

Specimen Label

SPINETORAM	GROUP	5	INSECTICIDE
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Hemi™ SC

Jemvelva™ active

INSECTICIDE

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For control or suppression of lepidopterous larvae (worms, caterpillars), dipterous leafminers, thrips, and certain psyllids.

Active Ingredient:

spinetoram (a mixture of spinetoram-J and spinetoram-L)	11.7%
Other Ingredients.....	88.3%
Total.....	100.0%

Contains 1 lb of active ingredient per gallon (120 g ai/liter)

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-545

Keep Out of Reach of Children

CAUTION

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

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.

First Aid

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 center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply where runoff is likely to occur. 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. Applying this product when rain is not predicted for the next 24 hours will help reduce potential risk to aquatic invertebrates by reducing pesticide runoff from the treatment area into water bodies. This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms. Apply this product only as specified on the label.

Directions for Use

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

Read all Directions for Use carefully before applying.

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 state or tribal agency responsible for pesticide regulation.

Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

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

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Storage and Disposal

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

Pesticide Storage: Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

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

Nonrefillable rigid containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) 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. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Refillable rigid containers larger than 5 gal:

Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the

Storage and Disposal (Cont.)

responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Nonrefillable rigid containers larger than 5 gal:

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

between the individual components of a mixture. In addition, consider the following recommendation provided by the Insecticide Resistance Action Committee (IRAC):

- Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
- Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
- When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
- Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
- The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Applications should be targeted against early insect developmental stages whenever possible.
- 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, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problem.
- For further information or to report suspected resistance, contact your local Corteva Agriscience by calling 800-258-3033.

Mixing Directions

Always shake well before use. Avoid freezing.

Application Rate Chart for Crop Uses

Application Rate of Hemi SC (fl oz/acre)	Active Ingredient Equivalent (lb ai/acre)
12	0.0938
11	0.0859
10	0.0781
9.5	0.0742
9	0.0703
8.5	0.0664
8	0.0625
7.5	0.0586
7	0.0547
6.5	0.0508
6	0.0469
5.5	0.0430
5	0.0391
4.5	0.0352
4	0.0313
3.5	0.0273
3	0.0234
2.5	0.0195
2	0.0156

Hemi SC - Alone: Fill the spray tank with water to about 1/2 of the required spray volume. Start agitation and add the required amount of Hemi SC. Continue agitation while mixing and filling the spray tank to the required spray volume. Maintain sufficient agitation during application to ensure uniformity of the spray mix. Do not allow water or spray mixture to back-siphon into the water source.

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 of each product in the tank mixture.

Product Information

Hemi™ SC insecticide is used for control or suppression of many foliage feeding pests including lepidopterous larvae (worms or caterpillars), thrips, dipterous leafminers, and certain psyllids infesting labeled crops. This product's active ingredient, spinetoram, is derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. Mix the suspension concentrate of Hemi SC with water and apply as a foliar spray with aerial or ground equipment suitable for conventional insecticide spraying.

Product Use Precautions

Integrated Pest Management (IPM) Programs

Hemi SC is recommended for IPM programs in labeled crops. Apply Hemi SC when field scouting indicates target pest densities have reached the economic threshold, i.e., the point at which the insect population must be reduced to avoid economic losses beyond the cost of control. Other than reducing the target pest species as a food source, Hemi SC does not have a significant impact on certain parasitic insects or the natural predaceous arthropod complex in treated crops, including big-eyed bugs, ladybird beetles, flower bugs, lacewings, minute pirate bugs, damsel bugs, assassin bugs, or spiders. The feeding activities of these beneficials will aid in natural control of other insects and reduce the likelihood of secondary pest outbreaks. If Hemi SC is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of Hemi SC in an IPM program may be reduced.

Insect Resistance Management (IRM)

For resistance management, Hemi SC contains spinetoram, a Group 5 insecticide. Any insect population may contain individuals naturally resistant to Hemi SC and other Group 5 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

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

- Carefully follow the specific label guidelines within the Use Direction sections of this label, especially in regard to IRM recommendations.
- Rotate the use of Hemi SC or other Group 5 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests)

Hemi SC - Tank Mix: When tank mixing Hemi SC with other materials, a compatibility test (jar test) using relative proportions of the tank mix ingredients should be conducted prior to mixing ingredients in the spray tank. If foliar fertilizers are used, the jar test should be repeated with each batch of fertilizer utilizing the mixing water source. Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

Mixing Order for Tank Mixes: Fill the spray tank with water to 1/4 to 1/3 of the required spray volume. Start agitation. Add different formulation types in the order indicated below, allowing time for complete dispersion and mixing after addition of each product. Allow extra dispersion and mixing time for dry flowable products.

Add different formulation types in the following order:

1. Water dispersible granules
2. Wettable powders
3. Hemi SC and other aqueous suspensions

Maintain agitation and fill spray tank to 3/4 of total spray volume. Then add:

4. Emulsifiable concentrates and water-based solutions
5. Spray adjuvants, surfactants, and oils
6. Foliar fertilizers

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be re-suspended before spraying is resumed. A sparger agitator is particularly useful for this purpose.

Premixing: Dry and flowable formulations may be premixed with water (slurried) and added to the spray tank through a 20 to 35 mesh screen. This procedure assures good initial dispersion of these formulation types.

Spray Tank pH: A spray tank pH between 5.0 and 9.0 is suggested to achieve maximum performance of Hemi SC. If the water source is outside of this pH range, or tank mixing other pesticides, adjuvants, or foliar nutrients will cause the pH to fall outside this range, consider adjusting the spray tank pH to be between 5.0 and 9.0 before adding Hemi SC. To do this, add all other tank mix components first, then check the spray tank pH and adjust if desired, and then add Hemi SC. If you require additional information on how to adjust spray tank pH, contact your Corteva Agriscience representative.

Use of Adjuvants: Adjuvants may be used to improve control of dipterous and lepidopterous leafminers, and thrips in situations where achieving uniform plant coverage is difficult such as a closed crop canopy, or dense foliage), or penetration into waxy leaf surfaces is required.

- Use only adjuvant products labeled for agricultural use and follow the manufacturer's label directions. A nominal concentration of 1 to 2 quarts per 100 gallons (0.25 to 0.5% v/v) is generally sufficient.
- For dipterous leafminers and thrips, emulsified crop oils or methylated crop oil plus organosilicone combination products are recommended.
- For lepidopterous leafminers, thrips, and psyllids, citrus oils or horticultural oils may improve control.
- When using adjuvants, always conduct a jar test to determine the compatibility of the various components in the spray mixture. Crop safety should be evaluated in a small area of the crop whenever there is a significant change in spray mixture ingredients or source of water for the spray mixture.
- Do not use diesel fuel or pure mineral oil.
- When an adjuvant is to be used with this product, Corteva Agriscience recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

Application Directions

Except for crops listed under the greenhouse section, do not apply Hemi SC in greenhouses or other enclosed structures used for growing crops.

Proper application techniques help ensure thorough spray coverage and correct dosage for optimum insect control. The following directions are provided for ground and aerial application of Hemi SC. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy density to ensure adequate spray coverage.

MANDATORY 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.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.

MANDATORY SPRAY DRIFT (Cont.)

Aerial Applications: (Cont.)

- If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium 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:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all 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 manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented with the airflow in flight.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. 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. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

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 application 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 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 increased 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.

Tree and Vine Crop Application

Dilute Spray Application: This application method is based upon the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray required per acre, contact your state agricultural experiment station, certified pest control advisor, or extension specialist for assistance. Use of tree row volume is appropriate.

Apply Hemi SC in a manner that achieves uniform coverage of the entire crop canopy but not past the point of runoff. For optimum control of target pests, complete and uniform spray coverage is essential. The spray volume required to achieve complete and uniform coverage will depend upon tree size and shape, leaf size, and density, and the application equipment used. To determine the required spray volume per acre, contact your state agricultural experiment station, certified pest control advisor, or extension specialist for assistance. Use of tree row volume is appropriate.

Additional Requirements for Aerial Applications: Mount the spray boom on the aircraft to minimize drift caused by wingtip or rotor vortices. Use the minimum practical boom length and do not exceed 75% of the wing span or 80% rotor diameter. Flight speed and nozzle orientation must be considered in determining droplet size. Spray must be released at the lowest height consistent with the pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

Chemigation Application

Hemi SC may be applied through properly equipped chemigation systems for insect control in corn, cranberry and potatoes. Follow use directions for these crops in the Uses section of this label. Do not apply Hemi SC by chemigation to other labeled crops except as specified in Corteva Agriscience supplemental labeling or product bulletins.

Directions for Sprinkler Chemigation: Apply this product only through sprinkler irrigation systems including: center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand move. Do not apply this product through any other type of irrigation system. Sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units are not recommended.

For continuously moving systems, the mixture containing Hemi SC must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For irrigation systems that do not move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle.

Chemigation Equipment Preparation: The following use directions are to be followed when this product is applied through irrigation systems. Thoroughly clean the chemigation system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injection system with soap or a cleaning agent and water. Determine the amount of Hemi SC needed to cover the desired acreage. Mix according to instructions in the Mixing Directions section above using a dilution concentrate matching your injector system requirements. Continually agitate the mixture during mixing and application.

Chemigation Equipment Calibration: In order to calibrate the irrigation system and injector to apply the mixture containing Hemi SC, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Calculate the amount of product required and premix. 3) Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 4) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. This value equals the gallons per minute output that the injector or eductor must deliver. Convert the gallons per minute to milliliters or ounces per minute if needed. 5) Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the injector pump/system be calibrated at least twice before operation, and the system should be monitored during operation.

Chemigation Equipment Requirements:

- The system must contain an air gap, an approved backflow prevention device, a functional check valve, vacuum relief valve (including inspection port), and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from

back flow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information or state specific regulations.

- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- To insure uniform mixing of the insecticide in the water line, inject the mixture in the center of the pipe diameter or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. The injection point must be located after all back-flow prevention devices on the water line.
- The tank holding the insecticide mixture should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injector point.

Chemigation Operation: Start the water pump and irrigation system, and let the system achieve the desired pressure and speed before starting the injector. Check for leaks and uniformity and make repairs before any chemigation takes place. Start the injection system and calibrate according to manufacturer's specifications. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

Chemigation Precautions:

- Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact state extension service specialists, equipment manufacturers or other experts.
- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and make necessary adjustments should the need arise and continuously monitor the injection.

Chemigation Restrictions:

- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not connect an irrigation system used for pesticide application (including greenhouse systems) to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place with current certification. Specific local regulations may apply and must be followed.

- Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application, if they irrigate nontarget areas.
- Do not allow irrigation water to collect or runoff and pose a hazard to livestock, wells, or adjoining crops.
- Do not enter treated area during the reentry interval specified in the Agricultural Use Requirements section of this label unless required PPE is worn.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

Rotational Crop Restrictions

Only a crop approved for spinetoram use (Delegate WG or Hemi SC) may be immediately rotated to a treated field. All other crops may be rotated 30 days following last application.

Uses

Banana and Plantain

Pests and Application Rates:

Pests	Hemi SC	
	(fl oz/acre)	(fl oz/100 gal)
banana rust thrips ¹ Hawaiian flower thrips ¹ lepidopterous larvae, including banana moth	8 – 11	2.67 – 3.67

¹Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Apply no later than two weeks after bunch emergence and before flower petals senesce and again one to two days before bunch cover.

Application Rate: Apply Hemi SC as a directed fine spray toward bunches and spray to runoff.

Spray Volume: Dilute sprays are sprayed to the point of runoff. The application rate range for dilute sprays in the table is based upon a spray volume of 300 gallons per acre. Gallonage of dilute sprays will vary depending upon tree size, density of canopy, stage of seasonal growth, and spacing in the orchard.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not make more than three applications of Group 5 insecticides for thrips in a season.

Restrictions:

- **Preharvest Interval:** Do not apply within 56 days of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per crop or apply more than six applications times per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Berry, Low Growing, except strawberry (Subgroup 13-07H)¹

¹**Bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; cultivars, varieties, and/or hybrids of these.**

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
armyworms currant fruit fly (suppression) fireworms gypsy moth leafrollers loopers sparganothis fruitworm thrips (suppression) ¹	6 – 12

¹Suppression of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: For determining when to treat, scout with enough regularity to monitor the population size of each of the labeled pests. Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Application rate of Hemi SC within the rate range will depend upon plant size, volume of foliage present, and pest pressure. Use a higher rate in the rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

Chemigation: Hemi SC may be applied to cranberry by chemigation at labeled rates. Refer to the Chemigation Application section.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 21 days of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than six applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Bushberries (Subgroup 13-07B)¹ except lingonberry

¹Aronia berry; blueberry, highbush; blueberry, lowbush; buffalo currant; Chilean guava; currant, black; currant, red; elderberry; European, barberry; gooseberry; cranberry, highbush; honeysuckle, edible; huckleberry; jostaberry; Juneberry; native currant; salal; sea buckthorn; cultivars, varieties, and/or hybrids of these.

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
armyworms blueberry gall midge (suppression) blueberry maggot (suppression) cherry fruitworm cranberry fruitworm currant fruit fly (suppression) European grapevine moth fireworms gypsy moth leafrollers light brown apple moth loopers spotted wing drosophila thrips (suppression) ^{1,2}	6 – 12

¹Suppression of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

²See special restrictions below for Fresno, Kern, and Tulare counties in California.

Application Timing: Treat when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon plant size, volume of foliage present and pest pressure. Use a lower rate in the rate range for light infestations and/or small plants and a higher rate in the rate range for heavy infestations and/or larger plants.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not make more than three applications of Group 5 insecticides for thrips in a season. Only two applications are allowed per acre per year in Fresno, Kern, and Tulare counties in the state of California (See special crop restrictions). Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than six applications per calendar year. See Resistance Management and Special Use Restrictions regarding number of applications for specific pests and locations.
- **Minimum Treatment Interval:** Do not make applications less than 6 days apart.

Special Use Restrictions for Preharvest Interval of one day:

- Preharvest Interval: Do not apply within 1 day of harvest.
- Do not apply more than a total of 35.9 oz of Hemi SC (0.281 lb ai spinetoram) per acre per year.
- Maximum Number of Applications: Do not make more than three applications per calendar year. See Resistance Management regarding number of applications for specific pests. See Resistance Management and Special Use Restrictions regarding number of applications for specific pests and locations.
- Minimum Treatment Interval: Do not make application less than 6 days apart between the first and second applications. Do not make applications less than 12 days apart between the second applications and the third application. The third application is applied at 1 day of harvest.

Special Use Restrictions for Fresno, Kern, and Tulare Counties in California

- Thrips (suppression) rate: The Hemi SC use rate is 10 – 12 fl oz/acre. Do not apply less than 10 fl oz/ acre.
- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 24 fl oz of Hemi SC (0.188 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than two applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 6 days apart.

Caneberries (Subgroup 13-07A)¹

¹Blackberry; loganberry; raspberry, red and black; wild raspberry; cultivars, varieties, and/or hybrids of these.

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
armyworms ¹ European grapevine moth green fruitworm leafrollers light brown apple moth looper raspberry fruitworm sawfly spotted wing drosophila thrips (suppression) ² western raspberry fruitworm	6 – 12

¹With the exception of yellowstriped armyworm and western yellowstriped armyworm.

²Suppression of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Treat when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon plant size, volume of foliage present and pest pressure. Use a higher rate in the rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.

- **Maximum Number of Applications:** Do not make more than six applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.

Corn (Field, Sweet, Popcorn, Seed Corn) and Teosinte**Pests and Application Rates:**

Pests	Hemi SC (fl oz/acre)
armyworms ¹ corn earworm, <i>Helicoverpa zea</i> European corn borer southwestern corn borer western bean cutworm	3 – 6

¹With the exception of yellowstriped armyworm and western yellowstriped armyworm.

Application Timing: Scout for corn borers and armyworms with enough regularity to monitor egg laying and egg hatch. Time applications of Hemi SC to coincide with peak egg hatch of each generation. For corn earworm control and armyworms, a 2-day re-treatment schedule may be necessary at silking. For control of all other pests, a 5- to 7-day re-treatment schedule may be necessary if the crop is growing rapidly or if there is heavy pest pressure.

Application Rate: Apply Hemi SC as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Spray Delivery: For control of **first generation European corn borer and armyworms**, apply broadcast or as a directed spray into the leaf whorls. For control of **corn earworm**, apply broadcast or direct spray to ear zone. Use sufficient spray volume and nozzle pressure to ensure thorough wetting of the silks.

Chemigation: Hemi SC may be applied to corn by chemigation at labeled rates. Refer to the Chemigation Application section.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:**Sweet Corn**

- **Preharvest Interval:** Do not apply within 1 day of ear harvest or 3 days of forage or fodder harvest.
- Do not apply more than a total of 36 fl oz of Hemi SC (0.281 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than six applications per calendar year.
- **Minimum Treatment Interval:** For corn earworm at silking, do not make applications less than 2 days apart. For all other pests and timings, do not make applications less than 4 days apart.

Popcorn and Seed Corn**Preharvest Interval:**

Seed Corn: Do not apply within 1 day of grain harvest or 3 days of forage or fodder harvest.

Popcorn: Do not apply within 28 days of grain harvest or 3 days of forage or fodder harvest.

- Do not apply more than a total of 36 fl oz of Hemi SC (0.281 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than six applications per calendar year.
- **Minimum Treatment Interval:** For corn earworm at silking, do not make applications less than 2 days apart. For all other pests and timings, do not make applications less than 4 days apart.

Field Corn and Teosinte

- **Preharvest Interval:** Do not apply within 28 days of grain harvest or within 3 days of fodder or forage harvest.
- Do not apply more than a total of 16 fl oz of Hemi SC (0.125 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than three applications per calendar year.
- **Minimum Treatment Interval:** For corn earworm at silking, do not make applications less than 2 days apart. For all other pests and timings, do not make applications less than 4 days apart.

Cottonseed (Subgroup 20-C)¹

¹Cultivars, varieties, and/or hybrids of these.

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
cotton bollworm (pre-bloom) cotton leafperforator European corn borer tobacco budworm	2.8 – 8
armyworm ¹ cotton bollworm (post-bloom) dipterous leafminers ² loopers saltmarsh caterpillar thrips ²	4.25 – 8

¹With the exception of yellowstriped armyworm and western yellowstriped armyworm.

²Control of lepidopterous larvae, leafminers and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: For **cotton bollworm**, use a lower rate in the rate range at pre-bloom timings and a higher rate in the rate range at post-bloom timings. For **tobacco budworm** and/or **cotton bollworm**, scout fields twice per week and apply Hemi SC when the majority of the population is within blackhead egg stage to 1/8-inch larval length. The following table illustrates the size of development of worms in relation to age and stage of development (instar) as a guide to timing treatments for optimum control:

Age (Days)	Average Size (Inch)	Instar
Hatch	1/16	1st
3	1/4	2nd
5	1/2	3rd
8	7/8	4th
10	1	5th

Note: A scouting schedule of only once per week is risky since hatching worms will have grown to 3rd instar before the next scouting observation has determined the need to spray.

Beet Armyworm: Economic thresholds vary with local conditions and sampling methods. The following is an example of one such method: apply Hemi SC when field scouting reveals three occurrences or more of egg hatch or larval feeding per 100 feet of row.

Loopers: Economic thresholds vary with local conditions and sampling methods. The following is an example of one such method: apply Hemi SC when field scouting reveals 4 larvae per 1 foot of row or 25% defoliation.

Application Rate: Use a higher rate of Hemi SC in the rate range and higher spray volume when one or more of the following is true: tobacco budworms or bollworms are more than 1/4 inch in length; target pest population is 2X above state threshold level; or foliage canopy is tall/dense and worms are present in the lower part of the canopy. Heavy infestations may require repeat applications, but follow resistance management guidelines.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 28 days of harvest.
- Do not apply more than a total of 34 fl oz of Hemi SC (0.266 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than six applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.

Dates

Pests and Application Rates:

Pest	Hemi SC (fl oz/acre)
carob moth	14

Application Timing: Apply Hemi SC when pests appear or in accordance with local conditions. Applications should closely follow regional spray recommendations. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per acre per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Fig

Pest and Application Rates:

Pest	Hemi SC (fl oz/acre)
navel orangeworm	12 – 14

Application Timing: Apply Hemi SC as a foliar spray when pests appear or in accordance with local conditions. Applications should closely follow regional spray recommendations. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size, volume of foliage present, and pest pressure. Use a higher rate in the rate range for larger trees or heavy infestations.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Although navel orangeworm has not had major resistance problems, avoid applying Hemi SC against more than 2 generations per year.

Restrictions:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Fruit, Citrus (Crop Group 10-10)¹

¹Australian 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; Pummelo; Russell River lime; Satsuma mandarin; Sweet lime; Tachibana orange; Tahiti lime; Tangelo; Tangerine (Mandarin); Tangor; Trifoliate orange; UniQ fruit; Cultivars; varieties and/or hybrids of these

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
Asian citrus psyllid ¹ citrus leafminer ¹ citrus orangedog katydids ² lepidopterous larvae, including: avocado leafroller citrus peelminer cutworms fruit tree leafroller light brown apple moth orange tortrix western tussock moth	6 – 12
citrus thrips, <i>Scirtothrips citri</i> ¹	8 - 12

¹Control of leafminers, thrips, and psylla may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

²Katydid: Control of nymphs only; suppression of adults.

Application Timing: Treat when pests appear or in accordance with local economic thresholds. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations and/or smaller trees and a higher rate in the rate range for heavy infestations and/or larger trees.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. For citrus thrips, rotate to another class of effective products for the next two applications after using two applications of Hemi SC within a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 24 fl oz of Hemi SC (0.188 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than three applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply to citrus nurseries or citrus in greenhouses.

Fruit, Pome (Crop Group 11-10)¹

¹Apple; Azarole; Crabapple; Loquat; Mayhaw; Hook. & Arn.; Medlar; Pear; Pear, Asian; Quince; Quince, Chinese; Quince, Japanese; Tejocote; Cultivars, varieties and/or hybrids of these.

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
<i>East of Rocky Mountains:</i> codling moth oriental fruit moth	9 – 14
<i>West of Rocky Mountains:</i> codling moth oriental fruit moth	12 – 14
European corn borer European grapevine moth gypsy moth laconobia fruitworm leafminers ¹ , including: spotted tentiform western tentiform leafrollers, including: oblique-banded pandemis lesser appleworm light brown apple moth spotted wing drosophila thrips ¹ tufted apple budmoth	9 – 14

Pests and Application Rates: (Cont.)

Pests	Hemi SC (fl oz/acre)
apple maggot (suppression) pear psylla ¹ plum curculio (suppression)	12 – 14

¹Control of thrips, leafminers, and pear psylla may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Closely follow regional spray recommendations for codling moth and oriental fruit moth treatments based on biofix dates, egg hatch, and/or pheromone trap catches. Codling moth and oriental fruit moth larvae must be controlled before they penetrate the fruit. Hemi SC is a larvicide; begin applications shortly before egg hatch. For codling moth, egg hatch typically begins at 220 to 250 degree days (base 50°F) after biofix. Pear psylla numbers can increase rapidly; begin applications before damaging numbers are reached. For codling moth, oriental fruit moth, and pear psylla, repeat applications may be needed to maintain control, but follow resistance management guidelines. Consult with your Corteva Agriscience representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations and/or smaller trees and higher rate in the rate range for heavy infestations and/or larger trees.

Resistance Management: Do not make more than three consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after three consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Pear psylla is known to develop resistance quickly, do not make more than two applications of Group 5 insecticides for pear psylla in a season. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid treating consecutive generations of codling moth, oriental fruit moth, leafrollers, and pear psylla with Group 5 insecticides.

Restrictions:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 56 fl oz of Hemi SC (0.438 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Fruit, Small, Vine Climbing, except fuzzy kiwifruit (Subgroup 13-07F)¹

¹Amur river grape; gooseberry; grape; kiwifruit, hardy; Maypop; schisandra berry; cultivars varieties, and/or hybrids of these.

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
cutworm European grapevine moth grape berry moth grape leafroller light brown apple moth omnivorous leafroller orange tortrix redbanded leafroller spotted wing drosophila thrips ¹ western grape leaf skeletonizer	6 – 10

¹Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Treat when pests appear, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Carefully adjust equipment and spray volume to assure thorough uniform coverage. Use a higher rate of Hemi SC in the rate

range for larger larvae or moderate to severe infestations and/or larger plant volume.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 39 fl oz of Hemi SC (0.305 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than five applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.

Fruit, Stone (Crop Group 12-12)¹

¹Apricot; 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; Plumcot; Plum, prune; Sloe; cultivars, varieties, and/or hybrids of these.

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
peach twig borer (dormant spray)	6 – 14
European grapevine moth green fruitworm leafminers, including: spotted tentiform, western tentiform leafrollers, including: fruit tree oblique-banded pandemis red-banded variegated light brown apple moth peach twig borer (in-season spray) spotted wing drosophila thrips ¹ tufted apple bud moth western cherry fruit fly, <i>Rhagoletis indifferens</i>	9 – 14
cherry fruit fly, <i>Rhagoletis cingulata</i> (suppression) oriental fruit moth plum curculio (suppression)	12 – 14

¹Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Closely follow regional spray recommendations for oriental fruit moth applications based upon biofix dates, egg hatch, and/or pheromone trap catches. Oriental fruit moth larvae must be controlled before they penetrate the fruit. Hemi SC is a larvicide; begin applications shortly before egg hatch. For oriental fruit moth and thrips, repeat applications may be needed to maintain control; but follow resistance management guidelines. Peach twig borer applications can be made as dormant, delayed dormant, or May sprays. For cherry fruit fly and western cherry fruit fly, maintain protective sprays at 7-day intervals while adults are present and fruit is susceptible to attack. For all pests, consult with your Corteva Agriscience representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations or smaller trees and a higher rate in the rate range for heavy infestations or larger trees.

Resistance Management: Do not make more than three consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after three consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not treat consecutive generations of oriental fruit moth and

leafrollers with Group 5 insecticides. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 14 days of harvest for apricots, within 7 days of harvest for cherries and other stone fruit crops, or within 1 day of harvest for peaches, nectarines, plums and prunes.
- Do not apply more than a total of 56 fl oz of Hemi SC (0.438 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 3 days apart for thrips, nor less than 7 days apart for all other listed pests.

Nut, Tree (Crop Group 14-12)¹

¹African nut-tree; Almond; Beechnut; Brazil nut; Brazilian pine; Bunya; Bur oak; Butternut; Cajou nut; Candlenut; 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 and Application Rates:

Pests	Hemi SC (fl oz/acre)
peach twig borer (dormant spray)	3 – 14
light brown apple moth oblique-banded leafroller peach twig borer (in-season spray) red-humped caterpillar walnut caterpillar walnut husk fly	6 – 14
codling moth fall webworm filbertworm hickory shuckworm pecan nut casebearer	9 – 14
navel orangeworm	12 – 14

Application Timing: Apply Hemi SC as either a dormant or as a foliar spray when pests first appear or in accordance with local conditions. Closely follow regional spray recommendations based upon biofix dates, egg hatch, and/or pheromone trap catches. Lepidopteran larvae must be controlled before they penetrate the nuts or shoots. Hemi SC is a larvicide; begin applications shortly before egg hatch. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Use of Crop Oils: Crop oils labeled for agricultural use may be added to the dormant spray solution for suppression of overwintering mites and scale insects. Consult specific oil labels and University or Extension recommendations for precautions and restrictions regarding the use of oils in nut and fruit trees.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size, volume of foliage present and pest pressure. Use a higher rate in the rate range for larger trees or heavy infestations.

Resistance Management: Do not make more than three consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after three consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 56 fl oz of Hemi SC (0.438 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year.
- **Minimum Treatment Interval:** Do not apply treatments less than 7 days apart.

Peanut

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
armyworms ¹ cabbage looper corn earworm European corn borer green cloverleaf worm red-necked peanut worm saltmarsh caterpillar soybean looper velvetbean caterpillar	3 – 8

¹With the exception of yellowstriped armyworm and western yellowstriped armyworm.

Application Timing: Regularly monitor the population size of each of the labeled pests. Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Use a higher rate of Hemi SC in the rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval:** Do not apply within 3 days of nut, forage or hay harvest.
- Do not apply more than a total of 24 fl oz of Hemi SC (0.188 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than three applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Grazing Restriction:** Do not allow grazing of peanut hay

Pomegranate

Pests and Application Rates:

Pests	Hemi SC (oz/acre)
European grapevine moth filbertworm leafrollers thrips ¹	8 - 14
navel orangeworm	12 - 14

¹Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Treat when pests appear, or in accordance with local economic thresholds. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations and/or small trees and a higher rate in the rate range for heavy infestations and/or large trees.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not apply to pomegranate trees grown in greenhouses and nurseries.

Restrictions:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 14 oz of Hemi SC (0.219 lb ai spinetoram) per acre per year

- **Maximum Number of Applications;** Do not make more than three applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart for thrips, nor less than 7 days apart for all other listed pests.

Root and Tuber Vegetables (Crop Group 1)¹ and Globe Artichoke

¹Arracacha, arrowroot, bitter cassava, black salsify, carrot, celeriac, chayote root, chicory, Chinese artichoke, chufa, dasheen, edible burdock, edible canna, garden beet, ginger, ginseng, horseradish, Jerusalem artichoke, leren, oriental radish, parsnip, potato, radish, rutabaga, salsify, skirret, Spanish salsify, sugar beet, sweet cassava, sweet potato, tanier, true yam, turmeric, turnip, turnip-rooted chervil, turnip-rooted parsley, yam bean

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
Colorado potato beetle	4.5 – 8
armyworms ¹ artichoke plume moth dipterous leafminers, <i>Liriomyza</i> spp ² European corn borer flea beetles (suppression) light brown apple moth loopers potato psyllid (suppression) ² thrips ²	6 – 8

¹With the exception of yellowstriped armyworm and western yellowstriped armyworm.

²Control of leafminers, psyllids, and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: For determining when to treat, scout with enough regularity to monitor the population size of each of the labeled pests. Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Apply Hemi SC as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Heavy infestations may require repeat applications, but follow resistance management guidelines.

Chemigation: Hemi SC may be applied to potatoes by chemigation at labeled rates. Refer to the Chemigation Application section.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Do not apply Group 5 insecticides to consecutive generations of Colorado potato beetle and do not make more than two applications of Group 5 insecticides per single generation of Colorado potato beetle. Do not make more than three applications of Group 5 insecticides for thrips in a season. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

Garden beet and sugar beet:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 32 fl oz of Hemi SC (0.250 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Black salsify, carrot, chicory, ginseng, horseradish, parsnip, salsify, skirret, Spanish salsify, turnip-rooted chervil, turnip-rooted parsley:

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 28 fl oz of Hemi SC (0.219 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.

Arracacha, arrowroot, bitter cassava, chayote root, Chinese artichoke, chufa, dasheen, edible canna, ginger, Jerusalem artichoke, leren, potato, sweet cassava, sweet potato, tanier, true yam, turmeric, yam bean:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 32 fl oz of Hemi SC (0.250 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Globe Artichoke:

- **Preharvest Interval:** Do not apply within 2 days of harvest.
- Do not apply more than a total of 32 fl oz of Hemi SC (0.250 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year. See Resistance Management regarding number of applications for specific pests.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

Celeriac, edible burdock, oriental radish, radish, rutabaga, turnip and other root vegetables not specifically listed:

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 24 fl oz of Hemi SC (0.188 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than three applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.

Tropical Tree Fruits¹

¹Acerola, atemoya, avocado, biriba, black sapote, canistel, cherimoya, custard apple, feijoa, guava, ilama, jaboticaba, longan, lychee, mamey sapote, mango, papaya, passionfruit, pitaya (dragon fruit), pulasan, rambutan, sapodilla, soursop, Spanish lime, star apple, starfruit, sugar apple, ti leaves, wax jambu, white sapote

Pests and Application Rates:

Pests	Hemi SC (fl oz/acre)
katydids ¹ lepidopterous larvae, including: avocado leafroller citrus peelminer cutworms fruit tree leafroller light brown apple moth navel orangeworm orange tortrix western tussock moth thrips ²	8 – 14

¹Katydid: Control of nymphs only, suppression of adults.
²Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

Application Timing: Treat when pests appear, or in accordance with local economic thresholds. Consult your Corteva Agriscience representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: The amount of Hemi SC applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations and/or small trees and a higher rate in the rate range for heavy infestations and/or large trees.

Resistance Management: Do not make more than two consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Corteva Agriscience representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not apply to tropical tree fruits grown in greenhouses and nurseries.

Restrictions except for pitaya (dragon fruit):

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 28 fl oz of Hemi SC (0.219 lb ai spinetoram) per acre per year.

- **Maximum Number of Applications:** Do not make more than three applications per calendar year.
- **Minimum Treatment Interval:** Do not apply treatments less than 4 days apart.

Restrictions for pitaya (dragon fruit):

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 48 fl oz of Hemi SC (0.3752 lb ai spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than four applications per calendar year.
- **Minimum Treatment Interval:** Do not apply treatments less than 4 days apart.

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