



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

June 29, 2017

Ms. Jennifer Hughes  
Regulatory Leader  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Notification per PRN 98-10 - Updating Endangered Species Bulletin Telephone Number  
Product Name: GF-2986  
EPA Registration Number: 62719-667  
Application Date: June 14, 2017  
Decision Number: 530688

Dear Ms. Hughes:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you have any questions, you may contact me at (703) 308-2972 or via email at [walsh.michael@epa.gov](mailto:walsh.michael@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Walsh".

Michael Walsh  
Product Manager 11  
Invertebrate & Vertebrate Branch 2  
Registration Division  
Office of Pesticide Programs

(Base label):

**GF-2986****INSECTICIDE**

<b>Group</b>	<b>5</b>	<b>18</b>	<b>INSECTICIDE</b>
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## Active Ingredients:

methoxyfenozide: Benzoic acid, 3-methoxy- 2-methyl-,2-(3,5-dimethylbenzoyl)-2- (1,1-dimethylethyl) hydrazide .....	20.6%
spinosad (a mixture of spinosyn A and spinosyn D) .....	10.3%
Other Ingredients .....	69.1%
Total .....	100.0%

**NOTIFICATION**

62719-667

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

06/29/2017

Contains 1.84 lbs/gal of methoxyfenozide and 0.92 lbs/gal of spinosad

**Keep Out of Reach of Children****CAUTION****Precautionary Statements****Hazards to Humans and Domestic Animals****Causes Moderate Eye Irritation**

Avoid contact with eyes or clothing.

**Personal Protective Equipment (PPE)****Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- 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.

**Engineering Controls**

When handlers use closed systems, enclosed cabs or aircraft in a manner that meet the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

Users should:

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

**First Aid**

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

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

### Environmental Hazards

This product is toxic to aquatic invertebrates. Drift and runoff from applications of this product may be hazardous to sensitive aquatic invertebrates in water bodies adjacent to the treatment area.

This product is toxic to bees exposed to treatment for 3 hours following treatment.

This product has properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. This product can contaminate surface water through spray drift.

Under some conditions, this product may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to overlying tile drainage systems that drain to surface water.

### Restrictions:

- 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 cleaning equipment or disposing of equipment washwaters.
- 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.
- Do not apply where runoff is likely to occur.
- Do not apply when weather conditions favor drift from treated areas.
- Do not cultivate within 10 feet of aquatic areas to allow growth of a vegetative filter strip.
- Do not apply by ground within 25 feet, or by air within 150 feet, of lakes, reservoirs, rivers, permanent streams, marshes, or natural ponds; estuaries and commercial fish farm ponds.
- Apply only as specified on the label.

### Agricultural Use Requirements

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

### (Storage and Disposal for rigid containers 5 gal or less)

#### Storage and Disposal

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

**Pesticide Storage:** Store in a cool dry well-ventilated area, but not below 32°F.

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

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

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for

recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for refillable rigid containers larger than 5 gal)**

**Storage and Disposal**

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

**Pesticide Storage:** Store in a cool dry well-ventilated area, but not below 32°F.

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

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

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

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**

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**Refer to label booklet for Directions for Use.**

**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 at end of label booklet. 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.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Shake Well Before Use – Avoid Freezing

EPA Reg. No. 62719-667

EPA Est. \_\_\_\_\_

**Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET CONTENTS \_\_\_**

(Label booklet cover):

# GF-2986

## INSECTICIDE

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Contains 1.84 lbs/gal of methoxyfenozide and 0.92 lbs/gal of spinosad

**Keep Out of Reach of Children**

## CAUTION

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Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the 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 Directions for Use.**

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**NET CONTENTS** \_\_

(Page 1 through end):

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# CAUTION

#### Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- 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.

#### Engineering Controls

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**Restrictions:**

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- Do not apply by ground within 25 feet, or by air within 150 feet, of lakes, reservoirs, rivers, permanent streams, marshes, or natural ponds; estuaries and commercial fish farm ponds.
- Apply only as specified on the label.

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**Directions for Use**


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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.

**Not for Sale, Use, or Distribution in Nassau County and Suffolk County in New York State.**

**Agricultural Use Requirements**

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

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

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

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

**Non-Agricultural Use Requirements**

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

Keep unprotected persons out of treated area until sprays have dried.

**Storage and Disposal**

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

**Pesticide Storage:** Store in a cool dry well-ventilated area, but not below 32°F.

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



**Nonrefillable containers 5 gallons or less:**

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

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refillable containers 5 gallons or larger:**

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

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

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**Integrated Pest Management (IPM) Programs**

GF-2986 is recommended for IPM programs in labeled crops. Apply GF-2986 when field scouting indicates target pest densities have reached the economic threshold, i.e., the point at which the insect population must be reduced to avoid economic losses beyond the cost of control. Other than reducing the target pest species as a food source, GF-2986 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 GF-2986 is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of GF-2986 in an IPM program may be reduced.

## Insecticide Resistance Management

GF-2986 contains a Group 5 and a Group 18 insecticide. Insect biotypes with acquired resistance to Group 5 or Group 18 may eventually dominate the insect/mite population if Group 5 or Group 18 insecticides are used repeatedly in the same field or area, or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by GF-2986 or other Group 5 or Group 18 insecticides.

Do not use GF-2986 to control thrips, Colorado potato beetle, or pear psylla. Do not use GF-2986 to control leafrollers in tree nuts unless it is specified in the pest section of the label.

To delay development of insecticide resistance:

- Carefully follow the specific label guidelines within the use directions sections of this label, especially in regard to IRM recommendations.
- Avoid use of the same active ingredient or mode of action (same insecticide group) on consecutive generations of insects. However, multiple applications to reduce a single generation are acceptable. Treat the next generation with a different active ingredient that has a different mode of action or use no treatment for the next generation.
- Avoid using less than labeled rates of any insecticide when applied alone or in tank mixtures.
- Target applications against early insect developmental stages whenever possible.
- Base insecticide use upon comprehensive IPM programs.
- Monitor treated insect populations in the field for loss of effectiveness.
- Consider tank mixtures or premix products containing insecticides with different modes of action (different insecticide groups) provided the products are registered for the intended use.
- Do not treat seedling plants grown for transplant in greenhouses, shade houses, or field plots.
- 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 800-258-3033.

## Use Rate Determination

Carefully read, understand and follow label use rates and restrictions. Apply the amount specified in the following tables with properly calibrated aerial or ground spray equipment. Prepare only the amount of spray solution required to treat the measured acreage. The low rates may be used for light infestations of the target lepidopterous species and the higher rates for moderate to heavy infestations. GF-2986 may be applied in either dilute or concentrate sprays so long as the application equipment is calibrated and adjusted to deliver thorough, uniform coverage. Use the specified amount of GF-2986 per acre regardless of the spray volume used.

## Mixing Directions

**Always shake well before use. Avoid freezing.**

**Application Rate Reference Table**

Application Rate of GF-2986 (fl oz/acre)	Methoxyfenozide Active Ingredient Equivalent (lb ai/acre)	Spinosad Active Ingredient Equivalent (lb ai/acre)	Acres per Gallon of GF-2986
3	0.043	0.022	42.7
4	0.057	0.029	32.0
4.5	0.065	0.032	28.4
5	0.072	0.036	25.6
5.5	0.079	0.040	23.3
6	0.086	0.043	21.3
6.5	0.093	0.047	19.7

7	0.101	0.050	18.3
7.5	0.108	0.054	17.1
8	0.115	0.057	16.0
9	0.129	0.065	14.2
10	0.144	0.072	12.8
11	0.158	0.079	11.6
12	0.172	0.086	10.7
13	0.187	0.093	9.8
14	0.201	0.101	9.1
15	0.216	0.108	8.5
16	0.230	0.115	8.0
17	0.244	0.122	7.5
18	0.259	0.129	7.1

**GF-2986 - Alone**

Fill the spray tank one-third to one-half full of clean water. Start agitation and and slowly pour the required amount of GF-2986 into the spray tank. 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.

**GF-2986 - Tank Mix**

When tank mixing GF-2986 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 GF-2986. 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 one-fourth to one-third 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. GF-2986 and other aqueous suspensions

Maintain agitation and fill spray tank to three-fourths 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.

**Spray Tank pH:** A spray tank pH between 6.0 and 9.0 is suggested to achieve maximum performance of GF-2986. If the water source is outside of this pH range, or if tank mixing other pesticides, adjuvants, or foliar nutrients will cause the pH to fall outside of this range, consider adjusting the spray tank pH to be between 6.0 and 9.0 before adding GF-2986. To do this, add all other tank mix components first, then check the spray tank pH, adjust if desired, and then add GF-2986. If you require additional information on how to adjust spray tank pH, contact your Dow AgroSciences representative.

## Application Timing

The activity of GF-2986 is expressed primarily through ingestion by the target larvae. Consequently, the timing of application is dependent upon the feeding behavior of the target pest. For cryptic (internal) feeding larvae, application must be made prior to the time that surface feeding occurs, i.e., just prior to initiation of egg hatch. For foliar or surface feeding larvae, application may be made while active feeding is occurring.

Reapplication may be required to protect new flushes of foliage, rapidly expanding fruit or for extended infestations. The reapplication interval will vary depending upon how rapidly the crop is growing, the generation time of the target pest and the duration of the infestation.

GF-2986 is effective against all larval instars; however, it is good practice to make applications to early instars to minimize feeding damage. For best results, begin applications when threshold levels of moths, eggs or larvae occur. Consult the Cooperative Extension Service, or other qualified professional authorities, to determine the appropriate threshold and timing for application in your area.

## Application Directions

Applications must be in a manner that assures uniform and thorough coverage. Higher water volume and increased spray pressure generally provide better coverage.

Proper application techniques and equipment calibration help ensure thorough spray coverage and correct dosage for optimum insect control. The following directions are provided for ground and aerial application of GF-2986. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

### Spray Drift Management

Adhere to the following buffer zones when applying this product near aquatic habitats (such as lakes, reservoirs, rivers, permanent streams, marshes, or natural ponds; estuaries and commercial fish farm ponds):

Application Method	Buffer Zone (feet)
ground boom	25
overhead chemigation	25
airblast	25
aerial	150

**Wind:** Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 10 mph.

**Temperature Inversions:** Do not make ground or aerial applications during a temperature inversion. Temperature inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

**Droplet Size:** Use only medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASABE (S572.1) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size except where indicated for specific crops.

### Ground Application:

**Row Crops:** To avoid drift and achieve maximum performance of GF-2986, make ground applications when the wind velocity favors on-target product depositions (3 to 10 mph). Wind speed must be

measured adjacent to the application site on the upwind side immediately prior to application. Do not apply when wind velocity exceeds 10 mph. For groundboom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy. Shut off the sprayer when turning at row ends. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind directions are toward the aquatic area.

### **Tree and Vine Crops**

Apply GF-2986 in a manner that achieves uniform coverage of the entire crop canopy, but not past the point of runoff. For optimum control of target pests, complete and uniform spray coverage is essential. The spray volume required to achieve complete and uniform coverage will depend upon tree size and shape, leaf size, and density, and the application equipment used. To determine the required spray volume per acre, contact your state agricultural experiment station, certified pest control advisor, or extension specialist for assistance. Use of tree row volume is appropriate.

When using an airblast sprayer, coverage is also improved by operation of the sprayer at ground speeds that assure that the air volume within the tree canopy is completely replaced by the output from the airblast sprayer. Making applications in an alternate row middle pattern may result in less than satisfactory coverage and poor performance in conditions of high pest infestation levels, extremely large trees and/or dense foliage. For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

### **Aerial Application**

Nozzle configuration should provide a medium to fine droplet size per ASABE S-572.1 standard (see USDA-ARS or NAAA handbook). Guidance for ASABE S-572.1 nozzle configuration can be found at the following web site: [www.cproductsinc.com](http://www.cproductsinc.com). Boom length must be less than 75% of wing or 85% of rotor span and swath adjustment (offset) to compensate for crosswinds. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. Use GPS equipment, swath markers or flagging to ensure proper application to the target area. Configure the boom nozzle used (e.g., at NAAA Fly-In) for both crosswind and near parallel winds. If application is made parallel to the wind direction, adjust swath width downward. Use swath adjustment (offset) to compensate for crosswinds. Do not apply under completely calm wind conditions. It is best to apply when wind speed is between 2 to 10 mph. 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.

### **Chemigation Application**

GF-2986 may be applied through properly equipped chemigation systems for insect control in cranberries. Follow use directions for cranberries in the Uses section of this label. Do not apply this product by chemigation to other labeled crops except as specified in Dow AgroSciences supplemental labeling.

**General Directions for Sprinkler Chemigation:** GF-2986 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 GF-2986 must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For irrigation systems that do not move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle.

**Chemigation Preparation:** The following use directions are to be followed when this product is applied through sprinkler irrigation systems. Thoroughly clean the chemigation system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injection system with soap or a cleaning agent and water. Determine the amount of GF-2986 needed to cover the desired acreage. Mix according to instructions in the Mixing Directions section above. Continually agitate the mixture during mixing and application.

**Chemigation Equipment Calibration:** In order to calibrate the irrigation system and injector to apply the mixture containing GF-2986, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Calculate the amount of product required and premix; 3) Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 4) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. This value equals the gallons per minute output that the injector or eductor must deliver. Convert the gallons per minute to milliliters or ounces per minute if needed. Calibrate the injector system with the system in operation at the desired irrigation rate. It is suggested that the injection pump/system be calibrated at least twice before operation and that the system should be monitored during operation.

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

**Chemigation Precautions:**

- Lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact state extension service specialists, equipment manufacturers or other experts.
- Do not connect an irrigation system used for pesticide application (including greenhouse systems) to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place with current certification. Specific local regulations may apply and must be followed.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and make necessary adjustments should the need arise and continuously monitor the injection.
- Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application if they irrigate nontarget areas.
- Do not allow irrigation water to collect or run off and pose a hazard to livestock, wells, or adjoining crops.
- Do not enter treated area during the reentry interval specified in the Agricultural Use Requirements section of this label unless required PPE is worn.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

**Chemigation Specific Equipment Requirements:**

- The system must contain an air gap or approved backflow prevention device, or approved functional check valve, vacuum relief valve (including inspection port), and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information or state specific regulations.
- The pesticide injection line must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection chemical supply.
- A pesticide injection pump must also contain a functional interlock, e.g., mechanical or electrical to shut off chemical supply when the irrigation system is either automatically or manually shut down.

- The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pressure drops too low or water flow stops.
- Use of public water supply requires approval of a backflow prevention device or air gap (preferred) by both state and local authorities.
- Systems must use a metering device, such as a positive displacement injection pump (or flow meter on eductor) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. An electric powered pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70.
- To insure uniform mixing of the insecticide in the water line, inject the mixture in the center of the pipe diameter or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. The injection point must be located after all backflow prevention devices on the water line.
- The tank holding the insecticide mixture should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injection point.

### Rainfastness

As soon as dry, GF-2986 will resist wash-off. However, efficacy or residual control will be reduced with exposure to rainfall or overhead irrigation.

### Spray Adjuvants

The addition of agricultural adjuvants to sprays of GF-2986 may improve initial spray deposits, redistribution and weatherability. Select adjuvants that are recommended and registered for your specific use pattern and follow their use directions. When an adjuvant is to be used with this product, Dow AgroSciences recommends the use of a Chemical Producers and Distributors Association certified adjuvant. Always add adjuvants last in the mixing process.

### Endangered Species

The following applies to use of this product in Michigan (Allegan, Monroe, Montcalm, Muskegon, Newaygo, or Oceana counties) or Wisconsin (Adams, Burnett, Chippewa, Clark, Door, Eau Claire, Green Lake, Jackson, Juneau, Marquette, Monroe, Polk, Portage, Waupaca, Waushara, or Wood counties). This product may have effects on endangered species. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult <http://www.epa.gov/espp/> or call 1-800844-447-3813. You must use the Bulletin valid for the month in which you will apply the product.

### Rotational Crop Restrictions

The following rotational crops may be planted at intervals defined below following the final application of GF-2986 at specified rates for a registered use.

Crop	Re-Planting Interval
crops registered use	no restrictions
all other crops grown for food or feed	7 days

**Note:** When using GF-2986 with other registered pesticides, always refer to rotational restrictions and precautions on the other product's label and comply with the most restrictive rotational guidelines.

### Uses

#### **Brassica (Cole) Leafy Vegetables (Crop Group 5)<sup>1</sup>** (Not registered in New York)

<sup>1</sup>Brassica (cole) leafy vegetables (crop group 5) includes broccoli, broccoli raab, Brussels sprouts, cabbage, cauliflower, cavalo broccolo, Chinese broccoli, Chinese cabbage (bok choy, napa), Chinese

mustard cabbage (gai choy), collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, rape greens.

**In the state of Georgia**, do not apply GF-2986 to: broccoli raab, Chinese cabbage (bok choy), collards, kale, mizuna, mustard greens, mustard spinach, rape greens.

**Ground Application:** Apply in a minimum of 10 gallons per acre (gpa) by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. For diamondback moth, if additional treatments are required after two consecutive applications of Group 5 and/or Group 18 active ingredients, rotate to other classes of effective insecticide active ingredients for at least two applications. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Make treatment decisions for the entire farm and consider area wide programs if other growers are in close proximity. Do not make more than six applications of GF-2986 per year for diamondback moth over an entire farm (an area of abutting or nearby fields). Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
beet armyworm cabbage looper cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 - 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
beet armyworm cabbage looper cabbage webworm cross-striped cabbageworm cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armworm true armyworm western yellowstriped armyworm yellowstriped armyworm	6 – 8	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.

**Restrictions:**



- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 6 applications per year.
- Do not apply to seedling cole crops grown for transplant within a greenhouse, shade house, or field plot.

### **Bushberries (Subgroup 13B)<sup>1</sup>** **(Not registered in New York)**

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

**Ground Application:** Apply in a minimum of 30 gpa by conventional ground equipment. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
cherry fruitworm cranberry fruitworm	8 – 12	Apply at initiation of egg laying [approximately 400 Day Degrees (DD) base 50°F] following biofix <sup>1</sup> . Make a second application at 100% petal fall (usually 7 to 14 days following the first application). An additional application (third) no sooner than 7 days following the second application may be required under high pressure or sustained moth flight.
light brown apple moth obliquebanded leafroller		<b>Spring (overwintering) generation:</b> Make one or two applications at bloom to petal fall to small larvae when threshold levels occur. <b>Summer generation:</b> Begin applications at peak moth flight (200 to 300 DD base 43°F) following biofix. An additional application (third) no sooner than 7 days following the second application may be required under high pressure or sustained moth flight.
redbanded leafroller variegated leafroller		For control of other leafrollers, apply at early egg hatch for each generation. Make the first application before webbing and sheltering begins. Make a second application to ensure complete coverage of rapidly expanding fruits or foliage.

spanworm		Apply when first signs of feeding damage appear or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
green fruitworm		Apply when larvae are first detected in the clusters or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
armyworm cutworm	6 – 12	Apply when first signs of feeding damage appear or when infestations reach threshold levels as defined by cooperative extension service or other qualified professional authorities.
gypsy moth	4 – 6	Apply to early instars (1st, 2nd, or 3rd) at first signs of infestation.

<sup>1</sup>Biofix is defined as first sustained adult catch in pheromone traps, typically five moths in three traps within a 7-day period. Consult state extension specialists or other qualified authorities for specific information regarding number, placement and management of pheromone traps.

#### Restrictions:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 52 fl oz of GF-2986 (0.75 lb ai methoxyfenozide, 0.375 lb ai spinosad) per acre per year
- **Minimum Treatment Interval:** Do not make applications less than 6 days apart.
- **Maximum Number of Applications:** Do not make more than 3 applications per year.

#### Cilantro Leaves

(Not registered in New York)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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beet armyworm cabbage looper cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
beet armyworm cabbage looper cabbage webworm cross-striped cabbageworm cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armworm true armyworm western yellowstriped armyworm yellowstriped armyworm	6 – 8	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 65 fl oz of GF-2986 (0.94 lb ai methoxyfenozide, 0.47 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- **Maximum Number of Applications:** Do not make more than 5 applications per year or more than 3 applications per crop.

**Citrus Fruits (Crop Group 10)<sup>1</sup>**

<sup>1</sup>Citrus fruits (crop group 10) includes calamondin, chironja, citrus citron, grapefruit, kumquat, lemon, lime, mandarin, orange, pummelo, satsuma mandarin, sour orange, sweet orange, tangelo, tangerine, tangor, other cultivars and/or hybrids of these

**Ground Application:** Apply in a minimum of 50 gpa by conventional ground equipment to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gpa. Use a spray volume that assures uniform coverage of the crop.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
citrus leafminer citrus peelminer cutworms leafrollers orange dog worm	6 – 12	Apply at the first observation of the pests on the flushing leaves. Reapply no sooner than 14-day intervals.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 6 days apart.
- **Maximum Number of Applications:** Do not make more than 3 applications per year.
- Do not apply to citrus nurseries or citrus in greenhouses.

### **Corn (Field, Sweet, Seed)** (Not registered in New York)

**Specific Use Directions-Field Corn:**

**Ground Application:** Apply in a minimum of 5 gpa by conventional ground equipment to young crop or small plants. Higher carrier volumes may be required to provide thorough coverage to larger, more mature crop. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 5 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Specific Use Directions-Sweet Corn, Seed Corn:**

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa after initiation of tasseling. Use a spray volume that assures uniform coverage of infested parts of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
European corn borer southwestern corn borer sugarcane borer	4 – 12	Apply at first sign of egg hatch (field corn), feeding damage (sweet corn), or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Direct application at the whorl for early season (first generation) infestations. Apply as broadcast or multi-nozzle over the row application to mid- and late-season infestations.

true armyworm western bean cutworm		Under heavy infestations, continuous moth flights, or rapid crop growth and development, reapply at 5- to 10-day re-treatment interval.
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**Restrictions:****Field Corn**

- **Preharvest Interval-:** Do not apply within 28 days of grain or fodder harvest or 21 days of forage harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 26 fl oz of GF-2986 (0.376 lb methoxyfenozide, 0.188 lb ai spinosad) per acre per year to field corn.
- **Maximum Number of Applications:** Do not make more than 3 applications per year

**Sweet Corn**

- **Preharvest Interval:** Do not apply within 28 days of dry fodder harvest, 7 days of green chop/forage harvest, or 3 days of ear/grain harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 6 applications per year to sweet and seed corn.

**Seed Corn**

- **Preharvest Interval:** Do not apply within 28 days of fodder harvest, 7 days of forage harvest, or 1 day of grain harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 6 applications per year to sweet and seed corn.

**Cotton****(Not registered in New York)**

**Ground Application:** Make applications by conventional ground sprayers which are calibrated to deliver a minimum of 5 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Aerial Application:** Apply in a minimum of 3 gpa. Use a higher carrier volume or heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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beet armyworm cabbage looper cotton leafworm cotton leaf perforator saltmarsh caterpillar southern armyworm soybean looper true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 8	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.
cotton bollworm ( <i>Helicoverpa zea</i> ) fall armyworm tobacco budworm	8 – 10.8	

**Restrictions:**

- **Preharvest Interval:** Do not apply within 28 days of harvest.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.

**Cranberry****(Not registered in New York)**

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Chemigation Application:** GF-2986 may be applied through sprinkler irrigation systems to control listed pests. Use specified broadcast application rates. See Chemigation Application section.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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blackheaded fireworm gypsy moth <i>sparganothis</i> fruitworm spanworms spotted fireworm	8 – 12	<p><b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the flower bud development period depending upon infestation level.</p> <p><b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch. Reapply 10 to 18 days later.</p> <p>A higher rate in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.</p> <p>For control of light to moderate infestations, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. The product provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding.</p>
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**Restrictions:**

- **Preharvest Interval:** Do not apply within 21 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not make more than 6 applications per year.

**Cucurbit Vegetables (Crop Group 9)<sup>1</sup>**  
**(Not registered in New York)**

<sup>1</sup>Cucurbit vegetables (crop group 9) includes balsam apple, balsam pear, bitter melon, chayote (fruit), Chinese cucumber, Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, edible gourd (including Chinese okra, cucuzza, hechima, hyotan), gherkin, muskmelon (including cantaloupe, casaba, crenshaw melon, golden pershaw melon, honey balls, honeydew melon, mango melon, persian melon, pineapple melon, santa claus melon, snake melon, true cantaloupe), pumpkin, summer squash (including crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), winter squash (including acorn squash, butternut squash, calabaza, hubbard squash, spaghetti squash), watermelon

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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beet armyworm cabbage looper melon worm pickle worm rind worm southern armyworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 8	Apply at first sign of infestation, targeting eggs and small larvae, or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
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**Restrictions:**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per season.

### **Foliage of Legume Vegetables (Except Soybean) (Subgroup 7A)<sup>1</sup>** (Not registered in New York)

<sup>1</sup>Foliage of legume vegetables (except soybean) (subgroup 7A) includes any cultivar of bean and field pea (except soybean)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve. Do not apply to dry peas by aerial ULV.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
alfalfa looper beet armyworm cabbage looper European corn borer fall armyworm	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
southern armyworm tomato hornworm true armyworm western yellowstriped armyworm yellowstriped armyworm	6 – 12	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 7- to 14-day re-treatment interval is required to protect new growth until moth flights and/or larval infestations subside.



corn earworm ( <i>Helicoverpa zea</i> )	8 – 12	Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. May provide partial control when infestations reach high levels.
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**Restrictions:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.98 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per year.
- Do not use adjuvants in the tank mix when applying this product to dry peas and beans.
- Do not apply to seedling crops grown for transplant within a greenhouse or shade house.

### Fruiting Vegetables (Crop Group 8)<sup>1</sup> and Okra (Not registered in New York)

<sup>1</sup>Fruiting vegetables (crop group 8) includes eggplant, groundcherry, pepino, pepper (bell, chili, cooking, sweet), pimento, tomatillo, tomato

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
beet armyworm cabbage looper European corn borer fall armyworm southern armyworm tomato hornworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
	6 – 12	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 7- to 14-day re-treatment interval is required to protect new growth until moth flights and/or larval infestations subside.

tomato fruitworm ( <i>Helicoverpa zea</i> )	8 – 12	Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. May provide partial control when infestations reach high levels.
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**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 6 applications per year.
- Do not apply to seedling fruiting vegetables and okra grown for transplant within a greenhouse, shade house, or field plot.

**Globe Artichoke****(Not registered in New York)**

**Ground Application:** Apply in a minimum of 75 gpa of water using calibrated ground application equipment that provides thorough coverage.

**Aerial Application:** Apply in a minimum of 10 gpa of water. Use higher water volumes for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
armyworm plume moth	4 – 12	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under conditions of heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply GF-2986 or another effective product at a minimum application interval of 7 days to protect new growth until moth flights subside.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 4 days of harvest.
- Do not apply more than a total of 46 fl oz of GF-2986 (0.66 lb ai methoxyfenozide, 0.33 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per season.

**Grape**

**(Not registered in New York)**

**Ground Application:** Apply in a minimum of 40 gpa by conventional airblast or over the row sprayer. If using other type of sprayer, apply in sufficient carrier volume to ensure thorough, uniform cover of the crop. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 20 gpa. This method should not be used if the density of the foliage prohibits thorough, uniform coverage of the entire vine canopy.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides). If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
European grapevine moth grape berry moth	6 – 12	For internal feeding lepidoptera larvae, apply at initiation of egg hatch for each generation. Reapply within 10 to 18 days to ensure complete coverage of rapidly expanding fruits or foliage.
grape leaf folder grape leaf skeletonizer light brown apple moth omnivorous leafroller obliquebanded leafroller orange tortrix redbanded leafroller		<b>Spring generation:</b> Apply at first sign of larval infestation or to small larvae when threshold levels occur. <b>Summer generation:</b> For each generation, apply at first egg hatch. Reapply at 10- to 14-day intervals under high pressure or sustained moth flight.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 30 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 52 fl oz ai methoxyfenozide (0.75 lb ai methoxyfenozide, 0.375 lb ai spinosad) per acre per year west of the Rocky Mountains.
- Do not apply more than a total of 50 fl oz of GF-2986 (0.72 lb ai methoxyfenozide, 0.36 lb ai spinosad) per acre per year east of the Rocky Mountains.
- **Maximum Number of Applications:** Do not make more than 5 applications per year.

**Grass Forage, Fodder, and Hay (Crop Group 17)****(Not registered in New York)**

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 5 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
armyworms	4 – 6	Begin applications when first signs of feeding damage appear or when threshold levels of feeding damage occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult.

**Restrictions:**

- **Preharvest Interval:** Do not apply to hay within 7 days of harvest; there is no preharvest interval for forage.
- Do not apply more than a total of 26 fl oz of GF-2986 (0.376 lb ai methoxyfenozide, 0.188 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 6 applications per season. Do not make more than 1 application per cutting.

### Green Onion, Leek, and Shallot (Not registered in New York)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
lepidopterous larvae including: armyworms European corn borer loopers	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
	6 – 9	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, reapplication can be made at a minimum 10-day re-treatment interval to protect new growth until moth flights and/or hits subside.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 13 of GF-2986 per acre per application.

- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 5 applications per year.

### **Leafy Vegetables (Except *Brassica*) (Crop Group 4)<sup>1</sup>** (Not registered in New York)

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

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
beet armyworm cabbage looper cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.

beet armyworm cabbage looper cabbage webworm cross-striped cabbageworm cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armworm true armyworm western yellowstriped armyworm yellowstriped armyworm	6 – 8	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.
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**Restrictions:**

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 6 applications per year.
- Do not apply to seedling leafy crops grown for transplant within a greenhouse or shade house.

**Leaves of Root and Tuber Vegetables (Crop Group 2)<sup>1</sup> and Turnip Greens (Not registered in New York)**

<sup>1</sup>Leaves of root and tuber vegetables (crop group 2) includes bitter cassava, black salsify, carrot, celeriac (celery root), chicory, dasheen (taro), edible burdock, garden beet, oriental radish (daikon), parsnip, radish, rutabaga, sugar beet, sweet cassava, sweet potato, tanager, true yam, turnip, turnip-rooted chervil

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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beet armyworm cabbage looper cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armyworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
beet armyworm cabbage looper cabbage webworm cross-striped cabbageworm cutworms (suppression only) diamondback moth fall armyworm garden webworm imported cabbageworm southern armworm true armyworm western yellowstriped armyworm yellowstriped armyworm	6 – 8	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 6 applications per year.
- Do not apply to seedling leafy crops grown for transplant within a greenhouse or shade house.

### Legume Vegetables (Succulent or Dried) (Crop Group 6)<sup>1</sup> (Not registered in New York)

<sup>1</sup>Legume vegetables (succulent or dried) (crop group 6) includes asparagus bean, blackeyed pea, *Cajanus* spp. (pigeon pea), Chinese longbean, *Cicer arietinum* (chick peas, garbanzo beans), cowpea, green lima bean, jackbean, *Lens* spp. (lentils), *Lupinus* spp. (grain lupine, sweet lupine, white lupine, white sweet lupine), moth bean, *Phaseolus* spp. (kidney beans, lima beans, mung beans, navy beans, pinto beans, snap beans, waxbeans), *Pisum* spp. (dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea), runner bean, snap bean, snow pea, soybean (immature seed), southern pea, succulent broad bean, sugar snap pea, sword bean, *Vicia faba* (broad beans, fava beans); *Vigna* spp. (asparagus beans, blackeyed pea, cowpeas), wax bean, yardlong bean

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve. Do not apply to dry peas by aerial ULV.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
alfalfa looper beet armyworm cabbage looper European corn borer fall armyworm southern armyworm tomato hornworm true armyworm western yellowstriped armyworm yellowstriped armyworm	4 – 6	For early season applications only to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities.
	6 – 12	For mid- to late-season applications, heavier infestations, and under conditions in which thorough coverage is more difficult. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 7- to 14-day re-treatment interval is required to protect new growth until moth flights and/or larval infestations subside.
corn earworm ( <i>Helicoverpa zea</i> )	8 – 12	Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. May provide partial control when infestations reach high levels.

**Restrictions:**

- **Preharvest Interval Succulent Beans and Peas:** Do not apply within 7 days of harvest.
- **Preharvest Interval Dried Beans and peas:** Do not apply within 28 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application to succulent beans and peas.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year to succulent beans and peas.
- Do not apply more than 17 fl oz of GF-2986 per acre per application to dried beans and peas.
- Do not apply more than a total of 26 fl oz of GF-2986 (0.376 lb ai methoxyfenozide, 0.188 lb ai spinosad) per acre per year to dried beans and peas.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per year.
- Do not feed forage or hay to meat or dairy animals.
- Do not use adjuvants in the tank mix when applying this product to dry peas and beans.
- Do not apply to dry peas by aerial ULV.

**Nongrass Forage, Fodder, Straw and Hay (Crop Group 18)<sup>1</sup>**  
(Not registered in New York)

<sup>1</sup>Nongrass forage, fodder, straw and hay (crop group 18) includes alfalfa, clover, crown vetch, kudzu, lespedeza, lupin, milk vetch, sainfoin, trefoil, velvet bean, vetch

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment. Use a spray volume that assures uniform coverage of the crop.



**Aerial Application:** Apply in a minimum of 5 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
alfalfa caterpillar alfalfa looper armyworms, including beet fall southern striped true western yellowstriped yellowstriped webworms	4 – 6	Begin applications when first signs of feeding damage appear or when threshold levels of feeding damage occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 7 days of hay or fodder harvest; there is no preharvest interval for forage.
- Do not apply more than a total of 26 fl oz of GF-2986 (0.374 lb ai methoxyfenozide, 0.187 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 6 applications per season. Do not make more than 1 application per cutting.
- Do not allow cattle to graze from treated area until spray has dried.

**Peanut**

(Not registered in California and New York)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 5 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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armyworms, including beet fall true western yellowstriped yellowstriped cabbage looper European corn borer greencloverleaf worm red-necked peanut worm saltmarsh caterpillar soybean looper velvetbean caterpillar	4 – 6	Apply when first signs of feeding damage appear or when threshold levels of feeding damage occur.
corn earworm ( <i>Helicoverpa zea</i> ) tobacco budworm	8 – 10.8	

**Restrictions:**

- **Preharvest Interval:** Do not apply within 7 days of nut harvest or within 14 days of forage harvest.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not make more than 3 applications per year.
- Do not allow grazing of crop residue or harvest of crop residue for hay until 14 days after the last application.

### Peppermint and Spearmint (Not registered in New York)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 5 gpa. Calibrate aircraft to assure uniform coverage of the target crop.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
armyworms cutworms loopers	8 – 12	Scout crops on a regular basis and treat as soon as economic thresholds have been met. Target small larvae and egg masses when possible. Use a higher rate in the rate range for high infestations and when extended residual is needed. Reapply at 14- to 21-day intervals when there are continuing infestations.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest.

- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per year or more than 3 applications per crop.

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

<sup>1</sup>Pome fruits (crop group 11) includes apple, crabapple, loquat, mayhaw, pear, pear (oriental), quince

**Ground Application:** Apply by conventional ground sprayers which are calibrated to deliver a minimum of 50 gpa to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall use a minimum of 100 gpa.

**Aerial Application:** Apply in a minimum of 20 gpa. GF-2986 can be applied by aerial applications when conditions warrant. However, this method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

**Resistance Management:** Do not make more than three consecutive applications of Group 5 or Group 18 insecticides within a crop season. If additional treatments are required after three consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests, especially consecutive generations of codling moth, oriental fruit moth and leafrollers.

Pests	Application Rate (fl oz/acre)	Application Timing
codling moth (suppression only)	12 – 17.4	For each generation, apply at the initiation of egg lay (usually occurs at 100 to 200 DD, base 50°F, following biofix). Reapply 10 to 18 days later. For best protection, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. Once applied, GF-2986 provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately.
lesser appleworm oriental fruit moth	9 – 12	For control of light to moderate infestations, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. GF-2986 provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately. For heavy infestations, continuous moth flights, or extended egg hatch, use maximum specified rates. Maintain coverage with 10- to 18-day re-treatment intervals.

obliquebanded leafroller pandemis leafroller	6 – 12	<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the pink to petal fall period depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (usually 200 to 400 DD following biofix). Reapply 10 to 18 days later (usually 500 to 700 DD). A higher rate in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.
eyespotted bud moth fruittree leafroller light brown apple moth redbanded leafroller variegated leafroller		For control of surface or foliar feeding leafroller larvae, apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch. For heavy infestations, continuous moth flights, or extended egg hatch, use maximum specified rates. Maintain coverage with 10- to 18-day re-treatment intervals.
tufted apple bud moth	5 – 8	For each generation, apply at 10 to 30% egg hatch. For heavy infestations, sustained moth flight, or extended residual effectiveness, reapply 10 to 18 days later.
spotted tentiform leafminer western tentiform leafminer	6 – 9	<b>First generation:</b> Apply at pink to petal fall. <b>Second, third generation:</b> Apply at early egg hatch for each generation.
lacanobia fruitworm	9	Apply at egg hatch or at the first sign of larval infestation. Reapply within 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year
- **Minimum Treatment Interval:** Do not make applications less than 10 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per year. Do not apply more than 3 sprays targeted at leafrollers per season.
- Aerial application is allowed **only** for the last two applications prior to harvest.

**Pomegranate****(Not registered in New York)**

**Ground Application:** Apply a minimum of 50 gpa by conventional ground equipment to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gpa. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 20 gpa. This method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group

18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests. Do not apply to pomegranate trees grown in greenhouses and nurseries.

Pests	Application Rate fl oz/acre	Application Timing
filbert worm light brown apple moth navel orangeworm obliquebanded leafroller omnivorous leafroller	6 – 12	Apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch. The higher rates in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.
redhumped caterpillar		Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.

#### Restrictions:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** A 10- to 14-day re-treatment schedule may be necessary to maintain control if the crop is growing rapidly or if there is heavy pest pressure.
- **Maximum Number of Applications:** Do not apply more than 3 sprays targeted at leafrollers per season.

#### Popcorn

(Not registered in New York)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa after initiation of tasseling. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gallons per acre. Use sufficient carrier volume to provide thorough, uniform coverage. Do not apply to popcorn by aerial ULV.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate fl oz/acre	Application Timing
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European corn borer southwestern corn borer	4 – 6	Apply at first sign of egg hatch or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Direct application at the whorl for early season (first generation) infestations. Apply as broadcast or multi-nozzle over the row application to mid- and late-season infestations.
true armyworm western bean cutworm		Apply at first sign of egg hatch (field corn), feeding damage (sweet corn), or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. Under heavy infestations, continuous moth flights, or rapid crop growth and development, reapply at 5- to 10-day re-treatment interval.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 21 days of grain and stover harvest, or 7 days of forage harvest. There is no preharvest interval for forage.
- Do not apply more than 8.5 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 6 applications per year.

**Root Vegetables (Subgroups 1A, 1B)<sup>1</sup>**  
**(Not registered in New York)**

<sup>1</sup>Root vegetables (subgroups 1A, 1B) includes black salsify, carrot, celeriac, chicory, edible burdock, garden beet, ginseng, horseradish, parsnip, oriental radish, radish, rutabaga, salsify, skirret, Spanish salsify, sugarbeet, turnip, turnip-rooted chervil, and turnip-rooted parsley

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
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armyworms cabbageworms cutworm (suppression only) loopers saltmarsh caterpillar webworms	5 – 12	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply to protect new growth until moth flights and/or hits subside.
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**Restrictions:**

- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.

**Garden beet**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 46 fl oz of GF-2986 (0.66 lb ai methoxyfenozide, 0.33 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 4 applications per crop.

**Sugar beet**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 46 fl oz of GF-2986 (0.66 lb ai methoxyfenozide, 0.33 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 4 applications per crop.

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

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 46 fl oz of GF-2986 (0.66 lb ai methoxyfenozide, 0.33 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 4 applications per crop.

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

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 46 fl oz of GF-2986 (0.66 lb ai methoxyfenozide, 0.33 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 3 applications per crop.

**Celeriac, edible burdock, Oriental radish, rutabaga, turnip**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 39 fl oz of GF-2986 (0.56 lb ai methoxyfenozide, 0.28 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 3 applications per year.

**Radish**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than a total of 34.5 fl oz of GF-2986 (0.5 lb ai methoxyfenozide, 0.25 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 3 applications per year.

**Soybean****(Not registered in New York)**

**Ground Application:** Apply in a minimum spray volume of 10 gpa using calibrated ground application equipment that provides thorough coverage.

**Aerial Application:** Apply in a minimum spray volume of 5 gpa in equipment that has been properly patterned and calibrated for environmental conditions at the site. Use higher water volumes for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
armyworms green clover worm saltmarsh caterpillar soybean loopers velvet bean caterpillar	4 – 6	Begin applications when first signs of feeding damage appear or when threshold levels of feeding damage occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 28 days of harvest.
- Do not apply more than a total of 26 fl oz of GF-2986 (0.376 lb ai methoxyfenozide, 0.188 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 4 days apart.
- **Maximum Number of Applications:** Do not make more than 4 applications per year.
- Do not feed treated forage or hay to meat or dairy animals.
- **Re-Planting Interval:** A 7-day re-planting interval is required for residues of methoxyfenozide.

**Stone Fruits (Crop Group 12)<sup>1</sup>**  
(Not registered in New York)

<sup>1</sup>Stone fruits (crop group 12) includes apricot, cherries (sweet, sour), chickasaw plum, damson plum, Japanese plum, nectarine, peach, plum, plumcot, prune (fresh)

**Ground Application:** Apply in a minimum of 50 gpa by conventional ground equipment to trellised trees or trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gpa. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 20 gpa. This method should not be used if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

**Resistance Management:** Do not make more than three consecutive applications of Group 5 or Group 18 insecticides within a crop season. If additional treatments are required after three consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 or other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests, especially consecutive generations of oriental fruit moth and leafrollers.



Pests	Application Rate (fl oz/acre)	Application Timing
codling moth (suppression only) oriental fruit moth	9 – 12	For control of light to moderate infestations, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. The product provides 10 to 18 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately. For continuous moth flight and egg laying, use the highest labeled rate. Maintain coverage on the fruit surface with 10- to 18-day re-treatment intervals.
peach twig borer	6 – 12	For each generation, apply at initiation of egg hatch before larvae enter the fruit. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage, or under conditions of high infestation or sustained moth flight.
obliquebanded leafroller pandemis leafroller		<b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the pink to petal fall period depending upon infestation level. <b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (usually 200 to 400 DD following biofix). Reapply 10 to 18 days later (usually 500 to 700 DD). A higher rate in the rate range and additional applications at 10- to 18-day intervals may be required for heavy infestations, sustained moth flight, situations in which it is difficult to achieve thorough coverage, and for quicker knockdown of larvae.
fruittree leafroller light brown apple moth omnivorous leafroller redbanded leafroller threelined leafroller tufted apple budmoth variegated leafroller		For control of surface or foliar feeding leafroller larvae, apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch. For heavy infestations, continuous moth flights, or extended egg hatch, use maximum specified rates. Maintain coverage with 10- to 18-day re-treatment intervals.
cherry fruitworm green fruitworm lesser appleworm	8 – 12	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.
redhumped caterpillar	6 – 12	Apply at initiation of egg hatch or at the first sign of larval infestation. Reapply in 10 to 14 days to ensure complete coverage of rapidly expanding fruits or foliage.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest for apricots, 7 days of harvest for cherries (sweet and sour), nectarines, peaches, plums, prunes, and their hybrids.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.

- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not apply more than 3 sprays targeted at leafrollers per season.

### Strawberry (Not registered in New York)

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment to young crop or small plants. Apply in a minimum of 20 gpa to densely foliated or difficult to cover crops to ensure thorough coverage. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use sufficient carrier volume to provide thorough, uniform coverage.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
armyworms	5 – 9	For early season applications to young crops and small plants. Apply at first sign of feeding damage or when infestations reach threshold levels as defined by a cooperative extension service or other qualified professional authorities. For heavy infestations, continuous moth flights, and/or egg masses and larvae in all stages of development, a 10- to 14-day re-treatment interval is required to protect new growth until moth flights and/or hits subside.
corn earworm ( <i>Helicoverpa zea</i> )	8 – 12	
cutworms (suppression only)		

#### Restrictions:

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- Do not apply more than 13 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.
- **Maximum Number of Applications:** Do not make more than 5 applications per year.

### Tree Nuts (Crop Group 14)<sup>1</sup> and Pistachios (Not registered in New York)

<sup>1</sup>Tree nuts (crop group 14) includes almond, beech nut, Brazil nut, butternut, cashew, chestnut, chinquapin, filbert (hazelnut), hickory nut, macadamia (bush) nut, pecan, pistachio, walnut (black and English)

**Ground Application:** Apply in a minimum of 50 gpa by conventional ground equipment to trees 10 feet tall or less. For trees greater than 10 feet tall, use a minimum of 100 gpa. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. This method may result in reduced efficacy if the size of the tree or density of the foliage prohibits thorough, uniform coverage of the entire tree canopy.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides within a crop season. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests. Do not apply more than 3 sprays targeted at leaf rollers per season.

### Almonds

Pests	Application Rate (fl oz/acre)	Application Timing
peach twig borer	6 – 12	<p><b>Spring (overwintering) generation:</b> Make 1 to 2 applications during the bloom to petal fall period depending upon infestation level.</p> <p><b>Summer generation:</b> Begin applications at peak moth flight (400 to 450 DD, base 50°F, following biofix). Reapply at 10- to 18-day intervals under high pressure or sustained moth flight. A higher rate in the rate range may be required for extended residual effectiveness, high pest infestation levels, larger trees, or heavy dense foliage.</p>
navel orangeworm	9 – 18	Make first application at the initiation of hull split (2 to 5% hull split). Reapply 10 to 14 days later. Under heavy infestation, reapply a third time 10 to 14 days later.

### Restrictions:

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than 26 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

### Hazelnuts

Pests	Application Rate (fl oz/acre)	Application Timing
filbertworm	6 – 12	Apply at initiation of egg hatch. Reapply at 14- to 21-day intervals under high pressure or sustained moth flight.
obliquebanded leafroller		<p><b>Spring (overwintering) generation:</b> Make 1 to 2 applications depending upon infestation level.</p> <p><b>Summer generation:</b> Make the first application during the period of peak egg lay to early egg hatch (200 to 400 DD following biofix). Reapply 10 to 18 days later (usually 500 to 700 DD).</p>
filbert leafroller light brown apple moth omnivorous leaf-tier		For control of surface of foliar feeding leafroller larvae, apply when larvae are feeding. Most effective crop protection results from application made at the initiation of egg hatch.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than 26 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- **Maximum Number of Applications:** Do not apply more than 3 sprays targeted at leafrollers per season.

**Pecans**

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
pecan nut casebearer	4 – 6	For each generation, apply at initiation of egg hatch (first generation is approximately 8 to 15 days following biofix). Control of first generation may require second application to ensure complete coverage of rapidly expanding nuts and foliage, or under conditions or extended egg lay. A higher rate in the rate range may be required for extended residual effectiveness, higher pest infestations, low crop load, larger trees, or heavy dense foliage.
hickory shuckworm		For early- to mid-season infestations reaching threshold levels as defined by state extension specialists or other qualified authorities, make applications at the initiation of egg hatch. For late-season infestations, initiate applications at half-shell hardening. Reapply at 14-day intervals to shuck split or while nuts are susceptible to heavy infestations.
fall webworm walnut caterpillar		Apply at the first sign of larval infestation.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than 17 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

**Walnuts**

<b>Pests</b>	<b>Application Rate (fl oz/acre)</b>	<b>Application Timing</b>
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codling moth (suppression only)	9 – 18	For each generation, apply at initiation of egg hatch (100 to 200 DD following biofix). Control of first generation may require second application (10- to 18-day re-treatment interval) to ensure complete coverage of rapidly expanding nuts and foliage. After nut growth and foliage expansion slows, a 14- to 21-day re-treatment interval may be required to provide control of extended moth flight. A higher rate in the rate range may be required for extended residual effectiveness, high pest infestation levels, larger trees, or heavy dense foliage.
navel orangeworm	6 – 12	Apply at initiation of egg hatch.
fall webworm redhumped caterpillar		Apply at first sign of larval infestation.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than 26 fl oz of GF-2986 per acre per application.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per season.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

**Tree Nut Crops not Specifically Listed Above**

**Restrictions** for control of lepidoptera larvae for which GF-2986 is registered:

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per season.

Performance of GF-2986 against pests not listed on this label cannot be warranted nor can crop tolerance in all types and varieties of tree nuts be assured. If unsure, the user is advised to treat a few trees to observe for symptoms before treating large blocks of trees. Generally, optimum performance against lepidopterous pests (worms) is achieved when GF-2986 is applied at the initiation of egg hatch. Reapplication intervals of 10 to 20 days may be required if the plant part(s) to be protected from insect damage is rapidly growing or expanding or if pest infestations are heavy or extended.

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

**(Not registered in New York)**

<sup>1</sup>Acerola, avocado, black sapote, canistel, feijoa, guava, jaboticaba, longan, lychee, mamey sapote, mango, papaya, passionfruit, pulasan, rambutan, sapodilla, Spanish lime, star apple, starfruit, wax jambu

**Ground Application:** Apply in a minimum of 50 gpa by conventional ground equipment to trees 10 feet tall or less. For trees greater than 10 feet tall, apply in a minimum of 100 gpa by conventional group equipment. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your

Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests. Do not apply to tropical tree fruits grown in greenhouses and nurseries.

Pests	Application Rate (fl oz/acre)	Application Timing
lepidopterous larvae including guava moth ( <i>Argyresthia</i> ) leafrollers light brown apple moth loopers orange tortrix spanworms webbing worms western tussock moth	8 – 12	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply at a 6- to 10-day re-treatment interval to protect new growth until moth flights and/or hits subside.

**Restrictions:**

- Do not apply more than a total of 62.5 fl oz of GF-2986 (0.9 lb ai methoxyfenozide, 0.45 lb ai spinosad) per acre per year.
- **Maximum Number of Applications:** Do not make more than 2 applications per year.
- For resistance management purposes, do not apply to tropical tree fruits grown in nurseries or in greenhouses.

**Acerola, feijoa, guava, jaboticaba, passionfruit, starfruit, wax jambu**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

**Avocado**

- **Preharvest Interval:** Do not apply within 2 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.

**Black sapote, canistel, mamey sapote, mango, papaya, sapodilla, star apple**

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 10 days apart.

**Longan, lychee, pulasan, rambutan, Spanish lime**

- **Preharvest Interval:** Do not apply within 14 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 10 days apart.

**Tuberous and Corm Vegetables (Except Potato) (Subgroup 1D)<sup>1</sup>  
(Not registered in New York)**

<sup>1</sup>Tuberous and corm vegetables (except potato) (subgroup 1D) includes arracacha, arrowroot, bitter cassava, chayote (root), Chinese artichoke, chufa, dasheen, edible canna, ginger, Jerusalem artichoke, leren, sweet cassava, sweet potato, tanager, true yam, turmeric, yam bean

**Ground Application:** Apply in a minimum of 10 gpa by conventional ground equipment. Use a spray volume that assures uniform coverage of the crop.

**Aerial Application:** Apply in a minimum of 10 gpa. Use a higher carrier volume for heavy infestations and in situations where thorough coverage is difficult to achieve.

**Resistance Management:** Do not make more than two consecutive applications of Group 5 or Group 18 insecticides. If additional treatments are required after two consecutive applications of Group 5 or Group 18 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid applying GF-2986 and other Group 5 and Group 18 insecticides to consecutive generations of all target insect pests.

Pests	Application Rate (fl oz/acre)	Application Timing
armyworms cabbageworms cutworm (suppression only) loopers saltmarsh caterpillar webworms	5 – 8	Apply at egg hatch or when first signs of feeding occur. Use a higher rate for heavier infestations and under conditions in which thorough coverage is more difficult. Under heavy infestations, continuous moth flights and/or egg masses and larvae in all stages of development, reapply to protect new growth until moth flights and/or hits subside.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 46 fl oz of GF-2986 (0.66 lb ai methoxyfenozide, 0.33 lb ai spinosad) per acre per year
- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.
- **Maximum Number of Applications:** Do not make more than 3 applications per year.

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**Terms and Conditions of Use**

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If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

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**Warranty Disclaimer**

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Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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**Inherent Risks of Use**

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It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

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**Limitation of Remedies**

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To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or

2. Replacement of amount of product used

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