



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Registration Division (7505P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

EPA Reg. Number:

83529-48

Date of Issuance:

10/30/15

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
 (under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Sharda Bifenthrin 2E

Name and Address of Registrant (include ZIP Code):

Ms. Cheryl Wagner  
 Sharda USA LLC  
 c/o Wagner Regulatory Associates, Inc  
 P.O. Box 640  
 Hockessin, DE 19707

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Kable Bo Davis, Product Manager 03  
 Invertebrate & Vertebrate Branch 1, Registration Division (7505P)

Date:

10/30/15

2. You are required to comply with the data requirements described in the DCIs identified below:

- a. Bifenthrin: GDCI-128825-902  
GDCI -128825-1114  
GDCI -128825-1158  
GDCI -128825-1159

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCIs listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: [http://www.epa.gov/oppsrrd1/contacts\\_prd.htm](http://www.epa.gov/oppsrrd1/contacts_prd.htm)

3. Make the following label changes before you release the product for shipment:

- Revise the EPA Registration Number to read, "EPA Reg. No. 83529-48."

4. Submit one copy of the final printed label for the record before you release the product for shipment.

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.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 07/29/2015

If you have any questions, please contact Tim Ciarlo by phone at 703-347-8082, or via email at [Ciarlo.Timothy@epa.gov](mailto:Ciarlo.Timothy@epa.gov).

Enclosure

**RESTRICTED USE PESTICIDE  
TOXIC TO FISH AND AQUATIC ORGANISMS**

*FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS, OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.*

**GROUP 3 INSECTICIDE**

## Sharda Bifenthrin 2E

**Active Ingredient:**

**Bifenthrin\***

(2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate.....25.0%

**Other Ingredients\*\*** .....75.0%

**TOTAL**.....100.0%

\*Cis isomers 97% minimum, trans isomers 3% maximum. \*\*Contains xylene range aromatic solvents

This product contains 2 pounds active ingredient per gallon.

**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.)

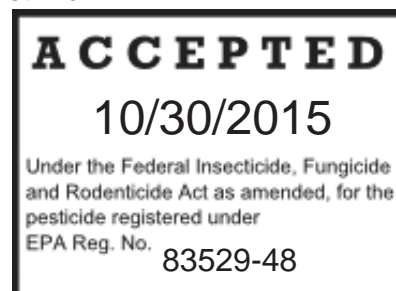
<b>FIRST AID</b>	
<b>If Swallowed</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in Eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on Skin or Clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<p><b>NOTE TO PHYSICIAN:</b> This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.</p>	
<p><b>EMERGENCY TELEPHONE NUMBERS:</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24- HOUR EMERGENCY MEDICAL ASSISTANCE CALL: <b>1-800-222-1222</b>. FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC <b>1-800-424-9300</b>.</p>	

EPA Reg. No.

EPA Est. No.

Net Contents: 1 gal., 2.5 gal., 5 gal. 30 gal.

Manufactured For:  
Sharda USA LLC  
7217 Lancaster Pike  
Hockessin, DE 19707



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

**WARNING.** May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get into eyes or on clothing. Wear protective eyewear such as goggles or safety glasses. Harmful if inhaled, or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

**Personal Protective Equipment (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category F on an EPA chemical resistance category selection chart.

**Applicators and other handlers 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if drenched or if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change 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 run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

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 AND CHEMICAL HAZARDS**

Combustible. Do not use or store near heat or open flame. Do not mix or allow coming into contact with oxidizing agents, hazardous chemical reaction may occur.

**DIRECTIONS FOR USE  
RESTRICTED USE PESTICIDE**

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

Do not apply this product 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.

### RESISTANCE MANAGEMENT

**Sharda Bifenthrin 2E** is a Group 3 insecticide (acaricide). Insect/mite biotypes resistant to Group 3 insecticides may eventually dominate the insect/mite population if Group 3 insecticides (acaricides) are used repeatedly in the same field or in successive years as the primary method of control for targeted species; partial or total loss of insect/mite control can occur.

If ineffective control cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

To delay insecticide (acaricide) resistance:

- Avoid consecutive use of **Sharda Bifenthrin 2E** or other Group 3 insecticides (acaricides) that have a similar mode of action on the same insect/mite species.
- Use tank mixtures or premixes with insecticides (acaricides) from a different target site of action group as long as the involved products are all registered for the same use and have different sites of action.
- Base insecticide (acaricide) use on a comprehensive IPM program.
- Monitor treated insect/mite populations for loss of field efficacy.
- Contact your local extension specialist, certified crop advisor, and/or Sharda USA, LLC representative for insecticide (acaricide) resistance management and/or IPM recommendations for the specific site and resistant pest problems.

### 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 or nitrile rubber or neoprene rubber or Viton
- shoes plus socks

### Application Instructions

Application rates are variable according to pest pressure, timing of sprays, and field scouting. Use lower rates within the specified rate range in areas of light to moderate infestation; higher rates within the specified rate range in areas of heavy insect and mite pressure. Use the higher rates within the specified rate range in arid climates. Apply as directed in the application rate tables indicated.

Do not cultivate within 10 feet of a body of water; allow for the growth of a vegetated filter strip.

**New York State Restriction:** Do not apply this product within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

### CHEMIGATION USE DIRECTIONS

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

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

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 operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease the 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.

Apply **Sharda Bifenthrin 2E** continuously for the duration of the water application. Dilute **Sharda Bifenthrin 2E** in sufficient volume to ensure accurate application over treatment area. When using chemigation, apply with a minimum of 0.5 inch per acre of irrigation water. Agitation generally is not required when a suitable diluent is used. Conduct a diluents test 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.

#### 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.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs144p2\\_030970.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_030970.pdf)

##### **Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)**

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).

##### **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, 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, ponds, estuaries, and commercial fish ponds).



**SPRAY DRIFT REQUIREMENTS**

**Wind Direction and Speed:** 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:** The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% 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 cross-wind, 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.

**ROTATIONAL CROPS**

Crops for which bifenthrin tolerances exist may be rotated at any time. For all other crops, wait 30 days following the final application of bifenthrin before rotating.

**Tank Mixtures**

**Sharda Bifenthrin 2E** can 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. Perform a compatibility test before mixing.

**AGRICULTURAL CROP USES****ARTICHOKES**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Artichokes	Artichoke plume moth Cribrate weevil	0.1	6.4	Apply when pest population reaches damaging threshold.  <b>Aerial Application:</b> Apply specified rate in a minimum of 10 gallons per acre.  <b>Ground application:</b> Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.

**RESTRICTIONS:**

Repeat as necessary to maintain control, but not more often than 15-day intervals.

Do not exceed 0.5 lb. a.i. (1 quart formulated product) per acre per season.

PHI: 5 days

**BRASSICA CROPS**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Head and stem brassica vegetables including: Broccoli, Brussels sprouts Cabbage Cauliflower Cavalo broccolo Chinese broccoli (gai lon, white flowering broccoli) Chinese cabbage (napa) Chinese mustard Cabbage (gai choy) Kohlrabi	Aphids Armyworms Corn earworm Crickets Cucumber beetles Cutworms Diamondback moth Flea beetles Ground beetles Imported cabbageworm Leafhoppers Loopers Saltmarsh caterpillar Stink bugs Thrips Tobacco budworm Whitefly Wireworm (Adults)	0.033 to 0.1	2.1 to 6.4	<b>Aerial Application:</b> Apply in a minimum of 2 gallons of finished spray per acre. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.  <b>Ground Application:</b> Apply in a minimum of 10 gallons per acre.  Thorough coverage is essential to achieve control.
	Banks grass mite Carmine mite Lygus bugs Pacific spider mite Twospotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not apply more than 0.5 lb. a.i. (1 quart formulated product) per acre per season.

Do not make more than 5 applications after bloom.

Do not make applications less than 7 days apart.

PHI: 7 days

**BUSHBERRIES**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Blueberry (highbush & lowbush) Currant Elderberry Gooseberry Huckleberry	Aphids Blueberry maggot Fruitworms Japanese beetle Leafhoppers Leaf rollers Plum curculio Spanworm	0.033 to 0.1	2.1 to 6.4	<b>Aerial application:</b> Apply a minimum of 2 gallons of finished spray per acre.  <b>Ground application:</b> Apply using a minimum of 10 gallons of finished spray per acre.
	Carmine mite <i>Lygus</i> spp. Pacific spider mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not make applications less than 7 days apart.

Do not apply more than 0.5 lb. a.i. ingredient (1 quart formulated product) per acre per season.

PHI: 1 day



**CANE BERRIES**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Bingleberries Blackberries Dewberries Loganberries Lowberries Marionberries Ollalieberries Raspberries Youngberries	Leafrollers Orange tortrix Root weevils	0.05 to 0.1	3.2 to 6.4	<p><b>Aerial application:</b> Apply in a minimum of 10 gallons per acre using sufficient water to obtain full coverage of foliage.</p> <p><b>Ground application:</b> Apply in a minimum 50 gallons per acre using sufficient water to obtain full coverage of foliage.</p> <p>One application may be made pre-bloom and a second application may be made post-bloom.</p>
	Raspberry crown borer Spider mites	0.1	6.4	For Crown Borer, apply 0.1 lb. a.i /a, post-harvest (fall) or pre-bloom (spring), as a drench application directed at the crown of plants in a minimum of 200 gallons water/acre. Greater efficacy is observed at higher water gallonage (up to 400 gallons/a) or in an application prior to a significant rainfall event.

**RESTRICTIONS:**

Do not exceed 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.

PHI: 3 days

**For Crown Borer only:**

Do not make both pre-bloom foliar and pre-bloom drench applications.

**CANOLA, CRAMBE, RAPESEED**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Canola Crambe Rapeseed	Aphids Armyworms Cutworms Diamondback moth Flea beetle Flea hopper Grasshopper Loopers Other Lepidopterous larvae Plant bug Seedpod weevil Stink bugs Thrips Whitefly	0.033 to 0.04	2.1 to 2.6	<p><b>Aerial application:</b> Apply in a minimum of 2 gallons of finished spray per acre. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p><b>Ground application:</b> Apply in a minimum of 10 gallons per acre. When applying by air, thorough coverage is essential to achieve control.</p>

**RESTRICTIONS:**

Do not apply more than 0.08 lb. a.i. (5.12 ounces formulated product) per acre per season.

Do not make applications less than 14 days apart.

PHI: 35 days

**CHRISTMAS TREES (Washington and Oregon only)**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Christmas Trees	Root weevil Spruce spider mite	0.06 to 0.1	3.9 to 6.4	<p><b>Aerial application:</b> Apply a minimum of 5 gallons per acre.</p> <p><b>Ground application:</b> Apply using a minimum of 20 gallons of finished spray per acre.</p> <p><b>Sharda Bifenthrin 2E</b> is generally not toxic 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 <b>Sharda Bifenthrin 2E</b>.</p>

**RESTRICTIONS:**

Maintain a minimum of 21 days between applications.

Do not apply more than 0.1 lb. a.i. (6.4 ounces formulated product) per acre per treatment.

Do not make more than 3 applications in a crop year.

Do not apply through any irrigation system.

**CILANTRO, CORIANDER**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Cilantro, Coriander	Aphids Beet armyworm Cabbage looper Cutworm Flea beetle Grasshopper Leafminer Saltmarsh caterpillar Spotted cucumber beetle Thrips Whitefly	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply a minimum of 2 gallons per acre.</p> <p><b>Ground application:</b> Apply using a minimum of 10 gallons of finished spray per acre.</p> <p>Apply using sufficient water to obtain uniform coverage. Apply as needed.</p>
	Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not make applications less than 7 days apart.

Do not apply more than 0.5 lb. a.i. ingredient (32 ounces formulated product) per acre per season.

PHI: 3 days

## CITRUS (1 day PHI)

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Citrus (1 day PHI)	Diaprepes root weevil ( <i>Diaprepes abbreviatus</i> )	0.25 to 0.5	16 to 32	<p><b>Ground application:</b> Apply <b>Sharda Bifenthrin 2E</b> to bare soil beneath citrus trees. <b>Sharda Bifenthrin 2E</b> must be uniformly applied from the trunk to the drip line of tree; apply in a minimum of 40 gallons of dilute spray per acre. Greater spray volume should ensure greater uniformity of coverage. A pre- and post-application irrigation may aid in the uniformity of coverage as well. <b>Sharda Bifenthrin 2E</b> protects citrus tree roots from <i>Diaprepes</i> and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with <b>Sharda Bifenthrin 2E</b> as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized. Timing of <b>Sharda Bifenthrin 2E</b> applications is critical. Current information suggests that peak emergence of adult <i>Diaprepes</i> Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture. Typically, two peaks are observed for <i>Diaprepes</i>, first in spring then late summer or early fall. Southern Blue-Green and Blue-Green Citrus Weevils and Fuller Rose Beetle and Little Leaf Notches typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notches typically exhibit three emergence peaks in spring, summer and fall. Since emergence varies seasonally and by location, timing of <b>Sharda Bifenthrin 2E</b> application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the <b>Sharda Bifenthrin 2E</b> soil barrier in place prior to drop of the neonates. <b>Sharda Bifenthrin 2E</b> is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of <b>Sharda Bifenthrin 2E</b> should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevil and other pests. Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer. Peak emergence of <i>Diaprepes</i> root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of <i>Diaprepes</i> root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fluid ounces formulated product should be used to obtain the longest residual management of <i>Diaprepes</i> root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fluid ounces formulated product can be applied early season and 16 fluid ounces formulated product can be applied later in the season.</p>
	Southern blue green root weevil ( <i>Pachaneus litus</i> )			
	Blue Green Citrus Root weevil ( <i>Pachaneus opalus</i> )			
	Brown leaf notcher ( <i>Epicurus mexicanus</i> )			
	Little leaf notcher ( <i>Artipus floridanus</i> )			
	Fire ant ( <i>Solenopsis</i> spp.)	0.1 to 0.25	6.4 to 16	
	Asian cockroach ( <i>Blattella asahinae</i> )			

**RESTRICTIONS:**

Do not apply through irrigation systems.

Do not allow any application of Sharda Bifenthrin 2E to contact fruit or foliage.

Do not apply more than a total of 32 fluid ounces of formulated product (0.5 lb. a.i.) per acre per year.

Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.

Ground application only. Do not apply by air.

PHI: 1 day

**CONIFER SEED ORCHARDS**

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

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Conifer Seed Orchards	Cone worms Seed bugs Seed worms	0.1 to 0.2	6.4 to 12.8	<p><b>Aerial application:</b> Apply a minimum of 10 gallons per acre or 0.5 gallon refined vegetable oil per acre.</p> <p><b>Ground application:</b> Apply using a minimum of 100-500 gallons of finished spray per acre.</p> <p>Apply in sufficient water to obtain thorough coverage. Begin applications 7 days after peak pollen flight and continue on 30-day intervals up to a maximum of 0.6 lb. a.i. per acre per season.</p>

**RESTRICTIONS:**

Do not apply more than 0.6 lb. a.i. (38.4 ounces formulated product) per acre per season.

Do not make more than 6 applications in a crop season.

Do not apply through any irrigation system.

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

To calculate the amount of **Sharda Bifenthrin 2E** to use per acre based on row spacing, refer to the conversion chart below.

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Field Corn (grain and silage) Popcorn Field Corn grown for seed (at plant use)	Corn rootworm larvae (Northern, Southern, Western)	0.0046 lb. a.i. per 1,000 linear feet of row (30 inch row spacing)	0.30 fl. oz. per 1,000 linear feet of row (30 inch row spacing)	<p>Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe in front of the press wheel centered over the row. Use the table above to determine the <b>Sharda Bifenthrin 2E</b> needs per acre. Apply in a minimum of 3 gallons of finished spray per acre. (3 gallons per acre is approximately 0.17 gallons per 1,000 linear feet of row at 30-inch spacing).</p>
	Army cutworm Other cutworm species Grubs Seed corn beetle Seed corn maggot True armyworm Other armyworm species Wireworm	0.0023 to 0.0046 lb. a.i. per 1,000 linear feet of row (30 inch row spacing)	0.15 to 0.3 fl. oz. per 1,000 linear feet of row (30 inch row spacing)	<p>Mix <b>Sharda Bifenthrin 2E</b> with water or fertilizer in the following manner:</p> <ol style="list-style-type: none"> <li>1) Fill the spray tank approximately one-half full with water or liquid fertilizer.</li> <li>2) Add the proper amount of <b>Sharda Bifenthrin 2E</b>.</li> <li>3) Add the rest of the water or fertilizer.</li> <li>4) Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.</li> </ol> <p>Applications of <b>Sharda Bifenthrin 2E</b> alone or in specified tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. Perform a jar compatibility test with appropriate ratio of <b>Sharda Bifenthrin 2E</b> and fertilizer to ensure mixture will stay in solution. Maintain constant agitation during mixing and application.</p>

**RESTRICTIONS:**

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.

Do not apply more than 0.1 lb. a.i. (6.4 fl. oz. Sharda Bifenthrin 2E) per acre per season as an at plant application.

PHI: 30 days

Row spacing (inches)	40	38	36	30
<b>Sharda Bifenthrin 2E</b> (pounds a.i. per acre)	0.060	0.064	0.069	0.080
<b>Sharda Bifenthrin 2E</b> (formulated ounces per acre)	3.9	4.1	4.4	5.12

**FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED  
Pre-plant Incorporated (PPI) & Pre-emergence (PRE)**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
<b>Field Corn (Grain and Silage) Popcorn Field Corn Grown For Seed Pre-plant Incorporated (PPI) &amp; Pre-emergence (PPE)</b>	Armyworm spp. Black cutworm Seedcorn maggot Stalk borer White grubs Wireworm	0.047 to 0.062 PPI	3 to 4 PPI	The 3-4 oz./A rate must be applied as PPI and can be tank mixed and applied with PPI herbicides. Incorporation of <b>Sharda Bifenthrin 2E</b> must not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth must be close to the intended seed planting depth.
	Armyworm spp. Black cutworm Stalk borer	0.04 PRE	2.56 PRE	The 2.56 oz./A rate may be applied PRE and can be tank mixed and applied with PRE herbicides.

**FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED  
(Foliar use)**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Field Corn (Grain and Silage) Popcorn Field Corn Grown For Seed (Foliar Use)	Aphids Army cutworm Beet armyworm Cereal leaf beetle Chinch bug Common stalk borer Corn earworm Corn rootworm (Adults) Cucumber beetle (Adults) Cutworm species European corn borer Fall armyworm Flea beetle Grasshoppers Greenbug Japanese beetle (Adults) Sap beetle Southern armyworm Southern corn leaf beetle Southwestern corn borer Stinkbugs Tarnished plant bug True armyworm or Armyworm species Webworms Western bean cutworm Yellowstriped armyworm	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial Application:</b> Apply in a minimum of 2-5 gallons of finished spray per acre. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p><b>Ground Application:</b> Apply in a minimum of 10 gallons per acre with ground equipment.</p> <p>Thorough coverage is essential to achieve control.</p> <p><b>To control ear-attacking pests:</b> Apply <b>Sharda Bifenthrin 2E</b> just before silking and repeat as necessary to maintain control, but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p> <p><b>Southwestern corn borer, European corn borer:</b> Make application for corn borer control with initial application at or shortly before egg hatch.</p> <p><b>For control of other insect pests:</b> Apply when pests first appear and repeat as necessary, but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p>
	Banks grass mite Carmine mite Twospotted spider mite	0.08 to 0.1	5.12 to 6.4	<p>Apply for <b>Banks grass mite</b> control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant. <b>For two-spotted spider mite and carmine mite control:</b> Apply when colonies first form prior to leaf damage or discoloration and before wide-spread mite dispersal throughout the canopy.</p> <p>Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. a.i. per acre in tank mixture has demonstrated good control under these conditions.</p> <p>For mite control in Texas, New Mexico, Oklahoma, and Arizona, apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.</p>

**RESTRICTIONS:**

Do not apply more than 0.3 lb. a.i. (19.2 ounces formulated product) per acre per season including PRE & PPI, at plant, plus foliar applications. In CA, do not exceed the maximum rate of 0.2 lb. a.i. per acre per season.

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 **Sharda Bifenthrin 2E** on corn is prohibited in all coastal counties.

PHI: 30 days



**SWEET CORN (GRAIN AND SILAGE) and SWEET CORN GROWN FOR SEED  
(At-Plant Use)**

To calculate the amount of **Sharda Bifenthrin 2E** to use per acre based on row spacing refer to the conversion chart below.

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI	FL. OZ.	
Sweet Corn (Grain and Silage) Sweet Corn Grown For Seed (At-Plant Use)	Corn rootworm larvae (Northern, Southern, Western)	0.0046 lb. a.i. per 1,000 linear feet of row (30-inch row spacing)	0.30 fl. oz. per 1,000 linear feet of row (30-inch row spacing)	Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table above to determine the <b>Sharda Bifenthrin 2E</b> needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.
	Army cutworm Cutworm species Grubs Seed corn beetle Seed corn maggot True armyworm or Armyworm species Wireworm	0.0023 to 0.0046 lb. a.i. per 1,000 linear feet of row (30- inch row spacing)	0.15 to 0.30 oz. per 1,000 linear feet of row (30-inch row spacing)	Mix <b>Sharda Bifenthrin 2E</b> with water or fertilizer in the following manner. <ol style="list-style-type: none"> <li>1) Fill the spray tank approximately one-half full with water or liquid fertilizer.</li> <li>2) Add the proper amount of <b>Sharda Bifenthrin 2E</b>.</li> <li>3) Add the rest of the water or fertilizer.</li> <li>4) Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.</li> </ol> <p>Applications of <b>Sharda Bifenthrin 2E</b> alone or in specified tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. Perform a jar compatibility test with appropriate ratio of <b>Sharda Bifenthrin 2E</b> and fertilizer to ensure mixture will stay in solution. Maintain constant agitation during mixing and application.</p>

**RESTRICTIONS:**

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.

Do not apply more than 0.1 lb. a.i. (6.4 fl. oz. **Sharda Bifenthrin 2E**) per acre per season as an at plant application.

PHI: 30 days

Row spacing (inches)	40	38	36	30
<b>Sharda Bifenthrin 2E</b> (pounds a.i. per acre)	0.060	0.064	0.069	0.080
<b>Sharda Bifenthrin 2E</b> (formulated ounces per acre)	3.9	4.1	4.4	5.12

**SWEET CORN (GRAIN AND SILAGE) and SWEET CORN GROWN FOR SEED (Foliar Use)**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI	FL. OZ.	
Sweet Corn (Grain And Silage) Sweet Corn Grown For Seed (Foliar Use)	Aphids Army cutworm Beet armyworm Cereal leaf beetle Chinch bug Common stalk borer Corn earworm Corn rootworm (Adults) Cucumber beetle (Adult) Cutworm species European corn borer Fall armyworm Flea beetle Grasshoppers Greenbug Japanese beetle (Adult) Sap beetle Southern armyworm Southern corn leaf Beetle Southwestern corn borer Stinkbugs Tarnished plant bug True armyworm or Armyworm species Webworms Western bean cutworm Yellowstriped armyworm	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply in a minimum of 2 gallons of finished spray per acre by air. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p><b>Ground application:</b> Apply in a minimum of 10 gallons per acre with ground equipment. Thorough coverage is essential to achieve control.</p> <p><b>To control ear-attacking pests:</b> Apply <b>Sharda Bifenthrin 2E</b> when silking begins and repeat as necessary to maintain control, but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p> <p><b>Southwestern corn borer, European corn borer:</b> Make 2 applications for corn borer control with the initial application at or shortly before egg hatch.</p> <p><b>For control of other insect pests:</b> Apply when pests first appear and repeat as necessary, but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.</p>
	Banks grass mite Carmine mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	<p>Apply for <b>Banks grass mites</b> control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p><b>For two-spotted spider mite and carmine mite control:</b> Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.</p>

**RESTRICTIONS:**

Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated) per acre per season, including at plant plus foliar applications.

Do not graze livestock in treated areas of 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 **Sharda Bifenthrin 2E** on corn is prohibited in all coastal counties.

PHI: 1 day

## COTTON

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Cotton	European corn borer Soybean (banded) thrips Tobacco thrips	0.02 to 0.1	1.3 to 6.4	<b>Sharda Bifenthrin 2E</b> may be applied in water or refined vegetable oil (soybean/cottonseed).
	Boll weevil Bollworm Cabbage looper Cotton aphid Cotton fleahopper Cotton leaf perforator Cutworms Fall armyworm Plant bugs Saltmarsh caterpillar Southern garden leafhopper Stink bugs Tobacco budworm Whitefly Yellow striped armyworm	0.04 to 0.1	2.6 to 6.4	<b>Aerial Application:</b> Apply in a minimum of 1 gallon per acre. 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.  <b>ULV Application:</b> Apply the specified rate of <b>Sharda Bifenthrin 2E</b> in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.  <b>Ground Application:</b> Apply in a minimum of 5 gallons per acre.  <b>Boll Weevil Control:</b> Apply <b>Sharda Bifenthrin 2E</b> at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.
	Beet armyworm Carmine spider mite <i>Lygus</i> Spp. (except California) Pink bollworm Two-spotted spider mite	0.06 to 0.1	3.8 to 6.4	<b>Mites and Aphids Control:</b> Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is established.

**RESTRICTIONS:**

Do not apply more than 0.5 lb. a.i. (32 formulated product) per acre per season in all states except California. For CA, do not apply more than 0.3 lb. a.i. per acre per season.

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<sup>®</sup>, Ammo<sup>®</sup>, Asana<sup>®</sup> XL, Baythroid<sup>®</sup>, Capture<sup>®</sup>, Danitol<sup>®</sup>, Karate<sup>®</sup>, Mustang<sup>®</sup>, Scout X-TRA<sup>®</sup> and Sniper<sup>®</sup>.

Do not graze livestock in treated areas or cut treated crops for feed.

PHI: 14 days

## CUCURBITS

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible (includes hyotan, cucuzza) <i>Luffa</i> spp.(includes hechima, Chinese okra) <i>Momordica</i> spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber) Muskmelon (hybrids and/or cultivars of <i>Cucumis melo</i> , includes: true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon) Pumpkin ( <i>Cucurbita</i> spp.) Squash, summer includes: crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini) Squash, winter includes: butternut squash, calabaza, Hubbard squash ( <i>C. mixta</i> ; <i>C. pepo</i> ), includes acorn squash, spaghetti squash) Watermelon (includes hybrids and or varieties of <i>Citrullus</i> spp.)	Aphids Armyworms Cabbage looper Corn earworm Cucumber beetles Cutworm Grasshopper Leafhoppers Melonworm Pickleworm Plant bug Rindworm Squash bugs Squash vine borer Stink bugs Tobacco budworm	0.04 to 0.1	2.6 to 6.4	<b>Aerial application:</b> Apply in a minimum of 5 gallons of finished spray per acre. 1 -2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.  <b>Ground application:</b> Apply in a minimum of 20 gallons per acre with ground equipment.  Thorough coverage is essential to achieve control.
	Carmine mite Banks grass mite <i>Lygus</i> spp. Two-spotted spider mites Whitefly	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not apply more than 0.3 lb. a.i. (19.2 ounces formulated) per acre per season.

Do not make more than two applications after bloom.

Do not make applications less than 7 days apart.

PHI: 3 days

## DRIED BEANS AND PEAS

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Dried cultivars of: Bean ( <i>Lupinus</i> ) Bean ( <i>Phaseolus</i> ) Field bean Kidney bean Lima bean (dry) Navy bean Pinto bean Tepary bean Bean ( <i>Vigna</i> ) 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 ( <i>Pisum</i> ) Field pea Pigeon pea	Aster leafhopper Flea beetle Grasshopper Leafhoppers	0.025 to 0.1	1.6 to 6.4	<b>Aerial application:</b> Apply a minimum of 2 gallons per acre. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.
	Alfalfa caterpillar Aphids Beet armyworm Bean leaf beetle Cloverworm Corn earworm Corn rootworm Cucumber beetles Cutworms European corn borer Fall armyworm Imported cabbageworm Japanese beetle Leafminer Loopers Pea weevil Pea leaf weevil Plant bug Saltmarsh caterpillar Sap beetle (Adult) Southern armyworm Stink bugs Tarnished plant bug Thrips (Adult) Tobacco budworm Whitefly Webworms Western bean cutworm Yellowstriped armyworm	0.033 to 0.1	2.1 to 6.4	
	Banks grass mite Carmine mite <i>Lygus</i> spp. Spider mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated) to peas, or 0.3 lb. a.i. (19.2 ounces formulated) to beans per acre per season.

Do not make applications less than 7 days apart.

PHI: 14 days

## FRUITING VEGETABLES

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Eggplant Pepper (Bell & Non-Bell) Groundcherry Pepino	Armyworms, including Beet armyworm Fall armyworm Southern yellowstriped armyworm Cabbage looper Colorado potato beetle Corn earworm Cucumber beetle Cutworms European corn borer Flea beetle Leafminers Loopers Pepper weevil Plant bug Stink bug Thrips Tomato hornworm Tomato pinworm Vegetable leafminer Whitefly	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply in a minimum of 2 gallons of finished spray per acre. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p><b>Ground application:</b> Apply in a minimum of 10 gallons per acre with ground equipment. Thorough coverage is essential to achieve control.</p>
	Banks grass mite Broad mite Carmine mite <i>Lygus</i> species Pacific spider mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	
<p><b>RESTRICTIONS:</b> Do not make applications less than 7 days apart. Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated) per acre per season. PHI: 7 days</p>				



CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Tomato Tomatillo	Aphids Armyworms, including Beet armyworm Fall armyworm Southern yellowstriped armyworm Bean leaf beetle Cabbageworm Carmin mite Cloverworm Corn earworm Corn rootworm Cucumber beetles Cutworms Diamondback moth European corn borer Flea beetles Flea hopper Grasshopper Japanese beetle (Adult) Leafhoppers Loopers <i>Lygus</i> species Melonworm Pea weevil Pea leaf weevil Pickleworm Plant bug Rindworm Salt marsh caterpillar Sap beetle Seedpod weevil Squash bugs Stink bug Tobacco Budworm Tarnished plant bug Thrips Whitefly	0.033 to 0.08	2.1 to 5.12	<b>Ground application:</b> Apply in water as necessary for insect control using a minimum of 10-15 gallons of finished spray per acre with ground equipment.  Thorough coverage is essential to achieve control.
	Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Not for use on Tomatillo in CA unless accompanied by an approved supplemental labeling.

Do not make applications less than 10 days apart.

A maximum of 4 applications may be applied per season.

PHI: 1 day

## GRAPES

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Grapes	Cutworms Eastern grape leafhopper Grape berry moth Japanese beetles (adults) Variegated leafhopper Western grape leafhopper	0.05 to 0.1	3.2 to 6.4	<b>Aerial application:</b> Apply in a minimum of 10 gallons of finished spray per acre. 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.  <b>Ground application:</b> Apply in a minimum of 25 gallons of finished spray per acre.
	Black vine weevil Glassy winged sharpshooter Two-spotted spider mite	0.1	6.4	Thorough coverage is essential to achieve control.  When pest pressure is moderate to severe, use higher rate within the specified rate range.

**RESTRICTIONS:**

Not for use in CA unless allowed by an approved supplemental labeling.  
Do not apply more than 0.1 lb. a.i. (6.4 ounces formulated product) per acre per season.  
PHI: 30 days

## HOPS

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Hops	Aphids Armyworms Cutworms Leafrollers Loopers	0.06-0.1	3.8 to 6.4	<b>Aerial application:</b> Application by air for late season control of two-spotted spider mite: Apply no less than 6.4 oz. (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre.
	Root weevils	0.05 to 0.1	3.2 to 6.4	<b>Ground application:</b> For best results, full coverage is essential. In early season use 100-150 gallons of spray per acre. In late season use 200-250 gallons of spray per acre.
	Two-spotted spider mite	0.1	6.4	<b>Root weevil control:</b> Make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.

**RESTRICTIONS:**

Use of ultra-low volume (ULV) application on hops is prohibited.  
Do not exceed 0.1 lb. a.i. (6.4 ounces formulated product) per application.  
Do not exceed 0.3 lb. a.i. (19.2 ounces formulated product) per acre per season.  
A spray interval of 21 days between applications must be maintained.  
PHI: 14 days

## LEAFY BRASSICAS and TURNIP GREENS\*

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Broccoli raab Bok choy Collards Kale Mizuna Mustard greens Mustard spinach Rape greens Turnip greens*	Aphids Corn earworm Crickets Cucumber beetles Cutworms Diamondback moth Flea beetles Grasshoppers Ground beetles Imported cabbageworm Japanese beetle (adult) Leafhoppers Loopers Saltmarsh caterpillar Stink bugs Thrips Tobacco budworm Whitefly Wireworm (adults)	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply in a minimum of 2 gallons of finished spray per acre. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p><b>Ground application:</b> Apply in a minimum of 10 gallons per acre.</p> <p>Thorough coverage is essential to achieve control.</p>
	Banks grass mite Carmine mite <i>Lygus</i> spp. Pacific spider mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

\*Turnip greens not approved use in California unless allowed by state specific 24(c) supplemental label.

Do not apply more than 0.4 lb. a.i. (25.6 ounces formulated product) per acre per season.

Do not make applications less than 7 days apart.

PHI: 7 days

## LEAFY PETIOLE VEGETABLES

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Cardoon Celery Celtuce Chinese celery Florence fennel Rhubarb Swiss chard	Aphids Armyworms Corn earworm Crickets Cucumber beetles Cutworms Diamondback moth Flea beetles Ground beetles Leafhoppers Loopers Stink bugs Thrips Wireworm (adults)	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply in a minimum of 2 gallons per acre.</p> <p><b>Ground application:</b> Apply in a minimum of 10 gallons per acre.</p> <p>Thorough coverage is essential to achieve control.</p>
	Carmine mite <i>Lygus</i> spp. Pacific spider mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not apply more than 0.5 lb. active ingredient (32 fl. oz. formulated) per acre per season.

Do not make applications less than 7 days apart.

Repeat applications if necessary to maintain control.

PHI: 7 days

## LETTUCE, HEAD

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Lettuce, Head	Aphids Armyworms Corn earworm Cucumber beetles Cutworms Diamondback moth Flea beetles Imported cabbageworm Leafhoppers Loopers Salt marsh caterpillar Stink bug Tobacco budworm Whitefly	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply in water as necessary for insect control using a minimum of 5 gallons per acre by air. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.</p> <p><b>Ground application:</b> Apply in water as necessary for insect control using a minimum of 15 gallons of finished spray per acre.</p> <p>Thorough coverage is essential to achieve control.</p>
	Carmine mite <i>Lygus</i> spp. Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not make applications less than 7 days apart.

A maximum of 0.5 lb. a.i. (32 ounces formulated product) may be applied per acre per season.

PHI: 7 days

## MAYHAW\*

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Mayhaw	Plum curculio	0.08 to 0.1	5.12 to 6.4	Make foliar applications in at least 28 gallons finished spray per acre.

**RESTRICTIONS:**

\*Mayhaw not approved use in California unless allowed by state specific 24(c) supplemental label.

Apply no more than once every 7 days.

Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.

PHI: 30 days

## OKRA

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Okra	Aphids Armyworm Corn earworm Cucumber beetles Cutworms European corn borer Flea beetles Japanese beetle (Adult) Leafminers Loopers Stink bugs Thrips Whitefly	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply a minimum of 2 gallons per acre.</p> <p><b>Ground application:</b> Apply using a minimum of 10 gallons of finished spray per acre.</p> <p>Apply using sufficient water to obtain uniform coverage.</p>
	<i>Lygus</i> spp. Broad mite Carmine mite Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Do not make applications less than 7 days apart.

Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.

PHI: 7 days

## PEANUT

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Peanut	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	0.033 to 0.1	2.1 to 6.4	Apply foliar treatments in at least 10 gallons per acre at the rate of 6.4 fl. oz. (0.1 lb. active) per acre at a minimum of 14-day intervals.
	Aphids Spider Mites Thrips Whitefly	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

Not for use in CA unless accompanied by an approved supplemental labeling.

Do not apply more than 0.5 lb. a.i. (32 ounces formulated product) per acre per season.

PHI: 14 days

To maintain a proper spray interval, do not make applications less than 14 days apart.

Do not feed green immature plants and peanut hay to livestock.

## PEARS

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Pears	Aphids Codling moth Cutworms Green fruitworm Leafhoppers Leafminers Leafrollers <i>Lygus</i> spp. Plant bugs Plum curculio San Jose scale (crawlers) Stink bugs Tarnished plant bugs	0.04 to 0.2	2.6 to 12.8	<b>Aerial application:</b> Apply the specified rate in a minimum of 10 gallons per acre.  <b>Ground application:</b> Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.
	Two-spotted spider mite Yellow mite	0.06 to 0.2	3.8 to 12.8	
	European red mite	0.08 to 0.2	5.12 to 12.8	

**RESTRICTIONS:**

Do not apply more than 0.5 lb. a.i. (32 ounces formulated product) per acre per season with no more than 0.45 lb. a.i. (28.8 ounces formulated product) per acre applied after petal fall.

Apply as necessary to maintain control. 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.

PHI: 14 days

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

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Burdock, edible Carrot Celeriac Chervil, turnip rooted Chicory Ginseng Horseradish Parsley, turnip rooted Parsnip Radish Radish, Oriental Rutabaga Salsify Salsify, black Salsify, Spanish Skirret Turnip	Aphids Beet armyworm Celery leaf tier Corn earworm Cross-Striped cabbageworm Cutworms Diamondback moth European corn borer Fall armyworm Fire ants Flea beetles Green cloverworm Hornworms Imported cabbageworm Loopers Southern armyworm Spider mites Tobacco budworm Velvetbean caterpillar Whitefly yellowstriped Armyworm	0.08 to 0.1	5.12 to 6.4	Make foliar application in at least 25 gallons finished spray per acre.
<b>RESTRICTIONS:</b> Apply no more than once every 7 days. Do not apply more than 0.5 lb. a.i. (32 ounces formulated product) per acre per season. PHI: 21 days *Not for use in CA unless accompanied by an approved supplemental labeling.				
Garden Beet	Aphids Fire ants Flea beetles Lepidopterous larvae Spider mites Whitefly	0.08 to 0.1	5.12 to 6.4	Make foliar treatments in at least 25 gallons finished spray per acre.
<b>RESTRICTIONS:</b> Apply no more than once every 7 days. Do not apply more than 0.4 lb. a.i. (25.6 ounces formulated product) per acre per season. PHI: 1 day				



## SOYBEAN\*

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Soybean	Alfalfa caterpillar Aphids Aster leafhopper Bean leaf beetle Beet armyworm Cloverworm Corn earworm Corn rootworm (Adult) Cucumber beetles Cutworms European corn borer Fall armyworm Flea beetle Grasshoppers Imported cabbageworm Japanese beetle (Adult) Leafhoppers Leafminer Loopers Mexican bean beetle (Adult) Pea leaf weevil Pea weevil Plant bug Saltmarsh caterpillar Sap beetle Southern armyworm Stink bugs Tarnished plant bug Thrips Tobacco budworm Webworms Western bean cutworm Whitefly Yellowstriped armyworm	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply in at least 2 gallons per acre at a rate up to 6.4 fl. oz. (0.1 lb. active) per acre by aircraft at a minimum of 30-day intervals.</p> <p><b>Ground application:</b> Apply foliar treatments in at least 10 gallons per acre at a rate up to 6.4 fl. oz. (0.1 lb. active) per acre.</p> <p>Pyrethroid resistance is common for Beet armyworm and Tobacco budworm. Please consult your local or state agricultural authority to determine if resistant pest populations are in your area. If so, refer to the resistance management statement in the DIRECTIONS FOR USE section of this label.</p>
	<i>Lygus</i> species Two-spotted spider mite Whitefly	0.08 to 0.1	5.12 to 6.4	

**RESTRICTIONS:**

To maintain a proper spray interval, do not make applications less than 30 days apart.

Do not apply more than 0.3 lb. a.i. (12.8 ounces formulated product) per acre per season.

PHI: 18 days

\*Use not permitted in California.

## SPINACH

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Spinach	Armyworms Colorado potato beetle Corn earworm Cucumber beetles Cutworms European corn borer Flea beetles Leafminers Loopers Pepper weevil Tomato pinworm Tomato hornworm Thrips Whitefly	0.033 to 0.1	2.1 to 6.4	<p><b>Aerial application:</b> Apply the specified dosage in a minimum of 5 gallons of finished spray per acre.</p> <p><b>Ground application:</b> Apply the specified dosage in a minimum of 10 gallons of finished spray per acre by ground.</p> <p><b>Whitefly control:</b> Make foliar applications of <b>Sharda Bifenthrin 2E</b> by ground or air at rates of up to 0.4 pt. (0.1 lb. a.i.) per acre at minimum 7-day intervals up to a maximum of 4 applications.</p>
	Broad mite Banks grass mite Carmine mite Fire ants <i>Lygus</i> spp. Two-spotted spider mite Pacific spider mite	0.08 to 0.1	5.12 to 6.4	<p><b>Fire ant control:</b> Apply <b>Sharda Bifenthrin 2E EC</b> to the soil (at planting) or as a foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum 7-day intervals up to a maximum of 4 applications.</p>

**RESTRICTIONS:**

To maintain a proper spray interval, do not make applications less than 7 days apart.

Do not apply more than 0.4 lb. a.i. (25.6 ounces formulated product) per acre per season.

PHI: 40 days

## STRAWBERRY

CROP	PEST	Rate		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
Strawberry	Aphids Armyworms Flea beetles <i>Heliothis</i> spp. Leafrollers <i>Lygus</i> spp. Plant bugs Spittlebugs Stink bugs Strawberry clipper Strawberry sap beetle	0.04 to 0.2	2.56 to 12.8	<p>Apply when pest populations reach damaging thresholds and repeat as necessary at 7-14 day intervals.</p> <p><b>Aerial application:</b> Aerial application is prohibited in Florida. Apply specified rate in a minimum of 5 gallons per acre.</p> <p><b>Ground application:</b> Apply a full cover spray in a minimum of 50 gallons of finished spray per acre.</p>
	Strawberry root weevil Black vine weevil	0.05 to 0.2	3.2 to 12.8	
	Spider mites	0.1 to 0.2	6.4 to 12.8	

**RESTRICTIONS:**

Do not apply more than 0.5 lb. active ingredient (32 ounces formulated product) per acre per season.

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 five (5) days of application must wear a long-sleeved shirt, long pants, and shoes plus socks. Following treatment of strawberry fields at rates of **Sharda Bifenthrin 2E** greater than 0.1 lb. a.i./acre harvesters must wear gloves for five (5) days following application.

## SUCCULENT PEAS AND BEANS

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. A/A	FL. OZ./A	
<b>Peas (<i>Pisum spp.</i>):</b> Dwarf Edible-pod English pea Garden pea Green pea Pigeon Snow pea Sugar snap  <b>Beans (<i>Phaseolus spp.</i>):</b> Broadbean (succulent) Lima bean (green) Runner bean Snap bean Wax bean  <b>Bean (<i>Vigna spp.</i>):</b> Asparagus bean Blackeyed pea Chinese longbean Cowpeas Moth bean Southern pea Yardlong bean Jackbean Soybean (immature seed) Sword bean	Flea beetle Grasshoppers Aster leafhopper Leafhoppers	0.025 to 0.1	1.6 to 6.4	<b>Aerial application:</b> Apply in a minimum of 2 gallons of finished spray per acre. 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray.  <b>Ground application:</b> Apply in a minimum of 10 gallons per acre.  Thorough coverage is essential to achieve control.
	Alfalfa caterpillar Aphids Bean leaf beetle Beet armyworm Cloverworm Corn earworm Corn rootworm (Adult) Cucumber beetles Cutworms European corn borer Fall armyworm Japanese beetle (Adult) Loopers Pea leaf weevil Pea weevil Plant bug Sap beetle Southern armyworm Stink bugs Tarnished plant bug Thrips Webworms Western bean cutworm Yellowstriped armyworm Whitefly	0.033 to 0.1	2.1 to 6.4	
	Banks grass mite Carmine mite <i>Lygus</i> spp. Two-spotted spider mite	0.08 to 0.1	5.12 to 6.4	
<b>RESTRICTIONS:</b> Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season. PHI: 3 days				

**TOBACCO**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Tobacco	Armyworm spp. Cutworms spp. Mole crickets Stalk borers Tobacco flea beetle (Larvae) White grubs Wireworms	0.0625 to 0.1	4 to 6.4	<p><b>Pre-transplant soil applications:</b> Apply 0.0625-0.1 lb. a.i./A in a minimum of 10 gal./A to control soil pests. Use of suitable equipment to incorporate into top 4 inches of soil is required to control below ground pests.</p> <p><b>At-transplant water treatment application:</b> Apply 0.0625-0.1 lb. a.i./A in a water treatment application volume of 10-200 gals./A.</p> <p><b>Foliar applications:</b> Apply 0.04-0.10 lb. a.i./A per foliar application up to, and including, layby in a minimum of 10 gals./A.</p> <p>May be tank mixed with Command, Spartan and other herbicides approved for tobacco use.</p>
	Aphid spp. Armyworm Chinch bugs Cutworm spp. Flea beetle (Adults) Grasshoppers Green bugs Japanese beetles Stink bugs Tarnished plant bugs Thrips Whiteflies	0.04 to 0.1	2.56 to 6.4	
	<i>Lygus</i> spp. Spider mites	0.1	6.4	

**RESTRICTIONS:**  
Do not make more than 2 foliar applications per season. Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.  
Do not apply later than layby.

**TREE NUT CROPS**

CROP	PEST	Rate		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Almond Beech nut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert (hazelnut) Hickory nut Macadamia nut (bush nut) Pecan Pistachio Walnut (Black and English)	Black pecan aphid Codling moth Filbert worm Hickory shuckworm Leaffooted bugs Navel orangeworm Oblique banded Leafroller Peach twig borer Pecan Leaf casebearer Pecan nut casebearer Pecan phylloxera Plant bugs Stink bugs Walnut aphid Yellow pecan aphid	0.05 to 0.2	3.2 to 12.8	<p><b>Aerial application:</b> Apply specified rate in a minimum of 10 gallons per acre.</p> <p><b>Ground application:</b> Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.</p>
	European red mite Spider mite	0.08 to 0.2	5.1 to 12.8	
	Fire ants Walnut husk fly	0.1 to 0.2	6.4 to 12.8	

**RESTRICTIONS:**  
Do not exceed 0.2 lb. a.i. (12.8 ounces formulated product) per acre per application.  
Apply as needed to maintain control, but do not apply at intervals sooner than 15 days.  
Do not apply more than 0.5 lb. a.i. (32 ounces formulated product) per acre per season.  
PHI For pecans: 21 days  
PHI For all other registered tree nut crops: 7 days

**TUBEROUS AND CORM VEGETABLES**

CROP	PEST	RATE		APPLICATION INSTRUCTIONS
		LBS. AI/A	FL. OZ./A	
Arracacha Arrowroot Chinese artichoke Jerusalem artichoke Edible, canna Cassava (bitter and sweet) Chayote (root)	Corn wireworm	0.15 to 0.30 (at- plant)	9.6 to 19.2 (at- plant)	Apply <b>Sharda Bifenthrin 2E</b> as an in-furrow planting time treatment for the control of wireworms, rootworms and white grubs.
	Tobacco wireworm			
Chufa Dasheen (taro) Ginger Leren Potato Sweet potato	Japanese beetle grubs	0.05 to 0.15 (lay-by)	3.2 to 9.6 (lay-by)	Apply <b>Sharda Bifenthrin 2E</b> at the rate of 0.3 pounds active per acre as an in-furrow spray or T-band spray at planning time.
	June beetles Southern potato wireworm			
Tanier Turmeric Yam bean True yam	Banded cucumber beetle	0.033 to 0.1 (foliar)	2.1 to 6.4 (foliar)	Apply <b>Sharda Bifenthrin 2E</b> as a lay-by treatment for the control of wireworms, rootworms and white grubs.  Apply <b>Sharda Bifenthrin 2E</b> to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area.  Apply <b>Sharda Bifenthrin 2E</b> as a banded spray over the row at a rate of 0.05-0.15 lb. active per acre (3.2 to 9.6 ounces formulated) in 10 gallons per acre of spray.  Apply <b>Sharda Bifenthrin 2E</b> as a foliar spray for the control of the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), white fringed beetles and May/June beetles (white grubs).  Apply <b>Sharda Bifenthrin 2E</b> at the rate of 0.033-0.1 lbs. active per acre (2.1-6.4 ounces formulated product) in 10 gallons of spray by ground and 3 gallons of spray by air.
	Black flea beetle			
	Cucumber beetle			
	Rootworms			
	Sugarcane beetle			
	Sweet potato flea beetle			
	Sweet potato weevil			
	White-fringed beetle			

**RESTRICTIONS:**  
Do not make more than 2 foliar applications per season no sooner than 21 days apart.  
Do not apply more than 0.5 lb. a.i. (32 ounces formulated product) per acre per season, including soil application.  
PHI: 21 days

**TURF (GOLF COURSES AND SOD FARMS) AND GRASS AREAS (INCLUDING GOLF COURSES, SOD FARMS, HOME LAWNS, LAWN AREAS AROUND PARKS, INSTITUTIONAL, PUBLIC, COMMERCIAL AND INDUSTRIAL BUILDINGS, RECREATIONAL AND ATHLETIC FIELDS)\***

Apply as a broadcast treatment. Use higher volumes up to 10.0 gallons per carrier per 1,000 square feet to get uniform coverage when treating dense grass foliage. For low water volume usage, less than 2.0 gallons per 1,000 square feet, addition of a non-ionic or silicone based surfactant (0.25% by volume) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests such as, but not limited to, Mole crickets.

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Sniper may be applied at up to 0.32 fluid ounce per 1,000 square feet to control each of the pests listed in this table. Use higher application rates within the specified rate range when maximum residual control is desired or where heavy pest populations occur.

PEST	RATE		
	FL. OZ./A	FL. OZ./1,000 SQ. FT.	LB. A/A
Armyworms <sup>1</sup> Cutworms <sup>1</sup> Sod webworm <sup>1</sup>	2.2 to 3.5	0.05 to 0.08	0.03 to 0.05
Annual bluegrass weevil ( <i>Hyperodes</i> ) (Adults) <sup>2</sup> Banks grass mite <sup>6</sup> Billbugs (Adults) <sup>3</sup> Black turfgrass ataenius (Adults) <sup>4</sup> Crickets Earwigs Grasshoppers Leafhoppers Mealybugs Mites <sup>6</sup> Pillbugs Sowbugs	3.5 to 7.0	0.08 to 0.16	0.05 to 0.11
Chinch bugs <sup>5</sup> Japanese beetle (Adults) Mole cricket (Adults) <sup>7</sup> Mole cricket (Nymph) <sup>8</sup>	7.0 to 14.0	0.16 to 0.32	0.11 to 0.21

**DO NOT USE THIS PRODUCT ON GOLF COURSES OR SOD FARMS IN NASSAU COUNTY OR SUFFOLK COUNTY, NEW YORK.** In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch). In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than 2 weeks after the first application.

#### Spray Drift Precautions (For turf uses)

Do not apply when wind conditions favor downwind drift to nearby water bodies.

Do not apply when wind velocity exceeds 10 miles per hour.

Avoid application when wind gusts approach 10 mph.

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

#### Comments

<sup>1</sup>**Armyworms, Cutworms and Sod webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.32 fluid ounce per 1,000 square feet) may be required during periods of high pest pressure.

<sup>2</sup>**Annual bluegrass weevil (*Hyperodes*) adults:** To control adult Weevils, apply product as they leave their overwintering sites and move into grass areas. This movement generally begins when Forsythia is in full bloom and concludes when Flowering dogwood (*Comus Florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

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

<sup>4</sup>**Black turfgrass ataenius adults:** Make applications during May and July to control the first and second generation of Black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (*Spiraea vanhouttei*) and Horse chestnut (*Aesculus hippocastanum*). Time the July application to coincide with the blooming of Rose of Sharon (*Hibiscus syriacus*).

<sup>5</sup>**Chinch bugs:** Chinch bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the Chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.32 fluid ounce per 1,000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

<sup>6</sup>**Mites:** To ensure optimal control of Eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, 5 to 7 days after the first, may be necessary to achieve acceptable control.

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

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

\*This use is not permitted in California unless allowed by state specific 24(c) supplemental labeling.



## STORAGE AND DISPOSAL

### PESTICIDE STORAGE

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

### SPILLS

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

**To confine spill:** If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package and used absorbent material in a holding container. Identify contents.

### PESTICIDE DISPOSAL

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

### CONTAINER HANDLING:

**Nonrefillable container  $\leq 5$  gallons.** Nonrefillable container. Do not reuse or refill this container. Clean 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  $\frac{1}{4}$  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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

**Nonrefillable container  $\geq 5$  gallons.** Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

**Refillable container.** Refill this container with pesticides only. Do not reuse this container for any other purpose. Cleaning the container 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 pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

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