

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

March 5, 2021

Tigris, LLC c/o Annette Marine Agent Wagner Regulatory Associates, Inc. P.O. Box 640 Hockessin, DE 19707

Subject: Notification per PRN 98-10 – Add alternate brand name and updated company

information (including the Warranty Statement)

Product Name: Bifen 2EC Select EPA Registration Number: 92647-32

Application Date: 1/14/2021 Decision Number: 571738

# Dear Ms. Marine:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the request is partially acceptable.

- The alternate brand name Tigris Bifen 2E has been added to the product record.
- The alternate brand names Tigris Bifen 2EC and Tigris Bifen 25% EC are already registered for product 92647-17 and cannot be added to this registration.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Page 2 of 2 EPA Reg. No. 92647-32 Decision No. 571738

If you have any questions, you may please contact Kaitlin Saunders at 703-347-8454 or by email at <u>Saunders.Kaitlin@epa.gov</u>.

Id Herrick

Sincerely,

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

# RESTRICTED USE PESTICIDE

# **TOXIC TO FISH AND AQUATIC ORGANISMS**

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

GROUP 3 INSECTICIDE

# **Bifen 2EC Select**

ABN: Tigris Bifen 2E
ABN: Tigris Bifen 2EC
ABN: Tigris Bifen 25% EC

# NOTIFICATION

92647-32

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

03/05/2021

**WT. BY %** 

#### **ACTIVE INGREDIENT:**

Bifenthrin: (2 methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-

This product contains 2 lbs. active ingredient per gallon.

# KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

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

	FIRST AID
IF	Immediately call a poison control center or doctor.
SWALLOWED:	Do not induce vomiting unless told to do so by a poison control center or doctor.
	Do not give any liquid to the person.
	Do not give anything by mouth to an unconscious person.
IF IN EYES:	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 further treatment advice.
IF ON SKIN OR	Take off contaminated clothing.
CLOTHING:	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air.
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-
	to-mouth if possible.
	Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. In case of an emergency involving this product, call CHEMTREC at **1-800-424-9300**.

**NOTE TO PHYSICIAN:** This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and should be avoided. This product contains a petroleum distillate; vomiting may cause aspiration pneumonia.

[See additional [complete] [First Aid,] Precautionary Statements and Directions For Use inside booklet.]

EPA Reg. No. 92647-32 EPA Est. No. XXXXX-XXX

Manufactured For:

Tigris, LLC P.O. Box 250 10025 Hwy. 264 Alternate Middlesex, NC 27557

Net Contents: \_\_\_\_\_ [1, 2.5, 5 gallons]

<sup>\*</sup>Cis isomers 97% minimum, trans isomers 3% maximum.

<sup>\*\*</sup>Contains petroleum distillates.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

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

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below.

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

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks

#### Handlers who may be exposed to the concentrate through mixing, loading, application, or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or Viton
- 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.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on 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 the treatment area.

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

# PHYSICAL/CHEMICAL HAZARDS

COMBUSTIBLE. Do not use or store near heat or open flame. Do not mix or allow coming into contact with oxidizing agent. Hazardous Chemical reaction may occur.

# DIRECTIONS FOR USE RESTRICTED USE PESTICIDE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

# **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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

- Coveralls
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks

# **CHEMIGATION USE DIRECTIONS**

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

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

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.

For sprinkler irrigation, meter **Bifen 2EC Select** at a continuous uniform rate during the entire irrigation period. To ensure accurate application over the treated area, apply in sufficient volume of water or other diluent. If non-emulsified oil is used as the diluent, use 1 to 2 pints per acre. Maintain continuous agitation of the pesticide supply tank for the duration of the application period. When chemigation systems are used, 0.5 inch per acre of irrigation water is suggested except that for Low Energy Precision Application (LEPA) irrigation, a minimum of 0.75 inch of water per acre is suggested.

# **RESISTANCE MANAGEMENT**

**Bifen 2EC Select** contains a Group 3 insecticide. With repeated use of Group 3 insecticides as the primary method of control in the same field or in successive years, insect/mite populations can develop resistant biotypes. If this occurs, insect/mite biotypes with acquired resistance to Group 3 insecticides may eventually dominate the insect/mite population. This may result in partial or total loss of control of those species by **Bifen 2EC Select** or other Group 3 insecticides.

To delay development of insecticide resistance, the following practices are suggested:

- Base insecticide applications on comprehensive IPM programs. This program should include an insect management program that includes cultural and biological control where possible.
- Use good resistance management strategies established for the use area. This may include the use of insecticide rotations or tank mixes with other groups of insecticide and miticides in an IPM program.
- Always apply **Bifen 2EC Select** at the labeled rates and according to label directions. Do not use less than label rates alone or in tank mixtures unless directed otherwise in supplemental labeling supplied by Tigris, LLC.
- Monitor treated populations in the field for loss of control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. Immediately consult your local Tigris, LLC representative or agricultural advisor for the best alternative method of control for your area.
- Do not treat seedling plants grown for transplant in greenhouse, shade houses, or field plots.
- Consult your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM guidance for the specific site and resistant pest problems.

# **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 **Bifen 2EC Select**.

#### **MIXING INSTRUCTIONS**

The spray tank must be clean, thoroughly rinsed, and decontaminated before adding either **Bifen 2EC Select** alone or with tank mix combinations (see "**Bifen 2EC Select in Tank Mixtures**" section below). If water is used as the carrier, use clean water.

For aerial applications made on brassicas (see "CROPS" section of the label below for full list of approved brassicas), canola, crambe, rapeseed, foliar applications on corn, cucurbits (see "CROPS" section of the label below for full list of approved cucurbits), eggplant, grapes, head lettuce, and succulent peas and beans (see "CROPS" section of the label below for full list of approved succulent peas and beans), 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. For aerial applications made on cotton, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray. Thorough coverage is essential to achieve control.

**Bifen 2EC Select Used Alone:** When **Bifen 2EC Select** is used alone, add the labeled amount to the spray tank when the tank is half filled with water or other carrier; then add the rest of the water or other carrier (as permitted on this label).

Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

**Bifen 2EC Select with Fertilizer:** Fill the spray tank approximately one-half full with water and/or liquid fertilizer, add the proper amount of **Bifen 2EC Select**, and then add the rest of the water and/or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

Perform a jar compatibility test with the appropriate ratio of **Bifen 2EC Select** and fertilizer to ensure the mixture will stay in solution. Maintain constant agitation during mixing and application.

**Bifen 2EC Select in Tank Mixtures:** If a tank mixture is used, perform a compatibility test before actual tank mixing. Test all untried mixtures using proper ratios and mixing sequences of all ingredients to be included in the mixture. Once compatibility is confirmed for the tank mix, fill the tank half full with water or other carrier. Start and continue agitation throughout mixing following conventional mixing order practices. **Bifen 2EC Select** may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products.

#### **APPLICATION INSTRUCTIONS**

The rate of **Bifen 2EC Select** applied will vary according to pest pressure and timing of application. Use lower rates under light to moderate infestations and higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Unless otherwise specified for a specific crop, apply when pest population reaches economic (damaging) threshold and repeat as necessary to maintain control. Thorough coverage is essential to achieve control.

In the "Applications" section of the label for each crop, the application rate when applied by ground and/or air is listed as an amount of spray per acre. In all cases, this refers to finished spray per acre.

#### SPRAY DRIFT REQUIREMENTS

Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph.

#### **Temperature Inversion**

Do not make aerial or ground applications into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

# **Droplet Size**

Use only medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

#### **Additional Requirements for Ground Applications**

Wind speed must be measured adjacent to the application site on the upwind side immediately prior to application. For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy. For airblast applications, turn off outward-pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

#### **Additional Requirements for Aerial Applications**

Mount the spray boom on the aircraft as to minimize drift caused by wingtip or rotor vortices. Use the minimum practical boom length which must not exceed 75% of the wing span or rotor diameter. Flight speed and nozzle orientation must be considered in determining droplet size. Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

#### **BUFFER ZONES**

# **Vegetative Buffer Strip**

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down-gradient aquatic habitat (such as but not limited to lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds).

Only apply products containing bifenthrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down-gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21 pp. http://www.in.csusda/v/technical/agronom/newconbuf.pdf

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.

#### Buffer Zone for Ground Application (Ground Boom, Overhead Chemigation, or Airblast)

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

# **Buffer Zone for ULV Aerial Application**

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

# **Buffer Zone for Non-ULV Aerial Application**

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

# **CROPS**

#### **ARTICHOKE**

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Artichoke Plume Moth Cribrate Weevil	0.10	6.4

#### Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 15 days apart.
- Pre-Harvest Interval: 5 days

#### **Applications:**

Ground Application - Apply in water in a minimum of 75 gallons per acre as a full cover spray.

Air Application - Apply in water in a minimum of 10 gallons per acre.

#### **BRASSICAS**

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

PEST	RA <sup>1</sup>	
PESI	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Corn Earworm		
Crickets		
Cucumber Beetle		
Cutworms		
Diamondback Moth		
Flea Beetle		
Ground Beetles	0.033 - 0.10	2.1 - 6.4
Imported Cabbageworm	0.033 - 0.10	2.1 - 0.4
Leafhoppers		
Loopers		
Salt Marsh Caterpillar		
Stink Bugs		
Thrips		
Tobacco Budworm		
Whitefly		
Wireworm (Adult)		
Banks Grass Mite		
Carmine Mite		
Lygus spp.	0.08 - 0.10	5.12 - 6.4
Pacific Spider Mite		
Twospotted Spider Mite		
Postrictions:		

#### Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Do not make more than 5 applications after bloom.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 10 gallons per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

#### **BUSHBERRIES**

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

PEST	RA <sup>*</sup>	ГЕ
PESI	Lb. A.I./A	Fl. Oz./A
Aphids	0.033 - 0.10	2.1 - 6.4

		rage 0 01 23
Blueberry Maggot Fruitworms Japanese Beetle Leaf Rollers Leafhoppers Plum Curculio Spanworm		
Carmine Mite  Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Pre-Harvest Interval: 1 day

#### **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

#### **CANEBERRIES**

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

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Leafrollers		
Orange Tortrix	0.05 - 0.10	3.2 - 6.4
Root Weevils		
Raspberry Crown Borer	0.10	6.4
Spider Mites	0.10	0.4

#### Restrictions:

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- Pre-Harvest Interval: 3 days

#### **Applications:**

**Ground Application** - Apply in water in a minimum of 50 gallons per acre.

Air Application - Apply in water in a minimum of 10 gallons per acre.

A total of two applications may be made. Make the first pre-bloom and the second post-bloom.

#### CANOLA, CRAMBE, RAPESEED

DECT	RAT	E
PEST	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Cutworms		
Diamondback Moth		
Flea Beetles		
Flea Hoppers		
Grasshoppers		
Loopers	0.033 - 0.04	2.1 - 2.6
Lygus Bugs		
Other Lepidopterous Larvae		
Plant Bugs		
Seedpod Weevil		
Stink Bugs		
Thrips		
Whitefly		

## Restrictions:

- Do not apply more than 0.08 lb. active ingredient (5.12 ounces formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 14 days apart.
- Pre-Harvest Interval: 35 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

#### **CHRISTMAS TREES**

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Balsam Twig Aphid Balsam Woolly Adelgid Cinara Aphid Elongated Hemlock Scale Root Weevil Spruce Spider Mite	0.06 - 0.10	3.9 - 12.8

#### Restrictions:

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per treatment.
- Do not make more than 3 applications in a crop year.
- Do not make aerial application outside CA and WA.
- Do not make applications through irrigation systems.
- Maintain a minimum of 21 days between applications.

#### **Applications:**

**Ground Application -** Apply in water in a minimum of 20 gallons per acre.

Air Application - Apply in water in a minimum of 5 gallons per acre.

**Bifen 2EC Select** is generally not phytotoxic to Christmas trees. However, make applications to a small representative group of plants to ensure that a particular variety grown under current conditions is not unusually sensitive to **Bifen 2EC Select**.

# CILANTRO, CORIANDER

DECT	RATE	
PEST	Lb. A.I./A	Fl. Oz./A
Aphids		
Beet Armyworm		
Cabbage Looper		
Cutworm		
Flea Beetle		
Grasshoppers	0.033 - 0.10	2.1 - 6.4
Leafminer		
Salt Marsh Caterpillar		
Spotted Cucumber Beetle		
Thrips		
Whitefly		
Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4

# **Restrictions:**

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Pre-Harvest Interval: 3 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 2 gallons per acre.

Apply in sufficient water to obtain thorough coverage.

# CITRUS (Except Florida)\*

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Asian Cockroach		
Diaprepes Root Weevil ( <i>Diaprepes</i>	0.25 - 0.50	16.0 - 32.0
abbreviatus)		

# Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Do not apply through irrigation systems.
- Do not allow any application of Bifen 2EC Select to contact fruit or foliage.
- Do not apply by air.
- Pre-Harvest Interval: 1 day

# **Applications:**

**Ground Application -** Apply in water in a minimum of 30 gallons per acre.

Use a handgun or shielded sprayer to apply to individual citrus trees if they are not planted in solid rows.

Diaprepes root weevil emergence generally occurs in the spring, but weather conditions can prompt a second emergence in the fall. In areas where only a spring emergence is expected, use 32.0 ounces of **Bifen 2EC Select**.

In areas where a second emergence is expected, use 16.0 ounces of **Bifen 2EC Select** in the early season and 16.0 ounces of **Bifen 2EC Select** later in the season.

If the length of control of **Bifen 2EC Select** is not sufficient to cover the emergence of the root weevil, use other pest control measures from State Agricultural Extension Specialists or other local experts.

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

# CITRUS (Florida only)

PEST	RA'	TE
PESI	Lb. A.I./A	Fl. Oz./A
Blue Green Citrus Root Weevil (Pachnaeus opalus)		
Brown Leaf Notcher ( <i>Epicaerus</i> mexicanus)		
Diaprepes Root Weevil ( <i>Diaprepes abbreviatus</i> ) Little Leaf Notcher ( <i>Artipus floridanus</i> )	0.25 - 0.50	16.0 - 32.0
Southern Blue Green Citrus Root Weevil (Pachnaeus Litus)		
Asian Cockroach	0.10 - 0.25	6.4 - 16.0

#### **Restrictions:**

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Do not apply through irrigation systems.
- Do not allow any application of **Bifen 2EC Select** to contact fruit or foliage.
- Do not apply by air.
- Pre-Harvest Interval: 1 day

# **Applications:**

**Ground Application -** Apply in water in a minimum of 40 gallons per acre.

Greater spray volumes increase uniformity of coverage.

Also coverage uniformity may be aided by using a pre- and post-irrigation application.

Use a handgun or shielded sprayer to apply to individual citrus trees if they are not planted in solid rows.

All citrus root weevils have a similar life cycle. They have three immature stages: egg, larva, and pupa. Adult weevils emerge from the soil and lay eggs on host plants above ground, the larvae enter the soil to feed on roots, and the pupae and teneral adult stages are spent below ground. Adults emerge beneath citrus trees throughout the year; it is at this time that **Bifen 2EC Select** applications should be timed. Peak adult emergence varies within and among species and by region. Peak emergence for the blue-green root weevil is normally April and May. Diaprepes adult emergence from the soil appears to be triggered by the onset of regular rainfall events and can have two emergence peaks, in mid-May to mid-July and/or late-August to mid-October. The second peak is variable and may relate to host plant availability. Little leaf notcher has three generations per year. Although there is considerable overlap of generations, adults appear most abundant in April/May, July/August, and October/November.

For best control of emerging root weevils, apply **Bifen 2EC Select** to the soil beneath the citrus trees from the trunk to the drip line of the tree.

**Bifen 2EC Select** protects citrus tree roots from citrus root weevils by forming a barrier which provides contact activity on neonate larvae when they fall to the ground shortly after hatching from eggs which were oviposited in the citrus tree foliage.

Once application is made, be careful not to disturb the treated soil.

In areas where only a spring emergence is expected, use 32.0 ounces of **Bifen 2EC Select**. In areas where a second emergence is expected, use 16.0 ounces of **Bifen 2EC Select** in the early season and 16.0 ounces of **Bifen 2EC Select** later in the season.

If the length of control of **Bifen 2EC Select** is not sufficient to cover the emergence of the root weevil, use other pest control measures from State Agricultural Extension.

# **CONIFER SEED ORCHARDS**

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

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Cone Worms		
Seed Bugs Seed Worms	0.10 - 0.20	6.4 - 12.8
Seed Worms		

# Restrictions:

- Do not apply more than 0.6 lb. active ingredient (38.4 ounces formulated) per acre per season.
- Do not make more than 6 applications per season.

 Begin applications 7 days after peak pollen flight and continue on 30 day intervals up to a maximum of 0.6 lb. active per acre per season.

# **Applications:**

**Ground Application** - Apply in water in a minimum of 100 - 500 gallons per acre.

Air Application - Apply in water in a minimum of 10 gallons per acre or 0.5 gallon refined vegetable oil per acre.

Apply in sufficient water to obtain thorough coverage.

#### **CORN**

Field Corn (Grain and Silage), Popcorn, Field Corn Grown For Seed (At-Planting)

PEST	RATE		
PESI	Lb. Al	Fl. Oz.	
Corn Rootworm Larvae (Northern, Southern, Western)	0.0046 lb. a.i./1,000 linear ft. of row	0.30 fl. oz. a.i./1,000 linear ft. of row	
Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 - 0.0046 lb. a.i./1,000 linear ft. of row	0.15 - 0.30 fl. oz. a.i./1,000 linear ft. of row	

#### Restrictions:

- Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season as an at-planting application.
- Do not apply to soil where there is greater than 30% cover of crop residue remaining.
- Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.
- Pre-Harvest Interval: 30 days

#### **Applications:**

**Ground Application -** Apply in water in a minimum of 3 gallons per acre.

For use on corn at-planting, apply in a 5-inch to 7-inch T-band over the open seed furrow. Center the spray nozzle over the row behind the planter shoe in front of the press wheel.

In-furrow pop-up fertilizers may be used alone or in tank mixtures with **Bifen 2EC Select**. See the section entitled **MIXING INSTRUCTIONS, Bifen 2EC Select with Fertilizer** for additional instructions and precautions when mixing with fertilizers.

Row Spacings (inches) <sup>1</sup>	40"	38"	36"	30"
Bifen 2EC Select (pounds a.i. per acre)	0.060	0.064	0.069	0.080
Bifen 2EC Select (formulated oz. per acre)	3.9	4.1	4.4	5.12
<sup>1</sup> Use this table to determine the <b>Bifen 2EC Select</b> needs per acre.				

# **CORN**

Field Corn (Grain and Silage), Popcorn, Field Corn Grown For Seed (PRE & PPI)

PEST	RATE		
PESI	Lb. A.I./A	Fl. Oz./A	
Armyworm spp. Black Cutworm Seedcorn Maggot Stalk Borer White Grub Wireworm	0.047 - 0.062 Pre-Plant Incorporated (PPI)	3.0 - 4.0 Pre-Plant Incorporated (PPI)	
Armyworm spp. Black Cutworm Stalk Borer	0.040 Pre-Emergence (PRE)	2.56 Pre-Emergence (PRE)	

#### Restrictions:

- Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season including PRE and PPI, atplanting, plus foliar applications.
- Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.
- Use of ultra-low volume (ULV) application on corn is prohibited.
- Do not make aerial or ground applications to corn if heavy rainfall is imminent.
- Use of Bifen 2EC Select on corn is prohibited in all coastal counties.
- Pre-Harvest Interval: 30 days

#### **Applications:**

**Ground Application -** Apply in water in a minimum of 3 gallons per acre.

Use the labeled dosage as a pre-plant incorporated treatment either alone or in tank mix combination with registered pre-plant incorporated herbicides. Incorporate **Bifen 2EC Select** to the intended planting depth, but no deeper than 3 inches.

The 3.0 to 4.0 fl. oz. rate must be applied as PPI and can be tank mixed and applied with PPI herbicides.

The 2.56 fl. oz. rate may be applied PRE and can be tank mixed and applied with PRE herbicides.

#### **CORN**

Field Corn (Grain and Silage), Popcorn, Field Corn Grown For Seed (Foliar)

PEST	RATE		
PESI	Lb. A.I./A	Fl. Oz./A	
Aphids			
Army Cutworm			
Beet Armyworm			
Cereal Leaf Beetle			
Chinch Bug			
Common Stalk Borer			
Corn Earworm			
Corn Rootworm (Adult)			
Cucumber Beetle (Adult)			
Cutworm Species			
European Corn Borer		2.1 - 6.4	
Fall Armyworm			
Flea Beetle	0.033 - 0.10		
Grasshoppers			
Greenbug			
Japanese Beetle (Adult)			
Sap Beetle			
Southern Armyworm Southern Corn Leaf Beetle			
Southwestern Corn Borer			
Stink Bugs			
Tarnished Plant Bug			
True Armyworm or Armyworm Species			
Webworms			
Western Bean Cutworm			
Yellowstriped Armyworm			
Banks Grass Mite			
Carmine Mite	0.08 - 0.10	5.12 - 6.4	
Twospotted Spider Mite	3.23		

#### **Restrictions:**

- Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season including PRE and PPI, atplanting, plus foliar applications.
- Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.
- Use of ultra-low volume (ULV) application on corn is prohibited.
- Do not make aerial or ground applications to corn if heavy rainfall is imminent.
- Use of Bifen 2EC Select on corn is prohibited in all coastal counties.
- Pre-Harvest Interval: 30 days

#### **Applications:**

**Ground Application** - Apply in water in a minimum of 10 gallons per acre, except see specific comment below for TX, NM, OK, and AZ mite control.

**Air Application** - Apply in water in a minimum of 2 to 5 gallons per acre, except see specific comment below for TX, NM, OK, and AZ mite control. In all states, insect control will be improved by increasing the finished spray per acre to 5 gallons.

In Texas, New Mexico, Oklahoma, and Arizona, use a minimum of 10 gallons of water per acre by ground and 5 gallons of water per acre by air when making applications to control mites.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

Make applications of **Bifen 2EC Select** as necessary to maintain control being careful not exceed reapplication intervals or maximum dosage rates specified in this section.

For pests which attack the ear, apply just before silking.

For corn borer control, make application just before or at egg hatch.

For mite control, apply when colonies first form prior to leaf damage and before they disperse into the canopy (for Banks Grass Mite, before dispersal into the upper 2/3 of the plant). Use higher rates of **Bifen 2EC Select** when pest pressure is severe or crop is under stress from drought and/or heat. When these conditions exist, tank mixtures with dimethoate have shown good control.

# **CORN**

Sweet Corn, Sweet Corn Grown For Seed (At-Planting)

PEST	RATE		
PESI	Lb. Al	Fl. Oz.	
Corn Rootworm Larvae (Northern, Southern, Western)	0.0046 lb. a.i./1,000 linear ft. of row	0.30 fl. oz./1,00 linear ft. of row	

Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 - 0.0046 lb. a.i./1,000 linear ft. of row	0.15 - 0.30 fl. oz. a.i./1,000 linear ft. of row
--	--	--

- Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season as an at-plant application.
- Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.
- Do not apply to soil where there is greater than 30% cover of crop residue remaining.
- Pre-Harvest Interval: 30 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 3 gallons per acre.

For use on corn at-planting, apply in a 5-inch to 7-inch T-band over the open seed furrow. Center the spray nozzle over the row behind the planter shoe in front of the press wheel.

In-furrow pop-up fertilizers may be used alone or in tank mixtures with **Bifen 2EC Select**. See the section entitled **MIXING INSTRUCTIONS, Bifen 2EC Select with Fertilizer**, for additional instructions and precautions when mixing with fertilizers.

Row Spacings (inches) <sup>1</sup>	40"	38"	36"	30"
Bifen 2EC Select (pounds a.i. per acre)	0.060	0.064	0.069	0.080
Bifen 2EC Select (formulated oz. per acre)	3.9	4.1	4.4	5.12
<sup>1</sup> Use this table to determine the <b>Bifen 2EC Select</b> needs per acre.				

#### CORN

Sweet Corn, Sweet Corn Grown For Seed (Foliar)

PEST	RATE		
	Lb. A.I./A	Fl. Oz./A	
Aphids			
Army Cutworm			
Beet Armyworm			
Cereal Leaf Beetle			
Chinch Bug			
Common Stalk Borer			
Corn Earworm			
Corn Rootworm (Adult)			
Cucumber Beetle (Adult)			
Cutworm Species			
European Corn Borer			
Fall Armyworm		2.1 - 6.4	
Flea Beetle	0.033 - 0.10		
Grasshoppers			
Greenbug			
Japanese Beetle (Adult)			
Sap Beetle			
Southern Armyworm			
Southern Corn Leaf Beetle			
Southwestern Corn Borer			
Stink Bugs Tarnished Plant Bug			
True Armyworm or Armyworm Species Webworms			
Western Bean Cutworm			
Yellowstriped Armyworm			
Banks Grass Mite			
Carmine Mite	0.08 - 0.10	5.12 - 6.4	
Twospotted Spider Mite	0.00 - 0.10	3.12 - 0.4	
1 WOSPOCCCA Spiaci Wille			

#### Restrictions:

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- Do not graze livestock in treated areas or cut treated crops for feed within 1 day of the last application.
- Use of ultra-low volume (ULV) application on corn is prohibited.
- Do not make aerial or ground applications to corn if heavy rainfall is imminent.
- Use of Bifen 2EC Select on corn is prohibited in all coastal counties.
- Pre-Harvest Interval: 1 day

#### **Applications:**

**Ground Application** - Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

Make applications of **Bifen 2EC Select** as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.

For pests which attack the ear, apply just before silking.

For corn borer control, make application just before or at egg hatch.

For mite control, apply when colonies first form prior to leaf damage and before they disperse into the canopy (for Banks Grass Mite, before dispersal into the upper 2/3 of the plant). Use higher rates of **Bifen 2EC Select** when pest pressure is severe or crop is under stress from drought and/or heat. When these conditions exist, tank mixtures with dimethoate have shown acceptable control.

# COTTON

DECT	RATE		
PEST	Lb. A.I./A	Fl. Oz./A	
European Corn Borer			
Soybean (Banded) Thrips	0.02 - 0.10	1.3 - 6.4	
Tobacco Thrips			
Boll Weevil			
Bollworm			
Cabbage Looper			
Cotton Aphid			
Cotton Fleahopper			
Cotton Leafperforator			
Cutworms			
Fall Armyworm	0.04 - 0.10	2.6 - 6.4	
Plant Bugs			
Salt Marsh Caterpillar			
Southern Garden Leafhopper			
Stink Bugs			
Tobacco Budworm			
Whitefly			
Yellow Striped Armyworm			
Beet Armyworm			
Carmine Spider Mite			
Lygus spp.	0.06 - 0.10	3.8 - 6.4	
Pink Bollworm			
Twospotted Spider Mite			

#### **Restrictions:**

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- 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 season. Synthetic pyrethroid products include Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®,
  Danitol®, Karate®, Mustang®, and Scout X-TRA®.
- Pre-Harvest Interval: 14 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 5 gallons per acre.

**Air Application** - Apply in water in a minimum of 1 gallon per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

**ULV Application:** Apply in a minimum of 1 quart per acre using refined vegetable oil with aircraft calibrated to give adequate coverage.

Make applications of **Bifen 2EC Select** as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.

To Control Boll Weevil: Apply Bifen 2EC Select at 3- to 4-day intervals until pest populations are reduced below economic threshold levels.

**To Control Mites and Aphids:** Apply when pests first appear. Repeat as necessary to maintain control without exceeding maximum application rates and reapplication intervals. Use higher rates when an economic threshold has been established.

## CUCURBITS

Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible Gourd [(includes hyotan, cucuzza), *Luffa* spp. (includes hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber)], Muskmelon (hybrids and/or cultivars of *Cucumis melo*) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake

melon), Pumpkin (*Cucurbita* spp.), Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Squash, winter (includes butternut squash, calabaza, hubbard squash (*C. mixta*; *C. pepo*)(includes acorn squash, spaghetti squash)), Watermelon (includes hybrids and/or varieties of *Citrullus* spp.)

PEST	RATE		
	Lb. A.I./A	Fl. Oz./A	
Aphids			
Armyworms			
Cabbage Looper			
Corn Earworm			
Cucumber Beetles			
Cutworms			
Grasshoppers			
Leafhoppers	0.04 - 0.10	2.6 - 6.4	
Melonworms	0.04 - 0.10		
Pickleworms			
Plant Bugs			
Rindworms			
Squash Bugs			
Squash Vine Borer			
Stink Bugs			
Tobacco Budworm			
Banks Grass Mite			
Carmine Mite			
Lygus spp.	0.08 - 0.10	5.12 - 6.4	
Twospotted Spider Mite			
Whitefly			

# Restrictions:

- Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season.
- Do not make more than 2 applications after bloom.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Pre-Harvest Interval: 3 days

#### Applications:

**Ground Application -** Apply in water in a minimum of 20 gallons per acre.

**Air Application** - Apply in water in a minimum of 5 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

# **DRIED BEANS AND PEAS**

# **Dried cultivars of:**

Bean (Lupinus spp.): Grain Lupin, Sweet Lupin, White Lupin, White Sweet Lupin

Bean (Phaseolus spp.): Field bean, Kidney Bean, Lima Bean (dry), Navy Bean, Pinto Bean, Tepary Bean

**Bean** (*Vigna* spp.): 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* spp.), Field Pea: Pigeon Pea

PEST	RATE	RATE		
PESI	Lb. A.I./A	Fl. Oz./A		
Banks Grass Mite Carmine Mite Lygus spp.	0.08 - 0.10	5.12 - 6.4		
Twospotted Spider Mite Aster Leafhopper Flea Beetle				
Grasshoppers Leafhoppers	0.025 - 0.10	1.6 - 6.4		
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 Loopers Mexican Bean Beetle	0.033 - 0.10	2.1 - 6.4		

	Page <b>14</b> of <b>25</b>
Pea Leaf Weevil	
Pea Weevil	
Plant Bug	
Salt Marsh Caterpillar	
Sap Beetle (Adult)	
Southern Armyworm	
Stink Bugs	
Tarnished Plant Bug	
Thrips	
Tobacco Budworm Leafminer	
Webworms	
Western Bean Cutworm	
Whitefly	
Yellowstriped Armyworm	

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Pre-Harvest Interval: 14 days

#### **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

Thorough coverage is essential to achieve control.

# **FRUITING VEGETABLES**

Eggplant, Groundcherry, Pepino, Pepper (Bell and Non-Bell)

PEST PEST	RATE	
	Lb. A.I./A	Fl. Oz./A
Armyworms (including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm) Cabbage Loopers Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Plant Bugs Stink Bugs Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly	0.033 - 0.10	2.1 - 6.4
Banks Grass Mite Broad Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4

#### **Restrictions:**

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

#### Tomatoes, Tomatillo

PEST	RATE	
PEST	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms (including Beet Armyworm,		
Fall Armyworm, Southern Yellowstriped		
Armyworm)		
Bean Leaf Beetle		
Cabbageworms		
Carmine Mite		
Cloverworm		
Corn Earworm		
Corn Rootworm		
Cucumber Beetle		
Cutworms		
Diamondback Moth		
European Corn Borer		
Flea Beetles		
Flea Hoppers		
Grasshoppers		
Japanese Beetle (Adult)	0.033 - 0.08	2.1 - 5.2
Leafhoppers	0.033 0.00	2.1 3.2
Loopers		
Lygus spp.		
Melonworms		
Pea Weevil		
Pea Leaf Weevil		
Pickleworms		
Plant Bugs		
Rindworms		
Salt Marsh Caterpillar		
Sap Beetle		
Seedpod Weevil		
Squash Bugs		
Stink Bug spp.		
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		
Whitefly	0.00 0.40	5.42 .6.4
Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4

# Restrictions:

- To maintain a proper spray interval, do not make applications less than 10 days apart.
- Do not make more than 4 applications per season.
- Pre-Harvest Interval: 1 day

# **Applications:**

**Ground Application** - Apply in water in a minimum of 15 gallons per acre.

Air Application - Apply in water in a minimum of 3 gallons per acre.

#### **GRAPES**

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Eastern Grape Leafhopper		
Variegated Leafhopper	0.05 - 0.10	3.2 - 6.4
Western Grape Leafhopper		
Black Vine Weevil		
Glassy Winged Sharpshooter	0.10	6.4
Twospotted Spider Mite		

#### **Restrictions:**

- Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season.
- Pre-Harvest Interval: 30 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 25 gallons per acre.

Air Application - Apply in water in a minimum of 10 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

When pest pressure is moderate to severe, use the higher rate.

#### **HOPS**

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Cutworms	0.06 - 0.10	3.8 - 6.4
Leafrollers		
Loopers		
Root Weevils	0.05 - 0.10	3.2 - 6.4
Twospotted Spider Mite	0.10	6.4

#### **Restrictions:**

- Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per application.
- Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 21 days apart.
- The use of ultra-low volume (ULV) application on hops is prohibited.
- Pre-Harvest Interval: 14 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 100 - 150 gallons per acre in early season; 200 - 250 gallons per acre late season.

**Air Application** - Apply in water in a minimum of 10 gallons per acre.

Make a directed spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant to control root weevil.

# **LEAFY BRASSICAS AND TURNIP GREENS\***

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

PEST	RATE	
	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Corn Earworm		
Crickets		
Cucumber Beetles		
Cutworms		
Diamondback Moth		
Flea Beetles		
Grasshoppers		2.1 - 6.4
Ground Beetles	0.033 - 0.10	
Imported Cabbageworm	0.055 - 0.10	
Japanese Beetle (Adult)		
Leafhoppers		
Loopers		
Salt Marsh Caterpillar		
Stink Bugs		
Thrips		
Tobacco Budworm		
Whitefly		
Wireworm (Adult)		
Banks Grass Mite		
Carmine Mite		
Lygus spp.	0.08 - 0.10	5.12 - 6.4
Pacific Spider Mite		
Twospotted Spider Mite		

#### Restrictions:

- Do not apply more than 0.4 lb. active ingredient (25.6 ounces formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

Thorough coverage is essential to achieve control.

\*This use not permitted in California unless allowed by an approved supplemental label.

#### **LEAFY PETIOLE VEGETABLES**

Celery, Cardoon, Chinese Celery, Celtuce, Florence Fennel, Rhubarb, Swiss Chard

PEST	RATE	
	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Corn Earworm		
Crickets		
Cucumber Beetles		
Cutworms		
Diamondback Moth		
Flea Beetles	0.033 - 0.10	2.1 - 6.4
Ground Beetles		
Imported Cabbageworm		
Leafhoppers		
Loopers		
Stink Bugs		
Thrips		
Wireworm (Adult)		
Carmine Mite		
Lygus spp.	0.08 - 0.10	5.12 - 6.4
Pacific Spider Mite	0.00 0.10	3.12 0.4
Twospotted Spider Mite		

#### Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 10 gallons per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

# **LETTUCE, HEAD**

PEST	RATE	
	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Cabbage Maggot		
Corn Earworm		
Cucumber Beetles		
Cutworms		
Diamondback Moth		
Flea Beetle		
Grasshopper	0.033 - 0.10	2.1 - 6.4
Imported Cabbageworm		
Leafhoppers		
Loopers		
Salt Marsh Caterpillar		
Stink Bug spp.		
Thrips		
Tobacco Budworm		
Whitefly		
Carmine Mite	0.00 0.40	5.42 .6.4
Lygus spp.	0.08 - 0.10	5.12 - 6.4
Twospotted Spider Mite		

# Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 15 gallons per acre.

**Air Application** - Apply in water in a minimum of 5 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

#### MAYHAW\*

PEST	RATE	
PESI	Lb. A.I./A Fl. Oz./A	FI ()7 /Δ
Plum Curculio	0.08 - 0.10	5.12 - 6.4

# Restrictions:

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 28 gallons of finished spray per acre.

**Air Application -** Apply in water in a minimum of 2 gallons per acre.

Apply in sufficient water to obtain uniform coverage as needed.

\*Not registered for use in California unless accompanied by a supplemental label.

# **OKRA**

PEST	RATE	
	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms		
Corn Earworm		
Cucumber Beetles		
Cutworms		
European Corn Borer		
Flea Beetles	0.033 - 0.10	2.1 - 6.4
Japanese Beetle (Adult)		
Leafminers		
Loopers		
Stink Bugs		
Thrips		
Whitefly		
Broad Mite		
Carmine Mite	0.08 - 0.10	5.12 - 6.4
Lygus spp.	0.00	3.12 0.4
Twospotted Spider Mite		

#### **Restrictions:**

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 7 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 10 gallons per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

Apply in sufficient water to obtain uniform coverage as needed.

# **PEANUT**

DECT	RATE	
PEST	Lb. A.I./A	Fl. Oz./A
Beet Armyworm		
Corn Earworm		
Cutworm Species		
Fall Armyworm		
Grasshoppers		
Green Cloverworm		
Leafhoppers		2.1 - 6.4
Lesser Cornstalk Borer	0.033 - 0.10	
Loopers	0.033 - 0.10	
Rednecked Peanut Worm		
Southern Armyworm		
Southern Corn Rootworm		
Stink Bugs		
Threecornered Alfalfa Hopper		
Velvetbean Caterpillar		
Yellowstriped Armyworm		
Aphids		
Spider Mites	0.06 - 0.10	5.12 - 6.4
Thrips	0.06 - 0.10	5.12 - 0.4
Whitefly		

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 14 days apart.
- Do not feed immature plants and peanut hay to livestock.
- Pre-Harvest Interval: 14 days

# **Applications:**

Ground Application - Apply in water in a minimum of 10 gallons of finished spray per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

Apply in sufficient water to obtain uniform coverage as needed.

# **PEARS**

PEST -	RATE	
	Lb. A.I./A	Fl. Oz./A
Aphids		
Codling Moth		
Cutworms		
Green Fruitworm		
Leafhoppers		
Leafminers		
Leafrollers	0.04 - 0.2	2.6 - 12.8
Lygus spp.		
Plant Bugs		
Plum Curculio		
San Jose Scale (Crawlers)		
Stink Bugs		
Tarnished Plant Bug		
Twospotted Spider Mite	0.06 - 0.2	3.8 - 12.8
Yellow Mite		
European Red Mite	0.08 - 0.2	5.12 - 12.8

#### Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season with no more than 0.45 (28.8 ounces formulated) pound active per acre applied after petal fall.
- To maintain a proper spray interval, do not make applications less than 30 days apart.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.
- Pre-Harvest Interval: 14 days

# **Applications:**

Ground Application - Apply in water in a minimum of 200 gallons per acre (dilute) and 50 gallons per acre (concentrate). Air Application - Apply in water in a minimum of 10 gallons per acre.

# **ROOT CROPS (except Sugar Beets)**

Burdock, edible; Carrot; Celeriac; Chervil, turnip rooted; Chicory; Ginseng; Horseradish; Parsley, turnip rooted; Parsnip; Radish; Radish, Oriental; Rutabaga; Salsify; Salsify, Black; Salsify, Spanish; Skirret; Turnip

PEST ——	RATE	
	Lb. A.I./A	Fl. Oz./A
Aphids		
Beet Armyworm		
Celery Leaftier		
Corn Earworm		
Cross-Striped Cabbageworm		
Cutworm Species		
Diamondback Moth		
European Corn Borer		
Fall Armyworm		
Fire Ants		
Flea Beetles	0.08 - 0.10	5.12 - 6.4
Green Cloverworm		
Hornworms		
Imported Cabbageworm		
Loopers		
Southern Armyworm		
Spider Mites		
Tobacco Budworm		
Velvetbean Caterpillar		
Whitefly		
Yellowstriped Armyworm		
Restrictions:		

Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.

- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 21 days

#### **Applications:**

**Ground Application** - Apply in water in a minimum of 25 gallons of finished spray per acre. **Air Application** - Apply in water in a minimum of 2 gallons per acre.

Apply in sufficient water to obtain uniform coverage as needed.

# **Garden Beet**

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Aphids Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	0.08 - 0.10	5.12 - 6.4

#### Restrictions:

- Do not apply more than 0.4 lb. active ingredient (25.6 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 1 day

#### **Applications:**

**Ground Application** - Apply in water in a minimum of 25 gallons of finished spray per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

Apply in sufficient water to obtain uniform coverage as needed.

# **SOYBEANS**

SOTBEAINS	RA*	TE
PEST	Lb. A.I./A	Fl. Oz./A
Alfalfa Caterpillar	-	
Aphids		
Aster Leafhopper		
Bean Leaf Beetle		
Blister Beetle Species		
Beet Armyworm*		
Cloverworm		
Corn Earworm		
Corn Rootworm (Adult)		
Cucumber Beetles		
Cutworms		
Cowpea Curculio		
Cucumber Beetle (Adult)		
Dectes Stem Borer		
European Corn Borer		
False Chinch Bug		
Fall Armyworm		
Flea Beetle		
Grasshoppers		
Green Cloverworm	0.033 - 0.10	2.1 - 6.4
Hornworm		
Imported Cabbageworm		
Japanese Beetle (Adult)		
Leafhoppers		
Leafminers		
Loopers		
Leaf Skeletonizer Species		
Lesser Cornstalk Borer		
Mexican Bean Beetle (Adult)		
Painted Lady (Thistle) Caterpillar		
Pea Leaf Weevil		
Pea Weevil		
Plant Bug		
Salt Marsh Caterpillar		
Silverspotted Skipper		
Seedcorn Maggot (Adult)		
Spittlebug		
Sap Beetle		
Southern Armyworm		

		Page 21 01 25
Soybean Aphid		
Stink Bugs		
Tarnished Plant Bug		
Three-Cornered Alfalfa Hopper		
Thrips		
Tobacco Budworm*		
Velvetbean Caterpillar		
Webworms		
Western Bean Cutworm		
Whitefly		
Woollybear Caterpillar		
Yellowstriped Armyworm		
Lygus spp.		
Whitefly	0.08 - 0.10	5.12 - 6.4
Twospotted Spider Mite		

- Do not apply more than 0.3 lb. active ingredient (12.8 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 30 days apart.
- Pre-Harvest Interval: 18 days

# **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 2 gallons per acre.

\*Pyrethroid resistance is common for Beet Armyworm and Tobacco Budworm. Consult your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM guidance for the specific site and resistant pest problems.

#### SPINACH

DECT	RATI	E
PEST	Lb. A.I./A	Fl. Oz./A
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Tomato Hornworm Tomato Pinworm Whitefly	0.033 - 0.10	2.1 - 6.4
Banks Grass Mite Broad Mite Carmine Mite Fire Ants Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4

# Restrictions:

- Do not apply more than 0.4 lb. active ingredient (25.6 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Pre-Harvest Interval: 40 days

# **Applications:**

**Ground Application** - Apply in water in a minimum of 10 gallons per acre.

**Air Application** - Apply in water in a minimum of 5 gallons per acre.

For whitefly and fire ant control either at-planting or as a foliar treatment, apply up to 6.4 oz. (0.1 lb. active) per acre being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.

# **STRAWBERRIES**

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Aphids		
Armyworms Flea Beetles	0.04 - 0.20	2.56 - 12.8
Flea Beetles		

		Page 22 01 23
Heliothis spp.		
Leafrollers		
Lygus spp.		
Plant Bugs		
Spittlebugs		
Stink Bugs		
Strawberry Clipper		
Strawberry Sap Beetle		
Strawberry Root Weevil	0.05 - 0.20	3.2 - 12.8
Black Vine Weevil	0.03 - 0.20	3.2 - 12.8
Spider Mites	0.10 - 0.20	6.4 - 12.8

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season.
- Aerial application is prohibited in Florida.
- Apply when pest populations reach damaging thresholds and repeat as necessary at 7 14 day intervals.
- No pre-harvest interval required.
- CALIFORNIA SPECIFIC REQUIREMENTS FOR STRAWBERRY HARVESTERS Harvesters and other personnel performing tasks with all day foliage contact in treated fields within 5 days of application must wear a long-sleeved shirt, long pants, and shoes plus socks. Following treatment of strawberry fields at rates of **Bifen 2EC Select** greater than 0.1 lb. a.i./acre, harvesters must wear gloves for 5 days following application.

#### **Applications:**

**Ground Application** - Apply a full cover spray in a minimum of 50 gallons of finished spray per acre.

Air Application - Apply in water in a minimum of 5 gallons per acre.

# **SUCCULENT PEAS AND BEANS**

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

Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs  FI. 02./A  1.6 - 6.4	PEST	RAT	
Flea Beetle Grasshoppers Leafhoppers  Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs	LE21	Lb. A.I./A	Fl. Oz./A
Grasshoppers Leafhoppers Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs	Aster Leafhopper		
Leafhoppers Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs	Flea Beetle	0.035 0.10	16 64
Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Farworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs	Grasshoppers	0.025 - 0.10	1.0 - 0.4
Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs			
Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs			
Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Plant Bugs			
Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Corn Earworm Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs	Beet Armyworm		
Corn Rootworm (Adult) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs	Cloverworm		
Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
European Corn Borer Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Fall Armyworm Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Imported Cabbageworm Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Japanese Beetle (Adult) Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Loopers Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Leafminers Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Mexican Bean Beetle Pea Leaf Weevil Pea Weevil Plant Bugs			
Pea Leaf Weevil Pea Weevil Plant Bugs		0.033 - 0.10	21-64
Pea Weevil Plant Bugs		0.033 0.10	2.1 0.4
Plant Bugs	1		
Salt Marsh Caterpillar			
Sap Beetle			
Southern Armyworm			
Stink Bugs			
Tarnished Plant Bug Thrips			
Tobacco Budworm			
Webworms			
Western Bean Cutworm	11001011		
Whitefly			
Yellowstriped Armyworm			
Banks Grass Mite			
Carmino Mito		0.00 0.40	5.40 .6.4
Lygus spp. 0.08 - 0.10 5.12 - 6.4		0.08 - 0.10	5.12 - 6.4
Twospotted Spider Mite			

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- Pre-Harvest Interval: 3 days

#### **Applications:**

**Ground Application -** Apply in water in a minimum of 10 gallons per acre.

Air Application - Apply in water in a minimum of 2 gallons per acre.

Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

#### **TOBACCO**

PEST	RA <sup>-</sup>	TE
PESI	Lb. A.I./A	Fl. Oz./A
Armyworm spp.		
Cutworm spp.		
Mole Crickets		
Stalk Borers	0.0625 - 0.10	4.0 - 6.4
Tobacco Flea Beetle (Larvae)		
White Grubs		
Wireworms		
Aphid spp.		
Armyworm spp.		
Chinch Bugs		
Cutworm spp.		
Flea Beetle (Adult)		
Grasshoppers		
Green Bugs		
Japanese Beetles	0.04 - 0.10	2.56 - 6.4
Stink Bugs	0.04 - 0.10	2.30 - 0.4
Tarnished Plant Bugs		
Thrips		
Whiteflies		
Tobacco Budworm		
Tobacco Hornworm		
Salt Marsh Caterpillar		
Cucumber Beetle		
Lygus spp.	0.10	6.4
Spider Mites	0.10	0.4

#### **Restrictions:**

- For all applications, do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- For foliar applications, do not make more than 2 applications per season.
- Do not apply later than lay-by.

# **Applications:**

**Pre-Transplant Soil Applications** - Apply 0.0625 - 0.10 lb. active ingredient per acre in a minimum of 10 gallons per acre to control soil pests. Use of suitable equipment to incorporate into top 4" of the soil is required to control below-ground pests.

**At-Transplant Water Treatment Applications** - Apply 0.0625 - 0.10 lb. active ingredient per acre in a water treatment application volume of the 10 - 200 gallons per acre. May be tank mixed with Command®, Spartan®, and other herbicides approved for tobacco use.

**Foliar Applications** - Apply 0.04 - 0.10 lb. active ingredient per acre foliar application up to and including lay-by in a minimum of 10 gallons per acre. May be tank mixed with Command, Spartan, and other herbicides approved for tobacco use.

# TREE NUTS CROPS

Tree Nuts Crops including: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Pistachio, and Walnut (Black and English)

DECT	RA	TE
PEST	Lb. A.I./A	Fl. Oz./A
Black Pecan Aphid		
Codling Moth		
Filbert Worm		
Hickory Shuckworm		
Leaffooted Bugs	0.05 - 0.20	3.2 - 12.8
Navel Orangeworm	0.05 - 0.20	3.2 - 12.8
Oblique Banded Leafroller		
Peach Twig Borer		
Pecan Leaf Casebearer		
Pecan Nut Casebearer		

Pecan Phylloxera		
Plant Bugs		
Stink Bugs		
Walnut Aphid		
Yellow Pecan Aphid		
European Red Mite	0.08 - 0.20	5.1 - 12.8
Spider Mites	0.06 - 0.20	3.1 - 12.0
Walnut Husk Fly	0.1 - 0.20	6.4 - 12.8

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per application; do not exceed 0.5 lb. active ingredient (32.0 ounces formulated) per season.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.
- Minimum Spray Intervals: Apply **Bifen 2EC Select** as needed to maintain control, but not apply at intervals sooner than 15 days.
- Pre-Harvest Interval: 21 days for Pecans; 7 days for all other registered tree nut crops.

# **Applications:**

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

Air Application - Apply the specified dosage in a minimum of 10 gallons of finished spray per acre.

#### **TUBEROUS AND CORM VEGETABLES**

Arracacha; Arrowroot; Chinese Artichoke; Jerusalem Artichoke; Edible Canna; Cassava (bitter and sweet); Chayote (root); Chufa; Dasheen (taro); Ginger; Leren; Potato; Sweet Potato; Tanier; Turmeric; Yam Bean; True Yam

PEST	RATE	
PESI	Lb. A.I./A	Fl. Oz./A
Corn Wireworm	0.30	19.2
Tobacco Wireworm	(At-Plant)	(At-Plant)
Japanese Beetle Grubs	0.05 - 0.15	3.2 - 9.6
June Beetle	(Lay-By)	(Lay-By)
Southern Potato Wireworm	(Lay-by)	(Lay-by)
Banded Cucumber Beetle		
Black Flea Beetle		
Cucumber Beetle		
Rootworms	0.033 - 0.10 (Foliar)	2.1 - 6.4 (Foliar)
Sugarcane Beetle		
Sweet Potato Flea Beetle		
Sweet Potato Weevil		
White Grub		
Whitefringed Beetle		

#### Restrictions:

- Do not apply more than 0.5 lb. active ingredient (32.0 ounces formulated) per acre per season, including soil applications.
- For foliar applications, do not make more than 2 foliar applications per season and do not make application less than 21 days apart.
- Pre-Harvest Interval: 21 days

# **Applications:**

**In-Furrow Planting Time Treatment - Bifen 2EC Select** may be applied as an in-furrow planting time treatment for the control of wireworms, rootworms, and white grubs. Apply **Bifen 2EC Select** at the rate of 0.3 lb. active ingredient per acre as an in-furrow spray or T-band spray at-planting time.

**Lay-By Treatment** - **Bifen 2EC Select** may be applied as a lay-by treatment for the control of wireworms, rootworms, and white grubs. Apply **Bifen 2EC Select** to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area.

Apply **Bifen 2EC Select** as a banded spray over the row at a rate of 0.05 - 0.15 lb. active ingredient per acre (3.2 - 9.6 ounces formulated) in 10 gallons per acre of spray.

Foliar Spray - Bifen 2EC Select may be applied as a foliar spray for the control of the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), whitefringed beetles, and May/June beetles (white grubs). Apply Bifen 2EC Select at the rate of 0.033 - 0.10 lb. active ingredient per acre (2.1 - 6.4 ounces formulated) in 10 gallons of spray by ground and 3 gallons of spray by air.

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

**Pesticide Storage:** DO NOT ALLOW PRODUCT TO FREEZE. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA region office for guidance.

# **Container Handling:**

Nonrefillable Container (Equal to or Less than 5 Gallons): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available. If recycling is not available, puncture or dispose of in a sanitary landfill or incineration or if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable Container (Greater than 5 Gallons): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available. If recycling is not available, puncture or dispose of in a sanitary landfill or incineration or if allowed by State and local authorities, by burning. If burned stay out of smoke.

Refillable Container (Greater than 55 Gallons): Refill this container with bifenthrin only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

# **CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Tigris, LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Tigris, LLC and Seller harmless for any claims relating to such factors.

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

To the extent consistent with applicable law, neither Tigris, LLC nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF TIGRIS, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF TIGRIS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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

## [OPTIONAL MARKETING GRAPHICS:]

