

2016-3031  
2017-01-13



GROUP	<b>1A</b>	INSECTICIDE
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## SEVIN T&O INSECTICIDE

LIQUID SUSPENSION

**COMMERCIAL**

GUARANTEE: CARBARYL .....43% BY WT.  
(CONTAINS 480 GRAMS CARBARYL PER LITRE)  
Contains 1,2-benzisothiazolin-3-one at 0.02% as a preservative or  
Contains 1,2-benzisothiazolin-3-one at 0.04% as a preservative

REGISTRATION NUMBER: 16653 PEST CONTROL PRODUCTS ACT

**WARNING**

**POISON**

**READ THE LABEL, DIRECTIONS FOR USE AND OTHER  
PRECAUTIONARY STATEMENTS IN BOOKLET BEFORE USING**

Bayer CropScience Inc.  
Suite 200  
160 Quarry Park Blvd SE.  
CALGARY, ALBERTA  
T2C 3G3  
Telephone: 1 888 283- 6847

IN CASE OF SPILLS, POISONING OR FIRE, TELEPHONE EMERGENCY  
RESPONSE NUMBER 1-800-334-7577 (24 HOURS A DAY)

**DO NOT REMOVE BOOKLET FROM CONTAINER**

**NET CONTENTS : 10 LITRES**

SEVIN are registered trademarks of TKE

Sevin T&O Insecticide is a suspension of microfine Sevin carbaryl insecticide in an aqueous medium. It readily disperses in water to form a spray which may be applied by air or ground equipment. **READ THIS LABEL AND USE IN STRICT ACCORDANCE WITH DIRECTIONS AND CAUTIONS.**

### **PRECAUTIONS:**

- **KEEP OUT OF REACH OF CHILDREN.**
- **HARMFUL IF INHALED OR SWALLOWED.** Avoid Breathing of Spray Mist. Do Not Take Internally. Avoid Contact with Skin and Eyes. Change to clean clothing daily. Wash hands and face before eating. Wash thoroughly after handling.
- Not for indoor use.
- This product is not to be used in and around homes or other residential areas such as parks, schools, public buildings, playing fields or any other areas where the general public including children could be exposed.
- Not for use in greenhouses (vegetable or ornamental).
- Not for use on turf, golf courses, sod farms, residential ornamentals or residential vegetable gardens.
- Keep the following personal protective equipment immediately available for use in case of emergency (i.e., a broken package, spill, or equipment breakdown): chemical-resistant coveralls, chemical-resistant gloves, chemical-resistant head gear and a respirator.
- Apply only when the potential for drift to areas of human habitation or areas of human activity (houses, cottages, schools and recreational areas) is minimal. Take into consideration wind speed, wind direction, temperature inversion, application equipment and sprayer settings.
- **AVOID CONTAMINATION OF FOOD, FEED, WATER SUPPLIES, STREAMS AND PONDS.**

### **Engineering Controls and Personal Protective Equipment:**

#### Mixing/Loading:

- Use a closed mixing system.
- Wear chemical resistant coveralls over long pants and a long-sleeved shirt, shoes plus socks and chemical resistant gloves.

#### Applying by Air:

- Wear cotton coveralls over long pants and a long-sleeved shirt, shoes plus socks.

#### Applying by groundboom:

- During groundboom application use a closed cab that provides both a physical barrier and respiratory protection (i.e., dust/mist filtering and/or vapour/gas purification system). The closed cab must have a chemical resistant barrier that totally surrounds the occupant and prevents contact with pesticides outside the cab.
- Wear cotton coveralls over long pants and a long-sleeved shirt, shoes plus socks and chemical resistant gloves.
- Keep the following personal protective equipment immediately available for use in case of emergency or when exiting the cab with treated areas (i.e., a broken package, spill, or equipment breakdown): chemical resistant coveralls, chemical-resistant gloves, chemical-resistant head gear and a respirator. Once PPE is worn in a treated area, it must be removed before re-entering the cab.

#### Applying by airblast:

- During airblast application use a closed cab that provides both a physical barrier and respiratory protection (i.e., dust/mist filtering and/or vapour/gas purification system). The closed cab must have a

chemical resistant barrier that totally surrounds the occupant and prevents contact with pesticides outside the cab. Wear cotton coveralls over long pants and a long-sleeved shirt, shoes plus socks and chemical resistant gloves.

- If a closed cab is not feasible, wear chemical resistant coveralls over long pants and a long-sleeved shirt, shoes plus socks, chemical resistant gloves and chemical-resistant headgear. Chemical resistant headgear includes So'Westers, or large brimmed, water-proof hats, and hoods with sufficient neck protection. Avoid touching face or other unprotected parts of the body during application.
- Keep the following personal protective equipment immediately available for use in case of emergency or when exiting the cab with treated areas (i.e., a broken package, spill, or equipment breakdown): chemical resistant coveralls, chemical-resistant gloves, chemical-resistant head gear and a respirator. Once PPE is worn in a treated area, it must be removed before re-entering the cab.

Applying by handheld equipment:

- Wear chemical resistant coveralls over long pants and a long-sleeved shirt, shoes plus socks, chemical resistant gloves and NIOSH approved respiratory protection.

**BEE CAUTION: MAY KILL HONEYBEES IN SUBSTANTIAL NUMBERS.** This product is highly toxic to bees exposed to direct treatment or residues on crops. Do not use when value of honeybees as pollinators is more important than insect control. Before applying, warn beekeepers to locate hives beyond bee flight range until one week after application or to take other equally effective precautions.

**PLANT RESPONSE PRECAUTIONS:** To avoid possible injury to tender foliage, do not apply to wet foliage or when rain or high humidity is expected during the next two days. Sevin T&O Insecticide injures Boston ivy, Virginia creeper and Maidenhair fern. During early season, it may also injure Virginia and sand pines.

#### **FIRST AID:**

**IF ON SKIN OR CLOTHING,** take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**IF IN EYES,** hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

**IF SWALLOWED,** call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

#### **TOXICOLOGICAL INFORMATION**

**NOTE FOR PHYSICIAN:** Carbaryl is a carbamate which is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include malaise, muscle weakness, dizziness and sweating. Headache, salivation, nausea, vomiting, abdominal pain and diarrhea are often prominent. A life-threatening poisoning is signified by

loss of consciousness, incontinence, convulsions and respiratory depression with a secondary cardiovascular component. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). However, if a blood sample is taken several hours after exposure, it is unlikely that blood cholinesterase activities will be depressed, due to rapid reactivation of cholinesterase. Atropine, only by injection, is the preferable antidote. Do not use pralidoxime. In cases of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration. With oral exposure, the decision of whether to induce vomiting or not should be

made by an attending physician.

### **ENVIRONMENTAL PRECAUTIONS**

**TOXIC** to birds, mammals and aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE.

To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to: heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g. soils that are compacted or fine textured such as clay).

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

Avoid application of this product when heavy rain is forecast.

**Pollinators:** TOXIC to bees. Bees may be exposed through direct spray, spray drift, and residues on leaves, pollen and nectar in flowering crops and weeds. **DO NOT** apply during the crop blooming period. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. Avoid applications when bees are foraging in the treatment area in ground cover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying - Best Management Practices" on the Health Canada website ([www.healthcanada.gc.ca/pollinators](http://www.healthcanada.gc.ca/pollinators)). Follow crop specific directions for application timing.

### **STORAGE AND DISPOSAL**

Store unused SEVIN® T&O Insecticide in original container only, in cool, dry area out of reach of children and animals. Do not store in areas where temperatures frequently exceed 38°C. Do not contaminate water, food or feed by storage or disposal. Do not reuse empty container.

Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank. Follow provincial instructions for any required additional cleaning of the container prior to its disposal. Make the empty container unsuitable for further use. Do not burn container. Dispose of the container in accordance with local and provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

If container is damaged and/or contents spilled, contact manufacturer for instructions. Wear protective clothing, approved respirator and impervious gloves before handling spills or damaged product. For spills, do not allow product to spread. Prevent entry into ditches and waterways. Cover spill with sweeping compound and place contaminated material into an approved waste container. Place damaged container into waste containers and mark with contents.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.



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**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

### **DIRECTIONS FOR USE**



**IMPORTANT:** The directions on this label are based on tests and field experience relating to (a) effectiveness; and (b) possible injury to plants and animals . Follow directions for most effective use.

#### **SPRAY PREPARATION**

TO ASSURE A UNIFORM PRODUCT, AGITATE, STIR OR RECIRCULATE ALL SEVIN T&O INSECTICIDE CONTAINERS PRIOR TO USE. Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush with clean water.

Use a closed mixing system. Fill spray or mix tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of Sevin T&O Insecticide, and then the remaining volume of water. Include rinse water from container. Prepare only as much spray mixture as is needed on the day of mixing. **MAINTAIN CONTINUOUS AGITATION DURING MIXING AND APPLICATION TO ASSURE A UNIFORM SUSPENSION. DO NOT STORE SPRAY MIXTURES OVERNIGHT.**

#### **FIELD SPRAYER APPLICATION:**

**DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty.

**DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) fine classification. Boom height must be 60 cm or less above the crop or ground.

#### **AIRBLAST APPLICATION:**

**DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty.

**DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

#### **AERIAL APPLICATION:**

**DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty.

**DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) fine classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rate and conditions of this label. Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment. Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### **USE PRECAUTIONS:**

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

## OPERATOR PRECAUTIONS

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted. It is desirable that the pilots have communication capabilities at each treatment site at the time of application. The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

## PRODUCT SPECIFIC PRECAUTIONS:

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1 888 283 6847 or obtain technical advice from the distributor or your provincial agricultural representative. On all crops, use sufficient spray volume to obtain thorough and uniform coverage. Calibrate spray equipment to deliver the required volume. The flow rate of SEVIN SL diluted 1:1 with water is similar to water. Use 50 mesh slotted strainers in spray system and behind nozzles. Avoid applications just before rainfall as poor insect control may result. To clean spray system after use, drain and flush with water.

### Buffer zones:

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment. The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of Application	Crop		Buffer Zones (metres) Required for the Protection of:			
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:	
			< 1 metre	> 1 metre	< 1 metre	> 1 metre
Field Sprayer	Ornamentals		15	4	25	10
Airblast	Ornamentals	Early Growth Stage	45	30	50	40
		Late Growth Stage	35	20	40	30
Aerial	Forest, Woodlands	Fixed Wing	800	350	800	725
		Rotary Wing	375	125	450	275

## WASHOFF RESISTANCE AND COVERAGE:

Dilution of 1 volume of Sevin T&O Insecticide with 1 volume of water will allow maximum resistance to washoff by rainfall or overhead irrigation. Dilutions higher than 1:39 are not recommended when washoff resistance is desired.

Sevin T&O Insecticide spray must be properly diluted and droplets must dry on the foliage before they become washoff resistant. When atmospheric humidity is low, a drying time of at least one hour is generally adequate. Under high humidity a longer drying time may be required. Wash off resistance cannot be expected if Sevin T&O Insecticide is applied to wet foliage which does not dry adequately prior to rainfall or overhead irrigation.

## **COMPATIBILITY**

Sevin T&O Insecticide, when diluted with an equal volume of water, is compatible with a wide range of pesticides. It is not compatible with diesel fuel, kerosene, fuel oil or aromatic solvents. If compatibility of Sevin T&O Insecticide with another product and the resulting plant response is unknown, it should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity are symptoms of incompatibility. **WHEN PREPARING COMBINATION SPRAYS, FIRST ADD "Sevin T&O INSECTICIDE" TO AT LEAST AN EQUAL VOLUME OF WATER, MIX THOROUGHLY, AND THEN ADD COMBINATION PRODUCTS TO THE MIXTURE. DO NOT APPLY TANK MIX COMBINATIONS UNLESS YOUR PREVIOUS EXPERIENCE INDICATES THE MIXTURE IS EFFECTIVE AND WILL NOT RESULT IN APPLICATION PROBLEMS, EXCESSIVE RESIDUES OR PLANT INJURY.**

Unstable under highly alkaline conditions. Not effective if used with alkaline materials such as Bordeaux, lime-sulfur and casein-lime spreaders.

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## **INSECT CONTROL**

Apply when insects or their damage appears. To maintain control repeat at 7 day intervals or as necessary. Where a dosage range is indicated, use lower rate on young plants and early instars and higher rate on mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control.

Sevin T&O Insecticide does not control spider mites. If spider mites are a problem, use a registered miticide.

## **RESISTANCE MANAGEMENT**

For resistance management, please note that Sevin T&O Insecticide contains a Group 1A insecticide. Any insect population may contain individuals naturally resistant to this product and other Group 1A insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of Sevin T&O Insecticide with different groups that control the same pests in a field.
- Use tank mixtures with insecticides from a different group when such use is permitted.
- Insecticide use should be based on an Integrated Pest Management (IPM) program that includes scouting and record keeping and considers cultural, biological, and other chemical control practices;
- Monitor treated pest populations for resistance development.
- Contact the local extension specialist or certified crop advisors for any additional pesticide resistance-management and IPM recommendations for the specific site and pest problems in the area.
- For further information or to report suspected resistance, contact Bayer CropScience at 1-888-283-6847 or via the internet at [www.bayercropscience.ca](http://www.bayercropscience.ca).

## **TREES AND ORNAMENTALS**

Do not apply to trees or ornamentals grown in residential areas.

For dilute-spray ground applications to trees, ornamentals, woody plants and shrubs, apply the specified dosage per 1000 litres of water. For concentrate-spray ground applications, apply the specified dosage per hectare in sufficient spray volume to provide thorough coverage. To prepare small volumes of spray, use 12 millilitres of Sevin T&O Insecticide per 5 litres of water where rates of 2.3 litres are indicated.

CROP	INSECT	LITRES OF "Sevin T&O" /1000 LITRES	SPECIFIC DIRECTIONS
Arborvitae Azalea Birch Boxwood Carnation Chrysanthemum Dogwood Elm Gladiolus Holly Hydrangea Juniper Lilac Maple Oak Pines Roses Zinnia	Bagworm Birch leafminer Blackvine weevil(Taxus weevil) Blister beetles Boxelder bug Boxwood leafminers Cankerworms Cooley spruce gall aphid, Eastern spruce gall aphid, Elm leaf aphid Elm leaf beetle Elm spanworm, Eriophyid mites, Flea beetles Gypsy moth, Japanese beetle June beetles Lace bugs Leafhoppers Leafrollers Mealybugs Pine sawflies Plant bugs Psyllids Rose aphid Rose chafer Rose slug Scale insects Tent caterpillars Thrips (exposed) Webworms Willow leaf beetle	2.3 to 3.5	<p>Spray in the early morning or evening. Repeat at intervals of 7 to 14 days.</p> <p>Apply a maximum of two applications per year to Azalea, Carnation, Chrysanthemum, Gladiolus, Holly, Hydrangea, Lilac, Roses and Zinnia. <b>DO NOT</b> enter or allow worker entry into these treated areas until 13 days after treatment.</p> <p>Apply a maximum of three applications per year to Arborvitae, Birch, Boxwood, Dogwood, Elm, Juniper, Maple, Oak and Pines. <b>DO NOT</b> enter or allow worker entry into these treated areas until 28 days after treatment.</p> <p>Do not use on Boston Ivy, Maidenhair fern or Virginia Creeper.</p> <p>For scale insects, apply when crawlers are present.</p> <p>Some leaf injury may occur if treatments are made when tender foliage is wet or in the presence of prolonged high humidity.</p>
Green Ash	Ash plant bug	2.6	<p>Two applications per season; apply in 1000 liters of water as a foliar spray. Reapply 7 days later</p> <p>Apply in nymph stage in May and July.</p> <p>Spray in early morning or evening.</p>

			<p>Some leaf injury may occur if treatments are made when tender foliage is wet or in the presence of prolonged high humidity.</p> <p><b>DO NOT</b> enter or allow worker entry into these treated areas until 24 days after treatment.</p>
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### MOUNTAIN PINE BEETLE CONTROL

For use on high value trees in urban and rural areas. To prepare small volumes of spray, use 1 L of Sevin T&O Insecticide per 25 L of water to make a spray mixture containing 2% active ingredients. Ground application only.

Liters of Sevin T&O Insecticide /1000 L of water	Specific Directions
40	<p>Effective as a preventive treatment only. Repeat annually as required to prevent beetle attacks. Avoid spraying when conditions favor drift from spray area.</p> <p>Apply one (1) L of spray per one (1) m<sup>2</sup> of bark in late May to early July or prior to beetle attack. Treat trunks from ground level up to until trunk diameter is less than 12.5 cm.</p>
<p><b>RESTRICTED USE</b></p> <p><b>NOTICE TO USER:</b> This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.</p> <p><b>NATURE OF RESTRICTION:</b> This product is to be used only in the manner authorized; consult provincial regulatory authorities about use permits which may be required.</p> <p><b>RESTRICTED USE:</b> For use to control small infestations of mountain pine beetle in lodgepole pine forest stands.</p> <p><b>DIRECTIONS FOR USE:</b> To be used only on trap trees (standing, dead or dying) which are not to be harvested. Monitor stand in the period mid-June to mid-July to determine which trees are infested. Apply 1 treatment to infested trees more than 3 weeks prior to the expected beetle emergence in order to kill the emerging adult beetles.</p> <p>Mix 1 liter of Sevin T&amp;O Insecticide in 24 liters of water (41.6 liters of Sevin T&amp;O Insecticide in 1000 liters of water) to make a spray mixture containing 2% active ingredient by weight.</p> <p>Apply 1 liter of spray per square meter of bark using a backpack handheld or suitable hydraulic ground sprayer. Treat bole from ground level up to a height of at least 3 meters or until bole is less than 12.5 centimeters in diameter. Avoid spraying when conditions favor drift from spray target.</p> <p><b>DO NOT</b> enter or allow worker entry into these treated areas until 7 days after treatment.</p> <p><b>LIMITATIONS:</b> Consult provincial regulations and obtain all necessary permits and applicator certificates prior to making applications.</p>	

### GYPSY MOTH CONTROL

<p><b>RESTRICTED USE:</b></p> <p><b>NOTICE TO USER:</b> This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.</p>
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**NATURE OF RESTRICTION:** This product is to be used only in the manner authorized; consult provincial regulatory authorities about use permits which may be required.

**RESTRICTED USE:** Aerial application for the control of gypsy moth in forests and woodlands.

**DIRECTIONS FOR USE:** Use 2.3 liters of Sevin T&O Insecticide per hectare. Apply a total spray volume of 3 to 5 liters per hectare. Apply when larvae are in early instars and leaves are at least one-third grown. **DO NOT** enter or allow worker entry into these treated areas until 13 days after treatment.

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