

PM

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62719-292

9/23/99

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SEP 23 1999

Mr. Robert F. Bischoff  
 Regulatory Manager  
 Regulatory Success-Americas  
 Dow AgroSciences LLC  
 9330 Zionsville Road  
 Indianapolis, IN 46268

Subject: Success (A.I. SPINOSAD)  
 Amendment to Add New Uses: Cucurbits, Stone Fruit,  
 Succulent Beans and Peas, and Sweet Corn  
 EPA Registration No. 62719-292  
 Your Submission Dated July 1, 1998

Dear: Mr. Bischoff:

The amendment referred to above, submitted in connection with registration under section 3 (c)(7)(B) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable since you have agreed in your letter of September 1, 1999 to the following terms for conditional registration:

1. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.
2. Submit the data listed below, conducted in accordance with the test guidelines specified in 40 CFR Part 158:
  - a. Field trial data on representative commodities of Crop Subgroups 6B and 6C.
3. You will submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on Crop Subgroups 6B and 6C are conditionally registered, in accordance with FIFRA section 29. The fiscal year begins October 1 and ends September 30. The production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year. This information should be submitted to:

CONCURRENCES							
SYMBOL	75052	U.S. Environmental Protection Agency					
SURNAME	SPR/M7	Office of Pesticide programs (7505C)					
DATE	9/23/99						

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Document Processing Center  
401 M Street, SW  
Washington, DC 20460

4. Make the following label changes before you release the product for shipment bearing the amended labeling:
  - a. Under your "Precautionary Statements" section on your base label, please delete the statement "Hazards to Humans and Domestic Animals."
  - b. Under "Environmental Hazards", do not delete the word "highly" in the statement "This product is highly toxic to aquatic invertebrates."
5. Submit two (2) copies of your final printed labeling before you release the product for shipment.

You should note that if you fail to satisfy any of the conditions imposed on this registration, e.g., you fail to submit the required data by the specified guidelines or the data submitted were not generated in accordance with the applicable test guidelines, EPA may issue a notice to cancel these uses under FIFRA section 6(e)

You should also note that regardless of whether you satisfy all applicable conditions, this conditional registration will expire automatically on September 23, 2002. Sale and distribution of the subject product bearing labeling for use on Crop Subgroups 6B and 6C after September 23, 2002 will be illegal.

A stamped copy of the label is enclosed for your records. If you have any questions, please call Dr. William Sproat of my team at 703-308-8587.

Sincerely,

George T. LaRocca  
Product Manager 13  
Insecticide Branch  
Registration Division (7505C)

Enclosure

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(Base Label):

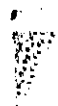
(Logo) Dow AgroSciences LLC

**Success\***

**A Naturalyte\* insect control product for control of lepidopterous larvae (worms, caterpillars & peach twig borers), leafminers, and thrips in almonds, apples, citrus, cole crops, cucurbit crops, eggplants, leafy vegetables, peppers, and tomatoes, stone fruit, succulent beans and peas, and sweet corn.**

**Active Ingredients:**

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



U.S. EPA  
 401-2000  
 In E-41

SEP 23 1999

Contains 2 pounds of active ingredient per gallon.

U.S. Patent No. 5,496,961 5,362,634 and 5,496,931

Under the Federal Insecticide, Fungicide, and Rodenticide Act  
 this pesticide is registered under EPA Reg. No.  
62719-292

**Keep Out of Reach of Children****CAUTION PRECAUCION**

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.)

**Precautionary Statements****Hazards to Humans and Domestic Animals****CAUTION PRECAUCION**

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.)

**Harmful if absorbed through skin.****Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.****Personal Protective Equipment (PPE)****Applicators and other handlers must wear:**

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

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.

**First Aid**

**If on skin:** Wash with plenty of soap and water. Get medical attention if irritation persists.

**User Safety Recommendations**

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**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 exposed to direct spray on blooming crops or other vegetation. Avoid use when bees are actively foraging. Protective information may be obtained from your Cooperative Agricultural Extension Service. 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.

**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.

Refer to label booklet for Directions for Use including Storage and Disposal.

**Notice:** Read the entire label before using. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

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](http://www.dowagro.com).

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

EPA Reg. No. 62719-292

EPA Est. 00000-XX-00

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Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

**Naturalyte\* Insect Control**  
**Net Contents XXX**

(Label Booklet Cover):

(Logo) Dow AgroSciences LLC

## Success\*

A Naturalyte\* insect control product for control of lepidopterous larvae (worms, caterpillars & peach twig borers), leafminers, and thrips in almonds, apples, citrus, cole crops, cucurbit crops, eggplants, leafy vegetables, peppers, and tomatoes, stone fruit, succulent beans and peas, and sweet corn.

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. ~~5,496,961~~ 5,362,634 and 5,496,931

Keep Out of Reach of Children

## CAUTION PRECAUCION

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.)

### 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.

Refer to inside of label booklet for additional precautionary information including Personal Protective Equipment (PPE) and User Safety Recommendations, and Directions for Use including Storage and Disposal.

**Notice:** Read the entire label before using. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.**

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](http://www.dowagro.com).

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

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EPA Est. 00000-XX-00

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**Naturalyte\* Insect Control**  
**Net Contents XXX**

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**Precautionary Statements**

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**Hazards to Humans and Domestic Animals**

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**CAUTION**~~Harmful if absorbed through skin.~~~~Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.~~**Personal Protective Equipment (PPE)****Applicators and other handlers must wear:**

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

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.

**First Aid**~~If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.~~**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 exposed to direct spray on blooming crops or other vegetation. Avoid use when bees are actively foraging. Protective information may be obtained from your Cooperative Agricultural Extension Service. 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.*

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## 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, derived from the fermentation of *Saccharopolyspora spinosa*, for control of lepidopterous larvae (worms or caterpillars), thrips, Colorado potato beetles and leafminers infesting various fruit and vegetable labeled crops. 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

**Chemigation:** Do not apply through any type of irrigation equipment.

### Integrated Pest Management (IPM) Programs

Success is recommended for IPM programs in various fruit and vegetable 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

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on certain parasitic insects or the natural predaceous arthropod complex in these cropping systems, 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 beneficial arthropods will aid in the extended natural control of other insects and reduce the likelihood of secondary pest outbreaks for which additional insecticide treatments may be needed. If Success is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, then the full benefit of Success to your IPM program may be reduced.

### **Insecticide Resistance Management (IRM)**

Certain insects and mites have demonstrated a propensity to develop resistance to insect control products. For these insects avoid treating consecutive generations with the same product or products from the same class. Success is a member of the Naturalyte® class of insect products and can be rotated with all other products and classes. Always consult with your local agricultural specialist or Dow AgroSciences representative (800-258-3033) for guidance and information on area resistance management programs. In the absence of a locally coordinated program, adherence to the following IRM strategy will help to ensure the prolonged usefulness of Success and conventional insecticides. Further guidelines for pests with historic problems known to be resistant to insecticides are listed under crop specific recommendations. Additional information on IRM strategies can be obtained from the Insecticide Resistance Action Committee (IRAC) of the American Crop Protection Association (ACPA).

- Do not use less than labeled rates of any insect control product when applied alone or in tank mixtures.
- Target applications against small larvae and eggs whenever possible.
- Include multiple tactics (e.g. cultural or biological controls) within an Integrated Pest Management Program.

### **Mixing**

**Mixing Success Alone:** Fill the spray tank with water to about 1/2 of the total spray volume required. Start agitation and add the required amount of Success. Continue agitation while mixing and agitation while 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. 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 total spray volume required. Start agitation. Add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion 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



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## 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.

## Application

Proper application techniques help ensure thorough spray coverage and correct dosage necessary to obtain optimum control of insect pests. 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 calibrated to provide capable of providing thorough coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. Under certain conditions, drop nozzles may be required to obtain uniform coverage. Use flat fan or disc-core hollow cone 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 Applications

**Applied as a dilute spray:** 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 per acre required in your orchard, contact your state agricultural experiment station, certified pest control advisor, or extension specialist for assistance.

**Concentrate spray applications:** This application method is based on the premise that all the plant parts are evenly covered with spray solution but not to the point of runoff as with a dilute spray. Instead, a lower gallonage of water is used with the same amount of Success per acre as in the dilute spray.

### Aerial Application

Apply in a total minimum spray volume of 5 gallons per acre (or 10 gallons per acre in the case of tree or orchard crops) using nozzle configurations which 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. Use 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 parallel wind application must be made, swath width should be adjusted downward. Use some swath adjustment (offset) to compensate for increasing crosswinds. Do not apply in dead calm and preferably only when wind speed is between 2 - 10 mph. Under conditions of low humidity and high temperatures, adjust spray volume and droplet size upward. Insect control by aerial application may be less than control by ground application because of less coverage.

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## Approved Uses

### Almonds

#### Pests and Application Rates:<sup>†</sup>

Pests	<u>Application Rate per Acre<sup>†</sup></u>			<u>Rate Per For</u> <u>100-Gal-of Water</u> <u>Dilute Spray<sup>‡</sup></u>
	<u>Pounds</u> <u>Active</u> <u>Ingredient</u> <u>(lb/acre)</u>	<u>Ounces-of</u> <u>Product</u> <u>(fl oz/acre)</u>	<u>Acres per</u> <u>Gallon of</u> <u>Product</u>	<u>Ounces</u> <u>of-Product</u> <u>(fl oz/100 gal)</u>
peach twig borer navel orange worm redhumped caterpillar	0.062 - 0.156	4 - 10	32 - 13	1 - 2.5

<sup>†</sup>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.

<sup>‡</sup>The amount of Success per acre will depend on tree size and volume of foliage present and pest pressure. Choose a lower rate for light infestations and/or small trees and the higher rate for heavy infestations and/or larger trees.

<sup>‡</sup>Dilute sprays are sprayed to runoff. The rate per 100 gallons is based on 400 gallons providing coverage to runoff. Gallonage of dilute sprays will vary depending on tree size, density of canopy and stage of growth of the trees.

#### Crop-specific Application Remarks-Specific Use Directions:

**Application Timing:** Use Success at the dosages indicated by application as either a dormant or a foliar spray to control peach twig borer and or navel orange worm in almonds. Mix the required dosage in sufficient water to ensure thorough and complete coverage of the foliage and tree and apply as a concentrate or dilute spray using conventional, power operated spray equipment. For dilute sprays applied to almonds, mix the required dosage in sufficient water to allow for spray to runoff. For concentrate sprays, apply an equivalent amount of Success. Treat when pests appear or in accordance with local conditions. 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:** Although peach twig borer and navel orange worm have not had major resistance problems it is recommended to avoid applying Success against more than 2 generations of peach twig borer per year.

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

[Editor's Note: "Application Timing" paragraph moved to beginning of preceding section.]

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## Apples

### Pests and Application Rates:

Pests	<u>Application Rate Per Acre'</u>			<u>Rate Per For</u> <u>100 Gal of Water</u> <u>Dilute Spray"</u>
	<u>Pounds</u> <u>Active</u> <u>Ingredient</u> <u>(lb/acre)</u>	<u>Ounces of</u> <u>Product</u> <u>(fl oz/acre)</u>	<u>Acres per</u> <u>Gallon of</u> <u>Product</u>	<u>Ounces</u> <u>of Product</u> <u>(fl oz/100 gal)</u>
leafminers spotted tentiform western tentiform	0.062 - 0.156	4 - 10	32 - 13	1.3 - 3.3
leafrollers oblique-banded pandemis	0.094 - 0.156	6 - 10	21 - 13	2 - 3.3

\*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.

"Dilute sprays are sprayed to runoff. The rate in the table is based on a standard of 300 gallons of dilute spray per acre providing runoff. Gallonage of dilute sprays will vary depending on tree size and density of canopy.

### Crop-specific Application Remarks-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 **leafrollers**, monitor the moth flights and the infestation densities of the larval stages. 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.

### **Restrictions:**

- 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 two consecutive generations of insects. Do not apply more than 3 sprays targeted at leafrollers per season.
- Do not apply more than a total of 29 ounces of Success (0.45 lb of spinosad) per acre per crop.
- **Preharvest Interval:** Do not apply within 7 days of harvest.

**Citrus**

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

**Pests and Application Rates :**

Pests	Application Rate per Acre <sup>*</sup>		
	Pounds Active Ingredient (lb/acre)	Ounces of Product (fl oz/acre)	Acres per Gallon of Product
citrus thrips lepidopterous larvae avocado leafroller cutworms fruit tree leafroller orange tortrix western tussock moth citrus peelminer katydids	0.062 - 0.156	4 - 10	32 - 13

<sup>\*</sup>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.

**~~Grop-specific Application Remarks~~ 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.

**Restrictions:** 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.

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

[Editor's Note: "Application Timing" paragraph moved to beginning of preceding section.]

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**Cole Crops (Brassica Vegetables)**

Broccoli, Chinese Broccoli, Broccoli raab, Brussels sprouts, Cabbage, Chinese Cabbage (bok choy), Chinese Cabbage (napa), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Chinese Mustard Cabbage (gai choy) and Rape Greens

**Pests and application Rates:**

Pests	Application Rate per Acre		
	Pounds Active Ingredient (lb/acre)	Ounces of Product (fl oz/acre)	Acres per Gallon of Product
diamondback moth	0.023 - 0.062	1.5 - 4	85 - 32
imported cabbageworm cabbage looper	0.047 - 0.094	3 - 6	43 - 21
armyworms (including beet armyworm) leafminers	0.062 - 0.156	4 - 10	32 - 13

**Crop-specific Application Recommendations-Specific Use Directions:**

**Application Timing:** Use Success at the dosages indicated by application as a foliar spray to control pests in cole crops. Use the higher end of the rate range for heavy populations or large worms. Heavy infestations may require repeat applications but follow resistance management guidelines. 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.

**Restrictions:**

- Do not apply more than a total of 0.45 lb a.i. of spinosad active ingredient (29 oz of product) per acre per crop.
- **Preharvest Interval:** Do not apply within 1 day of harvest.
- For resistance management, 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 apply more than 6 treatments per crop, and a 30-day period of no Success treatments must separate the maximum of 3 consecutive treatments. If Success is applied 3 times in succession, do not be apply again for at least 30 days.
- Do not apply to seedling cole crops grown for transplant within a greenhouse or shade house.

**Cucurbit Crops**

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

**Pests and Application Rates:**

<b><u>Pests</u></b>	<b><u>Application Rate<sup>†</sup></u></b>		
	<b><u>Active Ingredient (lb/acre)</u></b>	<b><u>Product (fl oz/acre)</u></b>	<b><u>Acres per Gallon of Product</u></b>
cabbage looper armyworms melon worm pickleworm rindworms	0.062 - 0.125	4 - 8	32 - 16
leafminers thrips	0.094 - 0.125	6 - 8	21 - 16

<sup>†</sup>Use a higher rate in rate range for heavy infestations.

**Specific Use Directions:**

**Application Timing:** Use Success at the dosages indicated by application as a foliar spray to control pests in cucurbit crops. 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.

**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 two consecutive applications for leafminers of a single compound including Success or compounds with the same mode of action.

**Restrictions:**

- Do not apply more than 29 ounces (0.45 lb spinosad) of Success per acre per season.
- Pre-harvest Interval: Do not apply within 3 days of harvest for all crops except cucumbers. Do not apply within 1 day of harvest for cucumbers.

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**Fruiting Vegetable Crops**

Eggplant, Ground cherry, Pepino, Pepper, Tomatillo, and Tomato

**Pests and Application Rates:**

Pests	Application Rate per Acre		
	Pounds Active Ingredient (lb/acre)	Ounces of Product (fl oz/acre)	Acres per Gallon of Product
European corn borer hornworms loopers tomato fruitworm Colorado potato beetle	0.047 - 0.094	3 - 6	43 - 21
armyworms (including beet armyworm) flower Thrips thrips palmi tomato pinworm	0.062 - 0.125	4 - 8	32 - 16
leafminers ( <i>Liriomyza</i> spp.)	0.094 - 0.156	6 - 10	21 - 13

**Crop-specific Application Remarks Specific Use Directions:**

**Application Timing:** 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. Consult current pest management recommendations for specific guidelines. Applications of Success should be timed to coincide with peak egg hatch in species without overlapping generations. For heavy infestations or large worms choose a higher rate in the specified range.

**Restrictions:**

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

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## Leafy Vegetables

Including but not limited to: Head and Leaf lettuce, Celery, Arugula, Chervil, Edible Chrysanthemum, Corn Salad, Cress, Dandelion, Dock, Endive, Fennel, Parsley, Garden Purslane, Radicchio, Rhubarb, Spinach, and Swiss Chard

### Pests and application rates:

Pests	Application Rate per Acre		
	Pounds Active Ingredient (lb/acre)	Ounces of Product (fl oz/acre)	Acres per Gallon of Product
diamond back moth	0.023 - 0.047	1.5 - 3	85 - 43
imported cabbage worm, cabbage looper	0.047 - 0.094	3 - 6	43 - 21
armyworms (including beet armyworm)	0.062 - 0.125	4 - 8	32 - 16
leafminers	0.094 - 0.156	6 - 10	43 - 13

### ~~Crop-specific Application Recommendations~~ Specific Use Directions:

**Application Timing:** Use Success at the dosages indicated by application as a foliar spray to control pests in leafy vegetables. Heavy infestations may require repeat applications but follow resistance management guidelines. 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. 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:

- Do not apply more than a total of 0.45 lb a.i. of spinosad active ingredient (29 oz of product) 29 ounces (0.45 lb spinosad) per acre per crop.
- Preharvest Interval:** Do not apply within 1 day of harvest.
- 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, and a 21-day period of no Success treatments must separate the maximum of 3 consecutive treatments. If Success is applied 3 times in succession, do not apply again for at least 21 days.
- Do not apply to seedling leafy crops grown for transplant within a greenhouse or shade house.



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**Stone Fruit****Including but not limited to: Peaches, Plums, Cherries, Nectarines, Prunes, and Apricots****Pests and Application Rates:**

<b><u>Pests</u></b>	<b><u>Application Rate<sup>†</sup></u></b>			<b><u>Rate For Dilute Spray<sup>**</sup></u></b>
	<b><u>Active Ingredient (lb/acre)</u></b>	<b><u>Product (fl oz/acre)</u></b>	<b><u>Acres per Gallon of Product</u></b>	<b><u>Product (fl oz/100 gal)</u></b>
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	0.062 - 0.125	4 - 8	32 - 16	1 - 2

<sup>†</sup>The amount of Success per acre will depend on tree size and severity of infestation. Choose a higher rate for large trees or heavy infestations. The dilute rate per acre is based on a standard of 400 gallons of dilute spray per acre.

<sup>\*\*</sup>Dilute sprays are sprayed to runoff. Gallonage of dilute sprays will vary depending on tree size, density of canopy and stage of growth of the trees and tree spacing in the orchard.

**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. For leafrollers, monitor the moth flights and the infestation densities of the larval stages. 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.

**Restrictions:**

- Do not apply more than 29 ounces (0.45 lbs of spinosad) of Success per acre per year.
- Do not apply within 7 days of harvest for cherries, plums, and prunes or within 14 days of harvest for peaches, nectarines and apricots.

**Succulent Beans and Peas**

Including but not limited to: Lupins, Field Bean, Lima Bean, Runner Bean, Snap Bean, Tepary Bean, Wax Bean, Blackeyed Pea, Yardlong Bean, Fava Bean, Garbanzo Bean, Edible-Pod Pea, English Pea, Field Pea, Garden Pea, Green Pea, Snow Pea, and Sugar Snap Pea.

**Pests and Application Rates:**

<b>Pests</b>	<b>Application Rate<sup>†</sup></b>		
	<b>Active Ingredient (lb/acre)</b>	<b>Product (fl oz/acre)</b>	<b>Acres per Gallon of Product</b>
European corn borer (eggs and larvae)	0.047 - 0.094	3 - 6	43 - 21
armyworms corn earworm loopers	0.062 - 0.094	4 - 6	32 - 21
thrips leafminers	0.094	6	21

<sup>†</sup>Use the higher end of the rate range for larger larvae or high infestations.

**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.

**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 two consecutive applications targeted against leafminers or thrips of a single compound including Success or compounds with the same mode of action.

**Restrictions:**

- Do not apply more than 29 ounces (0.45 lb of spinosad) of Success per acre per season.
- Pre-harvest Interval: Do not apply within 3 days of harvest.

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**Sweet Corn****Pests and Application Rates:**

<b><u>Pests</u></b>	<b><u>Rate per Acre<sup>†</sup></u></b>		
	<b><u>Active Ingredient (lb/acre)</u></b>	<b><u>Product (fl oz/acre)</u></b>	<b><u>Acres per Gallon of Product</u></b>
armyworms (including fall armyworm) corn earworm southwestern corn borer European corn borer larvae western bean cutworm	0.047 - 0.094	3 - 6	43 - 21

<sup>†</sup>Increase rate in rate range as crop matures or pest pressure increases.

**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. When crop is growing rapidly, silking or under heavy pest pressure, frequent treatments may be necessary.

**Spray Delivery:** Apply as a broadcast or directed spray into the whorls for control of first generation European corn borer and armyworms. Apply as a broadcast or directed spray with adequate spray volume and pressure to ensure thorough wetting of the silks for control of corn earworm.

**Restrictions:**

- Do not apply more than 29 ounces (0.45 lb of spinosad) of Success per acre per year.
- Pre-harvest Interval: Do not apply within 1 day of harvest.

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