li></ul>				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species	PRE 6.8 – 8.5	PRE 0.08 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides. Apply in a minimum of 10 gallons per acre.
Grape colaspis Grubs Root maggot True armyworm Wireworm (PPI only)	PPI 6.8 – 8.5	PPI 0.08 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre.

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers	2.1 – 8.5	0.025 – 0.1	Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. Thorough coverage is essential to achieve control.
Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetles Cutworms European Corn Borer Fall Armyworm	2.8 – 8.5	0.033 – 0.1	When applying by air 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control

Grasshoppers Imported cabbageworm			
Japanese beetle (Adult) Leafminer Loopers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bug Saltmarsh caterpillar Sap Beetle Southern Armyworm Stink Bugs Tarnished Plant Bug Thrips Twospotted Spider Mite Tobacco budworm Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm			
Banks Grass Mite Carmin Mite Lygus Species	6.8 - 8.5	0.08 – 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 2 foliar applications to peas and 3 foliar applications to beans.</li> <li>• <b>DO NOT</b> apply within 14 days of harvest</li> <li>• <b>DO NOT</b> make applications less than 7 days apart</li> </ul>			

**Dried Beans and Peas (Crop Subgroup 6C) Restrictions:**

- **DO NOT** apply more than 0.2 lb ai/A to peas, or 0.3lb ai/A to beans per year including At-Plant, PRE & PPI, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## EGGPLANT

### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grubs Root maggot True armyworm Wireworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the transplant or seed. Apply broadcast to the soil surface for control of Army Cutworm, Cutworm species, True Armyworm or Armyworm species.
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application.</li> </ul>				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grubs Root maggot True armyworm Wireworm	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides Post Plant Soil Applied: Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run.
	PPI 3.4 – 8.5	PPI 0.04 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. DO NOT incorporate BIFENTHRIN FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth. Post Plant Soil Applied: Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Armyworms (Including Beet) Armyworm Fall Armyworm Southern Cabbage Looper Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper weevil Plant Bug Stink Bug Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly Yellowstriped Armyworm	2.8 – 8.5	0.033 – 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.  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, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.  Thorough coverage is essential to achieve control.
Banks Grass Mite Broad Mite Carmine Mite Lygus species Pacific Spider Mite Twospotted Spider Mite	6.8 – 8.5	0.08 – 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li><li>• <b>DO NOT</b> make applications less than 7 days apart.</li><li>• <b>DO NOT</b> apply within 7 days of harvest.</li></ul>			

**Eggplant Restrictions:**

- **DO NOT** apply more than 0.2 lb ai/A per year including At-Plant, PRE & PPI, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**GRAPES (NOT REGISTERED FOR USE BY CALIFORNIA.)****At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape Phylloxera (suppression only) White Grubs Wireworms	8.5	0.1	Apply at time of planting over an open furrow in sufficient water for planting. May be applied through transplant water at time of transplanting.

**PPI (Site Preparation) & PRE**

<b>PEST</b>	<b>USE RATES</b>		<b>DIRECTIONS</b>
	Fluid oz/acre	LBS ai/acre	
Vine Mealybug Grape Phylloxera (suppression only)	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides. Post Plant Soil Applied: Apply through drip or Drop Tape. Apply when soil is moist towards the end of the irrigations run.
	PPI 8.5	PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI pesticide labeled for site preparation. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth. Post Plant Soil Applied: Apply through drip or Drop Tape. Apply when soil is moist towards the end of the irrigations run.

**Foliar**

<b>PEST</b>	<b>USE RATES</b>		<b>DIRECTIONS</b>
	Fluid oz/acre	LBS ai/acre	
Cutworms Eastern Grape Leafhopper Grape Berry Moth Japanese Beetles Adults Lady Beetle (Scymnus spp.) Variegated Leafhopper Western Grape Leafhopper Grapevine root borer	4.3 – 8.5	0.05 - 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.  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. When pest pressure is moderate to severe, use higher labeled rate.
Black Vine Weevil Glassywinged Sharpshooter Twospotted Spider Mite	8.5	0.1	

**Foliar Restrictions:**

- **DO NOT** make more than 1 foliar applications per year.
- **DO NOT** apply within 30 days of harvest.

**Grape Restrictions:**

- **DO NOT** apply more than 0.10 lb ai per acre per year including at-plant, PPI, PRE and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.



## HEAD LETTUCE

### At-Plant

At Plant				
PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Rootworm larvae	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, armyworm species, or bulb mites.
Army cutworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	
Armyworm species				
Bulb mites				
Cutworm species				
Grubs				
Lettuce root aphid				
Root maggot				
True armyworm				
Wireworm				
<b>At Plant Restrictions:</b>				
• <b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application.				

### PPI

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Lettuce Root Aphid Garden Symphians	6.8-8.5	0.08 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. Do not incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate to a depth close to the intended depth.

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Corn earworm Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Imported Cabbageworm Leafhoppers Loopers Salt Marsh Caterpillar Stink Bug species Tobacco Budworm Whitefly	2.8 – 8.5	0.033 – 0.1	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, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.  Thorough coverage is essential to achieve control.
Carmin Mite Lygus Species Twospotted Spider Mite	6.8 – 8.5	0.08 – 0.1	

**Foliar Restrictions:**

- **DO NOT** make more than 5 foliar applications per year.
- **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply within 7 days of harvest.

**Head Lettuce Restrictions:**

- **DO NOT** apply more than 0.5 lb ai/A per year including At-Plant, PRE & PPI, and Foliar applications BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**HOPS (NOT REGISTERED FOR USE BY CALIFORNIA.)****At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Sweet potato flea beetle White grub Wireworms	5.1 – 8.5	0.06 - 0.1	Apply in a T-band that ensures coverage of the entire furrow, immediately prior to planting, or at planting. May also be applied as a soil drench with transplant water at time of transplanting.  Apply in a minimum of 10 gallons per acre of spray.

**Lay-By**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Wireworms White grub	5.1 – 8.5	0.06 - 0.1	Apply BIFENTHRIN 17.15 FC to the transplant area and incorporate with cultivation equipment set to throw soil towards the hill. Apply in a minimum of 10 gallons per acre of spray

**PPI**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Wireworms White grub	PPI 5.1 – 8.5	PPI 0.06 – 0.1	Apply BIFENTHRIN 17.15 FC to the transplant area and incorporate to planting depth. Apply in a minimum of 10 gallons per acre of spray. May be applied as a broadcast application or an incorporated band application

**PRE & Post Plant Soil Applied**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Wireworms White grub	PRE 5.1 – 8.5	PRE 0.06 – 0.1	Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Cutworms Leafrollers Loopers Root Weevils	5.1 – 8.5     4.3 – 8.5	0.06 - 0.1     0.05 to 0.1	<b>Application by ground:</b> 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. <b>For Root Weevil control,</b> make a directed spray to the base of the plant. Spray up the vine 3 feet and

Twospotted spider mite	8.5	0.1	the soil surface 1.5 to 2 feet on either side of the plant. <b>Application by air for late season control of twospotted spider mites:</b> Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per acre.
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 0.1 lb ai per acre per application.</li> <li>• <b>DO NOT</b> make more than 3 foliar applications per year.</li> <li>• <b>DO NOT</b> make applications less than 21 days apart</li> <li>• <b>DO NOT</b> apply within 14 days of harvest.</li> </ul>			

**Hops Restrictions:**

- **DO NOT** exceed 0.3 lb ai per acre per year including at-plant, PRE, PPI, Lay-by and Foliar application of BIFENTHRIN 17.15 FC and other bifenthrin containing products.
- Use of ultra low volume (ULV) application on hops is prohibited.

**LEAFY BRASSICAS (Crop Subgroup 5B), TURNIP GREENS**

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

**At-Plant**

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Rootworm larvae	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5-7 inch band over the row on the soil surface, a 5-7 inch band over the open furrow (T-band), or in-furrow with the seed or transplant. May be applied through transplant water at time of transplanting. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm or armyworm species.
Army cutworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	
Armyworm species				
Cutworm species				
Grubs				
Lettuce root aphid				
Root maggot				
True armyworm				
Wireworm				
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"><li><b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application</li></ul>				

**PPI & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Lettuce root aphid	PRE 3.4 – 6.8	PRE 0.04 – 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides. Post Plant Soil Applied: Apply through drip or drip tape. Apply when soil is moist towards the end of the irrigation run.
Root Maggots			
Wireworms			
Army cutworm			
Armyworm species			
Cutworm species	PPI 3.4 – 6.8	PPI 0.04 – 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. DO NOT incorporate BIFENTHRIN FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth. Post Plant Soil Applied: Apply through drip or drip tape. Apply when soil is moist towards the end of the irrigation run.
Flea beetle larvae			
Grubs			
True Armyworm			

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Corn Earworm Cutworms Crickets Cucumber Beetles Diamondback Moth Flea Beetles Grasshoppers Ground Beetles Imported Cabbageworm Japanese Beetle (adult) Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Tobacco Budworm Thrips Whitefly Wireworm (adults)	2.8 – 8.5	0.033 – 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds. 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, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

Banks Grass Mite Carmin Mite Lygus species Pacific Spider Mite Twospotted Spider Mite	6.8 – 8.5	0.08 – 0.1	
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**Foliar Restrictions:**

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply within 7 days of harvest.

**Leafy Brassica (Crop Subgroup 5B) and Turnip Greens Restrictions:**

- **DO NOT** apply more than 0.4 lb ai/A per year including at-plant, PPI, PRE, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**LEAFY PETIOLE VEGETABLES (Crop Subgroup 4B) (NOT REGISTERED FOR USE BY CALIFORNIA.)**

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

**At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Lettuce Root Aphid Garden Symphlans Cutworm spp.	3.4 – 8.5	0.04 – 0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting.

**PPI & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs True Armyworm Wireworm True armyworm	PRE 3.4 – 8.5  PPI 8.5	PRE 0.04 – 0.1  PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with labeled PRE pesticides.  BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth.

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Corn Earworm Crickets Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (adults)	3.4 – 8.5	0.04 - 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds. Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons of finished spray per acre with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.
Banks Grass Mite Carmine Mite Lygus species Pacific Spider Mite Twospotted Spider Mite	6.8 - 8.5	0.08 - 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 5 foliar applications per year.</li> <li>• <b>DO NOT</b> make applications less than 7 days apart.</li> <li>• <b>DO NOT</b> apply within 7 days of harvest.</li> </ul>			

**Leafy Petiole Restrictions:**

- **DO NOT** apply more than 0.5 lb. active ingredient per acre per year including at-plant, PPI, PRE and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## MAYHAW (NOT REGISTERED FOR USE BY CALIFORNIA.)

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
White Grub Wireworm	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with labeled PRE pesticides
	PPI 8.5	PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI pesticides labeled for site preparation. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth.

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Plum Curculio	6.8 – 8.5	0.08 - 0.1	Apply foliar treatments in at least 28 gallons per acre
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li> <li>• Apply no more than once every 7 days.</li> <li>• <b>DO NOT</b> apply within 30 days of harvest</li> </ul>			

### Mayhaw Restrictions:

- **DO NOT** apply more than 0.2 lb ai per acre per year including at-plant, PRE, PPI and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## OKRA

### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Armyworm Cutworm spp Flea beetle larvae Grape colaspis Root maggot Wireworm White Grub	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface.

### At-Plant Restrictions:

**DO NOT** apply more than 0.1 lb ai/A per year as an at-plant application

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Cutworm spp	PRE 3.4 – 8.5	PRE 0.04 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI or PRE herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed

Cutworm species Flea beetle larvae Wireworm White Grub Grape colaspis Root maggot	PPI 3.4-8.5	PPI 0.04 to 0.1	planting depth.
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#### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms Corn earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Japanese Beetle (Adult) Leafminers Loopers Stink bugs Thrips Whitefly	2.8 – 8.5	0.033 - 0.1	Apply as needed using sufficient water to obtain uniform coverage.  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.
Broad Mite Carmine Mite Lygus species Twospotted Spider Mite	6.8 – 8.5	0.08 - 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li><li>• <b>DO NOT</b> make applications less than 7 days apart.</li><li>• <b>DO NOT</b> apply within 7 days of harvest.</li></ul>			

#### Okra Restrictions:

- **DO NOT** apply more than 0.2 lb ai/A per year including At-Plant, PRE & PPI, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin products.

### PEANUT (NOT REGISTERED FOR USE BY CALIFORNIA.)

#### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Thrips, Leafhoppers, Aphids, and Wireworms	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed.

#### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Beet Armyworm Corn Earworm			Apply in a minimum of 10 gallons per acre with ground equipment or 2 gallon per acre by air



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	2.8 – 8.5	0.033 – 0.1	craft.
Aphids Spider Mites Thrips Whitefly	6.8 – 8.5	0.08 - 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> make 5 foliar applications per year.</li><li>• <b>DO NOT</b> make applications less than 14 days apart</li><li>• <b>DO NOT</b> apply within 14 days of harvest.</li><li>• <b>DO NOT</b> feed green immature plants and peanut hay to livestock.</li></ul>			

**Peanut Restrictions:**

- **DO NOT** apply more than 0.5 lb ai per acre per year including at-plant, PPI, PRE and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**PEARS (NOT REGISTERED FOR USE BY CALIFORNIA.)**

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Codling Moth Cutworms Green Fruitworm Leafhoppers Leafminers Leafrollers Lygus species Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs Tarnished Plant Bugs	3.4 – 17.1	0.04 - 0.2	<b>Application by ground:</b> 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.  <b>Application by air:</b> Apply the specified dosage in a minimum of 10 gallons per acre by air.
Twospotted Spider mite	5.1 – 17.1	0.06 - 0.2	

Yellow Mite		
European Red Mite	6.8 – 17.1	0.08 - 0.2
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 0.5 lb ai/A of BIFENTHRIN 17.15 FC and other bifenthrin containing products with no more than 0.45 lb ai/A applied after petal fall.</li> <li>• <b>DO NOT</b> make more than 3 applications per year.</li> <li>• <b>DO NOT</b> make applications less than 30 days apart.</li> <li>• Apply up to 14 days prior to harvest.</li> <li>• <b>DO NOT</b> graze livestock in treated orchards or cut treated cover crops for feed</li> </ul>		

## PEPPERS (BELL and NON-BELL) & PEPINO

### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Army Cutworm Armyworm species Cutworm species Flea beetle larvae Grubs Pepper maggot Root aphid Root maggot Stalk borer True armyworm Wireworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the transplant or seed. May be applied through transplant water at time of transplanting. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, Armyworm species, or Stalk Borer.
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application</li> </ul>				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs True Armyworm Wireworm	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides Post Plant Soil Applied: Apply through drip or drip tape. Apply when soil is moist towards the end of the irrigation run.
	PPI 3.4 – 8.5	PPI 0.04 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth. Post Plant Soil Applied: Apply through drip or drip tape. Apply when soil is moist towards the end of the irrigation run.

**Foliar**

USE RATES		DIRECTIONS	
PEST	Fluid oz/acre		LBS ai/acre
Armyworms (Including Beet) Armyworm Fall Armyworm Southern Cabbage Looper Colorado Potato Beetle Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper weevil Plant Bug Stink Bug Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly Yellowstriped Armyworm	2.8 – 8.5	0.033 - 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.  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.
Broad Mite Carmine Mite Lygus species Pacific Spider Mite Twospotted Spider Mite	6.8 – 8.5	0.08 - 0.1	
Foliar Restrictions: <ul style="list-style-type: none"><li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li><li>• <b>DO NOT</b> make applications less than 7 days apart.</li><li>• <b>DO NOT</b> apply within 7 days of harvest.</li></ul>			

**Pepper (Bell and Non-Bell) Restrictions:**

- **DO NOT** apply more than 0.2 lb ai/A per year including at-plant, PPI, PRE and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**ROOT CROPS (Except Sugar Beets and Garden Beets) (Crop Subgroup 1B) (NOT REGISTERED FOR USE BY CALIFORNIA.)**

Burdock Edible, Carrot, Celeriac, Chervil Turnip Rooted, Chicory, Garden Beet, Ginseng, Horseradish, Turnip Rooted Parsley, Parsnip, Radish, Radish Oriental, Rutabaga, Salsify, Salsify Black, Salsify Spanish, Skirret, and Turnip.

**At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Crown and Root Aphids Flea Beetles	8.5	0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting.

Cutworms Seedcorn and Root Maggots Wireworms			
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#### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Crown and Root Aphids	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides.
Flea Beetles Cutworms Seedcorn and Root Maggots Wireworms	PPI 8.5	PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled herbicides. <b>DO NOT</b> incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth.

#### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Beet Armyworm Celery Leaf Tier Corn Earworm Cross Striped Cabbageworm Cutworms Diamondback Moth European Corn Borer Fall Armyworm Fire Ants Flea Beetles Green Cloverworm Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped Armyworm	6.8 – 8.5	0.08 - 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.  Apply foliar treatments in at least 25 gallons per acre.

#### Foliar Restrictions:

- DO NOT make more than 5 foliar applications per year.
- **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply within 21 days of harvest.

#### Root Crops Restrictions:

- **DO NOT** apply more than 0.5 lb ai per acre per year including at-plant, PRE, PPI and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## GARDEN BEETS (NOT REGISTERED FOR USE BY CALIFORNIA.)

### At-Plant

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Crown and Root Aphids Flea Beetles Cutworms Seedcorn and Root Maggots Wireworms	8.5	0.1	Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. May be applied through transplant water at time of transplanting.

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Crown and Root Aphids	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE pesticides
Flea Beetles Cutworms Seedcorn and Root Maggots Wireworms	PPI 8.5	PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth.

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
<b>Garden Beet Pests Only</b> Aphids Fire Ants Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	6.8 – 8.5	0.08 - 0.1	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic thresholds.  Apply foliar treatments in at least 25 gallons per acre.
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 4 foliar applications per year.</li> <li>• <b>DO NOT</b> make applications less than 7 days apart</li> <li>• <b>DO NOT</b> apply within 1 day of harvest</li> </ul>			

### Garden Beets Restrictions:

- **DO NOT** apply more than 0.4 lb ai per acre per year including at-plant, PRE, PPI and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## Grass Forage, Fodder, and Hay Group and Grass Grown for Seed, Pasture and Rangeland

bahiagrass, barnyardgrass, bentgrass, Bermudagrass, Kentucky bluegrass, big bluestem, smooth brome grass, buffalograss, reed canarygrass, centipedegrass, crabgrass, cupgrass, dallisgrass, sand dropseed, Kentucky fescue, meadow foxtail, eastern gramagrass, side-oats grama, guinea grass, Indian grass, Johnsongrass, lovegrass, napiergrass, oatgrass, orchardgrass, pangolagrass, paspalum, redtop, Italian ryegrass, St. Augustine grass, sprangletop, squirreltailgrass, stargrass, switchgrass, timothy, crested wheatgrass, wildrye grass and zoysia grass. Also included are sudangrass and sorghum forages and their hybrids.

**NOTE: Use on grasses is limited to the States of Idaho, Oregon, and Washington.**

#### At-Plant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root maggot True armyworm Wireworm	8.5	0.39	0.1	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species. Apply in a minimum of 5 gallons per acre when applied as an in-furrow or T-band application.

#### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root maggot True armyworm Wireworm (PPI only)	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides Apply in a minimum of 10 gallons per acre.
	PPI 8.5	PPI 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre.

#### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Alfalfa Caterpillar Alfalfa Looper Alfalfa Weevil Banks Grass Mite Blue Alfalfa Aphid <sup>1</sup> Carmine Mite Cutworms Egyptian Alfalfa Weevil (larvae & adult) Flea Beetles Green Cloverworm Green Peach Aphid <sup>1</sup> Hornworms Lygus species Meadow Spittlebug Pea Aphid <sup>1</sup> Potato Leafhopper Spotted Alfalfa Aphid <sup>1</sup> Threecornered Alfalfa Hopper	8.5	0.1	Apply as insects appear in sufficient volume of water to ensure thorough coverage of foliage. Use higher labeled dosage for increased pest pressure or for increased residual pest control. Do not exceed maximum allowable rate.  Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment.  Higher volumes of finished spray may improve insect control under high temperatures, when foliage is dense and/or when insect pressure is high.

Velvetbean Caterpillar Webworms Armyworm, southern Armyworm, true Armyworm, yellowstriped Ant spp. Cereal Leaf Beetle Chinch Bug Cricket Grass Mealybug Grasshoppers Range caterpillar Stink Bugs Armyworm, fall Black Grass Bug Hunting Bill Bug Plant Bug spp.			
<sup>1</sup> Aphid control may be variable depending on species present and host-plant relationships  <b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li> <li>• <b>DO NOT</b> apply within 30 days of harvest for forage and hay</li> <li>• <b>DO NOT</b> make applications less than 14 days apart</li> </ul>			

**Grass Forage, Fodder, Hay Group and Grass Grown for Seed, Pasture, and Rangeland Restrictions:**

- **DO NOT** apply more than 0.2 lb. active ingredient per year including At-Plant, PRE & PPI, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**SOD FARMS**

**At-Plant**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBSai/acre	
Cutworms <sup>1</sup> White Grub Wireworm Crickets Earwigs Ants Chinch Bugs <sup>5</sup> Imported Fire Ants <sup>8</sup>	8.5	0.1	Apply as a 5 to 7-inch band (T-band) over an open furrow, or in-furrow with the seed.

**PPI & PRE**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Cutworms <sup>1</sup> White Grub	PRE 8.5	PRE 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI and PRE

Wireworm Crickets Earwigs Ants Chinch Bugs <sup>5</sup> Imported Fire Ants <sup>8</sup>	PPI 8.5	PPI 0.1	herbicides. Do not incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate to a depth should be close to the intended seed planting depth.
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### Foliar

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Armyworms <sup>1</sup> Cutworms <sup>1</sup> Sod Webworm <sup>1</sup>	2.8 – 17.42	0.066 - 0.4	0.033- 0.2	Apply as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests including mole crickets. BIFENTHRIN 17.15 FC may be applied at up to 0.4 fluid oz. per 1000 square feet to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.
Annual Bluegrass Weevil (Hyperodes) (Adult) <sup>2</sup> Banks Grass Mite <sup>6</sup> Billbugs (Adults) <sup>3</sup> Black Turfgrass Ataenius (Adult) <sup>4</sup> Crickets Earwigs Fleas (Adult) Grasshoppers Mealybugs Mites <sup>6</sup>	4.35 - 17.42	0.1 - 0.4	0.05 - 0.2	
Ants Chinch Bugs <sup>5</sup> Fleas (Larvae) <sup>7</sup> Imported Fire Ants <sup>8</sup> Japanese Beetle (Adult) Mole Cricket (Adult) <sup>9</sup> Mole Cricket (Nymph) <sup>10</sup> Ticks <sup>11</sup>	8.7- 17.42	0.2 - 0.4	0.1 - 0.2	

<sup>1</sup>**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 labeled application rates (up to 0.4 fluid oz. per 1000 square feet) may be required during periods of high pest pressure.

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

<sup>3</sup>**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.

<sup>4</sup>**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 the blooming of Rose of Sharon (*Hibiscus syriacus*).

<sup>5</sup>**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 application rates (up to 0.4 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

<sup>6</sup>**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.

<sup>7</sup>**Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with this product at 0.1 fluid oz. per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

<sup>8</sup>**Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Apply broadcast treatments with 0.4 fluid oz. per 1,000 square feet. Treat mounds by diluting 0.05 fluid oz of BIFENTHRIN 17.15 FC per gallon of water and applying 1 to 2 gallons of finished spray per mound. Treat the mounds with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. Treat a four foot diameter circle around the mound. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours.

<sup>9</sup>**Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Apply as late in the day as possible and water 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).

<sup>10</sup>**Mole Cricket nymphs:** 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 application rates and more frequent applications to maintain acceptable control. Apply as late in the day as possible and water 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.

<sup>11</sup>**Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application must be limited to no more than once per seven days.

**Deer ticks (*Ixodes sp.*)** have a complicated life cycle that ranges over a two year period and involves four life stages. Apply in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Apply as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

#### Sod Farm Restrictions:

- Do not apply more than 0.2 lb ai/A per application.
- 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, make a single repeat application of this product if there are no signs of renewed insect activity, but not sooner than two weeks after the first application.

## SOYBEANS

### At-Plant

At Plant				
PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Rootworm larvae	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed. Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species.
Army cutworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	
Armyworm species				
Cutworm species				
Grape colaspis				
Grubs				
Root maggot				
Seed corn beetle				
Seedcorn maggot				
True armyworm				
Wireworm				
Bean Leaf Beetle				
Larvae				
<b>At Plant Restrictions:</b>				
• <b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Armyworm species	PRE	PRE	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides.
Black Cutworm	3.4	0.04	
Armyworm species	PPI 4 - 5.3	PPI 0.047 - 0.062	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth.
Black Cutworm			
Seed corn beetle			
Stalkborer			
Bean leaf Beetle			
Larvae			
Seed corn Maggot			
White Grub			
Wireworm			

**Foliar**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Alfalfa Caterpillar Aphids Armyworms Bean Leaf Beetle Blister Beetle species Corn Earworm Corn Rootworm Adult Cowpea Curculio Cucumber Beetle Adult Cutworms Dectes Stem Borer European Corn Borer False Cinch Bug Flea Beetle Grasshoppers Green cloverworm Hornworms Imported Cabbageworm Japanese Beetle Adult Leaf Skeletonizer species Leafhoppers Leafminers Adults Lesser Cornstalk Borer Loopers Kudzu Bug Mexican Bean Beetle Painted Lady (Thistle) Caterpillar Pea Leaf Weevil Saltmarsh Caterpillar Seedcorn Maggot Adult Silverspotted Skipper Spittlebug Stink Bug	2.8 – 8.5	0.033 - 0.1	Apply in a minimum of 10 gallons per acre with ground equipment or 2 gallon per acre by aircraft.  Pyrethroid resistance is common for Beet Armyworm and Tobacco Budworm. Please 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.

Three Cornered Alfalfa Hopper Thrips Tobacco Budworm Velvetbean Caterpillar Webworm Woollybear Caterpillar			
Lygus species Whitefly Twospotted spider mite	6.8 – 8.5	0.08 - 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> make more than 3 foliar applications per year.</li> <li><b>DO NOT</b> make applications less than 30 days apart</li> <li><b>DO NOT</b> apply within 18 days of harvest.</li> </ul>			

**Soybean Restrictions:**

- DO NOT** apply more than 0.3 lb ai/A per year including At-Plant, PRE & PPI, and Foliar applications of this and other bifenthrin products.

## SPINACH

**At Plant**

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Rootworm larvae Garden Symphylans	6.8– 8.5	0.39 – 0.49	0.08 – 0.1	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed.  Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species.
Army cutworm Armyworm species Cutworm species Grubs Root maggot Seedcorn maggot True armyworm Wireworm	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"><li><b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application.</li></ul>				

**PPI**

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Seed Corn Maggot Wireworms Garden Symphylans	PPI 3.4 – 6.8	PPI 0.04 – 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled pesticides. <b>DO NOT</b> incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate to a depth close to the intended depth.

## Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Armyworms Colorado Potato Beetle Corn earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Tomato Hornworm Tomato Pinworm Thrips Whitefly	2.8 – 8.5	0.033 to 0.1	<p>For control of whiteflies, apply foliar treatments of BIFENTHRIN 17.15 FC by ground or air at rates of up to 0.1 lb active per acre at minimum 7 day intervals up to a maximum of 4 applications. Do not apply within 40 days of harvest.</p> <p>For control of fire ants apply BIFENTHRIN 17.15 FC to the soil (at planting) or as a foliar treatment by ground or air at rates of up to 0.1 lb active per acre at minimum 7 day intervals up to a maximum of 4 applications.</p> <p>Apply the specified dosage in 5-50 gallons of finished spray per acre by air or 10-50 gallons finished spray per acre by ground.</p>
Banks Grass Mite Broad Mite Carmine Mite Fire Ants Lygus species Pacific Spider Mite Twospotted spider mite	6.8 – 8.5	0.08 to 0.1	

**Foliar Restrictions:**

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** make applications less than 7 days apart.
- **DO NOT** apply within 40 days of harvest

## Spinach Restrictions:

- **DO NOT** apply more than 0.4 lb ai/A per year including At-Plant, PRE & PPI, and Foliar applications of this and other bifenthrin products.

## SUCCULENT PEAS AND BEANS (Crop Subgroups 6A and 6B)

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

## At Plant:

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Rootworm larvae	6.8 – 8.5	0.39 – 0.49	0.08 – 0.1	<p>Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the seed.</p> <p>Apply broadcast over the soil surface for control of Army cutworm, Cutworm species, True armyworm, or Armyworm species.</p>
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root maggot Seedcorn maggot	3.4 – 6.8	0.2 – 0.39	0.04 – 0.08	

True armyworm Wireworm			
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application</li> </ul>			

#### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root maggot True armyworm Wireworm (PPI only)	PRE 6.8 – 8.5	PRE 0.08 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PRE herbicides.  Post Plant Soil Applied: Apply through drip or Drip Tape. Apply when soil is moist towards the end of the irrigation run.
	PPI 6.8 – 8.5	PPI 0.08 – 0.1	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth and no deeper than 3 inches. Incorporate at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. Post Plant Soil Applied: Apply through drip or Drip tape. Apply when soil is moist towards the end of the irrigation run.

#### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aster Flea Beetle Leafhopper	2.1 – 8.5	0.025 - 0.1	Apply in a minimum of 2 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1–2 quarts of emulsified oil may be substituted for 1–2 quarts of water in the finished spray. Thorough coverage is essential to achieve control. Make application at the onset of infestation reaching locally determined economic threshold.
Adult Sap Beetle Alfalfa Caterpillar Aphids Armyworm, Beet Armyworm, Fall Armyworm, Southern Armyworm, Yellowstriped Bean Leaf Beetle Cloverworm Corn earworm Corn Rootworm Adult Cucumber Beetle Cutworms European Corn Borer	2.8 – 8.5	0.033 - 0.1	

Grasshoppers Japanese Beetle Loopers Pea Leaf Weevil Pea Weevil Plant Bug Stink Bugs Tarnished Plant Bug Thrips Webworms Western Bean Cutworm Whitefly			
Banks Grass Mite Carmine Mite Lygus species Twospotted spider mite	6.8 – 8.5	0.08 to 0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li> <li>• <b>DO NOT</b> apply within 3 days of harvest.</li> <li>• <b>DO NOT</b> make applications less than 3 days apart</li> </ul>			

**Succulent Peas and Beans (Crop Subgroups 6A and 6B) Restrictions:**

- **DO NOT** apply more than 0.2 lb ai/A per year including At-Plant, PRE & PPI, and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

**SUNFLOWER (Crop Subgroup 20B)**

Calendula, Castor Oil Plant, Chinese Tallowtree, Euphorbia, Evening Primrose, Jojoba, Niger Seed, Rose Hip, Safflower, Stokes Aster, Tallowwood, Tea Oil Plant, Vernonia, cultivars, varieties, and/or hybrids of these

**At-Plant**

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBSai/acre	
Army cutworm Cutworm spp. Grape colaspis Root aphids Seedcorn maggot White grubs spp. Wireworm	3.4 – 17.0	0.2 - 0.98	0.04 - 0.2	Apply as a 5 to 7-inch band (T-band) over an open furrow, or infurrow with the seed. For Army cutworm or Cutworm species, apply as a 5 to 7-inch band over the row on the soil surface, a 5 to 7-inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface.
<b>At-Plant Restrictions:</b> <ul style="list-style-type: none"> <li>• Do not apply more than 0.2 lb ai/A per year as an at-plant application.</li> <li>• Do not make more than 1 application per year.</li> </ul>				

## TOBACCO

### Pre-Transplant & At-Transplant

PEST	USE RATES			DIRECTIONS
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Armyworm species Cutworm species Flea beetle larvae Mole cricket Stalkborer White grubs Wireworm	3.4 – 8.5	0.2 - 0.49	0.04 - 0.1	<p><b>Pre-transplant soil applications:</b> Use of suitable equipment to incorporate into top 4" of the soil is required to control below ground pests.</p> <p><b>At-transplant water treatment application:</b> Apply 0.0625 to 0.1 LBS ai/A in a water treatment application volume of 10 to 200 gal/A. May be tank mixed with Command®, Spartan®, and other herbicides approved for tobacco use.</p>
<b>Pre-Transplant &amp; At-Transplant Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> apply later than layby</li> </ul>				

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphid spp.* Armyworm spp. Chinch Bugs Cutworm spp. Flea Beetle (Adults) Grasshoppers Green Bugs Japanese Beetles Stink Bugs Thrips Whiteflies Tarnished plant bugs	3.4 – 8.5	0.04 - 0.1	Apply 0.04 to 0.10 lb ai/A per foliar application up to, and including, layby in a minimum of 10gal/A. May be tank mixed with Command®, Spartan® and other herbicides approved for tobacco use. *See resistance statement under "Directions for Use" section.
Hornworm Tobacco Budworm	6.8 - 8.5	0.08- 0.1	
Spider mites Lygus spp.	8.5	0.1	
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"><li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li><li>• <b>DO NOT</b> apply later than layby.</li></ul>			

### Tobacco Restrictions:

- DO NOT** apply more than 0.2 lb ai/A per year including at-plant, PRE, PPI and foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.



## TOMATOES, TOMATILLOS, & GROUNDCHERRIES

### At-Plant

PEST	USE RATES			DISCOVER
	Fluid oz/acre	Fluid oz/1000 Linear ft.	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs Root maggot Stalkborer True armyworm Wireworm	3.4 - 6.8	0.2 - 0.39	0.04 - 0.08	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), or in-furrow with the transport or seed. May be applied through transplant water at time of transplanting. Apply broadcast to the soil surface for control of Army cutworm, Cutworm species, True armyworm, Armyworm species, or Stalkborer.
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> apply more than 0.1 lb ai/A per year as an at-plant application</li> </ul>				

### PPI & PRE

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Army cutworm Armyworm species Cutworm species Flea beetle larvae Garden symphylans Grubs True Armyworm Wireworm	PRE 6.8	PRE 0.08	BIFENTHRIN 17.15 FC can be tankmixed and applied with PRE herbicides. Post Plant Soil Applied: Apply through drip or Drip Tape. Apply when soil is moist towards the end of the irrigation run.
	PPI 3.4 – 6.8	PPI 0.04 – 0.08	BIFENTHRIN 17.15 FC can be tank mixed and applied with PPI labeled herbicides. DO NOT incorporate BIFENTHRIN 17.15 FC any deeper than the intended planting depth. Incorporate at a depth close to the intended depth. Post Plant Soil Applied: Apply through drip or Drip Tape. Apply when soil is moist towards the end of the irrigation run.

## Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Aphids Armyworms (including Beet) Armyworm, Fall Armyworm, Southern Bean Leaf Beetle Cabbageworm Carmin Mite Cloverworm Corn earworm Corn Rootworm Cucumber Beetles Cutworms Diamondback Moth European Corn Borer Flea Beetles Flea Hopper Grasshopper Japanese Beetle (Adult) Leafhoppers Loopers Lygus species	2.8 – 6.8	0.033 to 0.08	Thorough coverage is necessary to attain acceptable control. Make application at the onset of infestation reaching locally determined economic levels. Apply in water. Apply the specified dosage in 5 to 50 gallons of finished spray per acre by air or 10 to 50 gallons of finished spray per acre by ground. Thorough coverage is essential to achieve control.

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 Yellowstriped Armyworm			
Twospotted spider mite	6.8 – 8.5	0.08 - 0.1	

### Foliar Restrictions:

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** make applications less than 10 days apart.
- **DO NOT** apply within 1 day of harvest

### Tomato, Tomatillo, and Groundcherry Restrictions:

- **DO NOT** apply more than 0.40 lb ai/A per year including at-plant, PRE, PPI and foliar applications of

BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## TREE NUTS (NOT REGISTERED FOR USE BY CALIFORNIA.)

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

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Black Pecan Aphid Codling Moth Filbert Worm Hickory Shuckworm Leaffooted Bugs Navel Orangeworm Oblique Banded Leafroller Peach Twig Borer Pecan Leaf Casebearer Pecan Nut Casebearer Pecan Phylloxera Plant Bugs Stink Bugs Walnut Aphid Yellow Pecan Aphid	4.3 – 17.1	0.05 - 0.2	Apply by ground or air equipment using sufficient water to obtain full coverage of foliage. Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) by ground or apply the specified amount in a minimum of 10 gallons of finished spray per acre by air
European Red Mite Pecan Weevil Spider Mite species	6.8 – 17.1	0.08 - 0.2	
Fire ants Walnut Husk Fly	8.5 – 17.1	0.1 - 0.2	

**Foliar Restrictions:**

- Do not apply more than 0.5 lb ai/A of BIFENTHRIN 17.15 FC and other bifenthrin containing products.
- Do not make more than 3 applications per year.
- **DO NOT** make applications less than 15 days apart.
- **DO NOT** apply within 21 days of harvest for pecans and 7 days for all other registered tree nut crops.
- **DO NOT** graze livestock in treated orchards or cut treated cover crops for feed.

## TUBEROUS AND CORM VEGETABLES (Crop Subgroup 1C)

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

### At-Plant

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Sweet potato flea beetle White grub Wireworms	12.75 – 25.5	0.15 – 0.3	BIFENTHRIN 17.15 FC insecticide may be applied as a soil incorporated broadcast, directed bed spray or a T-band spray into the planting furrow for the control of wireworms, sweet potato flea beetle, and white grubs. Apply BIFENTHRIN 17.15 FC at the rate of 0.15 to 0.3 LBS active ingredient (12.75 to 25.5 fluid ounces formulated) per acre in a minimum of 10 gallons per acre of spray.
<b>At Plant Restrictions:</b> <ul style="list-style-type: none"> <li><b>DO NOT</b> apply more than 0.3 lb ai/A per year as an at-plant application.</li> </ul>			

### Lay-By

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Wireworms White grub	12.75 – 25.5	0.15 – 0.3	BIFENTHRIN 17.15 FC insecticide may be applied as one or more soil directed and incorporated treatments at cultivation or layby for the control of wireworms and white grubs. Apply BIFENTHRIN 17.15 FC to the drill area and incorporate by cultivation equipment set to throw soil towards the drill area. Apply in a minimum of 10 gallons per acre of spray.

### PPI

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Grape colaspis Rootworms Wireworms White grub	12.75 – 25.5	0.15 – 0.3	Apply BIFENTHRIN 17.15 FC to the transplant area and incorporate to planting depth. Apply BIFENTHRIN 17.15 FC in a minimum of 10 gallons per acre of spray. May be applied as a broadcast application or an incorporated band application.

### Foliar

PEST	USE RATES		DIRECTIONS
	Fluid oz/acre	LBS ai/acre	
Banded Cucumber beetle Black flea beetle Corn wireworm Cucumber beetle Japanese beetle grubs June beetle Rootworms Southern potato wireworm	2.8 – 8.5	0.033 - 0.1	Apply in a minimum of 3 gallons finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. BIFENTHRIN 17.15 FC may be applied as a foliar spray for the control of the adult lifestages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), white fringed beetles and May/June beetles (white grubs).

Sugarcane beetle Sweetpotato flea beetle Sweetpotato weevil Tobacco wireworm Whitefringed beetle White grub			
<b>Foliar Restrictions:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> make more than 2 foliar applications per year.</li> <li>• <b>DO NOT</b> make applications less than 21 days apart.</li> <li>• <b>DO NOT</b> apply within 21 days of harvest.</li> </ul>			

**Tuberous and Corm Vegetables (Crop Subgroup 1C) Restrictions:**

- **DO NOT** apply more than 0.5 lb ai/A per year including, lay-by, at-plant, PPI and Foliar applications of BIFENTHRIN 17.15 FC and other bifenthrin containing products.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Do not freeze. Do not store below 40° F. If crystals are observed, warm material to above 60° F by placing container in warm location. Shake or roll container periodically to redissolve solids. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (Transportation and Spills): (800)-424-9300. To confine spill, dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

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

### CONTAINER HANDLING:

**[Non-refillable container (in sizes 5 gallons or less)]** Do not reuse or refill this container. Triple rinse as follows: Empty the contents into application equipment or a mix tank and drain for 10 seconds after flow begins to drip. Fill container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill.

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

**[Returnable/Refillable Containers]** Refill this container with pesticide only. Do not reuse this container for any other purpose. Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase. 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.

**DO NOT USE CONTAINERS FOR THE STORAGE OF FOOD, FEED, OR DRINKING WATER!**

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

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

ALBAUGH, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent consistent with applicable law, this warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ALBAUGH, LLC and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALBAUGH, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, in no event shall ALBAUGH, LLC or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ALBAUGH, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ALBAUGH, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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[OPTIONAL MARKETING GRAPHICS]



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**LABEL HISTORY**

(Not included in final printed label)

<b>File Name</b>	<b>Version Mark</b>	<b>Comment</b>
045002-000##.20210430.DRAFT	043021	Section 3 Draft Label
045002-GA.20211103.DRAFT	110321	(e) Label Revisions
045002-GA.20211110.DRAFT	111021	(e) Label Revisions
045002-GA.20220103.DRAFT	010322	(e) Label Revisions
<b>045002-00036.20220113.MASTER</b>	<b>AD011322</b>	<b>EPA Acceptance</b>
045002-00036.20230228.DRAFT	022823	Update Language Throughout and Add Uses (Sod Farm and Sunflowers)
045002-00036.20240503.DRAFT	050324	(e) Label Revisions
045002-00036.20240524.DRAFT	052424	(e) Label Revisions

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