

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 Applicators certification



Bifender[®] FC

Built with Allosperse, a precision chemistry product from Vive, Bifender FC is a versatile, broad-spectrum insecticide that can be mixed directly with liquid fertilizers for control of insect and mite pests. It can be applied as an at-plant, PPI & PRE, or as a foliar application.

Active Ingredient:

Bifenthrin:(2 methyl [1,1'-biphenyl] 3-yl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate*..... 19.3%

Other Ingredients:..... 80.7%
100.0%

By Wt.

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

This product contains 1.75 pounds 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.)

This label must be in the possession of the user at the time of application. See inside booklet for additional precautionary information and directions for use.

EPA Reg. No. 89118-2

Net Contents: 2.5 Gallons

Vive Crop Protection Inc.
500 Westover Dr., #10198
Sanford, NC 27330
1-888-760-0187

**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 by a poison control center or doctor.
- **DO NOT** give anything to an unconscious person.

If on skin or clothing:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

If in eyes:

- 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.
- 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.

EMERGENCY INFORMATION

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

For information on this pesticide product (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378 Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.

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

Warning. May be fatal if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wear long-sleeved shirt and long pants, socks, shoes, and gloves. Wear protective eyewear.

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 ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinylchloride (PVC) ≥ 14 mils or viton ≥ 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 ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinylchloride (PVC) ≥ 14 mils or viton ≥ 14 mils,
- Shoes plus socks,
- Protective eyewear.

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

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

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

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

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

**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), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval **(REI) of 12 hours.**

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

- Coveralls;
- Chemical-resistant gloves made of: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinylchloride (PVC) ≥ 14 mils or viton ≥ 14 mils;
- Shoes plus socks.

Non-Agricultural Use Requirements

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

Keep children and pets off treated areas following application until the treated area has dried.

PRODUCT INFORMATION

Bifender FC is a versatile, broad-spectrum insecticide and miticide containing the active ingredient bifenthrin in an optimized SC formulation that is compatible with liquid fertilizers. Bifender FC provides activity against many important crop insect pests and can be used alternated with other insecticides with a different mode of action or tank-mixed with such insecticides and other crop protection products.

Bifenthrin, the active ingredient in Bifender FC, belongs to the pyrethroid class of insecticides. Bifenthrin is a neurotoxin which causes exposed insects to develop hyperexcitation and tremors, followed by paralysis and death. Pyrethroids are classified as GROUP 3 INSECTICIDES.

USE RESTRICTIONS

Use Site and Application Method Restrictions

- **DO NOT** apply within 100 feet (using ground equipment) or 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes in New York State.
- The maximum pounds of active ingredient per acre per year is listed under the use directions for each crop and must not be exceeded. The maximum allowable use includes all registered use patterns including at-plant, pre-plant incorporated (PPI), pre-emergence (PRE), lay-by, and foliar applications of Bifender FC and other bifenthrin containing products for the 12 months period. The 12-month period begins on upon the initial application to the acre.

Rotational Crops

- 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.

RESISTANCE MANAGEMENT

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

To delay insecticide resistance, take the following steps:

- Rotate the use of Bifender FC or other Group 3A 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):
 1. 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.
 2. Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 3. When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 4. Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 5. The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

- For further information or to report suspected resistance contact Vive Crop Protection at 1-888-760-0187. You can also contact your pesticide distributor or university extension specialist to report resistance.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications:

- **DO NOT** release spray at a height greater than 10 ft above the ground or 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 not exceed 65% of the wingspan for fixed wing aircraft or 75% of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed wing aircraft and 90% or less of the rotor diameter for helicopters.
- If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply during temperature inversions.

Airblast Applications:

- Sprays must be directed into the canopy.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at the row end and when spraying the outer row.
- **DO NOT** spray during temperature inversion.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

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

IMPORTANCE OF DROPLET SIZE

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

Controlling Droplet Size - Ground Boom

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

Handheld Technology Applications:

- Take precautions to minimize spray drift.

VEGETATIVE FILTER STRIPS

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

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

- For Western irrigated agriculture, a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).
 - o For Western irrigated agriculture, if a sediment control basin is present, a vegetative filter strip is not required.
- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
 - o The area of application is considered prime farmland (as defined in 7 CFR § 657.5).

- o Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
- o A functional terrace system is maintained on the area of application.
- o Water and sediment control basins for the area of application are functional and maintained.
- o The area of application is less than or equal to 10 acres.

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

BUFFER ZONES TO WATER BODIES

Ground Application (groundboom, chemigation, or airstab)

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

Ultra Low Volume (ULV) Aerial Application

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

Non-ULV Aerial Application

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

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.

APPLICATION AND MIXING INSTRUCTIONS

Shake well before use.

Bifender FC insecticide and miticide is designed for pre-plant incorporated (PPI), at-plant, pre-emergence (PRE), banded, broadcast, transplant-water drench, and foliar spray applications, and must be diluted with water and/or liquid fertilizer before application. Refer to Specific Use Directions for Crop Plants for pest control or suppression instructions.

DO NOT use strainer (nozzle screens) with a mesh designation greater than 50.

Make sure that application equipment is thoroughly cleaned and properly calibrated prior to application and thoroughly cleaned after application.

Bifender FC can be mixed directly with water and/or liquid starter or popup fertilizer. Follow liquid fertilizer recommendations regarding seed safety and use guidelines. Conduct a preliminary jar test using the appropriate ratio of fertilizer and Bifender FC (see instructions below). If mixture compatibility is not acceptable, repeat the jar test with an equivalent volume of water added to the liquid fertilizer prior to adding Bifender FC. **DO NOT** exceed dilution specified by mixing instructions. For best results, use immediately after mixing. **DO NOT** allow a tank mixture to set overnight. **DO NOT** store mixtures. Make sure that application equipment is thoroughly cleaned and properly calibrated prior to application and thoroughly cleaned after application.

- Use spray nozzles appropriate for the crop to provide full coverage and uniform distribution of the spray mixture
- Use screens where appropriate to protect sprayer equipment and prevent clogging
- Screens used to protect pump on the suction side to be no finer than 16-mesh
- **DO NOT** fit the recirculation line of the spray system with a screen

- Screens used on the spray nozzles are to be no finer than 50-mesh
- The spray system pump is to have sufficient capacity to deliver 35-40 psi of pressure to the nozzles, and recirculate at least 10% of the tank volume per minute to maintain a uniform mixture
- Agitate the spray mixture with a jet agitator or liquid sparge tube
- **DO NOT** use air sparge

Consult manufacturers of spray equipment for more information on sprayer use, calibration, and recommendations. Consult state agricultural extension recommendations for local directions and spray schedules.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

Choose the rate of application within the label ranges for the crop being treated based on expected insect pest pressure. This can be determined by history and scouting of the field and whether weather conditions are expected to be favorable. Use lower rates when insect pest pressure is expected to be light and use higher labeled rates when insect pest pressure is expected to be heavy. Higher labeled application rates are generally needed in arid climates.

Unless otherwise directed by registered supplemental labeling, follow the Directions for Use in each crop group section.

Mixing Instructions

Solo Bifender FC Application

- Determine the required volume of water or liquid fertilizer for application and fill the spray/mixing tank with ½ - ¾ of this volume
- Begin agitation of the tank and add the required volume of Bifender FC for the insecticide application
- Continue agitation while adding the remaining ½ - ¼ volume of water or liquid fertilizer to complete the spray mixture
- Apply the mixture after the contents of the tank are completely dispersed
- Maintain agitation of the spray tank until all of the spray mixture has been applied.
- Thoroughly rinse spray tank with water and dispose of the rinse water by spraying onto a section of the already treated crop

DO NOT prepare more spray mixture than is required for the treatment. **DO NOT** allow a mixture to set overnight. If the mixture settles, agitate the mixture and assess to ensure thorough re-mixing prior to application. **DO NOT** store spray mixtures.

Bifender FC Tank Mixture Application

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.

Bifender FC may be applied in tank mixtures with adjuvants, micronutrients, and other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products. **DO NOT** combine Bifender FC in the spray tank with pesticides, adjuvants or fertilizers unless compatibility charts or your own prior use has shown that the combination is physically compatible, and the combination is effective and non-injurious to the target crop under your use conditions.

When an adjuvant is used, it is recommended to use an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification.

Tank Mixture Order of Addition Recommendation

This is the general recommendation for order of addition. Always follow any specific order of addition instructions on all the tank-mix partner labels. Jar

tests (or other similar methods) to ensure order of addition compatibility between products should be conducted before use.

1. Fill tank ¼ to ½ full with mixing diluent (water, liquid fertilizer, etc.).
2. Begin tank agitation before adding any tank-mix partners.
3. Add any water conditioner/anti-foam/compatibility agents.
4. Add any products packaged in water-soluble packaging and allow to completely dissolve/disperse.
5. Add any wettable powders/flowables (DC, DS, GR, SG, SP).
6. Add any microencapsulated suspensions (ME).
7. Add any liquids and solubles (SC, SU), including VCP-026.
8. Add any emulsifiable concentrates (EC).
9. Add any adjuvants.

Jar Test Procedure

Test potential mixing partners, including adjuvants, for mixing compatibility using a standard jar test or other similar method and for crop safety prior to use on a crop. Incompatibilities may exist with some methylated seed oils, crop oil concentrates, or silicone-based adjuvants; conduct jar tests before using.

The following jar test procedure is recommended to evaluate compatibility: Following any product specific instructions for order of addition, pour the recommended proportions of the products into a suitable container, mix thoroughly and allow to stand at least twenty (20) minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered physically compatible.

DO NOT prepare more spray mixture than is required for the treatment. For best results, use immediately after mixing. **DO NOT** allow a mixture to set overnight. If the mixture settles, agitate the mixture and assess to ensure thorough re-mixing prior to application. **DO NOT** store spray mixtures.

Instructions for PPI And PPE Applications

PPI Treatments: PPI herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use. Follow all use rate recommendations. Incorporate Bifender FC close to seed planting depth.

PRE Treatments: PRE herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use and follow all use rate recommendations.

Instructions for At-Plant and Banded Applications

Bifender FC can be applied as a soil-directed application at plant as an in-furrow or T-band application or as an early season banded application over the plant row for control of below ground and surface feeding insect pests. Refer to the use directions for specific crops to determine if such applications are labeled for a given crop and, if so, for which insect pests.

Generally, at plant in-furrow applications are more effective against below ground feeding insects, whereas T-band and broadcast applications may be more effective against surface feeding insect pests. Check with your local extension specialist or certified crop advisor for specific advice on best local practices for insect control.

Use 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.

At-Plant Application Instructions

Use 3 – 20 gallons of water or liquid fertilizer per acre for in-furrow or T-band applications.

Direct the 5 - 7 inch spray into the furrow just before the seed is covered, unless instructed otherwise under the specific crop instructions.

Use the higher labeled rate if conditions are expected to be favorable for insect pests or mites, or if minimum or no-till practices are being followed.

At Plant In-Furrow Application Rates (fl oz per acre)										
Row Spacing	Row ft per Acre	0.08 fl oz per 1000 row ft	0.17 fl oz per 1000 row ft	0.25 fl oz per 1000 row ft	0.34 fl oz per 1000 row ft	0.42 fl oz per 1000 row ft	0.63 fl oz per 1000 row ft	0.68 fl oz per 1000 row ft	0.84 fl oz per 1000 row ft	1.27 fl oz per 1000 row ft
20	26136	2.2	4.4	6.6	8.8	11.0	16.6	17.7	22.1	
22	23760	2.0	4.0	6.0	8.0	10.0	15.0	16.1	20.1	
24	21780	1.8	3.7	5.5	7.4	9.2	13.8	14.7	18.4	
26	20105	1.7	3.4	5.1	6.8	8.5	12.7	13.6	17.0	
28	18669	1.6	3.2	4.7	6.3	7.9	11.8	12.6	15.8	
30	17424	1.5	2.9	4.4	5.9	7.4	11.0	11.8	14.7	22.1
32	16335	1.4	2.8	4.1	5.5	6.9	10.3	11.0	13.8	20.7
34	15374	1.3	2.6	3.9	5.2	6.5	9.7	10.4	13.0	19.5
36	14520	1.2	2.5	3.7	4.9	6.1	9.2	9.8	12.3	18.4
38	13756	1.2	2.3	3.5	4.6	5.8	8.7	9.3	11.6	17.4
40	13068	1.1	2.2	3.3	4.4	5.5	8.3	8.8	11.0	16.6

IMPORTANT: DO NOT apply more than the maximum a.i. per acre indicated in the specific crop use section.

Linear Row Feet Calculation: 52220 ÷ row spacing (in inches) = Row feet per acre

Instructions for Foliar Applications

Bifender FC can be applied as a spray to above ground plant parts: flowers, foliage and fruit. Application in a tank mixture with an adjuvant is recommended to get best wetting. Refer to the use directions for specific crops to determine if such applications are labeled for a given crop and, if so, for which plant parts and which insect pests.

Use higher labeled rates if insect pest pressure is high, controlling for mites, and/or conditions are expected to be favorable for pest population growth.

DO NOT apply when conditions favor drift from the area intended for treatment; follow instructions under the Spray Drift section.

Ground Applications

Apply with sufficient water or liquid fertilizer in a manner that provides thorough and uniform coverage to obtain good pest control. Follow spray volume recommendations given under specific crops.

Aerial Applications

Apply with sufficient water or liquid fertilizer in a manner that provides uniform coverage for good pest control. Follow spray volume recommendations given under specific crops. Dense canopies may limit coverage on lower leaves from aerial applications reducing insect pest control on those leaves.

Chemigation Use Directions

Apply this product only through sprinklers including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system. **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

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

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

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

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

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

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

The system must contain 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 distribution is adversely affected.

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

DO NOT apply when wind speed favors drift beyond the area intended for treatment. Bifender FC should be applied continuously for the duration of the water application. Bifender 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 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

POLLINATOR 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-best-management-practices-protect-pollinators>.

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

How to Report Bee Kills

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

SPECIFIC USE DIRECTIONS FOR CROPS

ARTICHOKE

ARTICHOKE AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Cribrate Weevil Grubs	7.4 (0.10)	0.42 (0.0057)
At-Plant Instructions:		
<ul style="list-style-type: none"> Apply as a 5 to 7-inch T-band over an open furrow, or in-furrow with the seed. 		
ARTICHOKE PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Cribrate Weevil Grubs	7.4 (0.10)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> PPI: Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. PRE: Bifender FC can be tank mixed and applied with PRE herbicides. 		
ARTICHOKE FOLIAR APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Artichoke Plume Moth Cribrate Weevil	7.4 (0.10)	
Foliar Instructions:		
<ul style="list-style-type: none"> Apply Bifender FC in 75 or more gallons of spray per acre by ground equipment, or 10 or more gallons of spray per acre by aircraft to achieve thorough coverage. 		
Specific Use Restrictions:		
<ul style="list-style-type: none"> DO NOT make more than 5 foliar applications per year. DO NOT apply more than 0.5 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products. DO NOT make foliar applications less than 15 days apart. DO NOT apply within 5 days of harvest. 		

BEANS AND PEAS, DRIED

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

BEANS AND PEAS, DRIED AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Corn Rootworm (larvae)	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Grape Colapsis Grubs Root Maggot Seedcorn Maggot ² True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions:		
<ul style="list-style-type: none"> Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. Army cutworm, Cutworm species, True armyworm, or Armyworm species: Apply broadcast to soil surface. *Seedcorn Maggot: Not for use in California. 		
BEANS AND PEAS, DRIED PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Army cutworm Armyworm species Cutworm species Grape colapsis Grubs Root maggot True armyworm Wireworm (PPI only)	5.9 – 7.4 (0.08 – 0.1)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> PPI: Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. PRE: Bifender FC can be tank mixed and applied with PRE herbicides and fungicides. Apply a minimum of 10 gallons per acre. 		

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BEANS AND PEAS, DRIED *(continued)*

BEANS AND PEAS, DRIED FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Aster Leafhoppers Flea Beetle Grasshoppers Leafhoppers	1.8 – 7.4 (0.025 – 0.10)
Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetles Cutworms European Corn Borer Fall Armyworm 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 Tobacco Budworm Twospotted Spider Mite Webworms Western Bean Cutworm Whitefly Yellow Striped Armyworm	2.4 – 7.4 (0.033 – 0.10)
Banks Grass Mite Carmine Mite Lygus spp.	5.9 – 7.4 (0.08 – 0.10)

Foliar Instructions:

- Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control.

Specific Use Restrictions:

- **DO NOT** make more than 2 foliar applications to peas and 3 foliar applications to beans per year.
- **DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- **DO NOT** apply more than 0.2 pound active ingredient to peas, or 0.3 pound active ingredient to beans per acre per year including at-plant, PRE & PPI, and foliar application of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 7 days apart.
- **DO NOT** apply within 14 days of harvest.

BEANS AND PEAS, SUCCULENT

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

BEANS AND PEAS, SUCCULENT AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Rootworm larvae	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Grape Colaspis Grubs Root Maggot Seed corn Maggot Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ True Armyworm ¹	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions:		
<ul style="list-style-type: none"> • Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. • 1 Army cutworm, Cutworm species, True armyworm, Armyworm species: Apply broadcast to soil surface. 		
BEANS AND PEAS, SUCCULENT PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root maggot True armyworm Wireworm (PPI only)	5.9 – 7.4 (0.08 – 0.1)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> • PPI: Bifender FC can be tanked mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. • PRE: Bifender FC can be tank mixed and applied with PRE herbicides. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. 		

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BEANS AND PEAS, SUCCULENT *(continued)*

BEANS AND PEAS, SUCCULENT FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers	1.8 – 7.4 (0.025 – 0.10)
Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Japanese Beetle (Adult) Loopers Pea Leaf Weevil Pea Weevil Plant Bug Sap Beetle Stink Bugs Southern Armyworm Tarnished Plant Bug Thrips Webworms Western Bean Cutworm Whitefly Yellow Striped Armyworm	2.4 – 7.4 (0.033 – 0.10)
Banks Grass Mite Two-spotted Spider Mite Carmine Mite Lygus species	5.9 – 7.4 (0.08 – 0.10)
Product Instructions:	
<ul style="list-style-type: none"> Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control. 	
Specific Use Restrictions:	
<ul style="list-style-type: none"> DO NOT make more than 2 foliar applications per year. DO NOT apply more than 0.1 pound active ingredient per acre per year as an at-plant application. DO NOT apply more than 0.2 pound active ingredient per acre per year including at-plant, PRE & PPI, and foliar application of Bifender FC and other bifenthrin containing products. DO NOT make foliar applications less than 3 days apart. DO NOT apply within 3 days of harvest. 	

BRASSICAS

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

BRASSICAS AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Cabbage Maggot Grubs Root Maggots Root Aphids Seedcorn Maggot Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions:		
<ul style="list-style-type: none"> Following best local practice, apply as a spray T-banded over an open furrow or in-furrow with the seed. Thorough coverage is important for good control. *Cutworm and armyworm: Bifender FC may be applied as a broadcast treatment to soil surface. 		
BRASSICAS PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Root Aphids Root Maggots Seed corn maggot Wireworms Garden Symphylans	2.9 – 5.9 (0.04 – 0.08)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> PPI: Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. PRE: Bifender FC can be tank mixed and applied with PRE herbicides and fungicides 		

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BRASSICAS (continued)

BRASSICAS FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworm species Black Burrowing Bug 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 (Adult)	2.4 – 7.4 (0.033 – 0.10)
Banks Grass Mite Carmine Mite Lygus species Pacific Spider Mite Two-spotted Spider Mite	5.9 – 7.4 (0.08 – 0.10)
Foliar Instructions:	
<ul style="list-style-type: none"> Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control. 	
Specific Use Restrictions:	
<ul style="list-style-type: none"> DO NOT make more than 5 foliar applications per year. DO NOT apply more than 0.1 pound active ingredient per acre per year as an at-plant application. DO NOT apply more than 0.5 pound active ingredient per acre per year including at-plant, PRI & PRE, and foliar application of Bifender FC and other bifenthrin containing products. DO NOT make more than 5 applications after bloom. DO NOT make foliar applications less than 7 days apart. DO NOT apply within 7 days of harvest. 	

BRASSICAS, LEAFY; TURNIP GREENS
Broccoli Raab, Bok Choy, Collards, Kale, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

BRASSICAS, LEAFY; TURNIP GREENS AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Rootworm larvae	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Grubs Root Maggot Lettuce Root Aphid Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ True Armyworm ¹	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions:		
<ul style="list-style-type: none"> Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. May be applied at the time of transplanting through transplant water. Thorough coverage of these areas is important for good control. *Army cutworm, Cutworm species, True armyworm, Armyworm species: Apply broadcast to soil surface. 		
BRASSICAS, LEAFY; TURNIP GREENS PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs Lettuce root aphid Root Maggots True armyworm Wireworms	2.9 – 5.9 (0.04 – 0.08)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> PPI: Bifender FC can be tanked mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. PRE: Bifender FC can be tank mixed and applied with PRE herbicides. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. 		

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BRASSICAS, LEAFY; TURNIP GREENS *(continued)***BRASSICAS, LEAFY; TURNIP GREENS FOLIAR APPLICATIONS**

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworms Corn Earworm Cutworms Crickets Cucumber beetles Imported Cabbageworm Japanese Beetle (adult) Leafhoppers Loopers Saltmarsh Caterpillar	2.4 – 7.4 (0.033 – 0.10)

Foliar Instructions:

- Bifender FC must be applied at the onset of infestation reaching locally determined threshold. Thorough coverage of these areas is important for good control.
- Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control.

Specific Use Restrictions:

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- **DO NOT** apply more than 0.4 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 7 days apart.
- **DO NOT** apply within 7 days of harvest.

CANE BERRIES

Caneberries: Blackberries, Bingleberries, Dewberries, Lowberries, Marionberries, Olallieberries, Youngberries, Loganberries, Raspberries; cultivars, varieties, and/or hybrids of these

CANE BERRIES AT-PLANT APPLICATIONS*

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Wireworm White grubs	7.4 (0.1)	0.42 (0.0057)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, in-furrow as a spray. May be applied at the time of transplanting through transplant water. Thorough coverage of these areas is important for good control.

CANE BERRIES PPI & PRE APPLICATIONS*

PESTS	fl. oz. product/acre (lb. a.i./acre)
Wireworm White grubs	7.4 (0.1)

PPI & PRE Instructions:

- **PPI:** Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth.
- **PRE:** Bifender FC can be tank mixed and applied with PRE herbicides.

CANE BERRIES FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Leafroller Orange Tortrix Root Weevil Spotted Wing Drosophila*	3.7 – 7.4 (0.05 – 0.10)
Raspberry Crown Borer ¹ Spider Mites	7.4 (0.10)

Foliar Instructions:

- Apply Bifender FC in 50 or more gallons of spray per acre by ground equipment, or 10 or more gallons of spray per acre by aircraft to achieve thorough coverage.
- One application may be made pre-bloom and a second application may be made post-bloom.
- **Raspberry Crown Borer:** Apply 0.1 lb a.i./A as a drench application directed at the crow of the plants in the fall post-harvest or in the spring pre-bloom. Make the application in a minimum of 200 gallons of spray per acre. Higher spray volumes (up to 400 gallons per acre) or applications prior to significant rainfall events will result in greater efficacy. **DO NOT** make both a pre-bloom foliar and pre-bloom drench application.

Specific Use Restrictions:

- **DO NOT** make more than 2 foliar applications per year.
- **DO NOT** apply more than 0.2 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products.
- **DO NOT** apply within 3 days of harvest.

Not for Use in California*CANOLA; CRAMBE; RAPESEED****CANOLA; CRAMBE; RAPESEED AT-PLANT APPLICATIONS***

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggot Stalkborer Sugarcane beetle True armyworm Wireworm	5.9 0.08	0.34 (0.0046)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, or in-furrow as a spray. Thorough coverage of these areas is important for good control.

Not for Use in California(continued)*

CANOLA; CRAMBE; RAPESEED *(continued)*

CANOLA; CRAMBE; RAPESEED PPI & PRE APPLICATIONS*	
PPI & PRE	fl. oz. product/acre (lb. a.i./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)	5.9 (0.08)

PPI & PRE Instructions:

- **PPI:** Bifender FC can be tanked mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth.
- **PRE:** Bifender FC can be tank mixed and applied with PRE herbicides.

CANOLA; CRAMBE; RAPESEED FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworm species Cutworms Diamondback Moth Flea Beetles Flea Hopper Grasshoppers Loopers Other Lepidopterous Larvae Plant Bugs Stink Bugs Seedpod Weevil Thrips Whitefly	2.4 – 2.9 (0.033 – 0.04)

Foliar Instructions:

- Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control.

Specific Use Restrictions:

- **DO NOT** make more than 2 foliar applications per year.
- **DO NOT** apply more than 0.08 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 14 days apart.
- **DO NOT** apply within 35 days of harvest.

*Not for Use in California

CHRISTMAS TREES

CHRISTMAS TREES FOLIAR APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	
Balsam Twig Aphid Balsam Woolly Adelgid Cinara Aphid Elongated Hemlock Scale Root Weevil Spruce Spider Mite	4.4 – 7.4 (0.06 – 0.1)	
Product Instructions:		
<ul style="list-style-type: none"> • Apply Bifender FC in 20 or more gallons of spray by ground equipment, or 5 or more gallons of spray per acre by aircraft to achieve thorough coverage. Thorough coverage is important for good control. • Bifender FC is not typically phytotoxic to Christmas trees. To ensure the particular variety being grown under current conditions is not unusually sensitive to Bifender FC, make applications to a small representative group of plants. 		
Specific Use Restrictions:		
<ul style="list-style-type: none"> • DO NOT apply greater than 0.1 lb. of active ingredient per acre per treatment • DO NOT exceed 3 applications in a crop year • DO NOT make aerial application outside CA and WA • DO NOT apply through irrigation systems • DO NOT make applications less than 21 days apart. 		

CILANTRO; CORIANDER

CILANTRO; CORIANDER AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Armyworm species Cutworm species Flea Beetle (larvae) Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control.

CILANTRO; CORIANDER PPI & PRE APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Army cutworm Armyworm species Cutworm species Grape colaspis Grubs Root aphids Seed corn beetle Seed corn maggots Wireworm (PPI Only)	2.9 – 5.9 (0.04 – 0.08)

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CILANTRO; CORIANDER (continued)

- PPI & PRE Instructions:**
- **PPI:** Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth.
 - **PRE:** Bifender FC can be tank mixed and applied with PRE herbicides.

CILANTRO; CORIANDER FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Beet Armyworm Cabbage Looper Cutworm Flea beetle Grasshoppers Leafminer Saltmarsh caterpillar Spotted Cucumber beetle Thrips Whitefly	2.4 – 2.9 (0.033 – 0.04)
Two Spotted Spider Mite	5.9 – 7.4 (0.08 – 0.1)

Foliar Instructions:

- Apply with sufficient water in a manner that provides thorough and uniform coverage. Apply Bifender FC in 10 or more gallons of spray by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage.

Specific Use Restriction:

- **DO NOT** make more than 5 foliar applications per year.
- **DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- **DO NOT** apply more than 0.5 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar application less than 7 days apart
- **DO NOT** apply within 3 days of harvest

CITRUS

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); tango; trifoliolate orange; uniq fruit; cultivars, varieties, and/or hybrids of these

CITRUS BARE SOIL SURFACE UNDER DRIP LINE APPLICATIONS

PESTS	USE RATES
	fl. oz. product/acre (lb. a.i./acre)
Blue Green Citrus Root Weevil Brown Leaf Notcher Diaprepes Root Weevil Little Leaf Notcher Southern Blue Green Citrus Root Weevil	18.4 – 36.8 (0.25 – 0.50)

Bare Soil Surface Under Drip Line Instructions:

- Using ground equipment, uniformly apply Bifender FC in a minimum of 40 gallons of finished spray per acre to the bare soil beneath citrus trees, from trunk to drip line.
- Larger spray volume should increase coverage uniformity. Additionally, a pre- and post-application irrigation may aid in coverage uniformity.
- Bifender FC forms a chemical barrier to Diaprepes and citrus root weevil larvae (neonates). Neonates hatch and fall from foliage, and attempt to burrow into the root zone of the tree. Bifender FC provides contact activity against these neonates, so soil disturbance at the base of trees should be minimized.
- Application timing is crucial for effective control of Diaprepes Root Weevil. Depending on region, Diaprepes can have one or two emergence peaks; one in the spring and one in the fall. These peaks can be greatly affected by environmental factors such as soil moisture. Apply high rates of Bifender FC at the time of greatest emergence, or two moderate rates can be used if similar spring and fall emergence peaks are forecasted. If weevil emergence extends beyond the residual life of this product, use other management strategies (such as nematodes) to extend control. Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.
- Bifender FC is also a valuable tool in an integrated pest management program for Citrus Root Weevil. Use in combination with good biological and cultural control practices for management of adult and larvae populations.
- Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.

Specific Use Restrictions:

- **DO NOT** make more than 2 applications per year.
- **DO NOT** allow any application of Bifender FC to contact fruit or foliage.
- **DO NOT** apply more than 0.5 pound active ingredient per acre per year including Bifender FC and other bifenthrin containing products.
- **DO NOT** apply by air.

CONIFER SEED ORCHARDS

(For Use only in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia)

CONIFER SEED ORCHARDS FOLIAR APPLICATIONS

PESTS	USE RATES
	fl. oz. product/acre (lb. a.i./acre)
Cone Worms Seed Bugs Seed Worms	7.4 – 14.7 (0.1 – 0.2)

Foliar Instructions:

- Apply Bifender FC in 100 - 500 gallons of spray per acre by ground equipment, or 10 gallons of water or 0.5 gallons of refined vegetable oil per acre by aircraft to achieve thorough coverage. Thorough coverage is important for good control.
- Make the first application 7 days after peak pollen flight and continue on 30 day intervals up to a maximum of 0.6 lb active ingredient per acre per year.

Specific Use Restriction:

- **DO NOT** make more than 6 applications per year.
- **DO NOT** apply greater than 0.60 lb. active ingredient per acre per year including Bifender FC and other bifenthrin containing products.
- **DO NOT** make applications less than 30 days apart.

CORN

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

CORN AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Corn Rootworm larvae (Northern, Southern, and Western)	5.9 – 14.7 (0.08 – 0.2)	0.34 – 0.84 (0.0046 – 0.0115)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Grape Colaspis Grubs Root Aphids Seed Corn beetle Seed Corn Maggot Stalkborer ¹ True Armyworm ¹ Wireworm	2.9 – 11.8 (0.04 – 0.16)	0.17 – 0.68 (0.0023 – 0.0091)
At-Plant Instructions:		
<ul style="list-style-type: none"> Following best local practice, apply as a spray T-banded over an open furrow or in-furrow with the seed. Thorough coverage is important for good control. Army cutworm, Stalkborer, Cutworm species, True armyworm or Armyworm species: 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), in-furrow with the seed, or broadcast to the soil surface. 		
CORN PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Armyworm species Black Cutworm Grape Colaspis Seed Corn Beetle Seed Corn Maggot White Grub Wireworm	Pre-Plant Incorporated (PPI) 3.5 – 4.6 (0.047 – 0.062)	
Armyworm species Black Cutworm Stalkborer	Pre-Emergence (PRE) 2.9 (0.04)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> PPI: PPI herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use. Follow all use rate recommendations. Incorporate Bifender FC close to seed planting depth up to a max depth of 3 inches. PRE: PRE herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use and follow all use rate recommendations. 		

CORN FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Army Cutworm Armyworm species Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm (Adult) Cucumber Beetle (Adult) Cutworm species European Corn Borer ² Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle (Adult) Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer ³ Stinkbugs Tarnished Plant Bug True Armyworm Webworms Western Bean Cutworm Yellow Striped Armyworm	2.4 – 7.4 (0.033 – 0.10)
Banks Grass Mite ^{1,2} Carmine Mite ^{1,2} Two-spotted Spider Mite ^{1,2}	5.9 – 7.4 (0.08 – 0.10)

Foliar Instructions:

- Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by aircraft, 1-2 quarts of emulsified oil may be substituted for equivalent amounts water in the finished spray. Thorough coverage is important for good control.
- Mites:** 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. For Two-Spotted Spider Mite and Carmine Mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher 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.
- Mite control in Texas, New Mexico, Oklahoma, Arizona:** Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 5 or more gallons of spray per acre by aircraft to achieve thorough coverage.
- Southwestern Corn Borer and European Corn Borer:** Make initial application for corn borer control at or shortly before egg hatch and repeat as necessary.
- Corn ear-attacking pests:** Apply this product just before silking and repeat as necessary to maintain control.
- Other insect pests:** Apply when pests first appear and repeat as necessary.

(continued)

CORN FOLIAR APPLICATIONS *(continued)***Specific Use Restrictions:**

- **DO NOT** make more than 3 foliar applications to field corn and 2 foliar applications to sweet corn per year.
- **DO NOT** apply more than 0.2 pound active ingredient per acre per year as an at-plant application.
- For field corn: **DO NOT** apply more than 0.3 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products.
- For sweet corn: **DO NOT** apply more than 0.2 pound active ingredient per acre total per year including at-plant, PPI & PRE, and foliar applications of other bifenthrin products.
- **DO NOT** apply within 30 days of harvest for field corn (grain and silage), popcorn, or field corn grown for seed.
- **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 30 days of last application for field corn (grain and silage), popcorn, or field corn grown for seed.
- **DO NOT** graze livestock in treated areas or cut treated crops for feed within 1 day of harvest 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.

COTTON**COTTON AT-PLANT APPLICATIONS***

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Cutworm species White Grub Wireworm Grape colaspis Root Maggot Seed corn Maggot	1.5 – 7.4 (0.02 – 0.10)	0.086 – 0.43 (0.0012 – 0.0058)

At-Plant Instructions:

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

COTTON PPI & PRE APPLICATIONS*

PESTS	fl. oz. product/acre (lb. a.i./acre)
Cutworm species White Grub Wireworm Grape colaspis Root maggot Seed corn maggot	2.9 – 7.4 (0.04 – 0.1)

PPI & PRE Instructions:

- **PPI** Treatments: PPI herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use. Follow all use rate recommendations. Incorporate Bifender FC close to seed planting depth up to a max depth of 3 inches.
- **PRE:** Bifender FC can be tank mixed and applied with PRE herbicides.

COTTON FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	1.5 – 7.4 (0.02 – 0.10)
Boll Weevil ¹ Bollworm Cabbage Looper Cotton Aphid ² Cotton Fleahopper Cotton Leafperforator Cutworm Fall Armyworm Plant Bug Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bug Tobacco Budworm Whitefly Yellow Striped Armyworm	2.9 – 7.4 (0.04 – 0.10)
Beet Armyworm Carmine Spider Mite ² Lygus Species Pink Bollworm Two-Spotted Spider Mite ²	4.4 – 7.4 (0.06 – 0.10)

Foliar Instructions:

- **Application in Water:** Apply Bifender FC in 5 or more gallons of spray per acre by ground equipment, or 1 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1 quart of emulsified oil may be substituted for equivalent amount water in the finished spray.
- **ULV Application:** Apply the recommended rate of this product in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.
- **Boll Weevil:** Apply product at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.
- **Mites and Aphids:** Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is reached.

Specific Use Restrictions:

- **DO NOT** make more than 5 foliar applications per year except in California.
- **DO NOT** make more than 3 foliar applications per year in California.
- **DO NOT** apply more than 0.5 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products.
- In California only: **DO NOT** apply more than 0.3 pound active ingredient per acre per year.
- **DO NOT** apply within 14 days of harvest.
- **DO NOT** graze livestock in treated areas or cut treated crops for feed.
- **DO NOT** make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing year.

***Not for Use in California**

CUCURBITIS

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 or *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).

CUCURBITIS AT-PLANT APPLICATIONS

PESTS	USE RATES	
	fl. oz. product/ acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Flea Beetle (larvae) ³ Grubs ³ True Armyworm ¹ Wireworm ³	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
Cucumber Beetle (larvae) ²	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)

At-Plant Instructions:

- ¹**Army cutworm, cutworm species, true armyworm and armyworm species:** Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control.
- ²**Cucumber Beetle larvae (Rootworms):** Following best local practice, apply as a spray T-banded over an open furrow or in-furrow with the seed. Thorough coverage is important for good control.
- ³**Wireworm, grubs, and flea beetle larvae:** Following best local practice, apply as a spray T-banded over an open furrow or in-furrow with the seed. Thorough coverage is important for good control.

CUCURBITIS PPI & PRE APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Seed Corn Maggot Wireworms Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs True Armyworm	5.9 – 7.4 (0.08 – 0.1)

PPI & PRE Instructions:

- PPI:** Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. Apply in a minimum of 10 gallons per acre. **Post Plant Soil Applied:** Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist
- PRE:** Bifender FC can be tank mixed and applied with PRE herbicides. **Post Plant Soil Applied:** Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist.

CUCURBITIS FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworm Cabbage Looper Corn Earworm Cucumber Beetle Cutworm Grasshopper Leafhoppers Melonworm Pickleworm Plant Bug Rindworm Squash Bug Squash Vine Borer Stink Bug Tobacco Budworm	2.9 – 7.4 (0.04 – 0.10)
Banks Grass Mite Carmine Mite Lygus species Two-spotted Spider Mite Whitefly	5.9 – 7.4 (0.08 – 0.10)

Foliar Instructions:

- Apply Bifender FC in 20 or more gallons of spray per acre by ground equipment, or 5 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control.

Specific Use Restrictions:

- DO NOT** make more than 3 foliar applications per year.
- DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- DO NOT** apply more than 0.3 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products.
- DO NOT** make more than 2 applications after bloom.
- DO NOT** make foliar applications less than 7 days apart.
- DO NOT** apply within 3 days of harvest.

EGGPLANT

EGGLANT AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Grubs Root Maggot True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. May be applied at the time of transplanting through transplant water. Thorough coverage of these areas is important for good control.
- ***Army cutworm, Cutworm species, True Armyworm, or Armyworm species:** For best results apply as broadcast to soil surface.

EGGLANT PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Army cutworm Armyworm species Cutworm species Grubs Root maggot True armyworm Wireworm	Pre-Plant Incorporated (PPI) 2.9 – 7.4 (0.04 – 0.1)	
	Pre-Emergence (PRE) 7.4 (0.1)	

PPI & PRE Instructions:

- **PPI:** Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. **Post Plant Soil Applied:** Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist.
- **PRE:** Bifender FC can be tank mixed and applied with PRE herbicides. **Post Plant Soil Applied:** Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist.

EGGLANT FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Armyworms (including Fall, Southern, Yellowstriped, Beet) 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	2.4 – 7.4 (0.033 – 0.10)
Banks Grass Mite Broadmite Carmine Mite Lygus species Pacific Spider Mite Two-spotted Spider Mite	5.9 – 7.4 (0.08 – 0.10)
Foliar Instructions: <ul style="list-style-type: none"> • Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control. 	
Specific Use Restrictions: <ul style="list-style-type: none"> • DO NOT make more than 2 foliar applications per year. • DO NOT apply more than 0.1 pound active ingredient per acre per year as an at-plant application. • DO NOT apply more than 0.2 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products. • DO NOT make foliar applications less than 7 days apart. • DO NOT apply within 7 days of harvest. 	

GRAPES

GRAPES AT-PLANT APPLICATIONS*		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Grape Phylloxera (suppression only) White Grubs Wireworms	7.4 (0.1)	0.42 0.0057
At-Plant Instructions:		
<ul style="list-style-type: none"> Apply in-furrow as a spray in sufficient water for planting. May be applied at the time of transplanting through transplant water. Thorough coverage of these areas is important for good control. 		
GRAPES PPI (Site Preparation) & PRE APPLICATIONS*		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Vine Mealybug Grape Phylloxera (suppression only)	7.4 (0.1)	
PPI (Site Preparation) & PRE Instructions:		
<ul style="list-style-type: none"> PPI: Bifender FC can be tank mixed and applied with PPI herbicides labelled for site preparation. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. PRE: Bifender FC can be tank mixed and applied with PRE herbicides. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. 		
GRAPES FOLIAR APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Cutworms* Eastern Grape Leafhopper Grape Berry Moth * Grapvine Root Borer* Japanese Beetle (Adult)* Lady Beetle (<i>Scymnus</i> species)* Variegated Leafhopper Western Grape Leafhopper	3.7 – 7.4 (0.05 – 0.10)	
Black Vine Weevil Glasswinged Sharpshooter Two-spotted Spider Mite	7.4 (0.10)	
Foliar Instructions:		
<ul style="list-style-type: none"> Apply Bifender FC in 25 or more gallons of spray per acre by ground equipment, or 10 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control. When pest pressure is moderate to severe, use a higher rate within the rate range. 		
Specific Use Restrictions:		
<ul style="list-style-type: none"> DO NOT make more than 1 foliar application per year. DO NOT apply more than 0.10 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC or other bifenthrin containing products. DO NOT apply within 30 days of harvest. 		

*Not for Use in California

HOPS

HOPS AT-PLANT APPLICATIONS*		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Grape colaspis Rootworms Sweet potato flea beetle White grub Wireworms	4.4 – 7.4 (0.06 – 0.1)	0.25 – 0.42 (0.0034 – 0.0057)
At-Plant Instructions:		
<ul style="list-style-type: none"> Following best local practice, apply T-band over an open furrow. May be applied as a soil drench at the time of transplanting through transplant water. Thorough coverage of these areas is important for good control. Apply a minimum of 10 gallons per acre. 		
HOPS LAY-BY APPLICATIONS*		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Grape colaspis Rootworms Wireworms White grub	4.4 – 7.4 (0.06 – 0.1)	
Lay-By Instructions:		
<ul style="list-style-type: none"> Bifender FC may be applied as one or more soil directed and incorporated treatments at cultivation or lay-by. Apply Bifender FC to the transplant area and incorporate with cultivation with equipment set to throw soil towards the transplant area. Apply Bifender FC in 10 or more gallons of spray per acre to achieve thorough coverage. 		
HOPS PPI & PRE APPLICATIONS*		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Grape colaspis Rootworms Wireworms White grub	4.4 – 7.4 (0.06 – 0.1)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> PPI: Bifender FC can be applied with to the transplant area and incorporated to the planting depth. May be applied as a band application or broadcast followed by incorporation. Apply in a minimum of 10 gallon per acre of spray. PRE: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. 		
HOPS FOLIAR APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Aphids Armyworm Cutworm Leafroller Looper	4.4 – 7.4 (0.06 – 0.10)	
Root Weevil ¹	3.7 – 7.4 (0.05 – 0.10)	
Two-spotted Spider Mite ²	7.4 (0.10)	

*Not for Use in California

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HOPS FOLIAR APPLICATIONS <i>(continued)</i>	
Foliar Instructions:	
<ul style="list-style-type: none"> Apply this product in a minimum of 100-150 gallons per acre with ground equipment in early season, or 200-250 gallons of spray per acre in late season. Thorough coverage is important for good control. 1Root Weevils: Direct spray at lower 3 feet of plant plus 1.5-2 feet of soil on both sides of plant row. 2Two-spotted Spider Mite: If applying by air, apply no less than 7.4 fl. oz. (0.10 lb. a.i. per acre) per application in a minimum of 10 gallons of finished spray per acre by aircraft. 	
Specific Use Restrictions:	
<ul style="list-style-type: none"> DO NOT make more than 3 foliar applications per year. DO NOT exceed 0.1 pound active ingredient per acre per application. DO NOT apply more than 0.3 pound active ingredient per acre per year including at-plant, PPI & PRE, lay-by, and foliar applications of Bifender FC and other bifenthrin containing products. Use of ultra low volume (ULV) application on hops is prohibited. DO NOT make foliar applications less than 21 days apart. DO NOT apply within 14 days of harvest. 	

LETTUCE, HEAD

LETTUCE, HEAD AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Corn Rootworm (larvae)	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Army Cutworm ¹ Armyworm species ¹ Bulb Mites ¹ Cutworm species ¹ Grubs Lettuce Root Aphid Root Maggot True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control.
- 1Army cutworm, Cutworm species, True armyworm, Armyworm species, bulb mites:** Apply broadcast to soil surface.

LETTUCE, HEAD PPI APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Lettuce Root Aphid Garden Symphylans	5.9 – 7.4 (0.08 – 0.1)

PPI Instructions:

- PPI:** Bifender FC can be applied as a pre-plant incorporated application.

LETTUCE, HEAD FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworm Corn Earworm Cucumber Beetle Cutworm Diamondback Moth Flea Beetle Grasshoppers Imported Cabbageworm Leafhopper Looper Saltmarsh Caterpillar Stink Bug Thrips Tobacco Budworm Whitefly	2.4 – 7.4 (0.033 – 0.10)
Carmine Mite Lygus species Two-spotted Spider Mite	5.9 – 7.4 (0.08 – 0.10)
Foliar Instructions:	
<ul style="list-style-type: none"> Apply Bifender FC in 15 or more gallons of spray per acre by ground equipment, or 5 or more gallons of spray per acre by aircraft to achieve thorough coverage. When applying by air, 1-2 quarts of emulsified oil may be substituted for equivalent amounts of water in the finished spray. Thorough coverage is important for good control. 	
Specific Use Restrictions:	
<ul style="list-style-type: none"> DO NOT make more than 5 foliar applications per year. DO NOT apply more than 0.1 pound active ingredient per acre per year as an at-plant application. DO NOT apply more than 0.5 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products. DO NOT make foliar applications less than 7 days apart. DO NOT apply within 7 days of harvest. 	

MAYHAW*

MAYHAW PPI & PRE APPLICATIONS	
PESTS	USE RATES
White Grub Wireworm	7.4 (0.1)
PPI & PRE Instructions:	
<ul style="list-style-type: none"> • PPI: Bifender FC can be tank mixed and applied with PPI herbicides labelled for site preparation. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. • PRE: Bifender FC can be tank mixed and applied with PRE herbicides. 	
MAYHAW FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Plum Curculio	5.9 – 7.4 (0.08 – 0.1)
Foliar Instructions:	
<ul style="list-style-type: none"> • Apply Bifender FC in 28 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. 	
Specific Use Restrictions:	
<ul style="list-style-type: none"> • DO NOT make more than 2 foliar applications per year. • DO NOT apply more than 0.2 lb. active ingredient per acre per year including PPI & PRE, and foliar applications of other Bifender FC and other bifenthrin containing products. • DO NOT make foliar applications less than 7 days apart. • DO NOT apply within 30 days of harvest. 	

Not for Use in California*OKRA**

OKRA AT-PLANT APPLICATIONS		
PESTS	USE RATES	
		fl. oz. product/acre (lb. a.i./acre)
Armyworm Cutworm species Flea Beetle (larvae) Grape Colaspis Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions:		
<ul style="list-style-type: none"> • Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. 		
OKRA PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Cutworm species	2.9 – 7.4 (0.04 – 0.1)	
PPI & PRE Instructions:		
<ul style="list-style-type: none"> • PPI & PRE: Bifender FC can be tank mixed and applied with PPI or PRE herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. 		

OKRA FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworms Corn earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Japanese Beetle (Adult) Leafminers Loopers Stink bugs Thrips Whitefly	2.4 – 7.4 (0.033 – 0.1)
Broad Mite Carmine Mite Lygus species Twospotted Spider Mite	5.9 – 7.4 (0.08 – 0.1)
Foliar Instructions:	
<ul style="list-style-type: none"> • Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. 	
Specific Use Restrictions:	
<ul style="list-style-type: none"> • DO NOT make more than 2 foliar applications per year. • DO NOT apply more than 0.1 pound active ingredient per acre per year as an at-plant application. • DO NOT apply more than 0.2 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products. • DO NOT make foliar applications less than 7 days apart. • DO NOT apply within 7 days of harvest. 	

PEANUT

PEANUT AT-PLANT APPLICATIONS*		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Aphids Leafhoppers Thrips Wireworms	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
At-Plant Instructions: <ul style="list-style-type: none"> Following best local practice, apply T-band over an open furrow, or in-furrow as a spray. Thorough coverage of these areas is important for good control. 		
PEANUT FOLIAR APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Beet Armyworm Corn Earworm Cutworm Species Fall Armyworm Grasshoppers Green Cloverworm Leafhoppers Lesser Cornstalk Borer Loopers Rednecked Peanut Worm Southern Armyworm Southern Corn Rootworm Stink Bugs Three cornered Alfalfa Hopper Velvetbean Caterpillar Yellowstriped Armyworm	2.4 – 7.4 (0.033 – 0.1)	
Aphids Spider Mites Thrips Whitefly	5.9 – 7.4 (0.08 – 0.1)	
Foliar Instructions: <ul style="list-style-type: none"> Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. 		
Specific Use Restrictions: <ul style="list-style-type: none"> DO NOT make more than 5 foliar applications per year. DO NOT apply more than 0.5 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products. DO NOT feed treated peanut hay or immature plants to livestock. DO NOT make foliar applications less than 14 days apart. DO NOT apply within 14 days of harvest. 		

*Not for Use in California

PEARS

PEARS FOLIAR APPLICATIONS	
PESTS	USE RATES
	fl. oz. product/acre (lb. a.i./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	2.9 – 14.7 (0.04 – 0.2)
Two-spotted Spider Mite Yellow Mite	4.4 – 14.7 (0.06 – 0.2)
European Red Mite	5.9 – 14.7 (0.08 – 0.2)
Foliar Instructions: <ul style="list-style-type: none"> Apply Bifender FC in 50 or more gallons of concentrated spray per acre by ground equipment, or 200 or more gallons of diluted spray by ground equipment, or 10 or more gallons of spray per acre by aircraft to achieve thorough coverage. Thorough coverage is important for good control. 	
Specific Use Restrictions: <ul style="list-style-type: none"> DO NOT make more than 3 applications per year. DO NOT apply more than 0.5 pound active ingredient per acre per year, with no more than 0.45 pound active per acre applied after petal fall of Bifender FC and other bifenthrin containing products. DO NOT graze livestock in treated orchards or cut treated cover crops for feed. DO NOT make applications less than 30 days apart. DO NOT apply within 14 days of harvest. 	

PEPPERS, BELL & NON-BELL; PEPINO

PEPPERS, BELL & NON-BELL; PEPINO AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Flea beetle (larvae) Grubs Pepper Maggot Root Aphid Root Maggot Stalk Borer ¹ True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions: <ul style="list-style-type: none"> Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. 'Army cutworm, Cutworm species, True armyworm, Armyworm species, Stalk Borer: For best results apply broadcast to soil surface. 		
PEPPERS, BELL & NON-BELL; PEPINO PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Army cutworm Armyworm species Cutworm species Flea beetle larvae Grubs True Armyworm Wireworm	Pre-Plant Incorporated (PPI) 2.9 – 7.4 (0.04 – 0.1) Pre-Emergence (PRE) 7.4 (0.1)	
PPI & PRE Instructions: <ul style="list-style-type: none"> PPI: Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. PRE: Bifender FC can be tank mixed and applied with PRE herbicides. Post Plant Soil Applied: Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist. 		

PEPPERS, BELL & NON-BELL; PEPINO FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Armyworms (Beet, Fall, Southern, Yellowstriped) Corn Earworm Cucumber Beetle Cutworms European Corn Borer Flea Beetle Leafminers Loopers Pepper Weevil Plant Bug Stink Bugs Thrips Tomato Hornworm Tomato Pinworm Whitefly	2.4 – 7.4 (0.033 – 0.10)
Broad Mite Carmine Mite Lygus species Pacific Spider Mite Two-spotted Spider Mite	5.9 – 7.4 (0.08 – 0.10)
Foliar Instructions: <ul style="list-style-type: none"> Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. Thorough coverage is important for good control. 	
Specific Use Restrictions: <ul style="list-style-type: none"> DO NOT make more than 2 foliar applications per year. DO NOT apply more than 0.1 pound active ingredient per acre per year as an at-plant application. DO NOT apply more than 0.2 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products. DO NOT make foliar applications less than 7 days apart. DO NOT apply within 7 days of harvest. 	

ROOT CROPS (EXCEPT SUGAR BEETS AND GARDEN BEETS)

Burdock (edible), Carrot, Celeriac, Turnip rooted chervil, Chicory, Ginseng, Horseradish, Turnip rooted parsley, Parsnip, Radish, Radish (Oriental), Rutabaga, Salsify, Salsify (Black), Salsify (Spanish), Skirret, Turnip

ROOT CROPS (EXCEPT SUGAR BEETS AND GARDEN BEETS) AT-PLANT APPLICATIONS*

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Crown and Root Aphids Cutworms Flea Beetles Seed corn and Root Maggots Wireworms	7.4 (0.1)	0.42 (0.0057)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, or in-furrow as a spray. May be applied during Thorough coverage of these areas is important for good control. May be applied through transplant water at the time of transplanting.

ROOT CROPS (EXCEPT SUGAR BEETS AND GARDEN BEETS) PPI & PRE APPLICATIONS*

PESTS	fl. oz. product/acre (lb. a.i./acre)
Crown and Root Aphids Cutworms Flea Beetles Seed corn and Root Maggots Wireworms	7.4 (0.1)

PRE and PPI Instructions:

- PPI:** Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth.
- PRE:** Bifender FC can be tank mixed and applied with PRE herbicides.

ROOT CROPS (EXCEPT SUGAR BEETS AND GARDEN BEETS) FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Beet Armyworm Celery Leaf tier Corn Earworm Cross-Striped Cabbageworm Cutworm Species Diamondback moth European Corn Borer Fall Armyworm Flea Beetles Green Cloverworm Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped Armyworm	5.9 – 7.4 (0.08 – 0.10)

Foliar Instructions:

- Apply Bifender FC in 25 or more gallons of spray per to achieve thorough coverage. Thorough coverage is important for good control.
- Make application at the beginning of when locally determined economic thresholds have been reached.

Specific Use Restrictions:

- DO NOT** make more than 5 foliar applications per year.
- DO NOT** apply more than 0.5 lb. active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products.
- DO NOT** make applications less than 7 days apart.
- DO NOT** apply within 21 days of harvest.

Not for Use in California*GARDEN BEETS****GARDEN BEETS AT-PLANT APPLICATIONS***

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Crown and Root Aphids Cutworms Flea Beetles Seed corn and Root Maggots Wireworms	7.4 (0.1)	0.42 (0.0057)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, or in-furrow as a spray. May be applied during Thorough coverage of these areas is important for good control. May be applied through transplant water at the time of transplanting.

GARDEN BEETS PPI & PRE APPLICATIONS*

PESTS	fl. oz. product/acre (lb. a.i./acre)
Crown and Root Aphids Cutworms Flea Beetles Seed corn and Root Maggots Wireworms	7.4 (0.1)

PRE and PPI Instructions:

- PPI:** Bifender FC can be tank mixed and applied with PPI herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth.
- PRE:** Bifender FC can be tank mixed and applied with PRE herbicides.

GARDEN BEETS FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	5.9 – 7.4 (0.08 – 0.10)

Foliar Instructions:

- Apply Bifender FC in 25 or more gallons of spray per acre by ground equipment to achieve thorough coverage. Thorough coverage is important for good control.

Not for Use in California(continued)*

GARDEN BEETS (continued)

Specific Use Restrictions:

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** apply more than 0.4 lb. active ingredient per acre per year including at-plant, PPI & PRE, and foliar applications of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 7 days apart.
- **DO NOT** apply within 1 day of harvest.

Ants (except pharaoh, fire, carpenter, or harvester ants) Chinch Bugs ⁵ Japanese Beetle (Adult) Mole Cricket (Adult) ⁷ Mole Cricket (Nymph) ⁸	7.4 – 14.7 (0.1 – 0.2)	0.17 – 0.34 (0.0023 – 0.0046)
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Product Instructions:

- Following best local practice, 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. For best foliage wetting, apply tank-mixed with a compatible surfactant. Thorough coverage is important for good control. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests including mole crickets. If pest populations are extremely high or maximum residual control is required, Bifender FC may be applied at a maximum of 0.34 fl. oz. per 1000 square feet per application.
- **Armyworms, Cutworms and Sod Webworms:** Delay watering (irrigation) or mowing for 24 hours after application to ensure optimum control. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.34 fl. oz. per 1000 square feet per application) may be required during periods of high pest pressure.
- **Annual Bluegrass Weevil (adult):** For optimal control, time applications to coincide with adult weevil movement from overwintering sites to grass areas. Weevil migration time usually begins at Forsythia bloom and ends with the full bloom of the flowering dogwood (*Cornus florida*). Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.
- **Billbug (adult):** For best results, apply Bifender FC when adults are first observed. Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.
- **Black Turfgrass Ataenius (adult):** Control the first and second generations by applying product in May and July. First (May) application should coincide with blooming horse chestnut (*Aesculus hippocastanum*) and Vanhoutte spiraea (*Spiraea vanhouttei*). Second (July) application should coincide with Rose of Sharon (*Hibiscus syriacus*) bloom.

SOD FARMS*

SOD FARMS AT-PLANT APPLICATIONS

PESTS	USE RATES
	fl. oz. product/acre (lb. a.i./acre)
Ants (except pharaoh, fire, carpenter, or harvester ants) Chinch Bugs ⁵ Crickets Cutworms ¹ Earwigs Wireworm White Grub	7.4 (0.1)

At-Plant Instructions:

- Bifender FC may be applied as a T-band spray into the furrow, of in-furrow with the seed.

SOD FARMS PPI & PRE APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Ants (except pharaoh, fire, carpenter, or harvester ants) Chinch Bugs ⁵ Crickets Cutworms ¹ Earwigs Wireworm White Grub	7.4 (0.1)

PRE and PPI Instructions:

- **PPI & PRE:** Bifender FC can be tanked mixed and applied with PPI or PRE herbicides. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth.

SOD FARMS FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 ft ² (lb. a.i./1000 ft ²)
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	2.4 – 14.7 (0.033 – 0.2)	0.06 – 0.34 (0.0008 – 0.0046)
Annual Bluegrass Weevil (Hyperodes) ² (Adult) Banks Grass Mite ⁶ Billbugs (Adult) ³ Black Turfgrass Ataenius (Adult) ⁴ Crickets Earwigs Grasshoppers Mealybugs Mites ⁵	3.7 – 14.7 (0.05 – 0.2)	0.08 – 0.34 (0.0011 – 0.0046)

SOD FARMS (continued)

Product Instructions: (continued)

- **Chinch Bug:** Chinch bugs are found in the thatch layer and infest the base of grass plants. To optimize penetration of Bifender FC to chinch bug location, irrigate grass before treatment. If grass area is being maintained at a long mowing height or if thatch layer is excessive, apply at a higher volume. High labeled application rates (up to 0.34 fl. oz. per 1000 square feet per application) can be used to control difficult midsummer nymph and adult populations.
- **Mites:** For optimal control, apply in combination with the labeled application rate of a surfactant and a second application, five to seven days after the first, may be necessary.
- **Mole Cricket (adult):** For best results on this very active insect pest, apply as late in the day as possible. Water grass immediately after treatment with up to 0.5 inches of water. If soil is dry, irrigate before treatment to bring insects closer to the surface and insecticide treatment. Treat at peak egg hatch to ensure larvae are suppressed. Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.
- **Mole Cricket (nymph):** If areas were under high mole cricket pressure in the spring, then treat immediately before peak egg hatch. Emerging insect nymphs are closer to the soil surface and more susceptible to insecticide, while older and larger nymphs cause more damage and are more difficult to control. Higher labeled application rates and more frequent applications may need to be made to control the older nymphs. For best results, apply as late in the day as possible, and water grass after treatment with up to 0.5 inches of water. If soil is dry, irrigate before treatment to bring insects closer to the surface and insecticide treatment.

Specific Use Restrictions:

- **NOT FOR USE ON SOD FARMS IN THE STATE OF NEW YORK.**
- In New York State, this product may not be applied to turf within 100 feet of a coastal marsh (or of a water body [lake, pond, river, stream, wetland, or drainage ditch]).
- In New York State, make a second application of this product if there are signs of renewed insect activity, no sooner than two weeks after the first application.
- **DO NOT** apply more than 0.4 pound active ingredient per acre per year of Bifender FC and other bifenthrin containing products.

*Not for Use in New York State

SOYBEANS

SOYBEANS AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/ 1000 row ft. (lb. a.i./1000 row ft.)
Rootworm larvae	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Army Cutworm ¹ Armyworm species ¹ Bean Leaf Beetle (larvae) Cutworm species ¹ Grape Colaspis Grubs Root Maggot Seed Corn Beetle Seed Corn Maggot True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
Product Instructions:		
<ul style="list-style-type: none"> • Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. • ¹Army cutworm, Cutworm species, True armyworm, Armyworm species: For best results apply broadcast to soil surface. 		
SOYBEANS PPI & PRE APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Armyworm species Bean Leaf Beetle (larvae) Black Cutworm Seed Corn Beetle (larvae) Stalkborer Seedcorn Maggot White Grub Wireworm	Pre-Plant Incorporated (PPI) 3.5 – 4.6 (0.047 – 0.062)	
Armyworm species Black Cutworm	Pre-Emergence (PRE) 2.9 (0.04)	
PPI and PRE Instructions:		
<ul style="list-style-type: none"> • PPI: PPI herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use. Follow all use rate recommendations. Incorporate Bifender FC close to seed planting depth up to a max depth of 3 inches. • PRE: PRE herbicides can be tank mixed with Bifender FC. Test for compatibility with jar tests or similar methods before use and follow all use rate recommendations. 		

(continued)

SOYBEANS (continued)

SOYBEANS FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Alfalfa Caterpillar Aphids Armyworms ¹ Bean Leaf Beetle Blister Beetle species Corn Earworm Corn Rootworm (Adult) Cowpea Curculio Cucumber Beetle (Adult) Cutworms Dectes Stem Borer False Chinch Bug Flea Beetle Grasshoppers Green Cloverworm Hornworms Imported Cabbageworm Japanese Beetle (Adult) Kudzu Bug Leaf Skeletonizer species Leafhoppers Leafminers (Adult) Lesser Cornstalk Borer Loopers Mexican Bean Beetle Painted Lady (Thistle) Caterpillar Pea Leaf Weevil Saltmarsh Caterpillar Seedcorn Maggot (Adult) Silverspotted Skipper Spittlebug Stink Bug Three-Cornered Alfalfa Hopper Thrips Tobacco Budworm ¹ Velvetbean Caterpillar Webworm Woollybear Caterpillar	2.4 – 7.4 (0.033 – 0.10)
Lygus Species Whitefly Two Spotted Spider Mite	5.9 – 7.4 (0.08 – 0.10)
Foliar Instructions: <ul style="list-style-type: none"> Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 2 or more gallons of spray per acre by aircraft to achieve thorough coverage. 'Armyworms, tobacco budworm: Please consult your local or state agricultural authority to determine if pyrethroid resistance is present in armyworm, or tobacco budworm populations in your area. If so refer to the resistance management section of this label. 	

Specific Use Restrictions:

- DO NOT** make more than 3 foliar applications per year.
- DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- DO NOT** apply more than 0.3 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products.
- DO NOT** make foliar applications less than 30 days apart.
- DO NOT** apply within 18 days of harvest.

SPINACH

SPINACH AT-PLANT APPLICATIONS		
PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Garden Symphylans Rootworm larvae	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Grubs Root Maggot Seedcorn Maggot True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)
At-Plant Instructions: <ul style="list-style-type: none"> Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. 'Army cutworm, Cutworm species, True armyworm, Armyworm species: Apply broadcast to the soil surface. 		
SPINACH PPI APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Garden Symphylans Seed Corn Maggot Wireworms	2.9 – 5.9 (0.04 – 0.08)	
PPI Instructions: <ul style="list-style-type: none"> PPI: Bifender FC can be applied as a pre-plant incorporated application. 		
SPINACH FOLIAR APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Tomato Hornworm Tomato Pinworm Whitefly ¹	2.4 – 7.4 (0.033 – 0.10)	

SPINACH FOLIAR APPLICATIONS *(continued)*

Broad Mite	
Banks Grass Mite	
Carmine Mite	5.9 – 7.4
Lygus species	(0.08 – 0.10)
Pacific Spider Mite	
Two-spotted Spider Mite	

Foliar Instructions:

- Apply Bifender FC in 10-50 gallons of spray per acre by ground equipment, or 5-50 gallons of spray per acre by aircraft to achieve thorough coverage.
- **Whitefly:** apply foliar treatments of Bifender FC by ground or air at rates of up to 0.1 lb active per acre per application at minimum 7-day intervals up to a maximum of 4 applications.

Specific Use Restrictions:

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- **DO NOT** apply more than 0.4 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 7 days apart.
- **DO NOT** apply within 40 days of harvest.

STRAWBERRIES**STRAWBERRIES FOLIAR APPLICATIONS**

PESTS	USE RATES
	fl. oz. product/acre (lb. a.i./acre)
Aphids	
Armyworms	
Flea Beetles	
Heliothis species	
Leafrollers	2.9 – 14.7
Lygus species	(0.04 – 0.2)
Plant Bugs	
Spittlebugs	
Stink Bugs	
Strawberry Clipper	
Strawberry Sap Beetle	
Strawberry Root Weevil	3.7 – 14.7
Black Vine Weevil	(0.05 – 0.2)
Spider Mites	7.4 – 14.7
	(0.10 – 0.2)

Foliar Instructions:

- Apply Bifender FC in 50 or more gallons of spray per acre by ground equipment, or 5 or more gallons of spray per acre by aircraft to achieve thorough coverage.
- Repeat as necessary at 7 – 14 day intervals if pest population reaches damaging thresholds.

Specific Use Restriction:

- Aerial application is prohibited in Florida.
- **California:** Any harvesters or other personnel who are in treated fields within five days of application and who are performing tasks with all-day foliage contact must wear a long-sleeved shirt, long pants, and shoes plus socks. For strawberry fields treated with 0.1 lb a.i./A or more harvesters must wear gloves while performing tasks in treated fields within 5 days of application.
- **DO NOT** exceed 0.5 pound of active ingredient per acre per year including foliar applications of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 7 days apart.
- No pre-harvest interval required.

TOBACCO**TOBACCO PRE- & AT-TRANSPLANT APPLICATIONS**

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Armyworm species		
Cutworm species		
Flea Beetle (larvae)	2.9 – 7.4	0.17 – 0.42
Mole Cricket	(0.04 – 0.1)	(0.0023 – 0.0057)
Stalkborer		
White Grubs		
Wireworm		

Transplant Instructions:

- **Pre-transplant soil applications:** Use of suitable equipment to incorporate into top 4 inches of the soil is required to control below ground pests.
- **Transplant water application:** Apply 0.0625 to 0.1 lb. a.i./ acre in a transplant water treatment application volume of 10 to 200 gal/A.

TOBACCO FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphid species ¹	
Armyworm species	
Chinch Bugs	
Cutworm species	
Flea Beetle (adult)	
Grasshoppers	2.9 – 7.4
Green Bugs	(0.04 – 0.1)
Japanese Beetles	
Stink Bugs	
Tarnished Plant Bugs	
Thrips	
Whiteflies	
Hornworm	5.9 – 7.4
Tobacco Budworm	(0.08 – 0.10)
Lygus species	7.4
Spider Mites	(0.1)

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TOBACCO FOLIAR APPLICATIONS *(continued)***Foliar Instructions:**

- Apply 0.04 to 0.10 lb ai/acre per foliar application up to, and including, layby in 10 or more gallons per acre for thorough control.
- May be tank mixed with other herbicides approved for tobacco use. Test for compatibility before application. See resistance management statement under "Directions for Use" section.
- **Aphids:** See resistance management statement under "Directions for Use" section.

Specific Use Restrictions:

- **DO NOT** make more than 2 foliar applications per year.
- **DO NOT** apply later than layby.
- **DO NOT** apply more than 0.2 pound active ingredient per acre per year including pre- and at-transplant, and foliar applications of Bifender FC and other bifenthrin containing products.

TOMATOES; TOMATILLOS; GROUNDCHERRIES**TOMATOES AT-PLANT APPLICATIONS**

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Rootworm larvae	5.9 – 7.4 (0.08 – 0.1)	0.34 – 0.42 (0.0046 – 0.0057)
Army Cutworm ¹ Armyworm species ¹ Cutworm species ¹ Flea Beetle (larvae) Grubs Root Maggot Stalkborer ¹ True Armyworm ¹ Wireworm	2.9 – 5.9 (0.04 – 0.08)	0.17 – 0.34 (0.0023 – 0.0046)

At-Plant Instructions:

- Following best local practice, apply T-band over an open furrow, in-furrow as a spray, or as a banded spray over the row targeting the soil surface. Thorough coverage of these areas is important for good control. May be applied through transplant water at the time of transplanting.
- ***Army cutworm, Armyworm species, Cutworm species, Stalkborer, True Armyworm:** Apply broadcast to soil surface.

TOMATOES PPI & PRE APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Army cutworm Armyworm species Cutworm species Flea beetle larvae Garden symphylans Grubs True Armyworm Wireworm	Pre-Plant Incorporated (PPI) 2.9 – 5.9 (0.04 – 0.08) Pre-Emergence (PRE) 5.9 (0.08)

PPI & PRE Instructions:

- **PPI:** Bifender FC can be tank mixed and applied with PPI herbicide. Apply Bifender FC no deeper than the intended plant depth and no deeper than 3 inches. Incorporate Bifender FC at a depth close to the intended seed planting depth. **Post Plant Soil Applied:** Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist.
- **PRE:** Bifender FC can be tank mixed and applied with PRE herbicides. **Post Plant Soil Applied:** Apply Bifender FC through drip or Drip Tape. Apply towards the end of the irrigation run when soil is moist.

TOMATOES FOLIAR APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Aphids Armyworms (Beet Armyworm, Fall Armyworm, Southern Yellow-striped Armyworm) Bean Leaf Beetle Cabbageworm Carmine 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 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	2.4 – 5.9 (0.033 – 0.08)
Two-spotted Spider Mite	5.9 – 7.4 (0.08 – 0.10)

Foliar Instructions:

- Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment or 5 or more gallons of spray per acre by air to achieve thorough coverage. Thorough coverage is essential to achieve control.

(continued)

TOMATOES *(continued)***Specific Use Restrictions:**

- **DO NOT** make more than 4 foliar applications per year.
- **DO NOT** apply more than 0.1 pound active ingredient per acre per year as an at-plant application.
- **DO NOT** apply more than 0.40 pound active ingredient per acre per year including at-plant, PPI & PRE, and foliar application of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 10 days apart.
- **DO NOT** apply within 1 day of harvest.

TREE NUTS

Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Pistachio

TREE NUTS FOLIAR APPLICATIONS

FOLIAR	USE RATES
	fl. oz. product/acre (lb. a.i./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	3.7 – 14.7 (0.05 – 0.2)
European Red Mite Pecan Weevil* Spider Mite species	5.9 – 14.7 (0.08 – 0.2)
Walnut Husk Fly	7.4 – 14.7 (0.1 – 0.2)

Foliar Instructions:

- Apply Bifender FC in 50 or more gallons of spray per acre by ground equipment as a concentrated spray, 200 or more gallons of spray by ground equipment as a dilute spray, or 10 or more gallons of spray per acre by aircraft to achieve thorough coverage. Thorough coverage is important for good control.

Specific Use Restrictions:

- **DO NOT** make more than 3 applications per year.
- **DO NOT** apply more than 0.5 pound active ingredient per acre per year of Bifender FC and other bifenthrin containing products.
- **DO NOT** make foliar applications less than 15 days apart.
- For pecans, **DO NOT** apply within 21 days of harvest. For all other registered tree nut crops, **DO NOT** apply within 7 days of harvest.
- **DO NOT** graze livestock in treated areas or cut treated crops for feed.

*Not for Use in California

TUBEROUS AND CORM VEGETABLES

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

TUBEROUS AND CORM VEGETABLES AT-PLANT APPLICATIONS

PESTS	USE RATES	
	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 row ft. (lb. a.i./1000 row ft.)
Grape Colaspis Rootworms Sweet Potato Flea Beetle White Grub Wireworms	11.0 – 22.1 (0.15 – 0.30)	0.63 – 1.27 (0.0086 – 0.0172)

At-Plant Instructions:

- Bifender FC may be applied as a soil incorporated broadcast, directed bed spray or a T-band spray into the furrows. Apply Bifender FC in 10 or more gallons of spray per acre to achieve thorough coverage.

TUBEROUS AND CORM VEGETABLES PPI APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Grape Colaspis Rootworms Sweet Potato Flea Beetle White Grub Wireworm	11.0 – 22.1 (0.15 – 0.30)

PPI Instructions:

- **PPI:** Apply Bifender FC to the planting area as a broadcast application or a banded application prior to planting and incorporate to the planting depth. Apply Bifender FC in 10 or more gallons of spray per acre to achieve thorough coverage.

TUBEROUS AND CORM VEGETABLES LAY-BY APPLICATIONS

PESTS	fl. oz. product/acre (lb. a.i./acre)
Grape Colaspis Rootworm Sweet Potato Flea Beetle White Grub Wireworm	11.0 – 22.1 (0.15 – 0.30)

Lay-By Instructions:

- Bifender FC may be applied as one or more soil directed and incorporated treatments at cultivation or lay-by. Apply Bifender FC to the drill area and incorporate by cultivation with equipment set to throw soil towards the drill area. Apply Bifender FC in 10 or more gallons of spray per acre to achieve thorough coverage.

(continued)

TUBEROUS AND CORM VEGETABLES (continued)

TUBEROUS AND CORM VEGETABLES FOLIAR APPLICATIONS	
PESTS	fl. oz. product/acre (lb. a.i./acre)
Black Flea Beetle (Adult) Click Beetle (Adult Corn/ Tobacco Wireworm) Cucumber Beetles (Adult Rootworm) Japanese Beetle Grubs May/June Beetle (Adult White Grub) Southern Potato Wireworm Sugar cane Beetle Sweetpotato Flea Beetle Sweetpotato Weevil Wireworm Whiteringed Beetle	2.4 – 7.4 (0.033 – 0.10)
Foliar Instructions:	
• Apply Bifender FC in 10 or more gallons of spray per acre by ground equipment, or 3 or more gallons of spray per acre by aircraft to achieve thorough coverage.	
Specific Use Restrictions:	
• DO NOT make more than 2 foliar applications per year. • DO NOT apply more than 0.3 pound active ingredient per acre per year as an at-plant application. • DO NOT apply more than 0.5 pound active ingredient per acre per year including at-plant, PPI & PRE, lay-by, and foliar application of Bifender FC and other bifenthrin containing products. • DO NOT make foliar applications less than 21 days apart. • DO NOT apply within 21 days of harvest.	

- Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
 - Applications around potential exterior pest entry points into man-made structures such as doorways and windows, when limited to a band not to exceed one inch;
 - Applications to vertical surfaces (such as the side of a man-made structure) directly above impervious surfaces (e.g., driveways, sidewalks, etc.), up to 2 feet above ground level;
 - Applications to vertical surfaces directly above pervious surfaces, such as soil, lawn, turf, mulch or other vegetation) only if the pervious surface does not drain into ditches, storm drains, gutters, or surface waters.
- Spot treatments must not exceed two square feet in size (for example, 2 ft. by 1 ft. or 4 ft. by 0.5 ft.).
 - For soil or foliar applications, **DO NOT** apply by ground equipment within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds. When treating tall trees (> 15 feet) from the ground with high pressure sprays or during any application with air assisted equipment (mist blower), **DO NOT** apply within 150 feet of aquatic areas.
 - DO NOT** spray the product into fish ponds, ponds, streams, or lakes. **DO NOT** apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
 - DO NOT** allow the product to enter any drain during or after application.
 - DO NOT** apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
 - DO NOT** apply or irrigate to the point of runoff.
 - DO NOT** make any applications during rain. Avoid making applications when rainfall is expected before the product has had sufficient time to dry (minimum 4 hours).

SPECIFIC USE DIRECTIONS FOR TURF AND ORNAMENTALS USE

Bifender FC can be used to control a wide assortment of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes: hotels, shopping malls, office buildings, and outdoor plantscapes: nurseries¹, residential dwellings, parks, institutional buildings, recreational areas, athletic fields, golf courses, sod farms¹, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity within 365 days of application. Bifender FC may be applied mixed with water or other aqueous carriers such as liquid fertilizers. Test potential mixing partners, including adjuvants, for mixing compatibility using a standard jar test or other similar method and for crop safety prior to use on a crop. (¹applications on these use sites are subject to the Worker Protection Standard, 40 CFR part 170, when applications are made to plants grown for non-exempt commercial or research purposes.)

Turf and Ornamental Use Restrictions

- New York State Restrictions – Turf and Ornamental:**
 - NOT FOR USE ON SOD FARMS IN THE STATE OF NEW YORK.**
 - In New York State, this product may not be applied to turf within 100 feet of a coastal marsh (or of a water body [lake, pond, river, stream, wetland, or drainage ditch]).
- All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:
 - Application to pervious surfaces such as soil, lawn, turf, and other vegetation;
 - Perimeter band treatments of 7 feet wide or less from the base of a man-made structure to pervious surfaces (e.g., soil, mulch, or lawn);

- Rainfall within 24 hours after application may cause unintended runoff of pesticide application.
- DO NOT** apply when the wind speed is greater than 15 mph.
- DO NOT** apply by air. Apply with ground equipment only.
- Treat surfaces to ensure thorough coverage but avoid runoff.
- To treat insects harbored in voids and cracks-and-crevices, applications must be made in a manner to limit dripping and avoid runoff onto untreated structural surfaces and plants.

Additional restriction for outdoor applications to commercial nurseries:

- DO NOT** apply when the wind speed is greater than 15 mph.
- Applicators are required to select the nozzle and pressure that deliver a medium or coarser droplet size (ASABE S572).

TURFGRASS

(golf courses¹, sod farms², home lawns, lawn areas around parks, institutional, public, commercial and industrial buildings, recreational and athletic fields)

TURFGRASS FOLIAR APPLICATIONS		
PESTS	fl. oz. product/acre (lb. a.i./acre)	fl. oz. product/1000 ft ² (lb. a.i./1000 ft ²)
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	2.4 – 14.7 (0.033 – 0.2)	0.06 – 0.34 (0.0008 – 0.0046)
Annual Bluegrass Weevil (Hyperodes) ² (Adult) Banks Grass Mite ³ Billbugs (Adult) ³ Black Turfgrass Ataenius (Adult) ⁴ Crickets Earwigs Grasshoppers Mealybugs Mites ⁵	3.7 – 14.7 (0.05 – 0.2)	0.08 – 0.34 (0.0011 – 0.0046)
Ants (except pharaoh, fire, carpenter, or harvester ants) Chinch Bugs ⁵ Japanese Beetle (Adult) Mole Cricket (Adult) ⁷ Mole Cricket (Nymph) ⁸	7.4 – 14.7 (0.1 – 0.2)	0.17 – 0.34 (0.0023 – 0.0046)

Product Instructions:

- Following best local practice, 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. For best foliage wetting, apply tank-mixed with a compatible surfactant. Thorough coverage is important for good control. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests including mole crickets. If pest populations are extremely high or maximum residual control is required, Bifender FC may be applied at a maximum of 0.34 fl. oz. per 1000 square feet per application.
- **Armyworms, Cutworms and Sod Webworms:** Delay watering (irrigation) or mowing for 24 hours after application to ensure optimum control. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.34 fl. oz. per 1000 square feet per application) may be required during periods of high pest pressure.
- **Annual Bluegrass Weevil (adult):** For optimal control, time applications to coincide with adult weevil movement from overwintering sites to grass areas. Weevil migration time usually begins at Forsythia bloom and ends with the full bloom of the flowering dogwood (*Cornus florida*). Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.
- **Billbug (adult):** For best results, apply Bifender FC when adults are first observed. Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.

(continued)

Product Instructions: (continued)

- **Black Turfgrass Ataenius (adult):** Control the first and second generations by applying product in May and July. First (May) application should coincide with blooming horse chestnut (*Aesculus hippocastanum*) and Vanhoutte spiraea (*Spiraea vanhouttei*). Second (July) application should coincide with Rose of Sharon (*Hibiscus syriacus*) bloom.
- **Chinch Bug:** Chinch bugs are found in the thatch layer and infest the base of grass plants. To optimize penetration of Bifender FC to chinch bug location, irrigate grass before treatment. If grass area is being maintained at a long mowing height or if thatch layer is excessive, apply at a higher volume. High labeled application rates (up to 0.34 fl. oz. per 1000 square feet per application) can be used to control difficult midsummer nymph and adult populations.
- **Mites:** For optimal control, apply in combination with the labeled application rate of a surfactant and a second application, five to seven days after the first, may be necessary.
- **Mole Cricket (adult):** For best results on this very active insect pest, apply as late in the day as possible. Water grass immediately after treatment with up to 0.5 inches of water. If soil is dry, irrigate before treatment to bring insects closer to the surface and insecticide treatment. Treat at peak egg hatch to ensure larvae are suppressed. Consult with your local extension specialist or certified crop advisor for the most accurate and up-to-date emergence and application timing.
- **Mole Cricket (nymph):** If areas were under high mole cricket pressure in the spring, then treat immediately before peak egg hatch. Emerging insect nymphs are closer to the soil surface and more susceptible to insecticide, while older and larger nymphs cause more damage and are more difficult to control. Higher labeled application rates and more frequent applications may need to be made to control the older nymphs. For best results, apply as late in the day as possible, and water grass after treatment with up to 0.5 inches of water. If soil is dry, irrigate before treatment to bring insects closer to the surface and insecticide treatment.

Specific Use Restrictions:

- **NOT FOR USE ON SOD FARMS IN THE STATE OF NEW YORK.**
- In New York State, this product may not be applied to turf within 100 feet of a coastal marsh (or of a water body [lake, pond, river, stream, wetland, or drainage ditch]).
- In New York State, make a second application of this product if there are signs of renewed insect activity, no sooner than two weeks after the first application.
- **DO NOT** apply more than 0.4 pound active ingredient per acre per year of Bifender FC and other bifenthrin containing products.

*Not for Use in New York State

ORNAMENTALS

Bifender FC is for use on container, bench, or bed grown ornamentals in greenhouses or outdoor nurseries, and for use on ornamentals grown for indoor and outdoor landscaping.

PESTS	USE RATES	
	fl. oz. product/1000 ft ² (lb. a.i./1000 ft ²)	fl. oz. product /100 gallons (lb. a.i./100 gallons)
Bagworms ¹ Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock Moth	0.06 – 0.09 (0.0008 – 0.0012)	2.1 – 4.1 (0.028 – 0.056)
Adelgids* Ants (except pharaoh, fire, carpenter, or harvester ants) Aphids Bees (except Africanized honey bees)* Beet Armyworm Beetles ² Black Vine Weevil (Adults) Broad Mites Budworms Cicadas Citrus Thrips Clover Mites Crickets Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Glasswinged Sharpshooter Grasshoppers Japanese Beetle (Adults) Leafhoppers Leafrollers Mealybugs Mites Nantucket Pine Tip Moth Pillbugs Pine Sawflies Plant Bugs (including Lygus spp.) Psyllids Scales (including Brown Soft Scales California Red Scale (Crawlers) ² Elongated Hemlock Scale* Pine Needle Scales (Crawlers) ² San Jose Scales (Crawlers) ²) Spider Mites ³ Spiders (except widow or recluse spiders) Spittlebugs Thrips Tip Moths Treehoppers Twig Borers ²	0.09 – 0.17 (0.0012 – 0.0023)	4.1 – 8.3 (0.056 – 0.112)

Weevils ² (White Pine, Weevil Pales, Weevil Diaprepes (Adults), Orchid Weevil White Flies Zimmerman Pine Moths	0.09 – 0.17 (0.0012 – 0.0023)	4.1 – 8.3 (0.056 – 0.112)
Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites ³	0.17 – 0.34 (0.0023 – 0.0047)	8.3 – 16.6 (0.112 – 0.225)

Product Instructions:

- Following best local practice, apply as a broadcast treatment using the labeled rates in the table above. Use higher spray volumes (up to 10 gallons of carrier per 1000 square feet) to get uniform coverage. Labeled rates should be effective for all pests listed in above table. However, if pest populations are extremely high or maximum residual control is required, Bifender FC may be applied at a maximum of 0.34 fl. oz. per 1000 square feet or 16.6 fl oz/100 gallons per application for a maximum of 2 applications.
- **Bagworms:** For best results, apply when larvae are beginning to hatch and spray larvae directly. Application is most effective when larvae are young.
- **Beetles, Scale Crawlers, Twig Borers, and Weevils:** May treat trunks, stems and twigs in addition to plant foliage.
- **Spider Mites:** Bifender FC provides two-spotted spider mite control when applied in the spring to mid-summer. High application rates and/or more frequent application may be required for acceptable twospotted spider mite control during mid-to-late summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of Bifender FC with other miticides have also been known to be effective. Bifender FC may also be rotated with other products that have different modes of action in control programs designed to manage resistance. Consult your local Cooperative Extension Service for regional resistance management recommendations.
- Bifender FC is not typically phytotoxic to ornamentals. To ensure the particular variety being grown under current conditions is not unusually sensitive to Bifender FC, make applications to a small representative group of plants.

Specific Use Restrictions:

- **DO NOT** apply more than 0.4 pound active ingredient per acre per year of Bifender FC and other bifenthrin containing products.

*Not for Use in California

TOPICAL DRENCH OF POTTING MEDIA FOR CONTAINERIZED PLANTS

PESTS	USE RATES
	fl oz product/100 gallons (lb a.i./100 gallons)
Black Vine Weevil Larvae ¹ <i>Diaprepes</i> Weevil Larvae Fungus Gnat Larvae (curative)	3.7 – 14.7 (0.05 – 0.2)
Fungus Gnat Larvae (preventative)	7.4 – 14.7 (0.1 – 0.2)
White Grubs (including Japanese beetle, oriental beetle, and European chafer)	14.7 – 29.4 (0.2 – 0.4)

Topical Drench Application Instructions

- Mix the specified volume at a rate of Bifender FC per 100 gallons of water or liquid fertilizer.
- For preventative control of Black Vine Weevil Larvae, White Grubs, or Fungus Gnat Larvae: Apply the drench at a rate of 4 to 8 fluid ounces of drench solution per 6" diameter container. Use proportional volumes of diluted drench solution for containers of different diameters.
- For curative control of Black Vine Weevil Larvae, *Diaprepes* Weevil Larvae, or Fungus Gnat Larvae: Apply the drench at a rate of 8 to 16 fluid ounces of drench solution per 6" diameter container. Use proportional volumes of diluted drench solution for containers of different diameters.
- The media should be treated to the point of saturation which generally requires approximately 1/5th the volume of the container.
- Use higher labeled application rates of Bifender FC for longer periods of control.
- *Black Vine Weevil:** 3.7 fl oz (0.05 lb a.i.) per 100 gallons drench will provide preventative larval control for 1 growing season when applied during the spring. 7.4 to 14.7 fl oz (0.1 – 0.2 lb a.i.) per 100 gallons drench will provide preventative larval control for 2 growing seasons when applied during the spring.

Potting Media Incorporation Application Instructions

- Determine the desired volume of Bifender FC from the potting media bulk density conversion table above. Use proportional volumes for Bifender FC for potting media with dry bulk densities that are not listed in the above table. Use the higher application rates for longer periods of control.
- Dilute the desired volume of Bifender FC in approximately 1 quart to 1 gallon of water or liquid fertilizer per cubic yard of potting media to be treated.
- Sprinkle or spray the final dilution volume onto the potting media while mixing the media.

BARE ROOT TREATMENT

PESTS	USE RATES
	fl oz product/100 gallons (lb a.i./100 gallons)
Root Weevil Larvae	49.3 (0.67)

Bare Root Treatment Application Instructions

- Dilute Bifender FC at a rate of 49.3 fl oz (0.67 lb a.i.) per 100 gallons and treat bare roots of plants to be transplanted by dipping the roots into the solution for 10 seconds, or by spraying the solution onto the roots prior to transplanting.

POTTING MEDIA INCORPORATION FOR CONTAINERIZED PLANTS

PESTS	USE RATES			
	fl oz product/cu. yd. (ppm a.i./cu yd)			
Black Vine Weevil ¹ White Grubs (including Japanese beetle, oriental beetle, and European chafer)	0.15 – 1.84 (10 – 25)			
Potting Media Bulk Density (lbs. per cubic yard)	Fluid ounces of Bifender FC in one cubic yard of media			
	10 PPM	15 PPM	20 PPM	25 PPM
200	0.15	0.22	0.29	0.37
300	0.22	0.33	0.44	0.55
400	0.29	0.44	0.59	0.74
500	0.37	0.55	0.74	0.92
600	0.44	0.66	0.88	1.10
700	0.51	0.77	1.03	1.29
800	0.59	0.88	1.18	1.47
900	0.66	0.99	1.32	1.66
1000	0.74	1.10	1.47	1.84

STORAGE AND DISPOSAL

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

Pesticide Storage

Store in original containers only. Keep from freezing. Protect from excessive heat. Keep container closed when not in use. **DO NOT** store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label.

Pesticide Disposal

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

Container Handling:

Container Handling less than or equal to 5 gallons - Non-refillable container: DO NOT reuse or refill this container. Triple rinse container promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

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

IMPORTANT INFORMATION READ BEFORE USING PRODUCT

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 beyond the control of Vive Crop Protection or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Vive Crop Protection and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, VIVE CROP PROTECTION MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT.

Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or Vive Crop Protection, and Buyer assumes the risk of any such use.

To the extent consistent with applicable law, Vive Crop Protection or Seller shall not 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 VIVE CROP PROTECTION 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 VIVE CROP PROTECTION OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement except as signed by an authorized representative of Vive Crop Protection.

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