RESTRICTED USE PESTICIDE
Toxic to fish and aquatic organisms
For retail sale to and use only by certified applicators or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

BIFENTHRIN | GROUP 3A | INSECTICIDE

BIFENTHRIN 2E

Insecticide/Miticide

For use to control listed insects and mites on artichokes, brassicas, bushberries, caneberries, canola, cilantro, citrus, coriander, corn, cotton, crambe, cucurbits, dried beans and peas, fruiting vegetables, grapes, grasses, head lettuce, hops, leafy brassicas, mayhaw, okra, peanuts, pears, rapeseed, root crops, soybeans, spinach, succulent peas and beans, tobacco, and tuberous and corm vegetables.

For use to control listed insect pests on Ornamentals and Trees* (including Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)
*Not For Use in California.

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

Active Ingredient:	**% By Wt.**
Bifenthrin: (2 methyl[1,1 -biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate*	25.1%
Other Ingredients:**	74.9%
Total:	**100.0%**

Contains petroleum distillate
*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 detall.
(If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

IF SWALLOWED
- Immediately call a poison control center or doctor.
- Do not induce vomiting unless told to 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 eyes 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 eyes.
- Call a poison control center or doctor for treatment advice.

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

IF INHALED
- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

HOTLINE NUMBERS:
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-Hour Medical Emergency Assistance (Human or Animal), call: **1-800-222-1222**. For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), call CHEMTREC: **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 LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS, DIRECTIONS FOR USE, AND STORAGE AND DISPOSAL.

Manufactured For:
RedEagle International LLC
5143 S. Lakeland Drive Suite 4
Lakeland, FL 33813

EPA Reg. No. 85678-67

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Harmful if inhaled or absorbed through skin. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves made of barrier laminate or Viton > 14 mils, Avoid breathing vapor or spray mist. Avoid contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. 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: barrier laminate, nitrile rubber (≥ 14 mils), neoprene rubber (≥14 mils), natural rubber >14 mils, polyethylene, polyvinyl chloride (PVC) >14 mils or viton (≥14 mils)
- Shoes plus socks

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: barrier laminate, nitrile rubber (≥14 mils), neoprene rubber (≥14 mils), natural rubber >14 mils, polyethylene, polyvinyl chloride (PVC) >14 mils or viton (≥14 mils)
- shoes plus socks
- 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.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

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

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

The use of **Bifenthrin 2E** 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

COMBUSTABLE: Do not use or store near heat or open flame.

Do not mix or allow coming in 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.

For both indoor and outdoor use.

Do not allow to enter indoor or outdoor drains. Follow proper disposal procedures on this label.
No permita la entrada a desagües internos o externos. Siga las indicaciones del etiquetado para el desecho apropiado del producto.

All outdoor spray applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:

1. Application to pervious surfaces such as soil, lawn, turf, and other vegetation;
2. Perimeter band treatments of 7 feet wide or less from the base of a man-made structure to pervious surfaces (e.g., soil, mulch, or lawn);
3. Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
4. Applications around potential exterior pest entry points into man-made structures such as doorways and windows, when limited to a band not to exceed one inch;
5. Applications to vertical surfaces (such as the side of a man-made structure) directly above impervious surfaces (e.g., driveways, sidewalks, etc.), up to 2 feet above ground level;
6. Applications to vertical surfaces directly above pervious surfaces, such as soil, lawn, turf, mulch or other vegetation) only if the pervious surface does not drain into ditches, storm drains, gutters, or surface waters.

Do not spray the product into fish pools, ponds, streams, or lakes. Do not apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.

Do not allow the product to enter any drain during or after application.

Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.

Do not apply or irrigate to the point of runoff.

Do not make applications during rain. Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours).

Rainfall within 24 hours after application may cause unintended runoff of pesticide application.

Following best management practices can help reduce risk to terrestrial pollinators. Examples of best management practices include applying pesticides in the evening and at night when pollinators are not foraging and checking to confirm hive locations before spraying. For additional resources on pollinator best management practices, visit https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators.

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

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

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

AGRICULTURAL USE REQUIREMENTS

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

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

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

- Coveralls
- Chemical-resistant gloves, made of barrier laminate, butyl rubber >14 mils, nitrile rubber >14 mils, neoprene rubber >14 mils, natural rubber >14 mils, polyethylene, polyvinyl chloride (PVC) >14 mils or Viton >14 mils
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

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

Do not allow people or pets on treated areas until the spray has dried.

RESISTANCE MANAGEMENT

Bifenthrin 2E contains a Group 3 Insecticide. With repeated use of Group 3 insecticide 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 **Bifenthrin 2E** or other Group 3 insecticides.

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of **Bifenthrin 2E** or other Group 3 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
    - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
    - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
    - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
    - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
    - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices. Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact a RedEagle International LLC representative.

APPLICATIONS INSTRUCTIONS

The rate of **Bifenthrin 2E** 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 **"Application Instructions"** 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.

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 setup to obtain effective control of the target insect pests.

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

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

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

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

The system must contain 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 **Bifenthrin 2E** 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 nonemulsified 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" per acre of irrigation water is suggested except that for Low Energy Precision Application (LEPA) irrigation, a minimum of 0.75" of water per acre is suggested.

BUFFER ZONES

Vegetative Buffer Strip

Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).
Only apply products containing (name of pyrethroid) onto fields where a maintained vegetative filter strip of at **least 25 feet** exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 25 feet may be reduced or removed under the following conditions:

- For Western irrigated agriculture, a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).
    - For Western irrigated agriculture, if a sediment control basin is present, a vegetative filter strip is not required.

- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
    - The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
    - Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
    - A functional terrace system is maintained on the area of application.
    - Water and sediment control basins for the area of application are functional and maintained.
    - The area of application is less than or equal to 10 acres.

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

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 Ground Application (ground boom, overhead chemigation, or airblast)
Do not apply within 25 ft. of aquatic habitats (including, 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 ft. of aquatic habitats (including, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds). Applications made by mosquito control districts and other public health officials are exempt from this requirement.

Buffer Zone for Non-ULV Aerial Application
Do not apply within 150 ft. of aquatic habitats (including, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds).

MANDATORY SPRAY DRIFT MANAGENMENT

Aerial Applications:
- Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (ASABE S641).
- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- Do not apply during temperature inversions.

Airblast Applications:
- Sprays must be directed into the canopy.
- Do not apply when wind speeds exceed 15 mph at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

Ground Boom Applications:
- User must only apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (ASABE S572).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

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

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

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

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

BOOM HEIGHT – Ground Boom
For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft
Higher release heights increase the potential for spray drift.

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

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

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

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

NON-TARGET ORGANISM ADVISORY STATEMENT (Environmental Hazards):
This product is highly toxic to bees and other pollinating insects exposed to direct treatment or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and reduce pesticide risk to these organisms.

Handheld Technology Applications:
Take precautions to minimize spray drift.

In New York State, this product may not be applied within 100 ft. (using ground equipment) to 300 ft. (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

ROTATIONAL CROPS

If applying to crops for which Bifenthrin tolerances exist, the crops may be rotated at any time. All other crops may be rotated 30 days following the final application of **Bifenthrin 2E**.

MIXING INSTRUCTIONS

The spray tank must be clean, thoroughly rinsed, and decontaminated before adding either **Bifenthrin 2E** alone or with tank mix combinations (see "**Bifenthrin 2E 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 1 quart of water in the finished spray. Thorough coverage is essential to achieve control.

Bifenthrin 2E Used Alone: When **Bifenthrin 2E** 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.

Bifenthrin 2E with Fertilizer: Fill the spray tank approximately half-full with water and/or liquid fertilizer, add the proper amount of **Bifenthrin 2E**, 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 **Bifenthrin 2E** and fertilizer to ensure the mixture will stay in solution. Maintain constant agitation during mixing and application.

Bifenthrin 2E 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. **Bifenthrin 2E** 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.

CROPS

ARTICHOKES

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Artichoke Plume Moth Cribrate Weevil	0.10	6.4	**Ground Application:** Apply in water in a minimum of 75 gals. per acre as a full cover spray. **Air Application:** Apply in water in a minimum of 10 gals. per acre.
Restrictions: • Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season. • Repeat as necessary to maintain control, but not apply more often than 15 day intervals. • Do not apply within 5 days of harvest (PHI).			

BRASSICAS (FOLIAR APPLICATION)

Head and Stem Brassica Vegetables: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Cavalo Broccolo*, Chinese Broccoli (gai lon, white flowering broccoli), Chinese Cabbage (Napa), Chinese Mustard Cabbage (gai choy), Kohlrabi

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Corn Earworm Crickets Cucumber Beetle Cutworms Diamondback Moth Flea Beetle Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gals. 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.
Banks Grass 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 0.5 lb. a.i. (32 oz. formulated) per acre per season including at plant plus foliar applications of all bifenthrin products.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Do not make more than 5 applications after bloom.
- Do not apply within 7 days of harvest (PHI).

*Not for use in California.

BRASSICAS (APPLICATION AT PLANT)

Head and Stem Brassica Vegetables: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Cavalo Broccolo*, Chinese Broccoli (gai lon, white flowering broccoli), Chinese Cabbage (Napa), Chinese Mustard Cabbage (gai choy), Kohlrabi

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Armyworms Cabbage Maggots* Cutworms (including Army) Grubs* Root Aphids* Root Maggots* Seedcorn Maggots* Wireworm (Adults)	0.04 - 0.08	2.56 – 5.12	Apply as a 5-7 inch T-band over the open seed furrow or in-furrow with the seed. Cutworm and Armyworm treatments may be made as broadcast applications to the soil surface. **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.
Rootworm Larvae*	0.08 - 0.10	5.12 - 6.4	See section entitled **MIXING INSTRUCTIONS** for details on the amount of oil to use in the spray tank in lieu of water.

Restrictions:

- Do not apply more than 0.1 lb. a.i. (6.4 oz formulated) per acre per season as an at plant application
- Do not apply more than 0.4 lbs. a.i. (25.6 oz. formulated) per acre per season, including at plant plus foliar application of all bifenthrin products.
- Do not make more than 5 applications after bloom
- Do not apply within 7 days of harvest (PHI)
- Do not make applications less than 7 days apart if repeat applications are needed to maintain control

*Not for use in California.

BUSHBERRIES (FOLIAR APPLICATION)*

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Blueberry Maggots Fruitworms Lecanium Scale (Crawlers) Leafhoppers Obliquebanded Leafrollers Plum Curculios Red Banded Leafrollers Spanworms Variegated Leafrollers	0.04 - 0.10	2.56 - 6.40	**Ground Application:** Apply in water in a minimum of 10 gals. per acre as a full cover spray. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Thorough coverage is essential to achieve control.
Mites (Banks Grass, Twospotted Spider, Carmine, and Pacific Spider) Plant Bugs (*Lygus* species)	0.08 - 0.1	5.12 - 6.40	

Restrictions:

- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Do not apply within 1 day of harvest (PHI).

*Not for use in California.

CANEBERRIES

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Leafrollers Orange Tortrix Root Weevils	0.05 - 0.10	3.2 - 6.4	Apply by air or ground equipment using sufficient water to obtain full coverage of foliage. **Ground Application:** Apply in water in a minimum of 50 gals. per acre. **Air Application:** Apply in water in a minimum of 10 gals. per acre. A total of 2 applications may be made. One application may be made pre-bloom and a second application may be made post bloom.
Spider Mites	0.10	6.4	

Restrictions:

- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season.
- Do not apply within 3 days of harvest (PHI).

CANOLA*, CRAMBE*, RAPESEED* (FOLIAR APPLICATION)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Cutworms Diamondback Moth Flea Beetles Flea Hoppers Grasshoppers Loopers Lygus Bugs Other Lepidopterous Larvae Plant Bugs Seedpod Weevil Stink Bugs Thrips Whitefly	0.033 - 0.04	2.1 - 2.6	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application**: Apply in water in a minimum of 2 gals. 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.

Restrictions:
- Do not apply more than 0.08 lb. a.i. (5.12 oz. formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 14 days apart.
- Do not apply within 35 days of harvest (PHI).

*Not for use in California.

CHRISTMAS TREES (FOLIAR APPLICATION)
(For use only in Washington and Oregon)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Root Weevil Spruce Spider Mite	0.06 - 0.10	3.9 - 6.4	**Ground Application:** Apply in water in a minimum of 20 gals. per acre. **Air Application:** Apply in water in a minimum of 5 gals. per acre. **Bifenthrin 2E** is usually 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 **Bifenthrin 2E**.

Restrictions:
- Do not apply more than 0.1 lb. a.i. (6.4 oz. formulated) per acre per season.
- Do not make more than 3 applications in a crop year.
- Do not make applications less than 21 days apart.
- Do not make applications through irrigation systems.

CILANTRO, CORIANDER

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Beet Armyworm Cabbage Looper Cutworm Flea Beetle Grasshoppers Leafminer Saltmarsh Caterpillar Spotted Cucumber Beetle Thrips Whitefly	0.033 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Apply in sufficient water to obtain thorough coverage.
Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:
- Do not apply more than 0.1 lb. a.i. (6.4 oz formulated) per acre per season as an at plant application
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season including at plant and foliar applications of all bifenthrin products.
- Do not make applications less than 7 days apart.
- Do not apply within 3 days of harvest (PHI).

CITRUS
(Except Florida)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Asian Cockroach Diaprepes Root Weevil *(Diaprepes abbreviatus)* Fire Ants	0.25 - 0.50	16 - 32	**Ground Application:** Apply product by ground equipment to bare soil beneath citrus trees. Product 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. 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 fl. oz. of **Bifenthrin 2E**. In areas where a second emergence is expected, use 16 fl. oz. of **Bifenthrin 2E** in the early season and 16 fl. oz. of **Bifenthrin 2E** later in the season. If the length of control of **Bifenthrin 2E** 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.

Restrictions:
- Do not apply through irrigation systems.
- Do not allow any application of **Bifenthrin 2E** to contact fruit or foliage.
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per year.
- Do not apply by air.
- Do not apply within 1 day of harvest (PHI).

CITRUS
(Florida Only)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	**Fl. Oz.**	**Ground Application:** Apply in water in a minimum of 40 gals. per acre.
Blue Green Citrus Root Weevil *(Pachnaeus opalus)* Brown Leaf Notcher *(Epicaerus mexicanus)* Diaprepes Root Weevil *(Diaprepes abbreviatus)* Little Leaf Notcher *(Artipus floridanus)* Southern Blue Green Citrus Root Weevil *(Pachnaeus Litus)*	0.25 - 0.50	16 - 32	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 3 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 **Bifenthrin 2E** 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 2 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 3 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 **Bifenthrin 2E** to the soil beneath the citrus trees from the trunk to the drip line of the tree. **Bifenthrin 2E** 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 fl. oz. of **Bifenthrin 2E**. In areas where a second emergence is expected, use 16 oz. of **Bifenthrin 2E** in the early season and 16 fl. oz. of **Bifenthrin 2E** later in the season. If the length of control of **Bifenthrin 2E** 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.
Asian Cockroach Fire Ants	0.10 - 0.25	6.4 - 16	

Restrictions:
- Do not apply through irrigation systems.
- Do not allow any application of **Bifenthrin 2E** to contact fruit or foliage.
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per year.
- Do not apply by air.
- Do not apply within 1 day of harvest (PHI).

CONIFER SEED ORCHARDS* (FOLIAR USE)
(For Use Only in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Cone Worms Seed Bugs Seed Worms	0.10 - 0.20	6.4 - 12.8	**Ground Application:** Apply in water in a minimum of 100 - 500 gals. per acre. **Air Application:** Apply in water in a minimum of 10 gals. per acre or 0.5 gal. refined vegetable oil per acre. 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. active per acre per season.

Restrictions:
- Do not make more than 6 applications per season.
- Do not apply more than 0.6 lb. a.i. (38.4 oz. formulated) per acre per season.
- Do not make applications less than 30 days apart.

*Not for use in California.

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

Pest	Rate per 1,000 Linear Ft. of Row		Application Instructions
Corn Rootworm (Larvae) Northern* Southern* Western	0.0046 lb. a.i.	0.30 fl. oz.	**Ground Application**: Apply in water in a minimum of 3 gals. per acre. For use on corn at-planting, apply a 5" - 7" 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 **Bifenthrin 2E**. See the section entitled **MIXING INSTRUCTIONS**, **Bifenthrin 2E with Fertilizer** for additional instructions and precautions when mixing with fertilizers.
Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 - 0.0046 lb. a.i.	0.15 - 0.30 fl. oz.	

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 oz. formulated) per acre per season as an at-plant application.
- For field corn, do not apply more than 0.3 lb. a.i. per acre per season including pre-plant incorporated (PPI), at plant, pre-emergence (PRE), and foliar applications of all bifenthrin products.
- Do not apply within 30 days of harvest (PHI).

*Not for use in California

Row Spacings (inches)[1]	**40”**	**38”**	**36”**	**30”**
Bifenthrin 2E (lb. a.i. per acre)	0.060	0.064	0.069	0.080
Bifenthrin 2E (formulated oz. per acre)	3.90	4.10	4.40	5.12

[1]Use this table to determine the **Bifenthrin 2E** needs per acre.

CORN

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

Pest	**Rate per Acre**		**Application Instructions**
	Lb. A.i.	**Fl. Oz.**	
Armyworm spp. Black Cutworm Seedcorn Maggot Stalkborer White Grub Wireworm	0.047 - 0.062 Pre-Plant Incorporated (PPI)	3 - 4 Pre-Plant Incorporated (PPI)	**Ground Application:** Apply in water in a minimum of 3 gals. per acre. Use the labeled rate as a pre-plant incorporated treatment either alone or in tank mix combination with registered pre-plant incorporated herbicides. Incorporate **Bifenthrin 2E** to the intended planting depth, but no deeper than 3".
Armyworm spp. Black Cutworm Stalkborer	0.040 Pre-Emergence (PRE)	2.56 Pre-Emergence (PRE)	The 3 - 4 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.
Restriction: For field corn, do not apply more than 0.3 pound active ingredient per acre total per season including PPI, at plant, PRE, and foliar applications of all bifenthrin products.			

CORN

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
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 Stink Bugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. In Texas, New Mexico, Oklahoma, and Arizona, apply a minimum of 10 gals. per acre with ground equipment to control mites. **Air Application:** Apply in water in a minimum of 2 - 5 gals. 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 gals. In Texas, New Mexico, Oklahoma, and Arizona, use 5 gals. 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 **Bifenthrin 2E** 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 Southwestern Corn Borer and European Corn Borer:** For control, make application just before or at egg hatch. **Mite:** For control, apply when colonies first form prior to leaf damage and before they disperse into the canopy Use higher rates of **Bifenthrin 2E** when pest pressure is severe or crop is under stress from drought and/or heat. When these conditions exist, tank mixtures with dimethoate at 0.5 lb. a.i. per acre in tank mixtures have shown good control. **Banks Grass Mite:** For control, apply when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant. **Twospotted Spider Mite and Carmine Mite:** For control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions. **To control Corn Rootworm Larvae by chemigation use only:** Apply at or closely following corn rootworm egg hatch in a minimum of 1 inch irrigation water per acre.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	
Corn Rootworm Larvae (Northern, Southern and Western)	0.08 – 0.10 (chemigation only)	5.12 – 6.4 (chemigation ony)	

Restrictions:
- Do not apply more than 0.3 lb. a.i. (19.2 oz. formulated) per acre per season including PRE and PPI, at-planting, 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.
- Do not apply within 30 days of harvest (PHI).
- Use of this product on corn is prohibited in all coastal counties

CORN

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

Pest	Rate per 1,000 Linear Ft. of Row		Application Instructions
Corn Rootworm (Larvae) Northern Southern Western	0.0046 lb. a.i.	0.30 fl. oz.	**Ground Application:** Apply in water in a minimum of 3 gals. per acre. For use on corn at-planting, apply in a 5" - 7" 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 **Bifenthrin 2E**. See the section entitled **MIXING INSTRUCTIONS**, **Bifenthrin 2E** with Fertilizer for additional instructions and precautions when mixing with fertilizers.
Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 - 0.0046 lb. a.i.	0.15 - 0.30 fl. oz.	

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 oz. formulated) per acre per season as an at-plant application. For sweet corn, this includes pre-plant incorporated (PPI), at plant, pre-emergence (PRE), and foliar applications of other bifenthrin products
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) total for sweet corn, this includes pre-plant incorporated (PPI), at plant, pre-emergence (PRE), and foliar applications of other bifenthrin products.
- Do not apply within 30 days of harvest (PHI).

Row Spacings (inches)[1]	**40”**	**38”**	**36”**	**30”**
Bifenthrin 2E (lb. a.i. per acre)	0.060	0.064	0.069	0.080
Bifenthrin 2E (formulated oz. per acre)	3.90	4.10	4.40	5.12

1Use this table to determine the **Bifenthrin 2E** needs per acre.

CORN

Sweet Corn, Sweet Corn Grown For Seed (Foliar)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
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 Stink Bugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0.033 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gals. of finished spray 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 **Bifenthrin 2E** 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 **Bifenthrin 2E** 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. **To control Western Corn Rootworm Larvae by Chemigation use only:** Apply at or closely following corn rootworm egg hatch in a minimum of 1 inch of irrigation water per acre.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	
Corn Rootworm Larvae (Northern*, Southern*, and Western)	0.08 – 0.10 (chemigation only)	0.08 – 0.10 (chemigation only)	

Restrictions:

- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season including PPI, at plant, PRE, and foliar applications of all bifenthrin products.
- 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 this product on corn is prohibited in all coastal counties.
- Do not apply within 1 day of harvest (PHI).

COTTON (FOLIAR APPLICATION)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	0.02 - 0.10	1.3 - 6.4	**Ground Application:** Apply in water in a minimum of 5 gals. per acre. **Air Application:** Apply in water in a minimum of 1 gal. 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 qt. per acre using refined vegetable oil with aircraft calibrated to give adequate coverage. Make applications of **Bifenthrin 2E** 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 **Bifenthrin 2E** 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.
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellowstriped Armyworm	0.04 - 0.10	2.6 - 6.4	
Beet Armyworm Carmine Spider Mite *Lygus spp.* Pink Bollworm Twospotted Spider Mite	0.06 - 0.10	3.8 - 6.4	

Restrictions:

- Do not apply more than 0.5 lb. a.i. (32 oz. 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 1 product or combination of products) to a cotton crop in 1 growing season. Synthetic pyrethroid products include Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®, Danitol®, Karate®, Mustang®, and Scout X-TRA®.
- Do not apply within 14 days of harvest (PHI).

CUCURBITS (FOLIAR APPLICATION)

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 per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Cabbage Looper Corn Earworm Cucumber Beetles Cutworms Grasshoppers Leafhoppers Melonworms Pickleworms Rindworms Squash Bugs Squash Vine Borer Stink Bugs Tobacco Budworm	0.04 - 0.10	2.6 - 6.4	**Ground Application:** Apply in water in a minimum of 20 gals. per acre. **Air Application:** Apply in water in a minimum of 5 gals. of finished spray 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.
Banks Grass Mite Carmine Mite *Lygus spp.* Twospotted Spider Mite Whitefly	0.08 - 0.10	5.12 - 6.4	

Restrictions:

- Do not apply more than 0.3 lb. a.i. (19.2 oz. formulated) per acre per season including at plant plus foliar applications of all bifenthrin products.
- 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.
- Do not apply within 3 days of harvest (PHI).

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), Chickpeas, Guar, Lablab Bean, Lentils
Pea *(Piscum spp.):* Field Pea, Pigeon Pea

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Banks Grass Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:**Apply in water in a minimum of 2 gals. of finished spray 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.
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 (Adults) Cucumber Beetles Cutworms European Corn Borer Fall Armyworm Imported Cabbageworm Saltmarsh Caterpillar Japanese Beetle (Adults) Leafminer Loopers Pea Leaf Weevil Pea Weevil Plant Bug Sap Beetle Southern Armyworm Yellowstriped Armyworm Stink Bugs Tarnished Plant Bug Thrips Tobacco Budworm Webworms Western Bean Cutworm Whitefly	0.03 - 0.10	2.1 - 6.4	

Restrictions:
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) to peas or 0.3 lb. a.i. (19.2 oz. formulated) to beans per acre per season.
- Do not make applications less than 7 days apart.
- Do not apply within 14 days of harvest (PHI).

*Not for use in California.

FRUITING VEGETABLES

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Armyworms (including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm) Cabbage Loopers Colorado Potato Beetle Corn Earworm Cucumber Beetles European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Plant Bugs Stink Bugs Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly	0.03 - 0.10	2.1 - 6.4	**Ground Application**: Apply in water in a minimum of 10 gals. per acre. **Air Application**: Apply in water in a minimum of 2 gals. 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.
Banks Grass Mite Broad Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season of all bifenthrin products.
- Do not apply within 7 days of harvest (PHI).

Tomatoes, Tomatillo

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
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 (Adults) Leafhoppers Loopers *Lygus spp.* Melonworms Pea Weevil Pea Leaf Weevil Pickleworms Plant Bugs Rindworms Saltmarsh Caterpillar Sap Beetle Seedpod Weevil Squash Bugs Stink Bug spp. Tobacco Budworm Tarnished Plant Bug Thrips Whitefly	0.03 - 0.08	2.1 - 5.2	**Ground Application:** Apply in water in a minimum of 15 gals. of finished spray per acre. **Air Application:** Apply in water in a minimum of 3 gals. per acre.
Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:

- Do not apply more than 0.4 lb. a.i. (25.6 oz. formulated) per acre per season of all bifenthrin products.
- To maintain a proper spray interval, do not make applications less than 10 days apart.
- Do not make more than 4 applications per season.
- Do not apply within 1 day of harvest (PHI).

GRAPES

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 - 0.10	3.2 - 6.4	**Ground Application:** Apply in water in a minimum of 25 gals. per acre. **Air Application:** Apply in water in a minimum of 10 gals. 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.
Black Vine Weevil Glassywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	
Restrictions: • Do not apply more than 0.1 lb. a.i. (6.4 oz. formulated) per acre per season. • Do not apply within 30 days of harvest (PHI).			

GRASS FORAGE, FODDER AND HAY GROUP AND GRASS GROWN FOR SEED, PASTURE AND RANGELAND (FOLIAR USE)

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

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Alfalfa Caterpillar Alfalfa Looper Alfalfa Weevil Ants Aphids* (Blue Alfalfa, Green Peach, Pea, and Spotted Alfalfa) Armyworms (including Fall, Southern, True, and Yellowstriped) Black Grass Bug Cereal Leaf Beetles Chinch Bugs Cricket Cutworms Egyptian Alfalfa Weevil (Larvae and Adults) Flea Beetles Grasshoppers Grass Mealybugs Green Cloverworm Hornworms	0.10	6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gals. of finished spray per acre. Apply as insects appear in sufficient volume of water to ensure thorough coverage of foliage. Higher volumes of finished spray may improve insect control under high temperatures, when foliage is dense and/or when insect pressure is high.

Hunting Bill Bugs Meadow Spittlebug Plant Bugs Potato Leafhopper Range Caterpillar Stink Bugs Threecornered Alfalfa Hopper Velvetbean Caterpillar Webworms			

Restrictions:
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season.
- Do not make applications less than 14 days apart.
- Do not apply within 30 days of harvest (PHI) for forage and hay.

*Aphid control may be variable depending on species present and host-plant relationships.

HOPS

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Cutworms Leafrollers Loopers	0.06 - 0.10	3.8 - 6.4	**Ground Application:** Apply in water in a minimum of 100 - 150 gals. per acre in early season; 200 - 250 gals. per acre late season. Full coverage is essential. Make a directed spray up the vine 3 ft. and the soil surface 1.5 - 2 ft. on either side of the plant to control root weevil. **Air Application:** Apply in water in a minimum of 10 gals. per acre.
Root Weevils	0.05 - 0.10	3.2 - 6.4	
Twospotted Spider Mite	0.10	6.4	**Application by air for late season control of Twospotted Spider Mites:** Apply no less than 6.4 oz. (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre."

Restrictions:
- Do not apply more than 0.1 lb. a.i. (6.4 oz. formulated) per acre per application.
- Do not apply more than 0.3 lb. a.i. (19.2 oz. formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 21 days apart.
- Use of ultra-low volume (ULV) application on hops is prohibited.
- Do not apply within 14 days of harvest (PHI).

LEAFY BRASSICAS AND TURNIP GREENS

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Corn Earworm Crickets Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Grasshoppers Ground Beetles Imported Cabbageworm Japanese Beetle (Adults) Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gals. 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.
Banks Grass Mite *Lygus spp.* Pacific Spider Mite Twospotted Spider Mite Carmine Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:

- Do not apply more than 0.4 lb. a.i. (25.6 oz. formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest (PHI).

*Not for use in California.

LETTUCE, HEAD (FOLIAR APPLICATION)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Corn Earworm Cucumber Beetles Cutworms Diamondback Moth Flea Beetle Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bug spp. Tobacco Budworm Whitefly	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 15 gals. per acre. **Air Application:**Apply in water in a minimum of 5 gals. 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.
Carmine Mite Lygus spp. Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season including at plant plus foliar applications of all bifenthrin products.
- Do not apply within 7 days of harvest (PHI).

LETTUCE, HEAD (AT PLANT APPLICATION)

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Armyworms (Including True) Bulb Mites* Cutworms (Including Army) Grubs* Lettuce Root Aphids* Root Maggots* Wireworms*	0.04 - 0.08	2.56 – 5.12	Apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch T-band over the open furrow, or in-furrow with the seed. Apply broadcast to the soil surface for control of Army Cutworm, Armyworms, Bulb Mites, Cutworms, or True Armyworm.
Rootworm Larvae*	0.08 - 0.10	5.12 - 6.4	

Restrictions:
- Do not apply more than 0.1 lb. a.i. (6.4 oz. formulated) per acre per season.
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season including at plant plus foliar application of all bifenthrin products.

*Not for use in California

MAYHAW*

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Plum Curculio	0.08 - 0.10	5.12 - 6.4	**Ground Application:** Apply in water in a minimum of 28 gals. of finished spray per acre. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Apply in sufficient water to obtain uniform coverage as needed.

Restrictions:
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply within 30 days of harvest (PHI).

*Not for use in California.

OKRA

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Armyworms Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Japanese Beetle (Adults) Leafminers Loopers Stink Bugs Thrips Whitefly	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. of finished spray per acre. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Apply in sufficient water to obtain uniform coverage as needed.
Broad Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season.
- Do not apply within 7 days of harvest (PHI).

PEANUT*

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
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 Threecornered Alfalfa Hopper Velvetbean Caterpillar Yellowstriped Armyworm	0.03 - 0.1	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. of finished spray per acre. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Apply in sufficient water to obtain uniform coverage as needed.
Aphids Spider Mites Thrips Whitefly	0.06 - 0.1	3.8 - 6.4	

Restrictions:
- Do not apply more than 0.5 lb. a.i. (32 oz. 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.
- Do not apply within 14 days of harvest (PHI).

*Not for use in California.

PEARS

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Codling Moth Cutworms Green Fruitworm Leafhoppers Leafminers Leafrollers Lygus spp. Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs Tarnished Plant Bugs	0.04 - 0.2	2.6 - 12.8	**Ground Application:** Apply in water in a minimum of 200 gals. per acre (dilute) and 50 gals. of finished spray per acre (concentrate). **Air Application:** Apply in water in a minimum of 10 gals. per acre by air.
Twospotted Spider Mite Yellow Mite	0.06 - 0.2	3.8 - 12.8	
European Red Mite	0.08 - 0.2	5.12 - 12.8	

Restrictions:

- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season with no more than 0.45 lb. a.i. (28.8 oz. formulated) 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.
- Do not apply within 14 days of harvest (PHI).

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 per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Beet Armyworm Celery Leaftier Corn Earworm Cross-Striped Cabbageworm Cutworm Species 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 - 0.10	5.12 - 6.4	**Ground Application:** Apply in water in a minimum of 25 gals. of finished spray per acre. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Apply in sufficient water to obtain uniform coverage as needed.

Restrictions:
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply within 21 days of harvest (PHI).

Garden Beet

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aphids Fire Ants Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	0.08 - 0.10	5.12 - 6.4	**Ground Application:** Apply in water in a minimum of 25 gals. of finished spray per acre. **Air Application:** Apply in water in a minimum of 2 gals. per acre. Apply in sufficient water to obtain uniform coverage as needed.

Restrictions:
- Do not apply more than 0.40 lb. a.i. (25.6 oz. formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply within 1 day of harvest (PHI).

SOYBEANS

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Alfalfa Caterpillar Aphids Aster Leafhopper Bean Leaf Beetle Beet Armyworm* Cloverworm Corn Earworm Corn Rootworm (Adults) Cucumber Beetles Cutworms European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Imported Cabbageworm Japanese Beetle (Adults) Leafhoppers Leafminers Loopers Mexican Bean Beetle (Adults) Pea Leaf Weevil Pea Weevil Plant Bug Saltmarsh Caterpillar Sap Beetle Southern Armyworm Soybean Aphid Stink Bugs Tarnished Plant Bug Thrips Tobacco Budworm* Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gal. per acre.
Lygus spp. Whitefly Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:

- To maintain a proper spray interval, do not make applications less than 30 days apart.
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season.
- Do not apply within 18 days of harvest (PHI).

*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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Tomato Hornworm Tomato Pinworm Whitefly	0.03 - 0.10	2.1 - 6.4	**Ground Application:** Apply in water in 10-50 gals. of finished spray per acre. **Air Application:** Apply in water in 5-50 gals. of finished spray per acre. For whitefly and fire ant control either at-planting or as a foliar treatment, apply up to 6.4 fl. oz. (0.1 lb. active) per acre being careful not to exceed reapplication intervals up to a maximum of 4 applications.
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:
- 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 oz. formulated) per acre per season.
- Do not apply within 40 days of harvest (PHI).

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, Soybean (Immature Seed), Sword bean

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers	0.025 - 0.10	1.6 - 6.4	**Ground Application:** Apply in water in a minimum of 10 gals. per acre. **Air Application:** Apply in water in a minimum of 2 gals. of finished spray per acre. Emulsified oil may be substituted for water. See section entitled **MIXING INSTRUCTIONS** for details on amount of oil to use in the spray tank. Thorough coverage is essential to achieve control.
Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adults) Cucumber Beetle Cutworms European Corn Borer Fall Armyworm Japanese Beetle (Adults) Loopers Pea Leaf Weevil Pea Weevil Plant Bugs Sap Beetle Southern Armyworm Stink Bugs Tarnished Plant Bug Thrips Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm	0.03 - 0.10	2.1 - 6.4	
Banks Grass Mite Carmine Mite *Lygus spp.* Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	

Restrictions:
- Do not apply more than 0.2 lb. a.i. (12.8 oz. formulated product) per acre per season including at plant plus foliar applications of all bifenthrin products.
- Do not apply within 3 days of harvest (PHI).

TOBACCO

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Armyworm spp. Cutworm spp. Mole Crickets Stalkborers Tobacco Flea Beetle (Larvae) White Grubs Wireworms	0.0625 - 0.10	4.0 - 6.4	**Pre-Transplant Soil Applications:** Apply 0.0625 - 0.10 lb. a.i. per acre in a minimum of 10 gals. 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. **Transplant Water Treatment Applications:** Apply 0.06 - 0.10 lb. a.i. per acre in a water treatment application volume of 10 - 200 gals. per acre.
Aphid spp. Armyworm spp. Chinch Bugs Cutworm spp. Flea Beetle (Adults) Grasshoppers Green Bugs Japanese Beetles Stink Bugs Tarnished Plant Bugs Thrips Whiteflies	0.04 - 0.10	2.56 - 6.4	**Foliar Applications:** Apply 0.04 - 0.10 lb. a.i. per acre foliar application up to and including lay-by in a minimum of 10 gals. per acre.
Lygus spp. Spider Mites	0.10	6.4	

Restrictions:

- For foliar applications, do not make more than 2 applications per season.
- May be tank mixed with Command®, Spartan®, and other herbicides approved for tobacco use.
- For all applications, do not apply more than 0.2 lb. a.i. (12.8 oz. formulated) per acre per season.
- Do not apply later than lay-by.

TREE NUTS CROPS

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

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
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 - 0.20	3.2 - 12.8	**Ground Application:** Apply as a dilute (minimum of 200 gals. of finished spray per acre) or concentrate (minimum of 50 gals. of finished spray per acre) spray in sufficient water to provide thorough coverage. **Air Application:** Apply in a minimum of 10 gals. of finished spray per acre.
European Red Mite Spider Mites	0.08 - 0.20	5.1 - 12.8	
Fire Ants Walnut Husk Fly	0.10 - 0.20	6.4 - 12.8	

Restrictions:

- Minimum spray intervals: Apply **Bifenthrin 2E** as needed to maintain control, but not apply at intervals sooner than 15 days.
- Do not exceed 0.2 lb. a.i. per acre per application; do not exceed 0.5 lb. a.i. per acre per season.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.
- Do not apply within 21 days of harvest (PHI) for Pecans.
- Do not apply within 7 days of harvest (PHI) for all other registered tree nut crops.

TUBEROUS AND CORM VEGETABLES

Arracacha, Arrowroot Potato, Chinese Artichoke, Jerusalem Artichoke, Canna (Edible)*, Cassava (Bitter & Sweet), Chayote (Root) Chufa, Dasheen (Taro), Ginger, Leren, Potato, Sweet Potato, Tanier, Turmeric, Yam Bean*, True Yam

Pest	Rate per Acre		Application Instructions
	Lb. A.i.	Fl. Oz.	
Corn Wireworm Tobacco Wireworm Rootworms White Grub	0.30 (at-plant)	19.2 (at-plant)	**In-Furrow Planting Time Treatment: Bifenthrin 2E** may be applied as an in-furrow planting time treatment for the control of wireworms, rootworms, and white grubs. Apply **Bifenthrin 2E** at the rate of 0.30 lb. a.i. (19.2 oz. formulated) per acre as an in-furrow spray or T-band spray at-planting time. **Lay-By Treatment: Bifenthrin 2E** may be applied as a lay-by treatment for the control of wireworms, rootworms and white grubs. Apply **Bifenthrin 2E** to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area. Apply **Bifenthrin 2E** as a banded spray over the row at a rate of 0.05 - 0.15 lb. a.i. per acre (3.2 - 9.6 oz. formulated) in 10 gals. per acre of spray. **Foliar Spray: Bifenthrin 2E** 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 **Bifenthrin 2E** at the rate of 0.033 - 0.10 lb. a.i. per acre (2.1 - 6.4 oz. formulated) in minimum 10 gals. of spray by ground and 3 gals. of spray by air.
Japanese Beetle Grubs June Beetle Southern Potato Wireworm Rootworms White Grub	0.05 - 0.15 (lay-by)	3.2 - 9.6 (lay-by)	
Banded Cucumber Beetle Black Flea Beetle Cucumber Beetle Rootworms Sweet Potato Flea Beetle Sweet Potato Weevil Whitefringed Beetle White Grub Sugarcane Beetle	0.03 - 0.10 (foliar)	2.1 - 6.4 (foliar)	

Restrictions:

- For foliar applications, do not make more than 2 foliar applications per season and do not make application less than 21 days apart.
- For at planting applications, do not apply more than 0.3 lb. a.i. (19.2 oz. formulated) per acre per season.
- Do not apply more than 0.5 lb. a.i. (32 oz. formulated) per acre per season, including soil applications, at plant plus foliar applications of all bifenthrin products.
- Do not apply within 21 days of harvest (PHI).

*Not for use in California.

ORNAMENTIALS*

*NOT FOR USE IN CALIFORNIA TO CONTROL LISTED INSECT PESTS ON ORNAMENTALS AND TREES (INCLUDING CHRISTMAS TREES, INTERIORSCAPES AND PLANTSCAPES, LAWNS, TREES AND SHRUBS, AND ON GOLF COURSES AND SOD FARMS).

For use on plants intended for aesthetic purposes or climatic modifications and being grown in interior plantscapes and on outdoor ornamentals, Christmas trees, lawns, sod farms and golf courses.

USE INSTRUCTIONS

Bifenthrin 2E mixes with water and other aqueous carriers to control a broad assortment of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes, including hotels, shopping malls, office buildings, etc. and outdoor plantscapes including, but not limited to, residential dwellings, parks, institutional buildings, recreational areas, athletic fields, golf courses, sod farms, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

Bifenthrin 2E may be tank-mixed with other products, including insect growth regulators. When tank mixing **Bifenthrin 2E** with other products observe all precautions and limitations on each separate product label. The addition of spreader stickers is not necessary. The physical compatibility of **Bifenthrin 2E** may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

The following procedure is recommended for preparation of a new tank mix, unless specified otherwise in label directions:

1. Add wettable powders to tank water
2. Agitate
3. Add fluids and flowables
4. Agitate
5. Add emulsifiable concentrates
6. Agitate

If a mixture is found to be incompatible following the order of addition, try reversing the order of addition, or increase the volume of water. **Note**: If the tank mixture is found to be compatible after increasing the amount of water then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight. When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution. Do not apply when the wind speed is greater than 15 mph**.**

APPLICATION INSTRUCTIONS

TRUNK SPRAYS TO ORNAMENTAL TREES (including Christmas Trees)

For Control of Bark Beetles and Boring Beetles

Refer to the table below. Application rates and timing differ according to the target pest and other factors specific to each local situation. Consult your local State Extension specialist or other qualified expert for recommendations. **Note**: Do not apply more than 12.8 fl. oz. (0.2 lb. a.i.) per acre of this product to trees. Repeat application may be necessary if reinfestation is likely.

Pest	Rate per 100 Gals.	Spray Volume	Remarks and Restrictions
Dendroctonus Bark Beetles including mountain pine beetle, southern pine beetle, western pine beetle, and black turpentine beetle	16 - 32 fl. oz. (0.25 - 0.50 lb. a.i.)	Use 1 - 4 gals. of finished spray per tree.	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet.
Engraver Beetle (*Ips* spp.)	16 - 32 fl. oz. (0.25 - 0.50 lb. a.i.)	Use 10 - 14 gals. of finished spray per tree.	
Other Bark Beetles including ambrosia beetles, elm bark beetles, and metallic wood borers (including emerald ash borer)	16 - 32 fl. oz. (0.25 - 0.50 lb. a.i.)	Use 2 - 5 gals. of finished spray per tree.	Make applications of a spray mixture to the trunk, scaffolding and limbs of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestations. Spray until the bark is thoroughly wet.
Clearwing Moth Borers including ash borer, banded ash clearwing, dogwood borer, lesser peachtree borer, lilac borer, oak borer, peachtree borer, and rhododendron borer **Coleopteran Borers** including bronze birch borer and flatheaded apple tree borer	6.4 - 12.8 fl. oz. (0.10 - 0.20 lb. a.i.)	Use 1 - 4 gals. of finished spray per tree.	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wet. For maximum residual control, use highest recommended rate.

Treatment of Infested Trees to Control Emerging Brood

Make applications of a spray mixture containing 2 pts. of **Bifenthrin 2E** per 100 gals. of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet (usually 1 - 4 gals. of spray per tree). Do not apply more than 0.2 lb. a.i. (12.8 fl. oz.) of this product to trees per acre.

Trees on which all needles have turned brown generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 lb. a.i. (12.8 fl. oz.) of this product to trees per acre.

FOLIAR SPRAYS TO ORNAMENTALS AND TREES

(Including Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

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

Calculating Dilution Rates Using the ORNAMENTAL AND TREE FOLIAR APPLICATION RATES table and the Bifenthrin 2E Ornamental Dilution Chart

Use the following steps to determine the appropriate dilution of this product required to control the specific pests:

1. Find the least susceptible target pest (the pest that requires the highest application rate for control).
2. Select an application rate in terms of fl. oz. of this product.
3. Find your application volume and how much spray you want to prepare.
4. Use the **Bifenthrin 2E Ornamental Dilution Chart** to determine the appropriate volume of this product that must be mixed in your desired volume of water.

For example, to control black vine weevil adults on rhododendron, the **ORNAMENTAL AND TREE FOLIAR APPLICATION RATES** table shows that 0.08 - 0.16 fl. oz. of this product should be applied per 1,000 sq. ft. You select an application rate of 0.16 fl. oz. per 1,000 sq. ft. because maximum residual control is desired. Your application volume is approximately 300 gals. per acre which is equivalent to 6.9 gals. per 1,000 sq. ft. Consulting the **Bifenthrin 2E Ornamental Dilution Chart** shows that you should dilute 0.24 fl. oz. of this product in 10 gals. of water.

Bifenthrin 2E Ornamental Dilution Chart							
Application Rate	Fluid Ounces (mL) of Bifenthrin 2E diluted to the Volumes of Finished Spray						
	1 Gal.		5 Gals.		10 Gals.		100 Gals.
Fl. Oz./1,000 Sq. Ft.	Fl. Oz.	mL	Fl. Oz.	mL	Fl. Oz.	mL	Fl. Oz.
0.04	0.018	0.50	0.09	2.60	0.18	5.30	1.80
0.08	0.036	1.10	0.18	5.30	0.36	10.60	3.60
0.16	0.072	2.10	0.36	10.60	0.72	21.30	7.20
0.32	0.144	4.30	0.72	21.30	1.44	42.60	14.40

$$\frac{(7.9)(\text{Fl. Oz. of } \textbf{Bifenthrin 2E} \text{ added to tank})}{(\text{gals. of finished spray mix})(128)} = \text{Percent A.I. of Spray Mix}$$

ORNAMENTAL AND TREE FOLIAR APPLICATION RATES

The application rates listed in the following table will provide excellent control of the noted pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.32 fl. oz. per 1,000 sq. ft. (14.4 fl. oz. per 100 gals.) to control each of the pest listed in this table. The higher application rates should be used when maximum residual control is desired.

Pest	Rate
Bagworms[1] Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock Moth	0.04 - 0.08 fl. oz. per 1,000 sq. ft. (1.8 - 3.8 fl. oz. per 100 gals.)
Adelgids Ants Aphids Bees Beet Armyworm Beetles[2] Black Vine Weevil (Adults) Broad Mites Budworms Cicadas Citrus Thrips Clover Mites Crickets Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Glassywinged Sharpshooter Grasshoppers Japanese Beetle (Adults) Leafhoppers Leafrollers Mealybugs Mites Mosquitoes Nantucket Pine Tip Moth Pillbugs Pine Sawflies Plant Bugs (including Lygus spp.) Psyllids	0.08 - 0.16 fl. oz. per 1,000 sq. ft. (3.6 - 7.2 fl. oz. per 100 gals.)

Scales, including Brown Soft Scales California Red Scale (Crawlers)[2] Elongated Hemlock Scale Pine Needle Scales (Crawlers)[2] San Jose Scales (Crawlers)[2] Scorpions Spider Mites[3] Spiders Spittlebugs Thrips Tip Moths Treehoppers Twig Borers[2] Wasps Weevils[2]: White Pine Weevil Pales Weevil Diaprepes (Adults) Orchid Weevil White Flies Zimmerman Pine Moths	
Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites[3]	0.16 - 0.32 fl. oz. per 1,000 sq. ft. (7.2 - 14.4 fl. oz. per 100 gals.)

Remarks and Restrictions:

[1]**Bagworms**: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.

[2]**Beetles, Scale Crawlers, Twig Borers, and Weevils:** May treat trunks, stems and twigs in addition to plant foliage.

[3]**Spider Mites: Bifenthrin 2E** provides twospotted spider mite control when applied during spring to mid-summer. Higher application rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of this product with other registered miticides have also proven effective. Alternately, **Bifenthrin 2E** applications may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

**For foraging ants.

BROADCAST SPRAYS TO TURFGRASS: Lawns, Golf Courses, Sod Farms, Parks, etc.)

Apply **Bifenthrin 2E** as a broadcast treatment. Use higher volumes up to 10 gals. of carrier per 1,000 sq. ft. to get uniform coverage when treating dense grass foliage.

For low water volume usage, less than 2 gals./1,000 sq. ft., addition of a non-ionic or silicone based surfactant (0.25% v/v) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to mole crickets.

Restrictions:

- In New York State, this product may NOT be applied to any grass or turf area within 100 ft. 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 & Ornamental Uses)

- Do not apply when wind conditions laver downwind drift to nearby water bodies.
- Do not apply when wind velocity exceeds 10 mph. Avoid application when wind gusts approach 10 mph.
- Apply using nozzles that provide the largest droplet size compatible with adequate coverage

Turfgrass Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, **Bifenthrin 2E** may be applied at up to 0.32 fl. oz. per 1,000 sq. ft. to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.

Pest	Rate per 1,000 Sq. Ft.
Armyworms[1] Cutworms[1] Sod Webworm[1]	0.05 - 0.08 fl. oz.
Annual Bluegrass Weevil *(Hyperodes)* (Adults)[2] Banks Grass Mite[6] Billbugs (Adults)[3] Black Turfgrass Ataenius (Adults)[4] Crickets Earwigs Fleas (Adults) Grasshoppers Mealybugs Mites[6]	0.08 - 0.16 fl. oz.
Ants Chinch Bugs[5] Fleas (Larvae)[7] Imported Fire Ants[8] Japanese Beetle (Adults) Mole Cricket (Adults)[9] Mole Cricket (Nymph)[10] Ticks[11]	0.16 - 0.32 fl. oz.

[1] **Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.32 fl. oz. per 1,000 sq. ft.) may be required during periods of high pest pressure.

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

[3] **Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

[4] **Black Turfgrass Ataenius adults:** Applications should be made 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). The July application should be timed to coincide with the blooming of Rose of Sharon (Hibiscus syriacus).

[5] **Chinch Bugs:** Chinch bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration at 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 fl. oz. per 1,000 sq. ft.) may be required to control populations that contain both nymphs and adults during the middle of the summer.

[6] **Mites:** To ensure optimal control of eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, 5 - 7 days after the first, may be necessary to achieve acceptable control.

[7] **Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. **Note**: if the lawn area is being treated with this product at 0.08 fl. oz. per 1,000 sq. ft. for adult flea control, then the larval application rate may be achieved by increasing the application volume 2- to 4-fold.

[8] **Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Broadcast treatments should apply 0.32 fl. oz. per 1,000 sq. ft.. Mounds should be treated by diluting 0.05 fl. oz. of **Bifenthrin 2E** per gal. of water and applying 1 - 2 gals. of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A 4 ft. diameter circle around the mound should also be treated. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours. **Note**: a spray rig that is calibrated to apply 0.32 fl. oz. per 1,000 sq. ft. of this product in 5 gals. per 1,000 sq. ft. contains the approximate dilution (0.05 fl. oz. per gal.) that is required for fire ant mound drenches in the spray tank.

[9] **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. Applications should be made as late in the day as possible and should be watered in with up to 0.5" 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. Gross areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

[10] **Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5" 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.

[11] **Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf liner. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high past pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application must be limited to no more than once per 7 days.
Deer ticks (*Ixodes* spp.) have a complicated lice cycle that ranges over a 2 year period and involves 4 life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.
American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

BIFENTHRIN 2E LAWN DILUTION CHART								
Application Volume: Gals./1,000 Sq. Ft.	Application Rate: Fl. Oz./1,000 Sq. Ft.	Fluid Ounces (mL) of Bifenthrin 2E diluted to the Volumes of Finished Spray						
		1 Gal.		5 Gals.		10 Gals.		100 Gals.
		Fl. Oz.	mL	Fl. Oz.	mL	Fl. Oz.	mL	Fl. Oz.
1	0.05	0.05	1.48	0.25	7.39	0.50	14.80	5.00
1	0.08	0.08	2.37	0.40	11.83	0.80	23.70	8.00
1	0.16	0.16	4.73	0.80	23.66	1.60	47.30	16.00
1	0.32	0.32	9.46	1.60	47.32	3.20	94.60	32.00
2	0.05	0.025	0.74	0.13	3.70	0.25	7.40	2.50
2	0.08	0.040	1.18	0.20	5.91	0.40	11.80	4.00
2	0.16	0.080	2.37	0.40	11.83	0.80	23.70	8.00
2	0.32	0.160	4.73	0.80	23.66	1.60	47.30	16.00
3	0.05	0.017	0.49	0.08	2.46	0.17	4.90	1.67
3	0.08	0.027	0.79	0.13	3.94	0.27	7.90	2.67
3	0.16	0.053	1.58	0.27	7.89	0.53	15.80	5.33
3	0.32	0.107	3.15	0.53	15.77	1.07	31.50	10.67
4	0.05	0.013	0.37	0.06	1.85	0.13	3.70	1.25
4	0.08	0.020	0.59	0.10	2.96	0.20	5.90	2.00
4	0.16	0.040	1.18	0.20	5.91	0.40	11.80	4.00
4	0.32	0.080	2.37	0.40	11.83	0.80	23.70	8.00
5	0.05	0.010	0.30	0.05	1.48	0.10	3.00	1.00
5	0.08	0.016	0.47	0.08	2.37	0.16	4.70	1.60
5	0.16	0.032	0.95	0.16	4.73	0.32	9.50	3.20
5	0.32	0.064	1.89	0.32	9.46	0.64	18.90	6.40
10	0.05	0.005	0.15	0.03	0.74	0.05	1.50	0.50
10	0.08	0.008	0.24	0.04	1.18	0.08	2.40	0.80
10	0.16	0.016	0.47	0.08	2.37	0.16	4.70	1.60
10	0.32	0.032	0.95	0.16	4.73	0.32	9.50	3.20

RESTRICTIONS:

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

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE AND SPILL PROCEDURES:
Keep out of reach of children and animals. Store in original containers only, in a cool, dry place and avoid excess heat. Do not freeze. Do not store below 40°F. Carefully open containers. If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal. In case of spill, avoid contact, isolate area, and keep out animals and unprotected persons. Confine spills. To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

PESTICIDE DISPOSAL:
Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Do not pour or dispose down-the-drain or sewer. Call your local solid waste agency for local disposal options. 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:
Containers 5 gallons or less: Nonrefillable container. Do not reuse or refill container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, 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. Do not cut or weld metal containers.

Containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip 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. Once cleaned, offer for recycling or reconditioning if appropriate. 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.

WARRANTY AND DISCLAIMER STATEMENT

NOTICE: Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability. Treatment of highly mechanically damaged seed, or seed of known low vigor and poor quality may result in reduced germination and/or reduction of seed and seedling vigor. Treat and conduct germination tests on a small portion of seed before committing the total seed lot to a selected chemical treatment. Due to seed quality conditions beyond the control of RedEagle International LLC, no claims are made to guarantee germination of carry-over seed.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of RedEagle International LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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