

Specimen Label



Naturalyte* Insect Control

*Trademark of Dow AgroSciences LLC

A Naturalyte* insect control product for control or suppression of lepidopterous larvae (worms, caterpillars and peach twig borers), leafminers, and thrips in asparagus, bushberries, cereal grains, citrus, cole crops, corn (field corn, sweet corn, popcorn, and corn grown for seed), cranberries, cucurbits, fruiting vegetables (okra, tomatoes, peppers and eggplants), leafy vegetables, leaves of root and tuber and legume vegetables, pome fruit, potatoes and tuberous and corm vegetables, stone fruit, strawberries, succulent and dry beans and peas, tree farms or plantations, tree nuts and pistachios, and tropical tree fruit.

Group	5	INSECTICIDE
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Active Ingredients:

spinosad (a mixture of spinosyn A and spinosyn D)	22.8%
Inert Ingredients	77.2%
Total	100.0%

Contains 2 pounds of active ingredient per gallon.

U.S. Patent No. 5,362,634 and 5,496,931

EPA Reg. No. 62719-292

Keep Out of Reach of Children

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, 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 toxic to bees exposed to treatment for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. The 3 hour limitation does not apply if the applicator operates in a state with a formal, state-approved bee protection program, and the applicator follows all applicable requirements of the state-approved program designed to ensure that managed bees are not present in the treatment area during this time period. 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.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Shake Well Before Use -- Avoid Freezing

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
- Waterproof gloves
- Shoes plus socks

Storage and Disposal

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

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

Disposal: Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General Information

Success* is a Naturalyte* insect control product for control or suppression 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. The suspension concentrate of Success should be mixed with water and applied as a foliar spray with aerial or ground equipment equipped for conventional insecticide spraying.

General Use Precautions

Integrated Pest Management (IPM) Programs

Success is recommended for IPM programs in labeled crops. Success should be applied when field scouting indicates target pest densities have reached the economic threshold. Other than reducing the target pest species as a food source, Success 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 Success is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of Success in an IPM program may be reduced.

Insecticide Resistance Management (IRM)

Success contains a Group 5 insecticide. Insect/mite biotypes with acquired resistance to Group 5 may eventually dominate the insect/mite population if Group 5 insecticides are used repeatedly in the same field 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 Success or other Group 5 insecticides. Currently, Success (spinosad) is the only active ingredient classified as a Group 5 insecticide and may be rotated with all other labeled products.

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

- Avoid consecutive use of insecticides with the same mode of action (same insecticide group) on the same insect species.
- Use tank mixtures or premix products containing insecticides with different modes of action (different insecticide groups) provided the products are registered for the intended use.
- Base insecticide use on comprehensive IPM programs.
- 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, you may contact Dow AgroSciences by calling 800-253-3033 or over internet at www.dowagro.com.

Mixing

Always shake well before use. Avoid freezing.

Application Rate Reference Table

Application Rate of Success (fl oz/acre)	Active Ingredient Equivalent (lb a.i./acre)	Acres per Gallon of Success
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

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

Tank Mixing: When tank mixing Success 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 Success. Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

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

Add different formulation types in the following order:

1. Water dispersible granules
2. Wettable powders
3. Success 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
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 20-35 mesh screen. This procedure assures good initial dispersion of these formulation types.

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, penetration into waxy leaf surfaces, and when less than optimum application equipment is used.

- Use only adjuvant products labeled for agricultural use and follow directions on the manufacturer's label. A nominal concentration of 1 to 2 qt/100 gal (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.

Application

Proper application techniques help ensure thorough spray coverage and correct dosage for optimum insect control. The following recommendations are provided for ground and aerial application of Success. 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 crop coverage. A minimum of 10 gallons per acre should be utilized, increasing volume with crop size and or pest pressure. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Use hollow cone, disc-core hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Follow manufacturer's recommendations for ideal nozzle spacing and

spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition (optimize on-target deposition) to reduce drift.

Orchard Spraying

Dilute Spray Application: This application method is based on 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 on the premise that all the 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 or more gallons per acre (10 or more gallons per acre tree or orchard crops) using a nozzle configuration that will provide a median droplet size of 200-300 microns (example D4-D6 or 6504-6508 nozzles). Boom length must be less than 75% of wing or rotor span. Observe minimum safe application height, (should not exceed 12 feet above target). Use swath markers or flagging. The aircraft boom nozzle configurations used should be patterned previously (e.g., at NAAA Fly-In) for both crosswind and near parallel winds. If application is made parallel to the wind direction, swath width should be adjusted downward. Use swath adjustment (offset) to compensate for crosswinds. Do not apply under completely calm wind conditions. Rather, make application when wind speed is between 2 - 10 mph. Under conditions of low humidity and high temperatures, adjust spray volume and droplet size upward to compensate for evaporation of spray droplets. Insect control by aerial application may be less than control by ground application because of reduced coverage.

Application by Chemigation

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

General Directions for Chemigation:

Success 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 Success 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 sprinkler 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.

Preparation: The following use directions are to be followed when this product is applied through sprinkler irrigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injector with soap or a cleaning agent and water. Determine the amount

of Success needed to cover the desired acreage. Mix according to instructions in the Mixing section above. Continually agitate the mixture during mixing and application.

Equipment Calibration: In order to calibrate the irrigation system and injector to apply the mixture containing Success, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Set the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 3) 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 to cover the treatment area. This value equals the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute. Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the injector pump be calibrated at least twice before operation, and the system should be monitored during operation.

Operation: Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injector system according to Special Use Precautions. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

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, you should 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.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application, if they irrigate nontarget areas.
- Do not allow irrigation water to collect or runoff and pose a hazard to livestock, wells, or adjoining crops.
- Do not enter treated area during the reentry interval specified in the Agricultural Use Requirements section of this label unless required PPE is worn.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

Specific Equipment Requirements:

1. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. The metering pump must provide a greater pressure than that of the irrigation system at the point of injection. The pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70 and must contain Viton or Teflon seals.
7. To insure uniform mixing of the insecticide into the water line, inject the mixture through a nozzle placed in the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. It is suggested that the injection point be higher than the insecticide tank to prevent siphoning.
8. The tank holding the insecticide mixture should be large enough to allow the system to complete a revolution with 1 filling. It should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injector pump.

Approved Uses

**Asparagus
(Post Harvest Protection of Ferns Only)**

Pests and Application Rates:

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

Specific Use Directions:

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

Application Rate: Apply Success as a foliar spray at the rate indicated 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: For resistance management purposes, do not apply more than 3 times in any 30-day period. Rotate to a different class of insect control products or use no treatment for the next 30 days. Do not make more than 3 applications per crop.

Restrictions:

- Do not apply more than a total of 18 fl oz of Success (0.28 lb a.i. of spinosad) per acre per crop.
- **Preharvest Interval:** This use is only for asparagus ferns; do not apply within 60 days of spear harvest.
- Do not feed treated ferns to meat or dairy animals.

Bushberries

(Insect Suppression)

Including, but not limited to: Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Lingonberry, Salal

Pests and Application Rates:

Pests	Product (fl oz/acre)
armyworms cherry fruitworm cranberry fruitworm currant fruitfly fireworms leafrollers loopers thrips	4 - 6

Specific Use 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 Dow AgroSciences 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 Success per acre will depend on plant size and volume of foliage present and pest pressure. Choose a lower rate for light infestations and/or small plants and a higher rate for heavy infestations and/or larger plants.

Resistance Management: Do not apply Success more than 3 times in any 30 day period. Whenever Success is applied 3 times in succession, this should be followed by no use of Success for a 30 day period or rotation to another insecticide class.

Restrictions:

- Do not apply more than a total of 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop or make more than 6 applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 6 days apart.
- **Preharvest Interval:** Do not apply within 3 days of harvest.

Cereal Grains

Including: Barley, Buckwheat, Oats, Rye, Triticale, Wheat

Pests and Application Rates:

Pests	Success (fl oz/acre)
cereal leaf beetle	2 - 6
armyworms	3 - 6

Specific Use Directions:

Application Timing: Scout for **armyworms** with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Applications of Success 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 indicated for target pest. Use a higher rate in the rate range for heavy infestations, advanced growth stages of target pests, or difficult spray coverage situations.

Restrictions:

- Do not apply more than 19 fl oz of Success (0.28 lb a.i. of spinosad) per acre per year.
- **Preharvest Interval:** Do not apply within 21 days of grain or straw harvest or within 14 days of forage or hay harvest.

Citrus

Including, but not limited to: Grapefruit, Lemons, Limes, Oranges, Tangerines

Pests and Application Rates:

Pests	Success (fl oz/acre)
citrus thrips [†] Lepidoptera larvae: avocado leafroller cutworms fruit tree leafroller orange tortrix western tussock moth citrus peelminer katydids ^{††}	4 - 10

[†] Control of thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

^{††} Katydid: Control of small nymphs only, suppression only of adults.

Specific Use Directions:

Application Timing: Treat when pests appear or in accordance with local economic thresholds. Consult your Dow AgroSciences 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 rate per acre of Success will depend on tree size and pest pressure. Use a lower rate for light infestations and/or small trees and a higher rate 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. In order to delay resistance development in thrips, do not apply Success more than 2 times per year. If additional treatments are required, rotate to another class of products for the next 30 days or 2 sprays, whichever is longest. For resistance management purposes, do not apply to citrus nurseries or citrus in greenhouses.

Restrictions:

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

Cole Crops (*Brassica* Vegetables)

Including, but not limited to: Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

Pests and Application Rates:

Pests	Success (fl oz/acre)
diamondback moth	1.5 - 4
imported cabbageworm cabbage looper	3 - 6
armyworms (including beet armyworm) leafminers [†] thrips [†]	4 - 10

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use 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 Dow AgroSciences 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 indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: Do not apply Success to successive generations of insects. Do not apply more than 3 times to any single generation or within any 30 day period. After use of Success (once or up to 3 times) in a 30-day period, rotate to another class or use no insecticide for the next 30 days. Use this calendar or window approach for the entire farm and consider area wide programs if other growers are in close proximity. Do not make more than 6 applications of Success per calendar year for diamondback moth on a farm.

Restrictions:

- Do not apply more than a total of 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop.
- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply to seedling cole crops grown for transplant.

Corn (Field Corn, Sweet Corn, Popcorn, and Corn Grown for Seed)

Pests and Application Rates:

Pests	Success (fl oz/acre)
armyworms corn earworm southwestern corn borer European corn borer western bean cutworm	3 - 6

Specific Use Directions:

Application Timing: Scout for European corn borer and armyworms with enough regularity to monitor egg laying and egg hatch. Applications of Success should be timed to coincide with peak egg hatch of each generation. Frequent treatments may be necessary when crop is growing rapidly, during silking or under heavy pest pressure.

Application Rate: Apply as a foliar spray at the rate indicated for target pest. 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: Success may be applied to corn by **chemigation** at labeled rates. Refer to the Application by Chemigation section for application guidelines for chemigation.

Restrictions:

Sweet Corn, Popcorn, Corn Grown for Seed

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

Field Corn

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

Cranberries

(Insect Suppression)

Pests and Application Rates:

Pests	Rate of Success	
	Broadcast (fl oz/acre)	Dilute Spray (fl oz/100 gal)
thrips armyworms leafrollers loopers fireworms sparganothis fruitworm currant fruitfly	4 - 10	1 - 2.5

Specific Use 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 Dow AgroSciences 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 on 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 and/or larger plant volume.

Coverage of Dilute Sprays: Dilute sprays should be uniformly applied to point of runoff. The rate per 100 gallons of spray is based on a spray volume of 400 gallons per acre. Gallonage of dilute sprays will vary depending on plant size and density.

Chemigation: Success may be applied to corn by **chemigation** at labeled rates. Refer to the Application by Chemigation section for application guidelines for chemigation.

Restrictions:

- Do not apply more than a total of 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop or make more than 6 applications per calendar year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval:** Do not apply within 21 days of harvest.

Cucurbit Crops

Including, but not limited to: Cucumber, Edible Gourds, Muskmelons (Cantaloupe, Honeydew, etc.), Pumpkin, Summer Squash, Watermelon, Winter Squash

Pests and Application Rates:

Pests	Success (fl oz/acre)
cabbage looper armyworms melon worm pickleworm rindworms	4 - 8
leafminers [†] thrips [†]	6 - 8

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: Use Success at the dosages indicated by application as a foliar spray. Heavy infestations may require repeat applications, but make no more than 6 applications per crop. Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Dow AgroSciences 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 indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: Leafminers and thrips have demonstrated the ability to develop resistance to numerous classes of products. Because leafminer and thrips generations overlap, rotate insecticides for leafminers and thrips and never apply more than 2 consecutive applications of a single insecticide with the same mode of action.

Restrictions:

- Do not apply more than 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per season.
- **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.

Fruiting Vegetables and Okra

Including, but not limited to: Eggplant, Ground Cherry, Okra, Pepino, Pepper, Tomatillo, and Tomato

Pests and Application Rates:

Pests	Success (fl oz/acre)
European corn borer hornworms loopers tomato fruitworm Colorado potato beetle	3 - 6
armyworms (including beet armyworm) flower thrips [†] thrips palmi [†] tomato pinworm	4 - 8
leafminers [†] (<i>Liriomyza</i> spp.)	6 - 10

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

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. Applications of Success should be timed 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 indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: For resistance management, do not apply more than 3 times in any 21 day period. Rotate to a different class of insect control products or use no treatment for the next 21 days.

Restrictions:

- Do not apply more than 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop.
- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply to seedling fruiting vegetables grown for transplant within a greenhouse or shade house.

Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Including, but not limited to: Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens, Water Cress

Pests and application rates:

Pests	Success (fl oz/acre)
diamondback moth	1.5 - 3
imported cabbage worm cabbage looper	3 - 6
armyworms (including beet armyworm)	4 - 8
leafminers [†] thrips [†]	6 - 10

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use 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 Dow AgroSciences 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 indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: For resistance management, do not apply more than 3 times in any 21 day period. Rotate to a different class of insect control products or use no treatment for the next 21 days. Do not apply more than 6 treatments per crop. If Success is applied 3 times in succession, do not apply again for at least 21 days.

Restrictions:

- Do not apply more than 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop.
- **Preharvest Intervals:**
Leafy greens: Do not apply within 1 day of harvest.
Leaves of Root, Tuber and Legume Vegetables: Do not apply within 3 days of harvest.
- Do not apply to seedling leafy crops grown for transplant within a greenhouse or shade house.

Pome Fruit

Including, but not limited to: Apples, Crabapple, Mayhaw, Pears, Quince

Pests and Application Rates:

Pests	Rate of Success	
	(fl oz/acre)	Dilute Spray (fl oz/100 gal)
leafminers [†] spotted tentiform western tentiform	4 - 10	1.3 - 3.3
leafrollers oblique-banded pandemis codling moth laconobia fruitworm thrips [†]	6 - 10	2 - 3.3

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use 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. **Codling moth** treatments should closely follow regional spray recommendations based on 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 Dow AgroSciences representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

Application Rate: The amount of Success per acre will depend on tree size and pest pressure. Choose lower rates for light infestations and/or small trees and the higher rates for heavy infestations and/or larger trees.

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

Resistance Management: Leafrollers have demonstrated the ability to develop resistance to many insect control products. Rotate to products with different modes of action after applying Success against 2 consecutive generations of insects. Do not apply more than 3 sprays targeted at leafrollers per season.

Restrictions:

- Do not apply more than a total of 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop.
- **Preharvest Interval:** Do not apply within 7 days of harvest.

Potatoes and Tuberous and Corm Vegetables

Including, but not limited to: Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Tumeric, Yams

Pests and Application Rates:

Pests	Success (fl oz/acre)
Colorado potato beetle European corn borer	3 - 6
artichoke plume moth dipteran leafminers (<i>Liriomyza</i>) thrips [†] armyworms loopers	4.5 - 6

[†] Control of thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: 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 Dow AgroSciences 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 indicated for target pest. 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: Success may be applied to potatoes by **chemigation** at labeled rates. Refer to the Application by Chemigation section for application guidelines for chemigation.

Resistance Management: Do not apply to consecutive generations of Colorado potato beetle and do not make more than two applications per single generation of Colorado potato beetle. Do not apply more than 3 times in any 30-day period. Rotate to a different class of insect control product or use no treatments for the next 30 days.

Restrictions:

- Do not make applications less than 7 days apart or apply more than 4 times per crop.
- Do not apply more than a total of 21 fl oz of Success (22.5 fl oz for artichoke) (0.33 lb a.i. of spinosad) per crop.
- Preharvest Intervals:**
 - Artichoke:** Do not apply within 2 days of harvest.
 - Sugar and Garden Beets:** Do not apply within 3 days of harvest.
 - All others:** Do not apply within 7 days of harvest.

Stone Fruit

Including, but not limited to: Apricots, Cherries, Nectarines, Peaches, Plums, Prunes

Pests and Application Rates:

Pests	Rate of Success	
	(fl oz/acre)	Dilute Spray (fl oz/100 gal)
peach twig borer oriental fruit moth leafminers (such as spotted tentiform western tentiform) [†] leafrollers (such as oblique-banded fruit tree pandemis redbanded variegated) green fruitworm cherry fruit fly western cherry fruit fly thrips [†]	4 - 8	1 - 2

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: Peach twig borer applications can be made dormant, delayed dormant or as summer sprays. 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, but for optimal control, treat before significant tissue-feeding mines are observed. For leafrollers, monitor the moth flights and the infestation densities of the larval stages. Repeat application as necessary to maintain control and ensure thorough coverage for optimal control. 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 Success or other insecticide labeled for oriental fruit moth. Consult with your Dow AgroSciences representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

Application Rate: Choose 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 on a spray volume of 300 gallons per acre. Gallonage of dilute sprays will vary depending on tree size, density of canopy, stage of seasonal growth, and spacing in the orchard.

Restrictions:

- Do not apply more than 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per year.
- **Preharvest Interval:** Do not apply within 7 days of harvest for cherries, plums, and prunes or within 14 days of harvest for peaches, nectarines and apricots.

Strawberries**Pests and Application Rates:**

Pests	Success (fl oz/acre)
armyworms, including beet armyworms leafrollers thrips	4 - 6

Specific Use Directions:

Application Timing: Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Use Success Naturalyte insect control at the dosages indicated by application as a foliar spray to control target pests. Use a higher rate in the specified range for larger larvae or moderate to severe pest infestations. Heavy infestations may require repeat applications but follow resistance management guidelines.

Resistance Management: Rotate to a different class of insect control products after 2 successive applications of Success. Do not make more than 5 applications per year.

Restrictions:

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

Succulent and Dried Beans and Peas

Including, but not limited to: 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:

Pests	Success (fl oz/acre)
European corn borer (eggs and larvae)	3 - 6
armyworms corn earworm loopers	4 - 6
thrips [†] leafminers [†]	4.5 - 6

[†] Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use 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 make no more than 6 applications per crop. 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 end of the rate range to control eggs and larvae every 3 days before they enter the plant. Consult your Dow AgroSciences 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 indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: Leafminers and thrips have demonstrated the ability to develop resistance to numerous classes of products. Because leafminer and thrips generations overlap, rotate leafminer and thrips insecticides and never apply more than 2 consecutive applications targeted against leafminers or thrips of a single compound including Success or compounds with the same mode of action.

Restrictions:**Succulent Beans and Peas:**

- Do not apply more than 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per season.
- **Preharvest Interval:** Do not apply within 3 days of harvest.

Dried Beans and Peas:

- Do not apply more than 12 fl oz of Success (0.188 lb a.i. of spinosad) per acre per season.
- **Preharvest Interval:** Do not apply within 28 days of harvest.
- Do not feed forage or hay to meat or dairy animals.

Tree Farms or Plantations**Conifers, Including Christmas Trees, and Deciduous Trees****Pests and Application Rates:**

Pests	Success (fl oz/acre)
Lepidopterous larvae, such as: fall webworm gypsy moth spruce budworm bagworm tent caterpillar redhumped caterpillar jackpine budworm hemlock looper tussock moths pine tip moth Sawfly larvae, such as: European pine pear redheaded pine	2 - 8

Specific Use Directions:

Application Timing: Time applications to reach larvae when small or just hatching. Repeat application as necessary to maintain control. Consult with your Dow AgroSciences 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 Success per acre will depend on 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.

Restrictions: Do not apply more than 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per year.

Tree Nuts and Pistachios

Including, but not limited to: Almonds, Cashew, Chestnut, Filbert (Hazelnut), Macadamia Nut, Pecan Pistachios, Walnut

Pests and Application Rates:

Pests	Rate of Success	
	(fl oz/acre)	Dilute Spray (fl oz/100 gal)
peach twig borer navel orange worm redhumped caterpillar oblique banded leafroller pecan nut casebearer fall webworm hickory shuckworm walnut caterpillar walnut husk fly filbert worm codling moth	4 - 10	1.0 - 2.5

Specific Use Directions:

Application Timing: Apply Success 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). Consult your Dow AgroSciences 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 rate per acre of Success will depend on tree size and volume of foliage present and pest pressure. Choose a higher rate 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 on a spray volume of 400 gallons per acre. Gallonage of dilute sprays will vary depending on tree size, density of canopy, stage of seasonal growth, and spacing in the orchard.

Restrictions:

- Do not apply more than a total of 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop.
- **Treatment Interval:** Do not apply treatments less than 7 days apart.
- **Preharvest Interval:** Do not apply within 14 days of harvest.

Tropical Tree Fruit

(Insect Suppression)

Including, but not limited to: Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilima, Jaboticaba, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu, White Sapote

Pests and Application Rates:

Pests	Success (fl oz/acre)
thrips lepidopterous larvae avocado leafroller cutworms fruit tree leafroller orange tortrix western tussock moth citrus peelminer naval orange worm katydid	4 - 10

Specific Use Directions:

Application Rate: The amount of Success per acre will depend on tree size and pest pressure. Choose a lower rate for light infestations and/or small trees and a higher rate for heavy infestations and/or large trees.

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

Restrictions: In order to prevent or delay resistance development in thrips, do not apply Success more than 2 times per year.

- For resistance management purposes, do not apply to nurseries or in greenhouses.
- Do not apply more than a total of 29 fl oz of Success (0.45 lb a.i. of spinosad) per acre per crop.
- **Preharvest Intervals:** Do not apply within 1 day of harvest.

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Revisions:

1. Added directions for use on asparagus, tree nuts and pistachios, pome fruit, bushberries, strawberries, cranberries, okra, leafy vegetables, artichoke, sugar beet, garden beet, and tropical tree fruits.
2. Added resistance management information in accordance with PPR Notice 2001-5.