

SPIROTETRAMAT	GROUP	23	INSECTICIDE
PYRIPROXYFEN	GROUP	7C	INSECTICIDE

## NET CONTENTS 1 GALLON

Active Ingredients	By Wt
Spirotetramat* .....	11.47%
Pyriproxyfen** .....	4.01%
Other Ingredients .....	84.52%
Total	100.00%

\* *cis*-3-(2,5-dimethylphenyl)-8-methoxy-2-oxo-1-azaspiro[4.5]dec-3-en-4-yl ethyl carbonate  
 \*\* 4-phenoxyphenyl (*RS*)-2-(2-pyridyloxy)propyl ether

Senstar™ Insecticide is a suspo-emulsion (SE) formulation that contains 1 pound spirotetramat and 0.35 pound pyriproxyfen per gallon.

EPA Reg. No. 59639-243

EPA Est. 228-IL-2<sup>ⓐ</sup>, 39578-TX-1<sup>ⓐ</sup>, 5481-ID-1<sup>ⓐ</sup>, 5905-GA-1<sup>ⓐ</sup>,  
 62171-MS-1<sup>ⓐ</sup>, 67545-AZ-1<sup>ⓐ</sup>, 67997-IA-1, 67997-IA-7,  
 70815-GA-1<sup>ⓐ</sup>, 86555-MO-1<sup>ⓐ</sup>

Superscript is first letter of lot number.

**KEEP OUT OF  
 REACH OF CHILDREN  
 CAUTION**

SEE NEXT PAGE  
 FOR ADDITIONAL  
 PRECAUTIONARY  
 STATEMENTS

  
**Senstar**™  
 INSECTICIDE



### FIRST AID

**If swallowed:** Call a poison control center 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 center or doctor.

Do not give anything by mouth to an unconscious person.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

Call a poison control center or doctor for treatment advice.

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 800-892-0099 for emergency medical treatment information.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves including barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, and Viton  $\geq 14$  mils.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by disposing of equipment washwaters or rinsate. Avoid direct application and/or spray drift to beehives.

**For Terrestrial Use:** This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. This product may contaminate water through drift of spray in wind. Do not apply 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 or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. This product is potentially toxic to honeybee larvae through residues in pollen and nectar, but not to adult honeybees. Exposure of adult bees to direct treatment or residues on blooming crops can lead to effects on honeybee larvae.

#### Runoff Management

This product may contaminate water through runoff or drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly

draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

#### **Endangered Species Advisory/Protection Requirements**

The use of any pesticide in a manner that may kill or otherwise harm endangered species or adversely modify their habitat is a violation of Federal law.

### **DIRECTIONS FOR USE**

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

#### **READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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

#### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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 (REI). The requirements in this box only apply to uses of this product that are covered by the WPS.

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Do not enter or allow worker entry into treated areas during the REI of 24 hours.

PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls over long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves including barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, and Viton  $\geq 14$  mils.

#### **DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY**

**IMPORTANT:** Read the entire Label including this Disclaimer, Risks of Using This Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable **THEN DO NOT USE THE PRODUCT**; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

#### **RISKS OF USING THIS PRODUCT**

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of

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application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER. Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

#### **LIMITED WARRANTY**

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the **Risks of Using This Product as described above.**

**To the extent consistent with applicable law AND AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED.**

No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

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#### **LIMITATION OF LIABILITY**

**To the fullest extent allowed by law, Valent or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

#### **PROMPT NOTICE OF CLAIM**

To the extent consistent with applicable law allowing such requirements, Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law, if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

#### **NO AMENDMENTS**

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability**, which may not be modified by any oral or written agreement.

## RESISTANCE MANAGEMENT

For resistance management, please note that *Senstar* Insecticide contains both a Group 23/spiro-tetramat and Group 7C/pyriproxyfen insecticides. Any insect population may contain individuals naturally resistant to *Senstar* Insecticide and other Group 23 or Group 7C insecticides. The resistant individuals may dominate the insect population if these insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of *Senstar* Insecticide or other Group 23 and Group 7C insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issue (for the targeted pests) between the individual components of the mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC).
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two

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components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.

- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Valent U.S.A. LLC at 800-6-VALENT (682-5368).

## PRODUCT INFORMATION

*Senstar* Insecticide is a Suspension-Emulsion (SE) concentrate and is intended to be used as an insecticidal tool targeting key pests that can damage labeled agricultural commodities.

*Senstar* Insecticide is composed by the two active ingredients spiro-tetramat and pyriproxyfen.

*Senstar* Insecticide is to be part of an Integrated Pest Management (IPM) and/or Insect Resistance Management (IRM) programs.

- *Senstar* Insecticide is a product that delivers translaminar movement within the foliage tissue and true systemic activities (movement in the xylem and phloem). The translaminar activity can help to reach target pests that feed on the underside of leaves. The systemic activity of *Senstar* Insecticide will enable to achieve control of pests moving into new vegetative growth that was not present at the time of application.

- Translaminar activity and systemic activity can be slower and/or reduced during periods of cold temperatures, under drought conditions and when plants are not actively growing.
- *Senstar* is an insecticide that has activity on insects primarily by ingestion.
- *Senstar* Insecticide exhibits activity against all life stages (including eggs) of target pests.
- *Senstar* Insecticide can control eggs that have come in contact with the product applied to the foliage by suppressing embryogenesis within the insect eggs. Also, female adults that have fed on plants treated with *Senstar* Insecticide and/or exposed by contact to the application will exhibit reduction on the percentage of viable eggs.
- Evidence of activity will be slower than typical contact or knockdown insecticides.

### USE DIRECTIONS

*Senstar* Insecticide may be mixed and/or alternated with commonly used insecticides to comply with local Integrated Pest Management (IPM) and Insect Resistance Management (IRM) programs.

*Senstar* Insecticide must be tank mixed with an adjuvant that possesses spreading and penetrating properties to improve the delivery of the product onto the surface of the foliage and into the vascular systems of the target crop or plant. That will help achieve a more efficient systemic activity and distribution of the product within the plant and facilitate mortality of the target pests. Please contact your local Valent representative or PCA for specific recommendations by crop.

Uptake, translaminar activity and systemic movement of the active ingredients that are part of *Senstar* Insecticide can be altered by lower or higher than average temperatures for crop development and lower or higher than average rainfall/irrigation events. Also, plants or crops that are not actively growing (i.e., stressed or senescing plants) will have slower and less efficient systemic activity, which can result in slower control.

### RESTRICTIONS

- Do not apply this product through any type of irrigation system.
- Do not utilize adjuvants containing a sticker/adhesive type of activity. The use of those adjuvants results in

reduction of foliar uptake and translaminar and systemic activities which can negatively impact performance of the product.

- It has been documented that sequential treatments of horticultural spray oil with Captan and/or crop protectants including sulfur may cause adverse crop safety. Do not tank mix *Senstar* Insecticide with these products, and do not apply *Senstar* Insecticide sequentially with these products.
- Do not use in enclosed structures, such as greenhouses or planthouses.
- Ample leaf tissue must be present for uptake and translocation of this product; due to this requirement, do not apply prior to petal-fall on pome fruit, stone fruit and tree nut crops.
- The use of the adjuvant Induce® in a tank mixture with *Senstar* Insecticide on berries, grapes, pome fruit and stone fruit is prohibited when fruit is present due to the potential of incompatibility with that adjuvant type, which can result in adverse effects on the harvested commodities.
- Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions.

### COMPATIBILITY TESTING AND TANK MIX PARTNERS

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive Directions for Use and precautionary statements in the tank mixture.

To determine physical compatibility with different crop protection agents, add the labeled proportions of each chemical with the same proportion of water, as will be present in the chemical supply tank, into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.

If considering tank mixing *Senstar* Insecticide with other products, use the following compatibility jar test before mixing an entire tank:

Add water from the same water source to a clear glass or plastic jar. Add the products in correct proportions.

Mix thoroughly and let stand for a minimum of 15 minutes. Separation, gelling or generation of heat are all signs of incompatibility.

**Mixing Order for Tank Mix Partners by Formulation Type**  
Always ensure that agitation is present when adding components into the tank mix. Make sure that a homogeneous mix is achieved before adding the next formulation component.

1. Carrier (water)
2. Wettable powders in soluble packets or bags
3. Soluble or wettable granules
4. Oil dispersion
5. Suspension concentrates or flowable liquids
6. Emulsifiable concentrates
7. Suspension emulsion; emulsion in water; emulsion and water in oil
8. Soluble concentrates
9. Adjuvants
10. Oils

*Senstar* Insecticide is physically and biologically compatible with many registered crop protection agents and fertilizers or micronutrients. However, it is known that many components, including crop protection products, fertilizers, micronutrients, and spray adjuvants, may be present in a tank mix combination. There is potential for adverse chemical reactions when tank mixing different products. It is impossible to determine physical, biological, and plant compatibility for all scenarios that may be encountered; therefore, users are to determine the chemical, physical, biological and plant compatibility of such mixes prior to making applications on a broad commercial scale. Observe the most restrictive of the labeling instructions and precautions of all products used in mixtures.

## **SPRAY DRIFT MANAGEMENT**

### **SPRAY DRIFT**

#### **Aerial Applications:**

Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.

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### **SPRAY DRIFT (continued)**

- Applicators are required to use a fine or coarser droplet size (ASABE S572.1), except for when applying ultra-low volume applications.
- Applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed-wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

#### **Airblast Applications:**

- All sprays must be directed into the canopy.
- Nozzles directed out of the orchard must be turned off when treating the outer row, or when making turns between rows.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

#### **Ground Boom Applications:**

- User must only apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a fine or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

#### **Boom-less Ground Applications:**

- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

## **SPRAY DRIFT ADVISORIES**

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

## **IMPORTANCE OF DROPLET SIZE**

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

### **Controlling Droplet Size – Ground Boom**

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

### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles – Follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### **BOOM HEIGHT – Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **RELEASE HEIGHT – Aircraft**

Higher release heights increase the potential for spray drift.

## **SHIELDED SPRAYERS**

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

## **TEMPERATURE AND HUMIDITY**

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

## **TEMPERATURE INVERSIONS**

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

## **WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

### **Boom-less Ground Applications:**

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

### **Handheld Technology Applications:**

- Take precautions to minimize spray drift.



**ROTATIONAL CROPS**

The following rotational crops may be planted after applying *Senstar* Insecticide at the labeled rate. Planting earlier than the labeled rotational intervals is not allowed.

<b>CROPS PLANTED</b>	<b>IMMEDIATE PLANT-BACK</b>	<b>30-DAY PLANT-BACK</b>	<b>260-DAY PLANT-BACK</b>
Artichokes (Globe) Brassica (Cole) Leafy Vegetables (Crop Group 5) Bulb Vegetables (Subgroups 3-07A and 3-07B) Bushberry (Subgroup 13-07B) Low Growing Berry (Subgroup 13-07H) Carrot Fruiting Vegetables (Crop Group 8-10) Leafy Vegetables except Brassica Vegetables (Crop Group 4) Legume Vegetables (Succulent or Dried) (Crop Group 6 except Soybeans, dry) Sugar Beet Tuberous and Corm Vegetables (Crop Subgroup 1C)	Artichokes (Globe) Brassica (Cole) Leafy Vegetables (Crop Group 5) Bulb Vegetables (Subgroups 3-07A and 3-07B) Bushberry (Subgroup 13-07B) Low Growing Berry (Subgroup 13-07H) Carrot Fruiting Vegetables (Crop Group 8-10) Leafy Vegetables except Brassica Vegetables (Crop Group 4) Legume Vegetables (Crop Group 6) Sugar Beet Tuberous and Corm Vegetables (Crop Subgroup 1C) Watercress	Any crops without immediate plant-back	
Watercress			Any crops without immediate plant-back

**ARTICHOKE (GLOBE)**  
**Not for use in California**

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
<p>Aphids            Artichoke Plume Moth            Banded Wing Whitefly            Greenhouse Whitefly            Silverleaf Whitefly            Sweetpotato Whitefly</p>	<p>10 to 16 fl oz            (0.078 to            0.125 lb ai/A            spirotetramat)            (0.027 to            0.044 lb ai/A            pyriproxyfen)</p>	<p>Apply with ground equipment in adequate water for uniform coverage.            Higher water volumes may provide improved insect control. Adjust to higher volumes of water as the crop generates more foliage through the growing season.            Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).            Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 16 fl oz of <i>Senstar</i> Insecticide (0.125 lb spirotetramat and 0.044 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 3 applications per crop season.</li> <li>• Do not apply more than 48 fl oz of <i>Senstar</i> Insecticide (0.375 spirotetramat and 0.131 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 7 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.5 lb spirotetramat and 0.134 lb pyriproxyfen per acre per crop season.</li> </ul>		

## BANANA AND PLANTAIN

For use only in Florida, Hawaii and Puerto Rico

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Aphids Whitefly	20 to 32 fl oz (0.156 to 0.25 lb ai/A spirotramat)  (0.055 to 0.088 lb ai/A pyriproxyfen)	Apply with air or ground equipment in adequate water for uniform coverage. Adjust water volumes according to crop phenological stage and foliage density. Higher water volumes may provide improved insect control. By air: . . . . . 3 to 10 gals/A By ground: . . . 10 to 50 gals/A  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  Only whole fields should be treated.
<b>Restrictions</b> <ul style="list-style-type: none"><li>• Do not apply more than 32 fl oz of <i>Senstar</i> Insecticide (0.250 lb spirotramat and 0.088 lb pyriproxyfen) per acre per application.</li><li>• Do not make more than 3 applications per crop season.</li><li>• Do not apply more than 96 fl oz of <i>Senstar</i> Insecticide (0.75 spirotramat and 0.263 lb pyriproxyfen) per acre per crop season.</li><li>• Do not apply within 14 days of harvest.</li><li>• Minimum interval between applications is 14 days.</li><li>• Regardless of formulation do not apply more than 1.25 lb spirotramat and 0.323 lb pyriproxyfen per acre per crop season.</li></ul>		

**BRASSICA (COLE) LEAFY VEGETABLES**  
(Crop Group 5)

Broccoli; Broccoli, Chinese (Gai Lon); Broccoli Raab (Rapini); Brussels Sprouts; Cabbage; Cabbage, Chinese (Bok Choy); Cabbage, Chinese (Napa); Cabbage, Chinese Mustard (Gai Choy); Cauliflower; Cavalo Broccolo; Collards; Kale; Kohlrabi; Mizuna; Mustard Greens; Mustard Spinach; Rape Greens

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Aphids Banded Wing Whitefly Greenhouse Whitefly Silverleaf Whitefly Swede Midge Sweetpotato Whitefly  <i>Suppression only</i> Diamondback Moth Onion Thrips (larvae)	6 to 10 fl oz (0.047 to 0.078 lb ai/A spirotetramat)  (0.016 to 0.027 lb ai/A pyriproxyfen)	Apply with ground equipment in adequate water for uniform coverage (10 to 50 gallons/A).  Higher water volumes may provide improved insect control. Adjust to higher volumes of water as the crop generates more foliage through the growing season.  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  Only whole fields should be treated.

**Restrictions**

- Do not apply more than 10 fl oz of *Senstar* Insecticide (0.078 lb spirotetramat and 0.027 lb pyriproxyfen) per acre per application.
- Do not make more than 2 applications per crop season.
- Do not apply more than 20 fl oz *Senstar* Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per crop season.
- Do not apply within 7 days of harvest.
- Minimum interval between applications is 14 days.
- Regardless of formulation do not apply more than 0.16 lb spirotetramat and 0.134 lb pyriproxyfen per acre per crop season.
- Certain nonionic and organosilicone adjuvants, which may potentially be used with *Senstar* Insecticide, have caused intolerable damage to bok choy, napa, mustard spinach, mizuna, and mustard greens when applied alone, in the absence of *Senstar* Insecticide. Testing has shown that *Senstar* Insecticide does not increase the potential for damage when used in combination with such adjuvants. Due to the wide variety and composition of spray adjuvants that may be used in combination with *Senstar* Insecticide, only use a spreading-penetrating adjuvant that is known to be safe to the target crop.

**BUSHBERRY SUBGROUP 13-07B/LOW GROWING BERRY SUBGROUP 13-07H****\*Not for use in California**

**BUSHBERRY SUBGROUP 13-07B:** Aronia Berry; Blueberry, Highbush; Buffalo Currant; Chilean Guava; Cranberry, Highbush; Currant, Black; Currant, Red; Elderberry; European Barberry; Gooseberry; Honeysuckle, Edible; Huckleberry; Jostaberry; Juneberry (Saskatoon Berry); Lingonberry; Native Currant; Salal; Sea Buckthorn; cultivars, varieties, and/or hybrids of these

**LOW GROWING BERRY SUBGROUP 13-07H:** Bearberry\*; Bilberry\*; Blueberry, Lowbush; Cloudberry\*; Cranberry; Lingonberry; Muntries\*; Partridgeberry\*; cultivars, varieties, and/or hybrids of these

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids Blueberry Gall Midge Cranberry Tipworm Thrips (larvae)</p> <p><i>Suppression only</i> Blueberry Maggot Cherry Fruitworm Cranberry Fruitworm Leafhoppers Lecanium Scale</p>	<p>16 to 20 fl oz (0.125 to 0.156 lb ai/A spirotetramat)</p> <p>(0.044 to 0.055 lb ai/A pyriproxyfen)</p>	<p>Apply with ground or air equipment as a full coverage spray (minimum of 5 gals/A by air or 50 gals/A by ground). Thorough coverage is critical for adequate control. It is essential to use and adjust water volumes according to the size and canopy density of the crop. Higher water volumes may provide improved insect control.</p> <p><b>Fruitworms:</b> Apply when egg laying begins and again at petal fall. Additional applications of another insecticide, at 10- to 14-day intervals, may be needed under high population pressure or sustained moth flight.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed oil rate. Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p>Only whole fields should be treated.</p> <p>Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 3 applications per crop season.</li> <li>• Do not apply more than 60 fl oz of <i>Senstar</i> Insecticide (0.469 lb spirotetramat and 0.164 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 7 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.47 lb spirotetramat and 0.215 lb pyriproxyfen per acre per crop season.</li> <li>• Do not apply until after petal fall.</li> </ul>		

**CARROT**  
**Not for use in California**

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
Aphids Whitefly	10 fl oz (0.078 lb ai/A spirotetramat) (0.027 lb ai/A pyriproxyfen)	Apply with ground equipment in adequate water for uniform coverage (10 to 50 gallons/A). Increase water volume to ensure thorough coverage as the crop develops more foliage. Higher water volumes may provide improved insect control.  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  Only whole fields should be treated.  Thorough coverage is critical for adequate product performance.
<b>Restrictions</b> <ul style="list-style-type: none"><li>• Do not apply more than 10 fl oz of <i>Senstar</i> Insecticide (0.078 lb spirotetramat and 0.027 lb pyriproxyfen) per acre per application.</li><li>• Do not make more than 2 applications per crop season.</li><li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per crop season.</li><li>• Do not apply within 7 days of harvest.</li><li>• Minimum interval between applications is 14 days.</li><li>• Regardless of formulation do not apply more than 0.16 lb spirotetramat and 0.107 lb pyriproxyfen per acre per crop season.</li><li>• Do not allow livestock to graze treated areas.</li></ul>		

**CITRUS FRUIT**  
**(Crop Group 10-10)**

Australian Desert Lime; Australian Finger-lime; Australian Round Lime; Brown River Finger Lime; Calamondin; Citron; Citrus hybrids; Grapefruit; Japanese Summer Grapefruit; Kumquat; Lemon; Lime; Mediterranean Mandarin; Mount White Lime; New Guinea Wild Lime; Orange, Sour; Orange, Sweet; Pummelo; Russell River Lime; Satsuma Mandarin; Sweet Lime; Tachibana Orange; Tahiti Lime; Tangelo; Tangerine (Mandarin); Tangor; Trifoliolate Orange; UniQ Fruit; cultivars, varieties, and/or hybrids of these

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids Asian Citrus Psyllid California Red Scale Citrus Leafminer Citrus Thrips Florida Red Scale Mealybugs Purple Scale Snow Scale Whiteflies</p>	<p>16 to 20 fl oz (0.125 to 0.156 lb ai/A spirotriamat)  (0.045 to 0.055 lb ai/A pyriproxyfen)</p>	<p>Apply with ground equipment with sufficient water volumes (200 to 1500 gallons/A) to deliver thorough coverage according to the size of the trees. Higher water volumes may provide improved insect control.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed superior spray oil rate. Under heavy scale pressure, use the higher rate of <i>Senstar</i> Insecticide. Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p>Apply any time prior to fruit becoming infested when scale is in the crawler stage. Application at the 2nd or 3rd generation of scale may result in excessive dead scale remaining on the fruit at harvest.</p> <p>Only whole fields should be treated.</p>
<p>Black Scales Brown Soft Scales Citrus Black Fly <i>Suppression only</i> Citricola Scale</p>	<p>20 fl oz (0.156 lb ai/A spirotriamat) (0.055 lb ai/A pyriproxyfen)</p>	<p>Apply when pests are just beginning to build and before infestation has occurred. Thorough coverage is essential for good control.</p> <p>Apply with ground equipment with sufficient water volumes (200 to 1500 gallons/A) to deliver thorough coverage according to the size of the trees. Higher water volumes may provide improved insect control.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed superior spray oil rate. Under heavy scale pressure, use the higher rate of <i>Senstar</i> Insecticide. Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p>Only whole fields should be treated.</p>

(continued)

## CITRUS FRUIT (continued)

### Restrictions

- Do not apply more than 20 fl oz of *Senstar* Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per application.
- Do not make more than 2 applications per year.
- Do not apply more than 40 fl oz of *Senstar* Insecticide (0.313 lb spirotetramat and 0.109 lb pyriproxyfen) per acre per year.
- Do not apply within 1 day of harvest.
- Minimum interval between applications is 21 days.
- Regardless of formulation do not apply more than 0.313 lb spirotetramat and 0.134 lb pyriproxyfen per acre per year.
- Do not apply this product: a) within 10 days prior to bloom, b) during bloom, or c) until petal fall is complete.
- For production areas in Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina and Texas, optimum control of target pests is obtained at application volumes up to 250 GPA; do not exceed the application volume of 350 GPA.
- Do not apply nonionic surfactants in tank mix combination with *Senstar* Insecticide on white grapefruit.



**FRUITING VEGETABLES**  
(Crop Group 8-10)

African Eggplant; Bush Tomato; Bell Pepper; Cocona; Currant Tomato; Eggplant; Garden Huckleberry; Goji Berry; Groundcherry; Martynia; Naranjilla; Okra; Pea Eggplant; Pepino; Non-bell Pepper, (including Cayenne, Chili Pepper, Habanero, Jalapeno, Pablano, Pimento, and Serrano); Roselle; Scarlet Eggplant; Sunberry; Tomatillo; Tomato; Tree Tomato; cultivars, varieties, and/or hybrids of these

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids Psyllids Whiteflies</p> <p><i>Suppression only</i></p> <p>Leafminers Western Flower Thrips (larvae)</p>	<p>8 to 10 fl oz (0.063 to 0.078 lb ai/A spirotetramat)</p> <p>(0.022 to 0.027 lb ai/A pyriproxyfen)</p>	<p>Apply with air or ground equipment in adequate water for uniform coverage.</p> <p>By Air: . . . . . 3 to 10 gallons/A By Ground: . . . . . 10 to 50 gallons/A</p> <p>Higher water volumes may improve insect control.</p> <p>Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).</p> <p>Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 10 fl oz of <i>Senstar</i> Insecticide (0.078 lb spirotetramat and 0.027 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 1 day of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.16 lb spirotetramat and 0.108 lb pyriproxyfen per acre per crop season.</li> </ul>		

## GRAPE

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Grape Tumid Gallmaker Mealybugs Phylloxera Whiteflies</p> <p><i>Suppression only</i> Lecanium Scale</p>	<p>12 to 16 fl oz (0.094 to 0.125 lb ai/A spirotetramat) (0.033 to 0.044 lb ai/A pyriproxyfen)</p>	<p>Apply with ground equipment as a full coverage spray (50 to 200 gallons/A). Thorough coverage is critical for adequate control. It is essential to use and adjust and utilize adequate water volumes according to the size and canopy density of the crop. Higher water volumes may provide improved insect control.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed oil rate.</p> <p>Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p><i>Senstar</i> Insecticide may be mixed and/or alternated with commonly used insecticides to comply with local Integrated Pest Management (IPM) and Insect Resistance Management (IRM) programs.</p> <p>Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 16 fl oz of <i>Senstar</i> Insecticide (0.125 lb spirotetramat and 0.044 lb pyriproxyfen) per acre per application.</li> <li>• Do not apply more than 25 fl oz of <i>Senstar</i> Insecticide (0.195 lb spirotetramat and 0.068 lb pyriproxyfen) per acre per year.</li> <li>• Do not apply within 21 days of harvest.</li> <li>• Minimum interval between applications is 30 days.</li> <li>• Regardless of formulation do not apply more than 0.2 lb spirotetramat and 0.218 lb pyriproxyfen per acre per year.</li> </ul>		

**LEAFY VEGETABLES**  
**Except Brassica Vegetables**  
**(Crop Group 4)**

Amaranth (Chinese Spinach); Arugula (Rocket); Cardoon; Celery; Celery, Chinese; Celtuce; Chervil; Chrysanthemum, Edible-leaved; Chrysanthemum, Garland; Corn Salad; Cress, Garden; Cress, Upland; Dandelion, Dock (Sorrel); Endive (Escarole); Fennel, Florence; Lettuce, Head and Leaf; Orach; Parsley; Purslane, Garden; Purslane, Winter; Radicchio (Red Chicory); Rhubarb; Spinach; New Zealand Spinach; Vine Spinach; Swiss Chard

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
Aphids Whiteflies <i>Suppression only</i> Diamondback Moth Leafminers Western Flower Thrips (larvae)	8 to 10 fl oz (0.063 to 0.078 lb ai/A spirotetramat)  (0.022 to 0.027 lb ai/A pyriproxyfen)	Apply with ground equipment in adequate water for uniform coverage (10 to 50 gallons/A). Higher water volumes may provide improved insect control.  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  Only whole fields should be treated.
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 10 fl oz of <i>Senstar</i> Insecticide (0.078 lb spirotetramat and 0.027 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.16 lb spirotetramat and 0.134 lb pyriproxyfen per acre per crop season.</li> </ul>		

**LEGUME VEGETABLES (Succulent or Dried)  
(Crop Group 6 except Soybean, dry)**

**Not for use in California**

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

**Bean (*Phaseolus spp.*):** includes Field Bean, Kidney Bean, Lima Bean, Navy Bean, Pinto Bean, Runner Bean, Snap Bean, Tepary Bean, Wax Bean

**Bean (*Vigna spp.*):** includes Adzuki Bean, Asparagus Bean, Blackeyed Pea, Catjang, Chinese Longbean, Cowpea, Crowder Pea, Moth Bean, Mung Bean, Rice Bean, Southern Pea, Urd Bean, Yardlong Bean

**Pea (*Pisum spp.*):** includes Dwarf Pea, Edible-podded Pea, English Pea, Field Pea, Garden Pea, Green Pea, Snow Pea, Sugar Snap Pea

**Other Beans and Peas:** Broad Bean (Fava), Chickpea (Garbanzo), Guar, Jackbean, Lablab Bean (Hyacinth Bean), Lentil, Pigeon Pea, Soybean (Immature Seed), Sword Bean

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Aphids Whiteflies <i>Suppression only</i> Leafminers Melon Thrips (larvae) Western Flower Thrips (larvae)	8 to 10 fl oz (0.063 to 0.078 lb ai/A Spirotetramat)  (0.022 to 0.027 lb ai/A Pyriproxyfen)	Apply with ground equipment in adequate water for uniform coverage (10 to 50 gallons/A). Thorough coverage is critical for adequate control. Higher water volumes may provide improved insect control.  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  Only whole fields should be treated.
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 10 fl oz of <i>Senstar</i> Insecticide (0.078 lb spirotetramat and 0.027 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 7 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.16 lb spirotetramat and 0.134 lb pyriproxyfen per acre per crop season.</li> <li>• Do not allow livestock to graze treated areas.</li> <li>• Do not use on legume vegetables varieties grown for livestock feed.</li> </ul>		

**ONION, BULB, SUBGROUP 3-07A/ONION, GREEN, SUBGROUP 3-07B**

**ONION, BULB, SUBGROUP 3-07A:** Daylily, Bulb; Fritillaria, Bulb; Garlic, Bulb\*; Garlic, Great-headed, Bulb; Garlic, Serpent, Bulb; Lily, Bulb; Onion, Bulb; Onion, Chinese, Bulb; Onion, Pearl; Onion, Potato, Bulb; Shallot, Bulb; cultivars, varieties, and/or hybrids of these

**ONION, GREEN, SUBGROUP 3-07B:** Chive, Fresh Leaves; Chive, Chinese, Fresh Leaves; Elegans Hosta; Fritillaria, Leaves; Kurrat; Lady's Leek; Leek\*; Leek, Wild; Onion, Beltsville Bunching; Onion, Fresh; Onion, Green\*; Onion, Macrostem; Onion, Tree, Tops; Onion, Welsh, Tops\*; Shallot, Fresh Leaves\*; cultivars, varieties, and/or hybrids of these

\*Not for use in California

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
Onion Thrips (larvae) <i>Suppression only</i> Western Flower Thrips	10 fl oz (0.078 lb ai/A spirotetramat) (0.027 lb ai/A pyriproxyfen)	Apply with ground equipment in adequate water for uniform coverage (20 to 50 gallons/A). Increase water volume to ensure thorough coverage as the crop develops more foliage. Higher water volumes may provide improved insect control.  Thorough coverage is critical for adequate product performance.  Only whole fields should be treated.
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 10 fl oz of <i>Senstar</i> Insecticide (0.078 lb spirotetramat and 0.027 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 3 days of harvest for Subgroup 3-07A.</li> <li>• Do not apply within 7 days of harvest for Subgroup 3-07B.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.16 lb spirotetramat and 0.108 lb pyriproxyfen per acre per crop season.</li> <li>• For Onions, Leeks and Chives grown for seed production, do not apply 4 months prior to bloom, during bloom or until after petal fall.</li> </ul>		

**PINEAPPLE**

Not for use in California and New York

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
Black Scale Brown Soft Scale California Red Scale Florida Red Scale Snow Scale Mealybugs	20 fl oz (0.156 lb ai/A spirotetramat) (0.055 lb ai/A pyriproxyfen)	<p>Apply with ground equipment in adequate water as a full coverage spray (20 to 50 gallons/A). Thorough coverage is critical for adequate control. Always adjust the carrier volume according to phenological stage and crop density. Higher water volumes may provide improved insect control.</p> <p>Apply any time prior to fruit becoming infested with scales and/or mealybugs. Target applications at the crawler stage. Application at the 2nd or 3rd generation of scale may result in excessive dead scale remaining on the fruit at harvest.</p> <p><i>Senstar</i> Insecticide may be applied with superior spray oils at 0.5 to 1%. Follow the manufacturer's instructions on timing and rates.</p> <p>Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 40 fl oz of <i>Senstar</i> Insecticide (0.313 lb spirotetramat and 0.109 lb pyriproxyfen) of <i>Senstar</i> Insecticide per acre per crop season.</li> <li>• Do not apply within 1 day of harvest.</li> <li>• Minimum interval between applications is 21 days.</li> <li>• Regardless of formulation do not apply more than 0.313 lb spirotetramat and 0.134 lb pyriproxyfen per acre per crop season.</li> </ul>		

**POME FRUIT**  
**(Crop Group 11-10)**

Apple; Azarole; Crabapple; Loquat; Mayhaw; Medlar; Pear; Pear, Asian; Quince; Quince, Chinese; Quince, Japanese; Tejocote; cultivars, varieties, and/or hybrids of these

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids (including Woolly Apple Aphid) Mealybugs Pear Psylla Whiteflies</p> <p><i>Suppression only</i> Apple Gall Midge Codling Moth Pear Leaf Midge Spotted Tentiform Leafminer Western Tentiform Leafminer White Apple Leafhopper</p>	<p>12 to 18 fl oz (0.094 to 0.141 lb ai/A spirotetramat) (0.033 to 0.049 lb ai/A pyriproxyfen)</p>	<p>Apply by ground with airblast equipment with a minimum of 50 gallons/A to deliver uniform coverage. Thorough coverage is critical for control. It is essential to use adequate water according to the size and density of the canopy. Higher water volumes may provide improved insect control.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed oil rate. Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p>Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p>Only whole fields should be treated.</p>
<p>Lecanium Scale San Jose Scale</p>	<p>18 fl oz (0.141 lb ai/A spirotetramat) (0.049 lb ai/A pyriproxyfen)</p>	
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 18 fl oz of <i>Senstar</i> Insecticide (0.141 lb spirotetramat and 0.049 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Do not apply more than 36 fl oz of <i>Senstar</i> Insecticide (0.281 lb spirotetramat and 0.098 lb pyriproxyfen) per acre per year.</li> <li>• Do not apply within 45 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.39 lb spirotetramat and 0.215 lb pyriproxyfen per acre per year.</li> <li>• Do not apply until after petal fall.</li> <li>• For control of San Jose Scale west of the Rocky Mountains including all of Colorado, Montana, New Mexico, and Wyoming, apply immediately after petal fall, followed by a second application 14 to 21 days later.</li> <li>• For control of San Jose Scale east of the Rocky Mountains, apply immediately after petal fall; under heavy infestation pressure or where difficult control conditions exist, a second application may be necessary.</li> </ul>		

**STONE FRUIT**  
**(Crop Group 12-12)**

Apricot; Apricot, Japanese; Capulin; Cherry, Black; Cherry, Nanking; Cherry, Sweet; Cherry, Tart; Jujube, Chinese; Nectarine; Peach; Plum; Plum, American; Plum, Beach; Plum, Canada; Plum, Cherry; Plum, Chickasaw; Plum, Damson; Plum, Japanese; Plum, Klamath; Plum, Prune; Plumcot; Sloe; cultivars, varieties, and/or hybrids of these

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids Lecanium Scale Mealybugs San Jose Scale White Peach Scale Whiteflies</p> <p><i>Suppression only</i> Black Scale Cherry Fruit Fly Oriental Fruit Moth Spotted Wing Drosophila</p>	<p>12 to 18 fl oz (0.094 to 0.141 lb ai/A spirotetramat)</p> <p>(0.033 to 0.049 lb ai/A pyriproxyfen)</p>	<p>Apply by ground in sufficient amount of carrier to deliver uniform coverage (100 to 400 gallons/A). Coverage is essential for good control. Use of higher water volumes will assure better coverage and may provide better insect control.</p> <p>In-season sprays of <i>Senstar</i> Insecticide may not protect fruit from blemishes by scale.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed oil rate. Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p>Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 18 fl oz of <i>Senstar</i> Insecticide (0.141 lb spirotetramat and 0.049 lb pyriproxyfen) per acre per application.</li> <li>• Do not apply more than 30 fl oz of <i>Senstar</i> Insecticide (0.234 lb spirotetramat and 0.082 lb pyriproxyfen) per acre per year.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.24 lb spirotetramat and 0.32 lb pyriproxyfen per acre per year.</li> <li>• Do not apply until after petal fall.</li> <li>• For control of San Jose Scale, apply immediately after petal fall. Under heavy infestations and/or where difficult control conditions of San Jose Scale are present a second application may be necessary.</li> </ul>		



**SUGAR BEET**  
**Not for use in California**

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
Bean Aphid Root Aphid Whitefly <i>Suppression only</i> Root Maggot	9 to 18 fl oz (0.070 to 0.141 lb ai/A spirotetramat)  (0.025 to 0.049 lb ai/A pyriproxyfen)	Apply with ground equipment in adequate water for uni- form coverage (10 to 50 gallons/A). Increase water volume to ensure thorough coverage as the crop develops more foliage. Higher water volumes may provide improved insect control.  Thorough coverage is critical for adequate product performance.  Only whole fields should be treated.
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 18 fl oz of <i>Senstar</i> Insecticide (0.141 lb spirotetramat and 0.049 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 36 fl oz of <i>Senstar</i> Insecticide (0.281 lb spirotetramat and 0.098 lb pyriproxyfen) per acre per crop season.</li> <li>• Do not apply within 28 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.281 lb spirotetramat and 0.107 lb pyriproxyfen per acre per crop season.</li> <li>• Do not allow livestock to graze treated area.</li> </ul>		

**TREE NUTS**  
**(Crop Group 14-12)**

African Nut-tree; Almond; Beechnut; Brazil Nut; Brazilian Pine; Bunya; Bur Oak; Butternut; Cajou Nut; Candle-nut; Cashew; Chestnut; Chinquapin; Coconut; Coquito Nut; Dika Nut; Ginkgo; Guiana Chestnut; Hazelnut, (filbert); Heartnut; Hickory Nut; Japanese Horse-chestnut; Macadamia Nut; Mongongo Nut; Monkey-pot; Monkey Puzzle Nut; Okari Nut; Pachira Nut; Peach Palm Nut; Pecan; Pequi; Pili Nut; Pine Nut; Pistachio; Sapucaia Nut; Tropical Almond; Walnut, Black; Walnut, English; Yellowhorn; cultivars, varieties, and/or hybrids of these

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids San Jose Scale Mealybugs Phylloxera Walnut Scale Whiteflies</p> <p><i>Suppression only</i> Black Scale Brown Soft Scale Codling Moth Italian Scale Olive Scale Lecanium Scale</p>	<p>12 to 18 fl oz (0.094 to 0.141 lb ai/A spirotetramat)  (0.033 to 0.049 lb ai/A pyriproxyfen)</p>	<p>Apply by ground in sufficient amount of carrier to deliver uni- form coverage (100 to 400 gals/A). Coverage is essential for good control. Apply in sufficient water volumes according to the tree size. Use of higher water volumes will assure better coverage and may provide better insect control.</p> <p><b>Scales:</b> Apply as an in-season cover spray when scale crawl- ers first emerge and use a spray oil at the manufacturer's list- ed oil rate. Follow local guidelines and product's label instruc- tions regarding in-season use and rates of oil in your area.</p> <p>Only whole fields should be treated.</p>

**Restrictions**

- Do not apply more than 18 fl oz of *Senstar* Insecticide (0.141 lb spirotetramat and 0.049 lb pyriproxyfen) per acre per application.
- Do not make more than 2 applications per year.
- Do not apply more than 36 fl oz of *Senstar* Insecticide (0.281 lb spirotetramat and 0.098 lb pyriproxyfen) per acre per year.
- Do not apply within 21 days of harvest.
- Minimum interval between applications is 14 days.
- Regardless of formulation do not apply more than 0.34 lb spirotetramat and 0.215 lb pyriproxyfen per acre per year.
- Do not apply until after petal fall.
- For control of San Jose Scale, apply immediately after petal fall; under heavy infestation pressure or where difficult control conditions exist, a second application may be necessary.

**TROPICAL FRUIT**  
**Not for use in California**

Acerola; Avocado; Black Sapote; Canistel; Feijoa; Guava; Jaboticaba; Longan; Lychee; Mamey Sapote; Mango; Papaya; Passionfruit; Persimmon; Pulasan; Rambutan; Sapodilla; Spanish Lime; Star Apple; Starfruit; Wax Jambu; White Sapote

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids            Avocado Thrips            Mealybugs            Scale            Whiteflies</p>	<p>16 to 20 fl oz            (0.125 to            0.156 lb ai/A            Spirotetramat)            (0.044 to            0.055 lb ai/A            Pyriproxyfen)</p>	<p>Apply with ground or air equipment as a full coverage spray.            By Air:..... minimum of 5 gallons/A            By Ground:..... minimum of 50 gallons/A</p> <p>Thorough coverage is critical for adequate control. Higher water volumes may provide improved insect control. Always adjust the carrier volume according to phenological stage and crop density.</p> <p><b>Scale:</b> Apply as an in-season cover spray when scale crawlers first emerge and use a spray oil at the manufacturer's listed oil rate. Follow local guidelines and product's label instructions regarding in-season use and rates of oil in your area.</p> <p><i>Senstar</i> Insecticide may be mixed and/or alternated with commonly used insecticides to comply with local Integrated Pest Management (IPM) and Insect Resistance Management (IRM) programs.</p> <p>Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 20 fl oz of <i>Senstar</i> Insecticide (0.156 lb spirotetramat and 0.055 lb pyriproxyfen) per acre per application.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Do not apply more than 40 fl oz of <i>Senstar</i> Insecticide (0.313 lb spirotetramat and 0.109 lb pyriproxyfen) per acre per year.</li> <li>• Do not apply within 14 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.39 lb spirotetramat and 0.215 lb pyriproxyfen per acre per year.</li> </ul>		

**TUBEROUS AND CORM VEGETABLES**  
**(Crop Subgroup 1C)**

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

PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Aphids Psyllids <i>Suppression only</i> Western Flower Thrips (larvae)</p>	<p>8 to 10 fl oz (0.063 to 0.078 lb ai/A spirotramat)  (0.022 to 0.027 lb ai/A pyriproxifen)</p>	<p>Apply with ground equipment in adequate water for uniform coverage (20 to 50 gallons/A).  Higher water volumes may provide improved insect control as it facilitates coverage within the plant's foliage.  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  Only whole fields should be treated.</p>
<p><b>Restrictions</b></p> <ul style="list-style-type: none"> <li>• Do not apply more than 10 fl oz of <i>Senstar</i> Insecticide (0.078 lb spirotramat and 0.027 lb pyriproxifen) per acre per application.</li> <li>• Do not make more than 2 applications per crop season.</li> <li>• Do not apply more than 20 fl oz (0.156 lb spirotramat and 0.055 lb pyriproxifen) of <i>Senstar</i> Insecticide per acre per crop season.</li> <li>• Do not apply within 7 days of harvest.</li> <li>• Minimum interval between applications is 14 days.</li> <li>• Regardless of formulation do not apply more than 0.16 lb spirotramat and 0.108 lb pyriproxifen per acre per crop season.</li> <li>• Do not allow livestock to graze treated areas.</li> </ul>		

**WATERCRESS**  
Not for use in California

<b>PESTS</b>	<b>PRODUCT RATES PER ACRE</b>	<b>SPECIAL INSTRUCTIONS</b>
Aphids Sharpshooters Whiteflies	8 to 24 fl oz (0.063 to 0.188 lb ai/A spirotetramat)  (0.022 to 0.066 lb ai/A pyriproxyfen)	Apply with ground equipment as a full coverage spray (10 to 50 gallons/A). Thorough coverage is critical for adequate control. It is essential to use adequate water volume to ensure thorough coverage. Higher water volumes may provide improved insect control.  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g., 3 to 5 adults per leaf and/or equivalent levels of immatures).  <i>Senstar</i> Insecticide may be mixed and/or alternated with commonly used insecticides to comply with local Integrated Pest Management (IPM) and Insect Resistance Management (IRM) programs.  Only whole fields should be treated.
<b>Restrictions</b> <ul style="list-style-type: none"><li>• Do not apply more than 24 fl oz of <i>Senstar</i> Insecticide (0.188 lb spirotetramat and 0.066 lb pyriproxyfen) per acre per application.</li><li>• Do not make more than 2 applications per crop season.</li><li>• Do not apply more than 48 fl oz <i>Senstar</i> Insecticide (0.375 lb spirotetramat and 0.131 lb pyriproxyfen) per acre per crop season.</li><li>• Do not apply within 7 days of harvest.</li><li>• Minimum interval between applications is 14 days.</li><li>• Regardless of formulation, do not apply more than 0.39 lb spirotetramat and 0.134 lb of pyriproxyfen per acre per crop season.</li></ul>		

## **STORAGE AND DISPOSAL**

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

### **PESTICIDE STORAGE**

Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

For help with any spill, leak, fire or exposure involving this material, call day or night 800-892-0099.

### **PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **CONTAINER HANDLING**

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

SPECIMEN

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Manufactured for:

**Valent U.S.A. LLC**

P.O. Box 5075, San Ramon CA 94583

Made in U.S.A.

Form 2287-C

EPA Reg. No. 59639-243

EPA Est. 228-IL-2<sup>Ⓐ</sup>, 39578-TX-1<sup>Ⓒ</sup>, 5481-ID-1<sup>Ⓜ</sup>,

5905-GA-1<sup>Ⓒ</sup>, 62171-MS-1<sup>Ⓐ</sup>, 67545-AZ-1<sup>Ⓜ</sup>, 67997-IA-1,

67997-IA-7, 70815-GA-1<sup>Ⓜ</sup>, 86555-MO-1<sup>Ⓜ</sup>

Superscript is first letter of lot number.

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Information contained in this booklet is accurate at the time of printing. Since product testing is a continuous process, please read and follow the directions on the product label for the most current directions and precautionary statements.

Always check with your state to verify state registration status or call 800-6-VALENT (682-5368).



For state registration and/or supplemental labels, please call or visit us online.

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***Always read and follow label instructions.***

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