

# SIMPAI™



Contains spinosad, the active ingredient used in Success® Naturalyte® Insect Control.

**For control or suppression of lepidopterous larvae (worms, caterpillars and peach twig borers), leafminers, and thrips.**

<b>ACTIVE INGREDIENT:</b>	<b>(% by weight)</b>
Spinosad (a mixture of spinosyn A and spinosyn D).....	22.8%
<b>OTHER INGREDIENTS:</b> .....	<u>77.2%</u>
<b>TOTAL:</b> .....	100.0%

Contains 2 lbs of spinosad per gallon.

EPA Reg. No.: 91234-279

SPECIMEN

## KEEP OUT OF REACH OF CHILDREN

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

See below for additional Precautionary Statements.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to label booklet under "Agricultural Use Requirements" in the DIRECTIONS FOR USE section for information about this standard.

**Shake Well Before Use -- Avoid Freezing**

### 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 SafetyCall at 1-844-685-9173 for emergency medical treatment information.

**For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident,  
Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

Simpai™ is not manufactured, or distributed by Corteva Agriscience United States, seller of Success® Naturalyte® Insect Control.



## PRECAUTIONARY STATEMENTS

### 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.

### Environmental Hazards

This product is highly toxic to bees and other pollinating insects exposed to direct treatment, or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.

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. 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.

## 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 agency responsible for pesticide regulation.

### Agricultural Use Requirements

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

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

### Non-Agricultural Use Requirements

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

**Do not** enter or allow others to enter the treated area until sprays have dried.

### Product Information

**Simpai** is an insect control product for control of many foliage feeding pests including lepidopterous larvae (worms or caterpillars), thrips, Colorado potato beetles and leafminers infesting labeled crops. This product's active ingredient, spinosad, is biologically derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. Mix **Simpai** with water and apply as a foliar spray with aerial or ground equipment equipped for conventional insecticide spraying.

### Product Use Precautions

#### Integrated Pest Management (IPM) Programs

**Simpai** is recommended for IPM programs in labeled crops. Apply **Simpai** 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, **Simpai** 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, predatory mites 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 **Simpai** is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of **Simpai** in an IPM program may be reduced.

#### Insecticide Resistance Management (IRM)

**Simpai** contains spinosad, a Group 5 insecticide. Insect/mite biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect/mite population if Group 5 insecticides are used repeatedly in the same field or area, or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Simpai** or other Group 5 insecticides. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. These two insecticide active ingredients share a common mode of action and must not be rotated with each other for control of pests listed on this label. Spinetoram and spinosad may be rotated with all other labeled insecticide active ingredients.

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

- Carefully follow the specific label guidelines within the use directions sections of this label, especially in regard to IRM recommendations.
- Avoid use of the same active ingredient or mode of action (same insecticide group) on consecutive generations of insects. However, multiple applications to reduce a single generation are acceptable. Treat the next generation with a different active ingredient that has a different mode of action or use no treatment for the next generation.
- Avoid using less than labeled rates of any insecticide when applied alone or in tank mixtures.
- Applications should be targeted against early insect developmental stages whenever possible.
- Base insecticide use on comprehensive IPM programs including crop rotations.
- Monitor treated insect populations in the field for loss of effectiveness.

- 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 problems.
- For further information or to report suspected resistance, contact your local Atticus, LLC representative or by calling 984-465-4800.

## Mixing Directions

Always shake well before use. Avoid freezing.

### Application Rate Reference Table

Application Rate of <b>Simpai</b> (fl oz/acre)	Active Ingredient Equivalent (lb ai/acre)	Acres per Gallon of <b>Simpai</b>
1.5	0.023	85
3	0.047	43
4	0.062	32
6	0.094	21
8	0.125	16
10	0.156	13

**Simpai - Alone:** Fill the spray tank with water to about 1/2 of the required spray volume. Start agitation and add the required amount of **Simpai**. 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.

**Simpai - Tank Mix:** When tank mixing **Simpai** 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. **Do not** use acidifying buffering agents in tank mixes with **Simpai**. 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.

**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.**

**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. **Simpai** 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 resuspended 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 6.0 and 9.0 is suggested to achieve maximum performance of **Simpai**. If the water source is outside of this pH range, or if tank mixing other pesticides, adjuvants, or foliar nutrients will cause the pH to fall outside of this range, consider adjusting the spray tank pH to be between 6.0 and 9.0 before adding **Simpai**. To do this, add all other tank mix components first, then check the spray tank pH, adjust if desired, and then add **Simpai**. If you require additional information on how to adjust spray tank pH, contact your Atticus, LLC representative.

**Use of Adjuvants:** Adjuvants may be used to improve the control of leafminers and thrips in situations where achieving uniform plant coverage is difficult (such as closed crop canopy dense foliage), or penetration into waxy leaf surfaces is necessary for pest control.

- 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 leafminers and thrips, emulsified crop oils or methylated crop oil plus organosilicone combination products are recommended.
- 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, Atticus, LLC recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

## Application Directions

**Do not** apply **Simpai** 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 **Simpai**.

Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

### Row Crop Application

Use calibrated power-operated ground spray equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform coverage. A minimum of 5 to 10 gallons per acre should be utilized, increasing volume with crop size and or pest pressure. Use hollow cone, twin jet flat fan nozzles or other atomizer suitable for insecticide spraying to provide a fine to coarse spray quality (per ASABE S-572, see nozzle catalogs). Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's specifications for ideal nozzle spacing and spray pressure.

### Orchard Spraying 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.

**Concentrate Spray Application:** This application method is based upon the premise that all plant parts are uniformly covered with spray solution but not to the point of runoff as with a dilute spray. Instead, a lower spray volume is used to deliver the same application rate per acre as used for the dilute spray.

### Aerial Application

Apply in spray volume of 5 gallons or more per acre (10 gallons or more per acre for tree, vines, or orchard crops). Nozzle configuration should provide a medium to fine drop size per ASABE S-572 standard (see USDA-ARS or NAAA handbook). Guidance for ASABE S-572 nozzle configuration can be found at the following web site: <https://www.ars.usda.gov/plains-area/college-station-tx/southern-plains-agricultural-research-center/aerial-application-technology-research/docs/a-models/>. Use GPS equipment, swath markers or flagging to ensure proper application to the target area. Configure the boom nozzle used (e.g., at NAAA Fly-In) for both crosswind and near parallel winds. If application is made parallel to the wind direction, adjust swath width downward. Use swath adjustment (offset) to compensate for crosswinds. **Do not** apply under completely calm wind conditions. It is best to apply when wind speed is between 2 to 10 mph. Insect control by aerial application may be less than control by ground application because of reduced coverage.

### Chemigation Application

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

**Directions for Sprinkler Chemigation:** **Simpai** may be applied through overhead sprinkler irrigation systems that will apply water uniformly, including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, micro sprinkler, 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 **Simpai** 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 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 **Simpai** needed to cover the desired acreage. Mix according to instructions in the **Mixing Directions** section above. 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 **Simpai**, 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. 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 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 injection system to be thoroughly flushed clean before stopping the system.

### Chemigation Precautions:

- 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.
- **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. 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 regular serves an average of at least 25 individuals daily at least 60 days out of the year. Specific local regulations may apply and must be followed.
- 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.
- **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 run off 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.

### Chemigation Specific Equipment Requirements:

- The system must contain an air gap, approved backflow prevention device, or approved 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 line must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection chemical supply.
- A pesticide injection pump must also contain a functional interlock, e.g., mechanical or electrical, to shut off chemical supply 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 pressure drops too low or water flow stops.
- Use of public water supply requires approval of a backflow prevention device or air gap (preferred) by both state and local authorities.
- Systems must use a metering device such as a positive displacement injection pump (or flow meter on eductor) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. An electric powered pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70.



- To ensure uniform mixing of the insecticide into 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 backflow 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 injection point.

### 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.
- 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.

#### Airblast Applications:

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

### 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 the setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### RELEASE HEIGHT - Aircraft

- Higher release heights increase the potential for spray drift.

### BOOM HEIGHT – Ground Boom

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

### 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.

### USES

#### Asparagus

(Post-Harvest Protection of Ferns Only)

#### Pest and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
asparagus beetle	4 - 6	0.062 - 0.094

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

**Application Rate:** Apply as a foliar spray at the rate specified to control asparagus beetle in asparagus fern. Use a higher rate in the rate range for heavy infestations or advanced growth stages of the beetle. 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. Consult your local Atticus, LLC 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:** This use is **only for asparagus ferns**; do not apply within 60 days of spear harvest.
- **Do not** apply more than a total of 18 fl oz of **Simpai** (0.28 lb ai spinosad) per acre per crop.
- **Do not** make more than three applications per crop.
- **Do not** feed treated ferns to meat or dairy animals.

**Banana and Plantain**

(For use in California and Hawaii only)

**Pests and Application Rates:**

Pest	Simpai		
	fl oz/acre	lb ai	Dilute Spray (fl oz/100 gal)
banana rust thrips <sup>1</sup> caterpillars Hawaiian flower thrips <sup>1</sup>	8	0.125 lb ai/A	3.3

<sup>1</sup> Control of thrips may be improved by addition of an adjuvant to the spray mixture. See **Use of Adjuvants** section under **Mixing Directions**. Dilute sprays assume an average volume of 300 gallon per acre.

**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 as a directed fine spray toward bunches and spray to runoff.

**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 local Atticus, LLC 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 8 weeks of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- **Do not** make more than four applications per crop or apply more than six times per calendar year.

**Brassica (Cole) Leafy Vegetables (Crop Group 5)<sup>1</sup>**

<sup>1</sup> Brassica (cole) leafy vegetables (crop group 5) including broccoli, broccoli raab, Brussels sprouts, cabbage, cauliflower, Chinese broccoli, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), cavalo, collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, rape greens

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
diamondback moth	1.5 - 4	0.023 - 0.062
cabbage looper imported cabbage worm	3 - 6	0.047 - 0.094
armyworms (including beet armyworm) leafminers <sup>1</sup> thrips <sup>1</sup>	4 - 10	0.062 - 0.156
flea beetle (suppression)	4 - 8	0.062 - 0.125

<sup>1</sup> Control of leafminers and thrips may be improved by 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 Atticus, LLC 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 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.

**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 diamondback moth, if additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least two applications. Consult your local Atticus, LLC representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Make treatment decisions for the entire farm and consider area wide programs if other growers are in close proximity. Do not make more than six applications of **Simpai** per calendar year for diamondback moth over an entire farm (an area of abutting or nearby fields).

**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- **Do not** apply to seedling cole crops grown for transplant within a greenhouse, shade house, or field plot.

## Bulb Vegetables (Crop Group 3)<sup>1</sup>

<sup>1</sup>Bulb vegetables (crop group 3) including dry bulb onion, garlic, great-headed (elephant) garlic, green onion, leek, shallot, welsh onion.

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms dipteran leafminers European corn borer flea beetle loopers	3 - 6	0.047 - 0.094
thrips (suppression) <sup>1</sup>	4 - 8	0.062 - 0.125

<sup>1</sup>Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See **Use of Adjuvants** under **Mixing Directions**. If thorough coverage is desired, then high pressure (>70 psi) directed sprays with dual directed nozzles can assist leaf penetration of onion.

**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 Atticus, LLC 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 as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for larger larvae or heavier 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 local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai of spinosad) per acre per crop.
- **Do not** make more than five applications per calendar year.

## Bushberries (Subgroup 13B)<sup>1</sup> (Insect Suppression)

<sup>1</sup>Bushberries (subgroup 13B) including blueberry, currant, elderberry, gooseberry, huckleberry, juneberry, lingonberry, salal

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms cherry fruitworm cranberry fruitworm currant fruit fly fireworms leafrollers light brown apple moth loopers thrips <sup>1</sup> European grapevine moth	4 - 6	0.062 - 0.094

<sup>1</sup>Control of thrips may be improved by 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 Atticus, LLC 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 **Simpai** applied per acre will depend upon plant size and 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. Consult your local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 6 days apart.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- **Do not** make more than six applications per calendar year. See **Resistance Management** regarding number of applications for specific pests.

## Caneberries (Subgroup 13A)<sup>1</sup>

<sup>1</sup> Caneberries (subgroup 13A) including blackberry, loganberry, red and black raspberry, cultivars and/or hybrids of these.

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
beet armyworm bertha armyworm green fruitworm leafrollers light brown apple moth looper sawfly Western raspberry fruitworm European grapevine moth	4 - 6	0.062 - 0.094

**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 Atticus, LLC 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 **Simpai** applied per acre will depend upon plant size and 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. Consult your local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- **Do not** make more than six applications per calendar year.

## Citrus (Crop Group 10)<sup>1</sup>

<sup>1</sup> Citrus (crop group 10) including grapefruit, lemons, limes, oranges, tangerines.

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
citrus thrips <sup>1</sup> katydids <sup>2</sup> lepidoptera larvae: avocado leafroller citrus peelminer cutworms fruit tree leafroller orange tortrix Western tussock moth light brown apple moth European grapevine moth	4 - 10	0.062 - 0.156

<sup>1</sup> Control of thrips may be improved by addition of an adjuvant to the spray mixture. See **Use of Adjuvants** section under **Mixing Directions**.

<sup>2</sup> Katydid: Control of small nymphs only, suppression only of adults.

**Application Timing:** Treat when pests appear or in accordance with local economic thresholds. Consult your Atticus, LLC 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 **Simpai** 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:** Citrus thrips are present most of the time on the crop during the growing season and have demonstrated a high potential to develop resistance to insect control products. **Do not** apply **Simpai** more than two times per year. If additional treatments are required, rotate to another class of products. For resistance management purposes, **do not** apply to citrus nurseries or citrus in greenhouses.

### Restrictions:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.



## Corn (Field, Sweet, Seed, and Popcorn) and Teosinte

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms European corn borer	1.5 - 6	0.023 - 0.094
corn earworm Southwestern corn borer Western bean cutworm	3 - 6	0.047 - 0.094

**Application Timing:** Scout for European corn borer and armyworms with enough regularity to monitor egg laying and egg hatch. Time applications of **Simpai** to coincide with peak egg hatch of each generation. Frequent treatments may be necessary when the crop is growing rapidly, during silking or under heavy pest pressure. For corn earworm control, a 1- to 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 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:** **Simpai** may be applied to corn by chemigation at labeled rates. Refer to the **Chemigation Application** section.

#### Restrictions:

##### Sweet Corn, Popcorn, Seed Corn

- **Preharvest Interval:** Do not apply within 28 days of fodder harvest, 1 day of grains harvest or 7 days of forage harvest.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per year.

##### Field Corn and Teosinte

- **Preharvest Interval:** Do not apply within 28 days of grain or fodder harvest or within 7 days of forage harvest.
- Do not apply more than a total of 12 fl oz of **Simpai** (0.188 lb ai spinosad) per acre per year.

## Cranberry

### (Insect Suppression)

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms currant fruit fly fireworms leafrollers light brown apple moth loopers sparganothis fruitworm thrips European grapevine moth <sup>1</sup>	4 - 10	0.062 - 0.156

<sup>1</sup> Control

**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 Atticus, LLC 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 within the rate range will depend upon plant size and 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:** **Simpai** 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. Consult your local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- Do not make more than six applications per calendar year.

## Cucurbit Vegetables (Crop Group 9)<sup>1</sup>

<sup>1</sup> Cucurbit vegetables (crop group 9) including cucumber, edible gourds, muskmelons (cantaloupe, honeydew, etc.), pumpkin, summer squash, watermelon, winter squash.

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms cabbage looper melon worm pickleworm rindworms	4 - 8	0.062 - 0.125
leafminers <sup>1</sup> thrips <sup>1</sup>	6 - 8	0.094 - 0.125

<sup>1</sup> Control of leafminers and thrips may be improved by 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 Atticus, LLC representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional area use recommendations for your area.

**Application Rate:** Apply 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.

**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 local Atticus, LLC 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 for all crops except cucumbers. Do not apply within 1 day of harvest for cucumbers.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per season.
- Do not make more than six applications per crop.

## Fig

### Pests and Application Rates:

Pest	Simpai		
	(fl oz/acre)	lb ai	Dilute Spray (fl oz/100 gal)
navel orangeworm	4 - 10	0.062 - 0.156	1.0 - 2.5

**Application Timing:** Apply **Simpai** as a foliar spray when pests appear or in accordance with local conditions. Apply as a concentrate or dilute spray using conventional, power operated spray equipment (see **Orchard Spraying** section under **Application Directions** section). Consult your Atticus, LLC 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 **Simpai** applied per acre will depend upon tree size and volume of foliage present and pest pressure. Use a higher rate in the rate range for large trees or heavy infestations.

**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 400 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 local Atticus, LLC 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 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.

## Fruiting Vegetables (Crop Group 8)<sup>1</sup> and Okra

<sup>1</sup> Fruiting vegetables (crop group 8) including eggplant, groundcherry, pepino, pepper, tomatillo, tomato

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
lepidopterous larvae (maintenance only)	1.5 - 3	0.023 - 0.047
Colorado potato beetle European corn borer European grapevine moth hornworms light brown apple moth loopers tomato fruitworm	3 - 6	0.047 - 0.094
armyworms (including beet armyworm) flea beetle (suppression) flower thrips <sup>1,2</sup> thrips palmi <sup>1,2</sup> tomato pinworm	4 - 8	0.062 - 0.125
leafminers <sup>1</sup> ( <i>Liriomyza</i> spp.)	6 - 10	0.094 - 0.156

<sup>1</sup> Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See **Use of Adjuvants** section under **Mixing Directions**.

<sup>2</sup> For thrips, if additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least two applications.

**Application Timing:** Scout weekly throughout the season to monitor and track populations of leafminers and thrips to determine when economic thresholds are exceeded. Scout weekly throughout the season to monitor and track pest and beneficial populations. For tracking lepidopterous larvae, scout with enough regularity to monitor the population size of each of the labeled pests. Time applications of **Simpai** to coincide with peak egg hatch in species without overlapping generations. Consult current pest management recommendations for specific guidelines.

**Application Rate:** Apply 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.

**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 thrips, if additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least two applications. Consult your local Atticus, LLC 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 Group 5 insecticides to consecutive generations of Colorado potato beetle and do not make more than two applications per single generation of Colorado potato beetle.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- Do not apply to seedling fruiting vegetables and okra grown for transplant within a greenhouse, shade house, or field plot.

**Grape**

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
cutworm grape leaffolder grape leaf skeletonizer light brown apple moth omnivorous leafroller orange tortrix thrips European grapevine moth	4 - 8	0.062 - 0.125

**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 Atticus, LLC 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 of infested parts of the crop. 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. Consult your local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- The maximum seasonal application rate east of the Rocky Mountains is 0.36 lb ai spinosad per acre.

**Grass Forages, Grass Grown for Seed, Pastures and Rangeland**

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
beet armyworm fall armyworm Southern armyworm true armyworm	2 - 4	0.031 - 0.062

**Application Timing:** Scout at least weekly and consider the impact of both pests and beneficials. Treat when economic thresholds are exceeded, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Atticus, LLC representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional recommendations applicable to your area.

**Application Rate:** Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

**Resistance Management:** Do not apply more than three times in any 21-day period. Whenever **Simpai** is applied up to three times in succession, follow it by no use of **Simpai** for a 21-day period or rotation to another insecticide class.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 3 days of harvest for hay or fodder. There is no preharvest interval for forage.
- Do not apply more than a total of 12 fl oz of **Simpai** (0.188 lb ai spinosad) per acre per season.
- Do not make more than six applications per season.



## Herbs (Subgroup 19A)<sup>1</sup> (Insect Suppression)

<sup>1</sup> Herbs (subgroup 19A) including angelica, balm, basil, borage, burnet, chamomile, catnip, chervil (dried), chive, chive (Chinese), cilantro, cilantro (leaf), clary, coriander (leaf), costmary, curry (leaf), dillweed, horehound, hyssop, lavender, lemongrass, lovage (leaf), marigold, marjoram, nasturtium, parsley (dried) pennyroyal, rosemary, rue, sage, savory (summer and winter), sweet bay, tansy, tarragon, thyme, wintergreen, woodruff, wormwood

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms loopers thrips (suppression)	4 - 6	0.062 - 0.094

**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 Atticus, LLC representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for larger larvae or high infestations and/or larger plant volume. 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. Consult your local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- **Do not** apply more than a total of 30 fl oz of **Simpai** (0.47 lb ai spinosad) per acre per crop.
- **Do not** make more than five applications per calendar year or more than three applications per crop.

## Hops, Dried Cones

(For use in Idaho, Oregon and Washington only)

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms loopers thrips (suppression)	4 - 6	0.062 - 0.094

**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 Atticus, LLC representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for larger larvae or high infestations and/or larger plant volume. 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. Consult your local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- **Do not** apply more than a total of 30 fl oz of **Simpai** (0.47 lb ai of spinosad) per acre per crop.
- **Do not** make more than 5 applications per crop.

## Leafy Vegetables (Except Brassica) (Crop Group 4)<sup>1</sup>, Leaves of Root and Tuber Vegetables (Crop Group 2)<sup>2</sup> and Leaves of Legume Vegetables (Crop Group 7A)<sup>3</sup>, Turnip Greens, and Watercress

<sup>1</sup> Leafy vegetables (except Brassica) (crop group 4) including amaranth, arugula, cardoon, celery, celtuce, chervil, Chinese celery, Chinese spinach, corn salad, dandelion, dock, edible-leaved chrysanthemum, endive (escarole), Florence fennel, garden cress, garden purslane, garland chrysanthemum, head lettuce, leaf lettuce, leafy amaranth, New Zealand spinach, orach, parsley, radicchio (red chicory), rhubarb, spinach, Swiss chard, tampala, upland cress, vine spinach, winter cress, winter purslane, yellow rocket.

<sup>2</sup> Leaves of root and tuber vegetables (crop group 2) including bitter cassava, black salsify, carrot, celeriac (celery root), chicory, dasheen (taro), edible burdock, garden beet, oriental radish (daikon), parsnip, radish, rutabaga, sugar beet, sweet cassava, sweet potato, tanager, true yam, turnip, turnip-rooted chervil.

<sup>3</sup> Leaves of legume vegetables (crop group 7A) including any cultivar of bean and field pea (except soybean).

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
diamondback moth	1.5 - 3	0.023 - 0.047
cabbage looper imported cabbage worm	3 - 6	0.047 - 0.094
armyworms (including beet armyworm)	4 - 8	0.062 - 0.125
leafminers <sup>1</sup> thrips <sup>2</sup>	6 - 10	0.094 - 0.156

<sup>1</sup> The use of a penetrating surfactant or oil is critical for optimal control of leafminers.

<sup>2</sup> Control of thrips may be improved by addition of an adjuvant to the spray mixture. See **Use of Adjuvants** section under **Mixing Directions**.

**Application Timing:** Scout at least weekly and consider the impact of both pests and beneficials. Treat when economic thresholds are exceeded, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Atticus, LLC 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 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.

**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 local Atticus, LLC representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

**Restrictions:**

- **Preharvest Intervals:**
  - o **Leafy vegetables (including watercress):** Do not apply within 1 day of harvest.
  - o **Leaves of root, tuber and legume vegetables:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- Do not apply to seedling leafy crops grown for transplant within a greenhouse or shade house.

**Legume Vegetables (Succulent and Dried Beans and Peas) (Crop Group 6)<sup>1</sup>**

<sup>1</sup> Legume vegetables (succulent and dried beans and peas) (crop group 6) including adzuki bean, blackeyed pea, chickpea, cowpea, crowder pea, edible-pod pea, English pea, fava bean, field bean, field pea, garbanzo bean, garden pea, green pea, kidney bean, lentil, lima bean, lupins, mungbean, navy bean, pigeon pea, pinto bean, runner bean, snap bean, snow pea, sugar snap pea, tepary bean, wax bean, yardlong bean.

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
European corn borer (eggs and larvae)	3 - 6	0.047 - 0.094
armyworms corn earworm loopers	4 - 6	0.062 - 0.094
leafminers <sup>1</sup> thrips <sup>1</sup>	4.5 - 6	0.070 - 0.094

<sup>1</sup> Control of leafminers and thrips may be improved by 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. Heavy infestations may require repeat applications, but follow resistance management guidelines. Treat when pests appear, targeting eggs at hatch or small larvae. For European corn borer, initiate when moth flights first appear and use the lower rate of the rate range to control eggs and larvae every three days before they enter the plant. Consult your Atticus, LLC representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional recommendations for your area.

**Application Rate:** Apply 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.

**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 local Atticus, LLC

representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

**Restrictions:**

- Do not make more than six applications per crop.
- Succulent Beans and Peas:**
  - **Preharvest Interval:** Do not apply within 3 days of harvest.
  - Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per season.
- Dried Beans and Peas:**
  - **Preharvest Interval:** Do not apply within 28 days of harvest.
  - Do not apply more than a total of 12 fl oz of **Simpai** (0.188 lb ai spinosad) per acre per season.
  - Do not feed forage or hay to meat or dairy animals.

**Peppermint and Spearmint**

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms cutworms dipteran leafminers <sup>1</sup> loopers thrips (suppression) <sup>1</sup>	4 - 10	0.062 - 0.156

<sup>1</sup> Control of leafminers and thrips may be improved with the addition of an adjuvant to the spray mixture. See **Use of Adjuvants** under **Mixing Directions**. Control in peppermint and spearmint has been variable; high pressure directed sprays can assist leaf penetration of peppermint and spearmint.

**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 Atticus, LLC representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

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

**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 local Atticus, LLC 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.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- Do not make more than four applications per calendar year or more than three applications per crop.





**Pineapple**  
**(Insect Suppression)**  
**(For use in Hawaii only)**

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
lepidopteran larvae such as: armyworms banana moth fruit borer caterpillar ( <i>Thecia basilides</i> ) <i>Gummosos-Batrachedra comosae</i> pineapple caterpillar pink cornworm sugarcane bud moth	4 - 6	0.062 - 0.094

**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 Atticus, LLC representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply as a foliar spray at the rate specified to control target pests. 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. Consult your local Atticus, LLC 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.
- **Minimum Re-treatment Interval:** Do not make applications less than 7 days apart.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai of spinosad) per acre per year.
- **Do not** make more than six applications per calendar year.

**Pome Fruits (Crop Group 11)<sup>1</sup>**

<sup>1</sup> Pome fruits (crop group 11) including apples, crabapple, mayhaw, pears, quince

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
leafminers <sup>1</sup> spotted tentiform Western tentiform	4 - 10	0.062 - 0.156
codling moth laconobia fruitworm leafrollers oblique-banded pandemis light brown apple moth thrips <sup>1</sup> European grapevine moth	6 - 10	0.094 - 0.156

<sup>1</sup> Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See **Use of Adjuvants** section under **Mixing Directions**.

**Application Timing:** Optimal timing for leafminers and leafrollers may vary between species and geographic location. For leafminers, monitor the moth flights and infestation densities of both the sap-feeding and tissue-feeding stage. For optimum control, treat at first appearance of leaf mining activity. For leafrollers, monitor the moth flights and the infestation densities of the larval stages. Repeat application as necessary to maintain control. Closely follow regional spray recommendations for codling moth treatments based upon biofix dates and pheromone trap catches. Codling moth larvae must be controlled before they penetrate the fruit. Codling moth applications will provide control for no more than 10 days. Repeat application as necessary to maintain control. Consult with your Atticus, LLC representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

**Application Rate:** The amount of **Simpai** 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 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. Consult your local Atticus, LLC representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not treat consecutive generations of codling moth and leafrollers.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- **Do not** apply more than three sprays targeted at leafrollers per season.

## Root and Tuber Vegetables (Crop Group 1)<sup>1</sup> and Artichoke

<sup>1</sup>Root and tuber vegetables (crop group 1) including arracacha, 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:

Crops	Pests	Application Rate	
		Simpai (fl oz/acre)	Active Ingredient (lb/acre)
black salsify carrot chicory ginseng horseradish parsnip salsify skirret Spanish salsify turnip-rooted chervil turnip-rooted parsley celeriac edible burdock oriental radish radish rutabaga turnip	armyworms dipteran leafminers European corn borer flea beetle loopers thrips <sup>1</sup>	3 - 6	0.047 - 0.094
arracacha arrowroot artichoke bitter cassava chayote root Chinese artichoke chufa dasheen edible canna garden beet ginger Jerusalem artichoke leren potato sugar beet sweet cassava sweet potato tanier true yam turmeric yam bean	Colorado potato beetle European corn borer	3 - 10	0.047 - 0.156
	armyworms artichoke plume moth dipteran leafminers ( <i>Liriomyza</i> ) loopers thrips <sup>1</sup>	4.5 - 10	0.070 - 0.156

<sup>1</sup>Control of thrips may be improved by 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. When plants are growing rapidly, repeat applications may be necessary to protect new foliage. Consult your Atticus, LLC 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 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:** Simpai 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. Consult your local Atticus, LLC 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 Simpai to consecutive generations of Colorado potato beetle and do not make more than two applications per single generation of Colorado potato beetle.

#### Restrictions:

##### Garden beet and sugar beet:

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 21 fl oz of Simpai (0.33 lb ai spinosad) per crop.
- Do not make more than four applications per crop.

##### 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.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- Do not apply more than a total of 21 fl oz of Simpai (0.33 lb ai spinosad) per acre per crop.
- Do not make more than four applications per calendar year.

##### 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.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart. Do not apply more than a total of 21 fl oz of Simpai (0.33 lb ai spinosad) per crop. Do not make more than four applications per crop.

##### Artichoke:

- **Preharvest Interval:** Do not apply within 2 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 21 fl oz of Simpai (0.33 lb ai spinosad) per crop.
- Do not make more than four applications per crop.

##### 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.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- Do not apply more than a total of 18 fl oz of Simpai (0.28 lb ai spinosad) per acre per crop.
- Do not make more than three applications per calendar year.

## Small Cereal Grains and Grain Amaranth

Small cereal grains including barley, buckwheat, milo, oats, pearl millet, proso millet, rye, sorghum, triticale, wheat.

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
cereal leaf beetle	2 - 6	0.031 - 0.094
armyworms corn earworm (headworm) grasshoppers (suppression) Southwestern corn borer webworms	3 - 6	0.047 - 0.094

**Application Timing:** Scout for armyworms and grasshoppers with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Applications of **Simpai** perform best when timed to coincide with peak egg hatch and/or small larval stage of growth of each generation.

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

**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 local Atticus, LLC 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 grain or straw harvest or within 3 days of forage, fodder or hay harvest.
- **Do not** apply more than a total of 19 fl oz of **Simpai** (0.297 lb ai spinosad) per acre per year.
- **Do not** allow cattle to graze treated area until spray has dried.

### Spices (Except Black Pepper) (Subgroup 19B)<sup>1</sup>

<sup>1</sup>Spices (except black pepper) (subgroup 19B) including allspice, anise (seed), annatto (seed), black caraway, caper (buds), caraway, cardamom, cassia (buds), celery (seed), cinnamon, clove (buds), common fennel, coriander (seed), culantro (seed), cumin, dill (seed), Florence fennel (seed), fenugreek, grains of paradise, juniper (berry), lovage (seed), mace, mustard (seed), nutmeg, poppy (seed), saffron, star anise, vanilla, white pepper.

### Pests and Application Rates:

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
lepidopteran larvae	4 - 6	0.062 - 0.094
flea beetles dipteran leafminers <sup>1</sup> thrips <sup>1</sup>	6 - 10	0.094 - 0.156

<sup>1</sup>Suppression of leafminers and thrips may be improved with the addition of an adjuvant to the spray mixture. See **Use of Adjuvants** 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 Atticus, LLC representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for larger larvae or heavy infestations. 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. Consult your local Atticus, LLC representative, extension specialist certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

### Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 10 days apart.
- **Do not** apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai of spinosad) per acre per crop.
- **Do not** make more than five applications per calendar year.

### Stone Fruits (Crop Group 12)<sup>1</sup>

<sup>1</sup>Stone fruits (crop group 12) including apricot, cherries, nectarine, peach, plum, prune.

### Pests and Application Rates:

Pest	Simpai	
	(fl oz/acre)	Dilute Spray (fl oz/100 gal)
cherry fruit fly (such as black cherry, western cherry) (suppression) green fruitworm lepidopterous leafminers <sup>1</sup> (such as spotted tentiform, Western tentiform) leafrollers (such as fruit tree oblique-banded pandemis redbanded variegated) light brown apple moth oriental fruit moth peach twig borer thrips <sup>1</sup> Western cherry fruit fly European grapevine moth	4 - 8 (0.062 - 0.125 lb ai)	1.3 - 2.7

<sup>1</sup>Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See **Use of Adjuvants** section under **Mixing Directions**.

**Application Timing:** Peach twig borer applications can be made dormant, delayed dormant or as summer sprays. Optimal timing for **lepidopteran leafminers** and **leafrollers** may vary between species and geographic location. For **lepidopteran leafminers**, monitor the moth flights and infestation densities of both the sap-feeding and tissue-feeding stage, but for optimal control, treat before significant tissue-feeding miners are observed. For **leafrollers**, monitor the moth flights and the infestation densities of the larval stages and re-treat as necessary to maintain control; thorough coverage is necessary for optimal control. For **cherry fruit fly, western cherry fruit fly, and other related species**, maintain protective sprays at 7-day intervals while adults are present and fruit is susceptible to attack. For **oriental fruit moth**, no more than 10 days of residual control can be expected. If longer residual is required, make a second application of **Simpai** or other insecticide labeled for **oriental fruit moth**. For **thrips**, a 3- to 4-day re-treatment schedule may be necessary at flowering. After flowering, a 5- to 7-day re-treatment schedule may be followed. For all pests, consult with your Atticus, LLC representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

**Application Rate:** Use a higher rate in the rate range for large trees, heavy infestations, or advanced growth stages of target pest, especially if spray volume or coverage is marginal.

**Spray Volume:** Dilute sprays are sprayed to the point of runoff. The application rate range 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 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 local Atticus, LLC 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 oriental fruit moth and leafrollers.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest for apricots, within 7 days of harvest for cherries, plums, prunes and other stone fruit crops, or within 1 day of harvest for nectarines and peaches.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per year.
- Do not apply more than three sprays targeted at leafrollers per season.

**Strawberry**

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
armyworms, including beet armyworms leafrollers light brown apple moth thrips <sup>1</sup> European grapevine moth	4 - 6	0.062 - 0.094

<sup>1</sup> For thrips, if additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least two applications.

**Application Timing:** Treat when pests appear, targeting eggs at hatch or small larvae. For thrips, a 3- to 4-day re-treatment schedule may be necessary if there is heavy pest

pressure or if the pest population is increasing rapidly. 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. Consult your Atticus, LLC 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 as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for larger larvae or moderate to severe pest infestations. 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. For thrips, if additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least two applications. Consult your local Atticus, LLC 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 18 fl oz of **Simpai** (0.282 lb ai spinosad) per acre per crop.
- Do not make more than three applications per calendar year.

**Tree Farms or Plantations**

**Conifers, including Christmas trees, and deciduous trees**

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
lepidopterous larvae, such as: bagworm fall webworm gypsy moth hemlock looper jackpine budworm pine tip moth redhumped caterpillar spruce budworm tent caterpillar tussock moths light brown apple moth sawfly larvae, such as: European pine pear redheaded pine European grapevine moth	2 - 8	0.031 - 0.125

**Application Timing:** Time applications to reach larvae when small or just hatching. Repeat application as necessary to maintain control. Consult with your Atticus, LLC representative, state agricultural experiment station, certified pest control advisor or extension specialist for information on application timing for specific pests in your area.

**Application Rates:** The rate of **Simpai** applied per acre will depend upon tree size and severity of infestation. Use a higher rate in the rate range for large trees or heavy infestations. Apply in sufficient volume to ensure thorough coverage.



**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 local Atticus, LLC representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

**Restrictions:**

- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per year.

**Tree Nuts (Crop Group 14)<sup>1</sup> and Pistachios**

<sup>1</sup>Tree nuts (crop group 14) including almonds, cashew, chestnut, filbert (hazelnut), macadamia nut, pecan, walnut.

**Pests and Application Rates:**

Pest	Simpai	
	(fl oz/acre)	Dilute Spray (fl oz/100 gal)
codling moth	4 - 10	1 - 2.5
fall webworm	(0.062 -	
filbert worm	0.156 lb ai)	
hickory shuckworm		
light brown apple moth		
navel orange worm		
oblique banded leafroller		
peach twig borer		
pecan nut casebearer		
redhumped caterpillar		
walnut caterpillar		
walnut husk fly		
European grapevine moth		

**Application Timing:** Apply **Simpai** as either a dormant or a foliar spray when pests appear or in accordance with local conditions. Apply as a concentrate or dilute spray using conventional, power operated spray equipment (see **Orchard Spraying** section under **Application Directions**). Consult your Atticus, LLC 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 of California recommendations for precautions and restrictions regarding the use of oils in nut and fruit trees.

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

**Spray Volume:** Dilute sprays are sprayed to the point of runoff. The application rate range in the table is based upon a spray volume of 400 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 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 local Atticus, LLC 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 of all tree nuts and pistachios.
- Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- Do not apply more than three sprays targeted at leafrollers per season.

**Tropical Tree Fruits<sup>1</sup>**

**(Insect Suppression)**

<sup>1</sup>Tropical tree fruits including acerola, atemoya, avocado, biriba, black sapote, canistel, cherimoya, custard apple, feijoa, guava, ilama, jaboticaba, longan, lychee, mamey sapote, mango, papaya, passionfruit, pulasan, rambutan, sapodilla, soursop, Spanish lime, star apple, starfruit, sugar apple, ti leaves, wax jambu (wax apple), white sapote

**Pests and Application Rates:**

Pest	Application Rate	
	Simpai (fl oz/acre)	Active Ingredient (lb/acre)
katydids	4 - 10	0.062 - 0.156
lepidopterous larvae		
avocado leafroller		
citrus peelminer		
cutworms		
fruit tree leafroller		
naval orange worm		
orange tortrix		
Western tussock moth		
light brown apple moth		
thrips <sup>1</sup>		
European grapevine moth		

<sup>1</sup>Control of thrips may be improved by 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 Atticus, LLC 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 **Simpai** 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 local Atticus, LLC 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 29 fl oz of **Simpai** (0.45 lb ai spinosad) per acre per crop.
- In order to prevent or delay resistance development in thrips, do not apply **Simpai** more than two times per year.
- For resistance management purposes, do not apply to tropical tree fruits grown in nurseries or in greenhouses.





## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in tightly closed original container in a cool, dry place and out of reach of children in a locked storage area. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**PESTICIDE DISPOSAL:** Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### CONTAINER HANDLING:

**For plastic containers ≤ 5 gallons: Nonrefillable Container:** Do not reuse or refill this container. Triple 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

**For plastic containers > 5 gallons: 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. Recap 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 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 other procedures allowed by state and local authorities.

## LIMITATION OF WARRANTY AND LIABILITY

**IMPORTANT: READ BEFORE USE.** Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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