



LICENSED



RESTRICTED USE PESTICIDE

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

GROUP 3A INSECTICIDE

SNIPER

Insecticide/Miticide

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*	25.0%
OTHER INGREDIENTS**:	75.0%
	TOTAL 100.0%

\*Cis isomers 97% minimum, trans isomers 3% maximum. \*\*Contains petroleum distillates. This product contains 2.0 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN WARNING—AVISO

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

EPA REG. NO. 34704-858 EPA EST. NO. 34704-MS-002 NET CONTENTS 1.0 GAL (3.78 L) 011615 V1D 01Y15

FORMULATED FOR LOVELAND PRODUCTS, INC., P.O. BOX 1286, GREELEY, COLORADO 80632-1286

<b>FIRST AID</b>	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give any liquids to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  <b>FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.</b>  <b>NOTE TO PHYSICIAN:</b> This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillate - vomiting may cause aspiration pneumonia.</p>	

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS & 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. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing. 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. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

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

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

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

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

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

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS**

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

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

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

#### PHYSICAL / CHEMICAL HAZARDS

Combustible. Do not use or store near open flame.

#### DIRECTIONS FOR USE

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

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

#### RESISTANCE MANAGEMENT

Sniper® contains a Group 3 Insecticide. With repeated use of Group 3 insecticides as the primary method of control in the same field for 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 Sniper or other Group 3 insecticides.

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

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

#### Application Instructions

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

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

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

#### AGRICULTURAL USE REQUIREMENTS

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

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

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

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

#### CHEMIGATION USE DIRECTIONS

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

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialist, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

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

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

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

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

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

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

Do not apply when wind speed favors drift beyond the area intended for treatment.

For sprinkler irrigation, meter Sniper 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 diluents. If non-emulsified oil is used as the diluent, use 1.0 to 2.0 pints per acre. Maintain continuous agitation of the pesticide supply tank for the duration of the application period. When chemigation systems are used, 0.5 inch per acre of irrigation water is suggested except that for Low Energy Precision Application (LEPA) irrigation, a minimum of 0.75 inch of water per acre is suggested.

#### ROTATIONAL CROPS

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

#### MIXING INSTRUCTIONS

The spray tank must be clean, thoroughly rinsed, and decontaminated before adding either Sniper alone or with tank mix combinations (see Sniper 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), 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. For aerial applications made on cotton, 1.0 quart of emulsified oil may be substituted for 1.0 quart of water in the finished spray. Thorough coverage is essential to achieve control.

**Sniper Used Alone:** When Sniper is used alone, add the listed 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.

**Sniper with Fertilizer:** Fill the spray tank approximately 1/2 full with water and/or liquid fertilizer, add the proper amount of Sniper, and then add the rest of the water and/or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

A jar compatibility test should be performed with the appropriate ratio of Sniper and fertilizer to ensure the mixture will stay in solution. Maintain constant agitation during mixing and application.

**Sniper in Tank Mixtures:** If a tank mixture is used, it is recommended that a compatibility test be done before actual tank mixing. A jar test for physical compatibility is recommended for 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. Sniper may be applied in tank mixtures with other products approved for use on registered crops. Follow all restrictions and precautions which appear on the labels of these products.

#### **BUFFER ZONES**

##### **Vegetative Buffer Strip**

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

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

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:

*Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services.* USDA, NRCS. 2000. Fort Worth, Texas. 21 pp. <http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf>

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

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

**Buffer Zone for ULV Aerial Application**

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

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

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

**SPRAY DRIFT REQUIREMENTS**

**Wind Direction and Speed**

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

**Temperature Inversion**

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

**Droplet Size**

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

**Additional Requirements for Ground Applications**

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

**Additional Requirements for Aerial Applications**

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% rotor diameter.  
Flight speed and nozzle orientation must be considered in determining droplet size.  
Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

**ARTICHOKE**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Artichoke plume moth	Cribrate weevil	0.10	6.4

**REMARKS**

Apply when pest population reaches damaging threshold.

**Application by ground:** Apply a full cover spray in a minimum of 75.0 gallons of finished spray per acre.

**Application by air:** Apply specified dosage in a minimum of 10.0 gallons per acre.

- Repeat as necessary to maintain control, but not more often than 15-day intervals.
- Do not exceed 0.5 pound active ingredient (32.0 ounces formulated) per acre per season.
- A 5-day pre-harvest interval must be observed.

**BRASSICAS**

Head and Stem Brassica Vegetables including:

Broccoli, Brussels sprouts, Cabbage, Cabbage (gai choy), Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon, white flowering broccoli), Chinese cabbage (napa), Chinese mustard, Kohlrabi

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Imported cabbageworm	0.033 to	2.1 to 6.4
Armyworm spp.	Leafhoppers	0.10	
Corn earworm	Loopers		
Crickets	Saltmarsh caterpillar		
Cucumber beetles	Stink bugs		
Cutworms	Tobacco budworm		
Diamondback moth	Thrips		
Flea beetles	Whitefly		
Ground beetles	Wireworm (adults)		

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**Brassicas cont'd.:**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Banks grass mite	Pacific spider mite	0.08 to	5.12 to 6.4
Carmine mite	Twospotted spider mite	0.10	
<i>Lygus</i> spp.			

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season.
- Do not make more than 5 applications after bloom.
- Do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest.

**BUSHBERRIES**

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

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Leafhoppers	0.033 to	2.1 to 6.4
Blueberry maggot	Leaf rollers	0.10	
Fruitworms	Plum curculio		
Japanese beetle	Spanworm		
Carmine mite	Pacific spider mite	0.08 to	5.12 to 6.4
<i>Lygus</i> spp.	Twospotted spider mite	0.10	

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. Thorough coverage is essential to achieve control.

- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Do not apply within 1 day of harvest.

**CANEBSERIES**

Caneberries including:

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

PEST		DOSAGE	
		LB A/A	FL OZ/A
Leafrollers	Root weevils	0.05 to 0.10	3.2 to 6.4
Orange tortrix			
Raspberry crown borer		0.10	6.4
Spider mites			

**REMARKS**

Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10.0 gallons per acre by air and 50.0 gallons per acre by ground).

One application may be made pre-bloom and a second application may be made post-bloom.

For **Crown borer**, apply 0.1 pound active ingredient (6.4 ounces formulated) per acre post-harvest (fall) or pre-bloom (spring) as a drench application directed at the crown of plants in a minimum of 200 gallons water per acre. Greater efficacy is observed at higher water gallonages (up to 400 gallons) or in an application prior to a significant rainfall event. Do not make both pre-bloom foliar and pre-bloom drench applications.

- Do not apply within 3 days of harvest.
- Do not exceed 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.

**CANOLA, CRAMBE, RAPESEED**

PEST		DOSAGE	
		LB A/A	FL OZ/A
Aphids	Loopers	0.033 to	2.1 to 2.6
Armyworms	Other Lepidopterous larvae	0.04	
Cutworms	Plant bug		
Diamondback moths	Seedpod weevil		
Flea beetle	Stink bugs		
Flea hopper	Thrips		
Grasshopper	Whitefly		

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

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**Canola, Crambe, Rapeseed cont'd.:**

- Do not apply more than 0.08 pound active ingredient (5.12 ounces formulated) per acre per season.
- Do not make applications less than 14 days apart.
- Do not apply within 35 days of harvest.

**CHRISTMAS TREES**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Balsam twig aphid	Elongate hemlock scale	0.06 to 0.2	3.9 to 12.8
Balsam woolly adelgid	Root weevil		
Cinara aphid	Spruce spider mite		

**REMARKS**

**Ground application:** Apply in water in a minimum of 20.0 gallons per acre.

**Air application:** Apply in water in a minimum of 5.0 gallons per acre.

Sniper is generally not phytotoxic to Christmas trees. Apply to a small representative group of plants to ensure that a particular variety grown under current conditions is not unusually sensitive to Sniper.

Maintain a minimum of 21 days between applications.

- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per treatment.
- Do not make more than 3 applications in a crop year.
- Do not make applications through irrigation systems.

**CILANTRO, CORIANDER**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Leafminers	0.033 to	2.1 to 6.4
Beet armyworm	Saltmarsh caterpillar	0.10	
Cabbage looper	Spotted cucumber beetle		
Cutworms	Thrips		
Flea beetle	Whitefly		
Grasshoppers			
Twospotted spider mite		0.08 to 0.10	5.12 to 6.4

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**Cilantro, Coriander cont'd.:****REMARKS**

Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10.0 gallons of finished spray per acre or a minimum of 2.0 gallons per acre by aircraft.

- Do not make applications less than 7 days apart.
- Do not apply more than 0.50 pound active ingredient (32.0 ounces formulated) per acre per season.
- Do not apply within 3 days of harvest.

**CITRUS (1 day PHI)**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Asian citrus psyllid	Fuller rose beetle	0.25 to 0.50	16.0 to 32.0
Blue-green citrus root weevil ( <i>Pachnaeus opalus</i> )	( <i>Asynonychus godmani</i> ) Little leaf notcher		
Brown leaf notcher ( <i>Epicraerus mexicanus</i> )	( <i>Artipus floridanus</i> ) Southern blue-green citrus root weevil		
Diaprepes root weevil ( <i>Diaprepes abbreviatus</i> )	( <i>Pachnaeus litus</i> )		
Asian cockroach ( <i>Blattella asahinae</i> )	Fire ant ( <i>Solenopsis</i> spp.)	0.1 to 0.25	6.4 to 16.0

**REMARKS**

The use of this product protects citrus tree roots from *Diaprepes* and other Citrus root weevil feeding by creating a barrier. As Citrus root weevil eggs hatch, the newly hatched larvae (neonates) fall to the soil surface beneath the tree and come into contact with this product as they attempt to burrow into the root zone. Disturbance of soil beneath the tree should be minimized.

Timing of application is very important. Peak emergence of *Diaprepes* adults varies by citrus growing region, and environmental factors such as soil moisture can affect emergence.

Usually, 2 peaks occur for *Diaprepes*, first in the spring then late summer or early fall. Southern blue-green and Blue-green citrus weevils and Fuller rose beetle usually have a single emergence peak in the spring. Brown and Little leaf notchers usually have 3 emergence peaks, spring, summer and fall. Since emergence varies by region and season, the best way to time application is to observe the adults. By trapping adults when they are most active (in the morning or/and late afternoon) during the spring and summer emergence periods, an estimation of numbers can be obtained. Eggs are laid 8 to 10 weeks following the adult emergence from the soil; larvae invasion into the soil will begin 2 to 3 weeks following adult emergence. This product must be applied prior to the dropping of the neonates. Consult local university extension personnel for current information to protect citrus trees from Citrus root weevils and other pests. Apply this product by ground equipment to bare soil beneath citrus trees. This product must be uniformly applied from the trunk to the drip line of the tree, apply in a minimum of 40.0 gallons of dilute spray per acre.

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**Citrus cont'd.:**

Greater spray volume should insure greater uniformity of coverage. A pre- and post-application irrigation may aid in the uniformity of coverage as well.

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

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

If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, use 32.0 fluid ounces of formulated product to obtain the longest residual management of *Diaprepes* root weevil.

If the citrus grove to be treated is in an area where weather conditions will promote more than 1 peak of pest emergence, 16.0 fluid ounces formulated product can be applied early season and 16.0 fluid ounces formulated product can be applied later in the season.

If emergence extends beyond the residual protection of this product, grower is advised to use additional management strategies (i.e. foliar adult control or soil larvae control such as nematodes). Contact your state agricultural Extension Specialist as to the recommendation suited for local conditions.

- Do not apply through irrigation systems.
- Do not allow any application of this product to contact fruit or foliage.
- Do not apply more than a total of 32.0 fluid ounces of formulated product (0.5 pound active ingredient) per acre per year.
- Apply the specified dosage in a minimum of 40.0 gallons of finished spray per acre.
- Ground application only. Do not apply by air.

**CONIFER SEED ORCHARDS**

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

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Cone worms	Seed worms	0.1 to 0.2	6.4 to 12.8
Seed bugs			

**REMARKS**

**Ground application:** Apply in water in a minimum of 100 to 500 gallons per acre.

**Air application:** Apply in water in a minimum of 10.0 gallons per acre or 0.5 gallon 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 pound active ingredient per acre per season.

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

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

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Corn rootworm larvae		0.0046	0.30
Northern		/1000	/1000
Southern		linear ft/row	linear ft/row
Western			
Army cutworm	Seed corn maggot	0.0023 to	0.15 to 0.30
Cutworm spp.	True armyworm or Armyworm spp.	0.0046	/1000
Grubs	Wireworm	/1000	linear ft/row
Seed corn beetle		linear ft/row	

**REMARKS**

Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine this product's needs per acre. Apply in a minimum of 3.0 gallons of finished spray per acre. Mix this product with water or fertilizer in the following manner. Fill the spray tank, approximately 1/2 full with water or liquid fertilizer, add the proper amount of this product then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

Applications of this product alone or in recommended tank mixtures, in conjunction with in-furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of this product and fertilizer to ensure mixture will stay in solution. Maintain constant agitation during mixing and application.

- Do not apply to soil where there is greater than 30% cover of crop residue remaining.
- Do not apply within 30 days of harvest.
- 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 pound active ingredient (6.4 ounces formulated) per acre per season as an at plant application.

Row Spacings (inches)	40	38	36	30
Sniper (lb AI/A)	0.060	0.064	0.069	0.080
Sniper (formulated oz/A)	3.9	4.1	4.4	5.12

**FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Armyworm spp.	Stalkborer	0.047 to	3.0 to 4.0
Black cutworm	White grub	0.062	
Seedcorn maggot	Wireworm	Pre-Plant Incorporated (PPI)	Pre-Plant Incorporated (PPI)

**REMARKS**

The 3.0 to 4.0 ounce per acre rate must be applied as PPI and can be tank mixed and applied with PPI herbicides. Incorporation of this product should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth.

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Armyworm spp.	Stalkborer	0.040	2.56
Black cutworm		Pre- Emergence (PRE)	Pre- Emergence (PRE)

**REMARKS**

The 2.56 ounce per acre rate may be applied PRE and can be tank mixed and applied with PRE herbicides.

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

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Grasshoppers	0.033 to	2.1 to 6.4
Army cutworm	Greenbug	0.10	
Beet armyworm	Japanese beetle (adults)		
Cereal leaf beetle	Sap beetle		
Chinch bug	Southern armyworm		
Common stalk borer	Southern corn leaf beetle		
Corn earworm	Southwestern corn borer		
Corn rootworm (adults)	Stink bug		
Cucumber beetle (adults)	Tarnished plant bug		
Cutworm spp.	True armyworm or Armyworm spp.		
European corn borer	Webworms		
Fall armyworm	Western bean cutworm		
Flea beetle	Yellowstriped armyworm		
Banks grass mite	Twospotted spider mite	0.08 to 0.10	5.12 to 6.4
Carminine mite			

**Restrictions - Corn**

- Do not apply more than 0.3 pound active ingredient (19.2 ounces formulated) per acre per season including PRE and PPI, at plant, plus foliar applications. In California do not exceed the maximum rate of 0.2 pound active ingredient per acre per season.
- Do not apply within 30 days of harvest.
- 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.

**Remarks - Corn**

**General:** Apply in a minimum of 2.0 to 5.0 gallons of finished spray per acre by aircraft or in a minimum of 10.0 gallons per acre with ground equipment. To improve control by aircraft, use 5.0 gallons of finished spray per acre particularly when initial populations are heavier than normal. See specific comment below for AZ, NM, OK, and TX mite control. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

Cont'd. next page

***Field Corn (Grain And Silage), Popcorn, Field Corn Grown For Seed (Follar Use) cont'd.:***

**Remarks - Corn**

**To control ear-attacking pests:** Apply this product just before silking and repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.

**Southwestern corn borer, European corn borer:** Make application for Corn borer control with initial application at or shortly before egg hatch.

**For control of other listed insect pests:** Apply when pests first appear and repeat as necessary but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.

**For control of Mite:**

Apply for Banks grass mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.

For Twospotted spider mite and Carmine mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.

Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 pound active ingredient per acre in tank mixture has demonstrated good control under these conditions.

**For Mite control in Arizona, New Mexico, Oklahoma, Texas:** Apply in a minimum of 5.0 gallons of finished spray per acre by aircraft or in a minimum of 10.0 gallons per acre with ground equipment.

**SWEET CORN (GRAIN AND SILAGE)**  
**SWEET CORN GROWN FOR SEED (AT PLANT USE)**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Corn rootworm larvae		0.0046	0.30
Mexican (California)		/1000	/1000
Northern		linear ft/row	linear ft/row
Southern			
Western			
Army cutworm	Seed corn maggot	0.0023 to	0.15 to 0.30
Cutworm spp.	True armyworm or Armyworm spp.	0.0046	/1000
Grubs	Wireworm	/1000	linear ft/row
Seed corn beetle		linear ft/row	

**REMARKS**

Apply as a 5- to 7-inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Sniper needs per acre. Apply in a minimum of 3.0 gallons of finished spray per acre. Mix this product with water or fertilizer in the following manner. Fill the spray tank approximately 1/2 full with water or liquid fertilizer, add the proper amount of Sniper then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

Applications of this product alone or in recommended tank mixtures, in conjunction with in-furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of this product and fertilizer to ensure mixture will stay in solution. Maintain constant agitation during mixing and application.

- Do not apply to soil where there is greater than 30% cover of crop residue remaining.
- Do not apply within 30 days of harvest.
- 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 pound active ingredient (6.4 ounces formulated) per acre per season as an at-plant application.

Row Spacings (inches)	40	38	36	30
Sniper (lb AI/A)	0.060	0.064	0.069	0.080
Sniper (formulated oz/A)	3.9	4.1	4.4	5.12

**SWEET CORN (GRAIN AND SILAGE)**  
**SWEET CORN GROWN FOR SEED (FOLIAR USE)**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Grasshoppers	0.033 to	2.1 to 6.4
Army cutworm	Greenbug	0.10	
Beet armyworm	Japanese beetle (adults)		
Cereal leaf beetle	Sap beetle		
Chinch bug	Southern armyworm		
Common stalk borer	Southern corn leaf beetle		
Corn earworm	Southwestern corn borer		
Corn rootworm (adults)	Stinkbugs		
Corn silk fly (California)	Tarnished plant bug		
Cucumber beetle (adults)	True armyworm or Armyworm spp.		
Cutworm spp.	Webworms		
European corn borer	Western bean cutworm		
Fall armyworm	Yellowstriped armyworm		
Flea beetle			
Banks grass mite	Pacific spider mite (California)	0.08 to 0.10	5.12 to 6.4
Carmine mite	Twospotted spider mite		

**Restrictions - Sweet Corn**

- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply within 1 day of harvest.
- 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.

**Remarks - Sweet Corn**

**General:** Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

**To control ear-attacking pests:** Apply this product before silking begins and repeat as necessary to maintain control but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section.

*Cont'd. next page*

**Sweet Corn (Grain And Silage) cont'd.:****Sweet Corn Grown For Seed (Follar Use)**

**Southwestern corn borer, European corn borer:** Make 2 applications for Corn borer control with initial application at or shortly before egg hatch.

**For control of other listed insect pests:** Apply when pests first appear and repeat as necessary but do not exceed maximum application rates and reapplication intervals listed elsewhere in this section. For Twospotted spider mite and Carmine mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.

**For Control of Mites:**

Apply for Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant. For Twospotted spider mite and Carmine mite control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.

Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.

**COTTON**

PEST		DOSAGE	
		LB A/A	FL OZ/A
European corn borer	Tobacco thrips	0.02 to 0.10	1.3 to 6.4
Soybean (banded) thrips			
Boll weevil	Plant bugs	0.04 to 0.10	2.6 to 6.4
Bollworm	Saltmarsh caterpillar		
Cabbage looper	Southern garden leafhopper		
Cotton aphid	Stink bugs		
Cotton fleahopper	Tobacco budworm		
Cotton leafperforator	Whitefly		
Cutworms	Yellowstriped armyworm		
Fall armyworm			
Beet armyworm	Pink bollworm	0.06 to 0.10	3.8 to 6.4
Carmine spider mite	Twospotted spider mite		
Kudzu bug	Western plant bug		
<i>Lygus</i> spp. (except California)			

Cont'd. next page

***Cotton cont'd.***

**Restrictions - Cotton**

- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season in all states except CA. For CA, do not apply more than 0.3 pound active ingredient per acre per season.
- Do not apply within 14 days of harvest.
- Do not graze livestock in treated areas or cut treated crops for feed.
- Do not make more than 10 synthetic pyrethroid applications (of 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 Sniper.

**Remarks - Cotton**

This product may be applied in water or refined vegetable oil (soybean/cottonseed).

**Application in Water:** Apply in a minimum of 5.0 gallons per acre with ground equipment or 1.0 gallon per acre by aircraft. When applying by air, 1.0 quart of emulsified oil may be substituted for 1.0 quart of water in the finished spray.

**ULV Application:** Apply the listed rate of this product in refined vegetable oil in a minimum of 1.0 quart of finished spray per acre with aircraft calibrated to give adequate coverage.

**To Control Boll Weevil:** Apply this product at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.

**To Control Mites and Aphids:** Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is established.

**CUCURBITS**

Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron Melon, Cucumber, Gherkin, Gourd, edible (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 snakemelon), 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		DOSAGE			
		LB AI/A	FL OZ/A		
Aphids	Melonworm	0.04 to 0.10	2.6 to 6.4		
Armyworms	Pickleworm				
Cabbage looper	Plant bug				
Corn earworm	Rindworm				
Cucumber beetles	Squash bugs				
Cutworms	Squash vine borer				
Grasshopper	Stink bugs				
Leafhoppers	Tobacco budworm				
Banks grass mite	Twospotted spider mite			0.08 to 0.10	5.12 to 6.4
Carmine mite	Whitefly				
<i>Lygus</i> spp.					

**REMARKS**

Apply in a minimum of 5.0 gallons of finished spray per acre by air or in a minimum of 20.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

- Do not apply more than 0.3 pound active ingredient (19.2 ounces formulated) per acre per season.
- Do not make more than 2 applications after bloom.
- Do not make applications less than 7 days apart.
- Do not apply within 3 days of harvest.

**DRIED BEANS AND PEAS such as:**

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

PEST		DOSAGE	
		LB A/A	FL OZ/A
Aster leafhopper	Leafhoppers	0.025 to 0.10	1.6 to 6.4
Flea beetle		0.10	
Alfalfa caterpillar	Mexican bean beetle	0.033 to 0.10	2.1 to 6.4
Aphids	Pea leaf weevil	0.10	
Bean leaf beetle	Pea weevil		
Beet armyworm	Plant bug		
Cloverworm	Saltmarsh caterpillar		
Corn earworm	Sap beetle		
Corn rootworm (adults)	Southern armyworm		
Cucumber beetles	Stink bugs		
Cutworms	Tarnished plant bug		
European corn borer	Thrips		
Fall armyworm	Tobacco budworm		
Grasshoppers	Webworms		
Imported cabbageworm	Western bean cutworm		
Japanese beetle (adults)	Whitefly		
Leaf miner	Yellowstriped armyworm		
Loopers			
Banks grass mite	<i>Lygus</i> spp.	0.08 to 0.10	5.12 to 6.4
Carmine mite	Twospotted spider mite		

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) to peas, or 0.3 pound active ingredient (19.2 ounces formulated) to beans per acre per season.
- Do not apply within 14 days of harvest.
- Do not make applications less than 7 days apart.

**FRUITING VEGETABLES**

Eggplant, Groundcherry, Pepino, Pepper (bell &amp; non-bell)

PEST	DOSAGE	
	LB AI/A	FL OZ/A
Armyworm spp. including	Flea beetle Leafminers	0.033 to 2.1 to 6.4
Beet armyworm	Loopers	0.10
Fall armyworm	Pepper weevil	
Southern yellowstriped armyworm	Plant bugs	
Cabbage looper	Stink bugs	
Colorado potato beetle	Thrips	
Corn earworm	Tomato hornworm	
Cucumber beetle	Tomato pinworm	
Cutworms	Vegetable leafminer	
European corn borer	Whitefly	
Banks grass mite	<i>Lygus</i> spp.	0.08 to 0.10 5.12 to 6.4
Broad mite	Pacific spider mite	
Carmine mite	Twospotted spider mite	

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

- Do not make applications less than 7 days apart.
- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply within 7 days of harvest.

**GRAPES\***

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Cutworms	Lady beetle (Scymnus)	0.05 to 0.10	3.2 to 6.4
Eastern grape leafhopper	Variegated leafhopper		
Grape berry moth	Western grape leafhopper		
Japanese beetles (adults)			
Black vine weevil	Twospotted spider mite	0.10	6.4
Glassywinged sharpshooter			

**REMARKS**

Apply in a minimum of 10.0 gallons of finished spray by air or in a minimum of 25.0 gallons of finished spray with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

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

**RESTRICTIONS:**

- \*Not for use in California unless allowed by an approved supplemental labeling.
- Do not apply more than 0.10 pound active ingredient (6.4 ounces formulated) per acre per season.
- Do not apply within 30 days of harvest.

**HOPS**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Leafrollers	0.06 to 0.10	3.8 to 6.4
Armyworms	Loopers		
Cutworms			
Root weevils		0.05 to 0.10	3.2 to 6.4
Twospotted spider mite		0.10	6.4

**REMARKS**

**Application by ground:** For best results, full coverage is essential. Early season rates, use 100 to 150 gallons per spray per acre. Late season rates, use 200 to 250 gallons per spray per acre.

For Root weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of plant.

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**Hops cont'd.:**

**Application by air for late season control of Twospotted spider mites:** Apply no less than 6.4 ounces (0.1 pound active ingredient) per application in a minimum of 10.0 gallons per acre.

- Do not exceed 0.1 pound active ingredient (6.4 ounces formulated) per acre per application.
- Do not exceed 0.3 pound active ingredient (19.2 ounces formulated) per acre per season.
- A spray interval of 21 days between applications must be maintained.
- A 14-day pre-harvest interval must be observed.
- Use of ultra low volume (ULV) application on hops is prohibited.

**LEAFY BRASSICAS**

Broccoli raab, Bok choy, Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip greens\*

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Imported cabbageworm	0.033 to	2.1 to 6.4
Armyworms	Japanese beetle (adults)	0.10	
Corn earworm	Leafhoppers		
Crickets	Loopers		
Cucumber beetles	Saltmarsh caterpillar		
Cutworms	Stink bugs		
Diamondback moth	Thrips		
Flea beetles	Tobacco budworm		
Grasshoppers	Whitefly		
Ground beetles	Wireworm (adults)		
Banks grass mite	Pacific spider mite	0.08 to 0.10	5.12 to 6.4
Carmin mite	Twospotted spider mite		
<i>Lygus</i> spp.			

\* Not for use in California unless allowed by an approved supplemental labeling.

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

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**Leafy Brassicas cont'd.:**

- Do not apply more than 0.4 pound active ingredient (25.6 ounces formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest.

**LEAFY PETIOLE VEGETABLES**

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

PEST	DOSAGE	
	LB AI/A	FL OZ/A
Aphids	Ground beetles	0.033 to 2.1 to 6.4
Armyworms	Imported cabbageworm	0.10
Corn earworm	Leafhoppers	
Crickets	Loopers	
Cucumber beetles	Stink bugs	
Cutworms	Thrips	
Diamondback moth	Wireworm (adults)	
Flea beetles		
Carmine mite	Pacific Spider mite	0.08 to 0.10 5.12 to 6.4
<i>Lygus</i> spp.	Twospotted spider mite	

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. Thorough coverage is essential to achieve control.

- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season.
- Do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest.

**LETTUCE (HEAD)**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Imported cabbageworm	0.033 to	2.1 to 6.4
Armyworms	Leafhoppers	0.10	
Corn earworm	Loopers		
Cucumber beetles	Saltmarsh caterpillar		
Cutworms	Stinkbug spp.		
Diamondback moth	Tobacco budworm		
Flea beetles	Whitefly		
Carminite mite	Twospotted spider mite	0.08 to 0.10	5.12 to 6.4
<i>Lygus</i> spp.			

**REMARKS**

Apply in water as necessary for insect control using a minimum of 15.0 gallons of finished spray per acre with ground equipment and 5.0 gallons per acre by air.

When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

- Do not make applications less than 7 days apart.
- A maximum of 0.5 pound active ingredient (32.0 ounces formulated) may be applied per acre per season.
- Do not apply within 7 days of harvest.

**MAYHAW\***

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Plum curculio		0.08 to 0.10	5.12 to 6.4

\*Not for use in California unless allowed by an approved supplemental labeling.

**REMARKS**

Apply in water in a minimum of 28.0 gallons of finished spray per acre.

- Apply no more than once every 7 days.
- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply within 30 days of harvest.

**OKRA**

PEST		DOSAGE	
		LB A/A	FL OZ/A
Aphids	Japanese beetle (adults)	0.033 to	2.1 to 6.4
Armyworms	Leafminers	0.10	
Corn earworm	Loopers		
Cucumber beetles	Stink bugs		
Cutworms	Thrips		
European corn borer	Whitefly		
Flea beetles			
Broad mite	<i>Lygus</i> spp.	0.08 to 0.10	5.12 to 6.4
Carminite mite	Twospotted spider mite		

**REMARKS**

Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10.0 gallons of finished spray per acre or a minimum of 2.0 gallons per acre by aircraft.

- Do not make applications less than 7 days apart.
- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply within 7 days of harvest.

**PEANUT\***

PEST		DOSAGE	
		LB A/A	FL OZ/A
Beet armyworm	Loopers	0.033 to	2.1 to 6.4
Corn earworm	Rednecked peanut worm	0.10	
Cutworm spp.	Southern armyworm		
Fall armyworm	Southern corn rootworm		
Grasshoppers	Stink bugs		
Green cloverworm	Threecornered alfalfa hopper		
Leafhoppers	Velvetbean caterpillar		
Lesser cornstalk borer	Yellowstriped armyworm		

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**Peanut\* cont'd.:**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	Thrips	0.08 to 0.10	5.12 to 6.4
Spider mites	Whitefly		

\*Not for use in California unless allowed by an approved supplemental labeling.

**REMARKS**

Apply in a minimum of 10.0 gallons per acre with ground equipment or 2.0 gallons per acre by aircraft.

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

**PEARS**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aphids	<i>Lygus</i> spp.	0.04 to 0.2	2.6 to 12.8
Codling moth	Plant bugs		
Cutworms	Plum curculio		
Green fruitworm	San Jose scale (crawlers)		
Leafhoppers	Stink bugs		
Leafminers	Tarnished plant bugs		
Leafrollers			
Twospotted spider mite	Yellow mite	0.06 to 0.2	3.8 to 12.8
European red mite		0.08 to 0.2	5.12 to 12.8

**REMARKS**

**Application by ground:** Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50.0 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.

**Application by air:** Apply the specified dosage in a minimum of 10.0 gallons per acre by air.

Apply as necessary to maintain control.

- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season with no more than 0.45 pound active ingredient (28.8 ounces formulated) per acre applied after petal fall.

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**Pears cont'd.:**

- Apply up to 14 days prior to harvest.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.
- To maintain a proper spray interval, do not make applications less than 30 days apart.

**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		DOSAGE	
		LB A/A	FL OZ/A
Aphids	Green cloverworm	0.08 to 0.10	5.12 to 6.4
Beet armyworm	Hornworms		
Celery leaf tier	Imported cabbageworm		
Corn earworm	Loopers		
Cross-striped cabbageworm	Southern armyworm		
Cutworms	Spider mites		
Diamondback moth	Tobacco budworm		
European corn borer	Velvetbean caterpillar		
Fall armyworm	Whitely		
Fire ants	Yellowstriped armyworm		
Flea beetles			

\*Not for use in California unless allowed by an approved supplemental labeling.

**REMARKS**

Apply foliar treatments in at least 25.0 gallons water per acre.

- Apply no more than once every 7 days.
- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season.
- Do not apply within 21 days of harvest.

Cont'd. next page

**Root Crops (Except Sugar Beets)\* cont'd.:**  
Garden beet

PEST	DOSAGE	
	LB AI/A	FL OZ/A
Aphids	Lepidopterous larvae	0.08 to 0.10 5.12 to 6.4
Fire ants	Spider mites	
Flea beetles	Whitefly	

\*Not for use in California unless allowed by an approved supplemental labeling.

**REMARKS**

**Ground application:** Apply in water in a minimum of 25.0 gallons of finished spray per acre.

**Air application:** Apply in water in a minimum of 2.0 gallons per acre.

Apply in sufficient water to obtain uniform coverage as needed.

- Apply no more than once every 7 days.
- Do not apply more than 0.4 pound active ingredient (25.6 ounces formulated) per acre per season.
- Do not apply within 1 day of harvest.

**SOYBEANS\***

<b>PEST</b>	<b>DOSAGE</b>		
	<b>LB AI/A</b>	<b>FL OZ/A</b>	
Alfalfa caterpillar	Flea beetle	Saltmarsh caterpillar	0.033 to 2.1 to 6.4
Aphids	Grasshoppers	Sap beetle	0.10
Armyworm	Green cloverworm	Seedcorn maggot (adults)	
Aster leafhopper	Hornworms	Silverspotted skipper	
Bean leaf beetle	Imported cabbageworm	Southern armyworm	
Beet armyworm	Japanese beetle adult	Spittlebug	
Blister beetles	Leafhoppers	Stink bugs	
Cloverworm	Leafminers (adults)	Tarnished plant bug	
Corn earworm	Leaf skeletonizers	Three-cornered alfalfa hopper	
Corn rootworm (adults)	Lesser cornstalk borer	Thrips	
Cowpea curculio	Loopers	Tobacco budworm	
Cucumber beetles	Mexican bean beetle	Velvetbean caterpillar	
Cutworms	Pea leaf weevil	Webworms	
Decies stem borer	Painted Lady (thistle)	Western bean cutworm	
European corn borer	caterpillar	Whitefly	
Fall armyworm	Pea weevil	Woollybear caterpillar	
False chinch bug	Plant bug	Yellowstriped armyworm	
Kudzu bug	Twospotted spider mite	Whitefly	0.08 to 0.10 5.12 to 6.4
<i>Lygus</i> spp.			

\* Use not permitted in California.

**REMARKS**

Apply in a minimum of 10.0 gallons per acre with ground equipment or 2.0 gallons per acre by aircraft.

Pyrethroid resistance is common for Beet armyworm and Tobacco budworm. Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. If so refer to the resistance management statement in the DIRECTIONS FOR USE section of this label.

- Do not apply more than 0.3 pound active ingredient (12.8 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 30 days apart.
- Do not apply within 18 days of harvest.

**SPINACH**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Armyworms	Leafminers	0.033 to	2.1 to 6.4
Colorado potato beetle	Loopers	0.10	
Corn earworm	Pepper weevil		
Cucumber beetles	Thrips		
Cutworms	Tomato pinworm		
European corn borer	Tomato hornworm		
Flea beetles	Whitefly		
Banks grass mite	<i>Lygus</i> spp.	0.08 to 0.10	5.12 to 6.4
Broad mite	Pacific spider mite		
Carmine mite	Twospotted spider mite		
Fire ants			

**REMARKS**

**Ground Application:** Apply in water in a minimum of 10.0 gallons per acre.

**Air Application:** Apply in water in a minimum of 5.0 gallons per acre.

For control of Whiteflies, apply as a foliar treatment by ground or air at rates of up to 0.4 pint (0.1 pound active ingredient) per acre at a minimum of 7-day intervals up to a maximum of 4 applications. For control of Fire ants, apply this product to the soil (at planting) or as a foliar treatment by ground or air at rates up to 0.4 pint (0.1 pound active ingredient) per acre at a minimum of 7-day intervals up to a maximum of 4 applications.

- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply more than 0.4 pound active ingredient (25.6 ounces formulated) per acre per season.
- Do not apply within 40 days of harvest.

**SUCCULENT PEAS AND BEANS**

Pea (*Pisum* spp.): Dwarf pea, Edible-pod pea, English pea, Garden pea, Green pea, Pigeon pea, Snow pea, Sugar snap pea

Bean (*Phaseolus* spp.): Broadbeans (succulent), Lima bean (green), Runner bean, Snap bean, Wax bean

Bean (*Vigna* spp.): Asparagus bean, Blackeyed pea, Chinese longbean, Cowpea, Jackbean, Moth bean, Southern pea, Soybean (immature seed), Sword bean, Yardlong bean

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Aster leathopper	Grasshoppers	0.025 to	1.6 to 6.4
Flea beetle	Leafhoppers	0.10	
Alfalfa Caterpillar	Pea leaf weevil	0.033 to	2.1 to 6.4
Aphids	Pea weevil	0.10	
Bean leaf beetle	Plant bug		
Beet armyworm	Sap beetle		
Cloverworm	Southern armyworm		
Corn earworm	Stink bugs		
Corn rootworm (adults)	Tarnished plant bug		
Cucumber beetles	Thrips		
Cutworms	Webworms		
European corn borer	Western bean cutworm		
Fall armyworm	Whitely		
Japanese beetle (adults)	Yellowstriped armyworm		
Loopers			
Banks grass mite	<i>Lygus</i> spp.	0.08 to 0.10	5.12 to 6.4
Carmine mite	Twospotted spider mite		

**REMARKS**

Apply in a minimum of 2.0 gallons of finished spray per acre by air or in a minimum of 10.0 gallons per acre with ground equipment. When applying by air, 1.0 to 2.0 quarts of emulsified oil may be substituted for 1.0 to 2.0 quarts of water in the finished spray. Thorough coverage is essential to achieve control.

- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply within 3 days of harvest.

**TOBACCO**

PEST		DOSAGE	
		LB AI/A	FL OZ/A
Armyworm spp.	Tobacco flea beetle (larvae)	0.0625 to	4.0 to 6.4
Cutworm spp.	White grubs	0.10	
Mole cricket	Wireworm		
Stalkborers			

**REMARKS**

**Pre-transplant soil applications:** Apply 0.0625 to 0.1 pound active ingredient per acre in a minimum of 10.0 gallons per acre to control soil pests. Use of suitable equipment to incorporate into top 4" of the soil is required to control below ground pests.

**At-transplant water treatment application:** Apply 0.0625 to 0.1 pound active ingredient per acre in a water treatment application volume of 10.0 to 200 gallons per acre.

Aphid spp.	Japanese beetles	0.04 to 0.10	2.56 to 6.4
Armyworm spp.	Saltmarsh caterpillar		
Chinch bugs	Stink bugs		
Cucumber beetle	Tarnished plant bugs		
Cutworms spp.	Thrips		
Flea beetle (adults)	Tobacco budworm		
Grasshoppers	Tobacco hornworm		
Green bugs	Whiteflies		
<i>Lygus</i> spp.	Spider mites	0.10	6.4

**REMARKS**

**Foliar applications:** Apply 0.04 to 0.10 pound active ingredient per acre per foliar application up to, and including, layby in a minimum of 10.0 gallons per acre.

- Do not apply more than 0.2 pound active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply later than layby.
- May be tank mixed with other herbicides approved for tobacco use.
- Do not make more than 2 foliar applications per season.

**TOMATOES/TOMATILLO\***

PEST	DOSAGE	
	LB AI/A	FL OZ/A
Aphids	0.033 to	2.1 to 5.12
Armyworms Including:	0.08	
Beet armyworm	Leafhoppers	
Fall armyworm	Loopers	
Southern yellowstriped armyworm	<i>Lygus</i> spp.	
Bean leaf beetle	Melonworm	
Cabbageworm	Pea weevil	
Carmin mite	Pea leaf weevil	
Cloverworm	Pickworm	
Corn earworm	Plant bug	
Corn rootworm	Rindworms	
Cucumber beetles	Saltmarsh caterpillar	
Cutworms	Sap beetle	
Diamondback moth	Seedpod weevil	
European corn borer	Squash bugs	
Flea beetles	Stink bug spp.	
Flea hoppers	Tarnished plant bug	
Grasshoppers	Thrips	
Japanese beetle (adults)	Tobacco Budworm	
Twospotted spider mite	Whitefly	
	0.08 to 0.10	5.12 to 6.4

\*Not for use on Tomatillo in California unless accompanied by an approved supplemental labeling.

**REMARKS**

**Ground application:** Apply in water as necessary for insect control using a minimum of 10.0 to 15.0 gallons of finished spray per acre.

**Air application:** Apply in water in a minimum of 5.0 to 50.0 gallons per acre.

Thorough coverage is essential to achieve control.

- Do not make applications less than 10 days apart.
- A maximum of 4 applications may be applied per season.
- Do not apply within 1 day of harvest.

**TREE NUTS CROPS**

Such as: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Pistachio, and Walnut (Black and English)

PEST		DOSAGE	
		LB A/A	FL OZ/A
Black pecan aphid	Pecan leaf casebearer	0.05 to 0.20	3.2 to 12.8
Codling moth	Pecan nut casebearer		
Filbert worm	Pecan phylloxera		
Hickory shuckworm	Plant bugs		
Leaffooted bugs	Stink bugs		
Navel orangeworm	Walnut aphid		
Obliquebanded leafroller	Yellow pecan aphid		
Peach twig borer			
European red mite	Spider mites	0.08 to 0.20	5.1 to 12.8
Pecan weevil			
Fire ants	Walnut husk fly	0.1 to 0.20	6.4 to 12.8

**REMARKS**

**Application by ground:** Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50.0 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.

**Application by air:** Apply the specified dosage in a minimum of 10.0 gallons of finished spray per acre.

- Minimum Spray intervals: Apply Sniper as needed to maintain control, but do not apply at intervals sooner than 15 days.
- Observe a 21-day Pre-Harvest Interval (PHI) for pecans and a 7-day Pre-Harvest Interval (PHI) for all other registered tree nut crops.
- Do not exceed 0.2 pound active ingredient (12.8 ounces formulated) per acre per application; do not exceed 0.50 pound active ingredient (32.0 ounces formulated) per acre per season.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.

**TUBEROUS AND CORM VEGETABLES:**

Arracacha; Arrowroot; Artichoke, Chinese; Artichoke, Jerusalem; Bean, Canna, edible; Cassava, bitter and sweet; Chayote (root); Chufa; Dasheen (taro); Ginger; Leren; Potato; Sweet potato; Tanier; Turmeric; Yam; Yam, true.

PEST		DOSAGE	
		LB A/A	FL OZ/A
Corn wireworm	Tobacco wireworm	0.15 to 0.30 (at-plant)	9.6 to 19.2 (at-plant)
Japanese beetle grubs June beetle	Southern potato wireworm	0.05 to 0.15 (at cultivation or layby)	3.2 to 9.6
Banded cucumber beetle	Sugarcane beetle	0.033 to	2.1 to 6.4
Black flea beetle	Sweet potato flea beetle	0.10	(foliar)
Cucumber beetle	Sweet potato weevil	(foliar)	
Kudzu bug	White grub		
Rootworms	Whitefringed beetle		

**REMARKS**

Sniper may be applied as an in-furrow planting time treatment for the control of Wireworms, Rootworms, and White grubs. Apply Sniper at the rate of 0.3 pound active ingredient (19.2 ounces formulated) per acre as an in-furrow spray or T-band spray at planting time. Sniper may be applied as a layby treatment for the control of Wireworms, Rootworms, and White grubs. Apply Sniper to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area. Apply Sniper as a banded spray over the row at a rate of 0.05 to 0.15 pound active ingredient per acre (3.2 to 9.6 ounces formulated) in 10.0 gallons per acre per spray.

Sniper may be applied as a foliar spray for the control of the adult life stages of Flea beetles, Click beetles (Wireworms), Cucumber beetles (Rootworms), White fringed beetles and May/June beetles (White grubs).

Apply Sniper at the rate of 0.033 to 0.1 pound active ingredient per acre (2.1 to 6.4 ounces formulated) in a minimum of 10.0 gallons of spray by ground and 3.0 gallons of spray by air.

- Do not make more than 2 foliar applications per season no sooner than 21 days apart.
- Do not apply more than 0.5 pound active ingredient (32.0 ounces formulated) per acre per season, including soil application.
- Do not apply within 21 days of harvest.

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

Apply as a broadcast treatment. Use higher volumes up to 10.0 gallons per carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low water volume usage, less than 2.0 gallons per 1000 square feet, addition of a non-ionic or silicone based surfactant (0.25% by volume) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests such as, but not limited to, Mole crickets.

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Sniper may be applied at up to 0.32 fluid ounce per 1000 square feet to control each of the pests listed in this table. Use higher application rates when maximum residual control is desired or where heavy pest populations occur.

PEST		FL OZ/A	FL OZ/1000 SQ FT	LB A/A
Armyworms <sup>1</sup>	Sod webworm <sup>1</sup>	2.2 to 3.5	0.05 to 0.08	0.03 to 0.05
Cutworms <sup>1</sup>				
Annual bluegrass weevil ( <i>Hyperodes</i> ) (adults) <sup>2</sup>	Earwigs Fleas (adults)	3.5 to 7.0	0.08 to 0.16	0.05 to 0.11
Banks grass mite <sup>6</sup>	Grasshoppers			
Billbugs (adults) <sup>3</sup>	Leafhoppers			
Black turfgrass atenioid (adults) <sup>4</sup>	Mealybugs Mites <sup>6</sup>			
Centipedes	Pillbugs			
Crickets	Sowbugs			
Ants	Japanese beetle (adults)	7.0 to 14.0	0.16 to 0.32	0.11 to 0.21
Chinch bugs <sup>5</sup>	Mole cricket (adults) <sup>9</sup>			
Fleas (larvae) <sup>7</sup>	Mole cricket (nymph) <sup>10</sup>			
Imported fire ants <sup>8</sup>	Ticks <sup>11</sup>			

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

In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).

In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than 2 weeks after the first application.

Cont'd. next page

**Turf\* cont'd.:**

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

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

**Comments**

**1Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.32 fluid ounce per 1000 square feet) may be required during periods of high pest pressure.

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

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

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

**5Chinch Bugs:** Chinch bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the Chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.32 fluid ounce per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

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

**7Flea 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 0.10 fluid ounce per 1000 square feet for adult Flea control, then the larval application rate may be achieved by increasing the application volume 2- to 4-fold.

**Turf\* cont'd.:**

**8Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Apply broadcast treatments with 0.32 fluid ounce per 1000 square feet. Treat mounds by diluting 0.05 fluid ounce of Sniper per gallon of water and applying 1.0 to 2.0 gallons per finished spray per mound. Treat the mounds with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A 4-foot diameter circle around the mound should also be treated. For best results, apply in cool weather (65 to 80 °F) or in early morning or late evening hours.

**9Mole Cricket adults:** Achieving acceptable control of adult Mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Make applications as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the Mole crickets closer to the soil surface where contact with the insecticide will be maximized. Treat grass areas that receive pressure from adult Mole crickets at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

**10Mole Cricket nymphs:** Treat grass areas that received intense adult Mole cricket pressure in the spring immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Make applications as late in the day as possible and water in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the Mole crickets closer to the soil surface where contact with the insecticide will be maximized.

**11Ticks (including ticks that may transmit Lyme Disease and Rocky Mountain Spotted Fever):** Do not make spot applications. Treat the entire area where exposure to Ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Limit application to no more than once per 7 days.

**Deer Ticks (*Ixodes* sp.)** have a complicated life cycle that ranges over a 2-year period and involves 4 life stages. Make applications 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. Make applications as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

**\*This use is not permitted in California unless allowed by supplemental labeling.**

Dealers Should Sell In Original Packages Only.

### STORAGE AND DISPOSAL

**PESTICIDE STORAGE:** Do not freeze. Do not store below 40 °F. If crystals are observed, warm material to above 60 °F by placing container in warm location. Shake or roll container periodically to re-dissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. 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. 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 DISPOSAL: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrcycle.org](http://www.acrcycle.org). Triple rinse or pressure rinse container (or equivalent) promptly after emptying. If recycling is not available, puncture and dispose of in a sanitary landfill or incinerate or if allowed by states and local authorities, by burning. If burned stay out of smoke.

**For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing

**Storage & Disposal cont'd.:**

nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT,** read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THIS PRODUCT IS SOLD "AS IS," AND LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

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