



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

EPA Reg. Number:

62719-596

Date of Issuance:

06/19/08

Term of Issuance:

Conditional

Name of Pesticide Product:

GF - 1629 SC Insecticide

NOTICE OF PESTICIDE:

 Registration Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Regulatory Success - Americas
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec 3(c)(7)(b) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, subject to the following listed comments and/or terms:

- You will submit and/or cite the following data and/or studies, conducted where appropriate, in accordance with the 40CFR Part 158 Test Guidelines:
 - Dermal sensitization data using an assay conducted with guinea pigs (OPPTS 870.2600; OECD 406). The submitted/reviewed dermal sensitization study (LLNA) in mouse is not acceptable because the assay is not validated for mixtures. **To be submitted within one year from the date of this NOR.**
 - Data on one year storage stability testing (830.6317), conducted concurrently with the corrosion characteristics study (830-6320) at 0, 3, 6, 9 and 12 months of warehouse storage. **To be submitted within one year from this NOR.**

Signature of Approving Official:

for 

George LaRocca
Product Manager (RM 13)
Insecticide Branch
Registration Division (MC 7505P)

Date:

June 19, 2008

- 2. You will make the following labeling changes before you release the product for shipment:
 - a. Revise the EPA Registration Number to read: "*EPA Registration No. 62719-596*"

Please note that this product is subject to the same required labeling revisions and/or data requirements as stated in our Notices of Conditional Registration dated 09/28/07, for the technical and/or similar spinetoram products. Thus, if you fail to satisfy any of the conditions imposed on this registration, the Agency may issue notice to cancel this product. You must also submit the final printed label bearing the above stated revisions prior to releasing this product for sale.

See enclosed copy of the stamped label for your records. If you have any questions concerning this action, please contact Dr. B.A. Akinlosotu at (703) 605-0653.

Enclosure

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(Base label):

GF-1629 SC

Insecticide

For control or suppression of lepidopterous larvae (worms, caterpillars), dipterous leafminers, thrips, and certain psyllids in asparagus, banana and plantain, bulb vegetables, bushberries, caneberries, cereal grains (except rice), citrus, cole crops, corn (field corn, sweet corn, popcorn, and corn grown for seed) and teosinte, cotton, cranberry, cucurbits, fig, fruiting vegetables (tomato, peppers, and eggplant) and okra, grape, herbs, leafy vegetables and leaves of root and tuber and legume vegetables, legume vegetables (succulent and dried beans and peas), mint, peanut, pome fruits, potatoes and tuberous and corm vegetables, root vegetables, soybean, stone fruits, and strawberry, tree nuts and pistachios, and tropical tree fruits.

Group	5	INSECTICIDE
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Active Ingredient:

spinetoram: a mixture of 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 2-[(6-deoxy-3-O-ethyl-2,4-di-O-methyl-a-L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino) tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,4,5,5a,5b, 6,9,10,11, 12,13, 14,16a,16b-hexadecahydro 14-methyl-, (2R,3aR,5aR,5bS,9S,13S,14R, 16aS,16bR) and 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 2-[(6-deoxy-3-O-ethyl-2,4-di-O-methyl-a-L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino) tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,5a,5b, 6,9,10,11,12,13,14, 16a,16b-tetradecahydro-4,14-dimethyl-, (2S,3aR,5aS,5bS,9S,13S,14R, 16aS,16bS)

.....	5.9%
Other Ingredients	94.1%
Total	100.0%

**ACCEPTED
with COMMENTS
in EPA Letter Dated:**

Contains 0.5 lb of active ingredient per gallon (60 g ai/liter)

JUN 19 2008

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
62714-596**

Keep Out of Reach of Children

CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation • Harmful if Inhaled

Avoid contact with eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

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

Environmental Hazards

This product is toxic to aquatic invertebrates. Do not apply directly to water, or 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 where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on the label.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

Agricultural Use Requirements

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

Storage and Disposal

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

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

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

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

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 and

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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.

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. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Shake Well Before Use -- Avoid Freezing

EPA Reg. No. 62719-XXX

EPA Est. _____

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

Net Contents ____

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(cover):

GF-1629 SC

Insecticide

For control or suppression of lepidopterous larvae (worms, caterpillars), dipterous leafminers, thrips, and certain psyllids in asparagus, banana and plantain, bulb vegetables, bushberries, caneberries, cereal grains (except rice), citrus, cole crops, corn (field corn, sweet corn, popcorn, and corn grown for seed) and teosinte, cotton, cranberry, cucurbits, fig, fruiting vegetables (tomato, peppers, and eggplant) and okra, grape, herbs, leafy vegetables and leaves of root and tuber and legume vegetables, legume vegetables (succulent and dried beans and peas), mint, peanut, pome fruits, potatoes and tuberous and corm vegetables, root vegetables, soybean, stone fruits, and strawberry, tree nuts and pistachios, and tropical tree fruits.

Active Ingredient:

spinetoram: a mixture of 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 2-[(6-deoxy-3-O-ethyl-2,4-di-O-methyl-a-L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino) tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,4,5,5a,5b, 6,9,10,11, 12,13, 14,16a,16b-hexadecahydro 14-methyl-, (2R,3aR,5aR,5bS,9S,13S,14R, 16aS,16bR) and 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 2-[(6-deoxy-3-O-ethyl-2,4-di-O-methyl-a-L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino) tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,5a,5b, 6,9,10,11,12,13,14, 16a,16b-tetradecahydro-4,14-dimethyl-, (2S,3aR,5aS,5bS,9S,13S,14R, 16aS,16bS)

.....	5.9%
Other Ingredients	94.1%
Total	100.0%

Contains 0.5 lb of active ingredient per gallon (60 g ai/liter)

Keep Out of Reach of Children

CAUTION

Agricultural Use Requirements

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

Refer to inside of label booklet for 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. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Shake Well Before Use -- Avoid Freezing

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EPA Reg. No. 62719-XXX

EPA Est. _____

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

Net Contents _____

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(Page 1 through end):

Precautionary Statements

Hazard to Humans and Domestic Animals**CAUTION****Causes Moderate Eye Irritation • Harmful if Inhaled**

Avoid contact with eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

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

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further 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 highly toxic to aquatic invertebrates. Do not apply directly to water, or 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 where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on the label.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

Agricultural Use Requirements

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

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

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

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

Storage and Disposal

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

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

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

Nonrefillable rigid containers 5 gallons or less:

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

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 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.

Refillable rigid containers larger than 5 gal:

Container Reuse: 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.

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Nonrefillable rigid containers larger than 5 gal:

Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

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

General Information

GF-1629 SC insecticide is used for control or suppression of many foliage feeding pests including lepidopterous larvae (worms or caterpillars), thrips, Colorado potato beetles, dipterous leafminers, and certain psyllids infesting labeled crops. This product's active ingredient, spinetoram, is derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. The suspension concentrate of GF-1629 SC should be mixed with water and applied as a foliar spray with aerial or ground equipment suitable for conventional insecticide spraying.

General Use Precautions

Integrated Pest Management (IPM) Programs

GF-1629 SC is recommended for IPM programs in labeled crops. GF-1629 SC should be applied 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-1629 SC does not have a significant impact on certain parasitic insects or the natural predaceous arthropod complex in treated crops, including big-eyed bugs, ladybird beetles, flower bugs, lacewings, minute pirate bugs, damsel bugs, assassin bugs, 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-1629 SC is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of GF-1629 SC in an IPM program may be reduced.

Insecticide Resistance Management (IRM)

General Recommendations: GF-1629 SC contains spinetoram, a Group 5 insecticide. Insect/mite biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect/mite population if Group 5 insecticides are used repeatedly in the same field or area, or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by GF-1629 SC or other Group 5 insecticides. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. These two insecticide active ingredients share a common mode of action and must not be rotated with each other for control of pests listed on this label. Spinetoram and spinosad may be rotated with all other labeled insecticide active ingredients.

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

- Carefully follow the specific label guidelines within the Use Direction sections of this label, especially in regard to Insect Resistance Management recommendations.

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- Avoid use of the same active ingredient or mode of action (same insecticide group) on consecutive generations of insects. However, multiple applications to reduce a single generation are acceptable. Treat the next generation with a different active ingredient that has a different mode of action, or use no treatment for the next generation.
- Avoid using less than labeled rates of any insecticide when applied alone or in tank mixtures.
- Applications should be targeted against early insect developmental stages whenever possible.
- Base insecticide use on comprehensive IPM programs.
- Monitor treated insect populations in the field for loss of effectiveness.
- Contact your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and IPM recommendations for the specific site and pest problem.
- For further information or to report suspected resistance, you may contact Dow AgroSciences by calling 800-253-3033 or over the internet at www.dowagro.com.

Mixing

Always shake well before use. Avoid freezing.

Rate Chart for Crop Uses

Application Rate of GF-1629 SC (fl oz/acre)	Active Ingredient Equivalent (lb ai/acre)
28	0.1094
16	0.1016
24	0.0938
22	0.0859
20	0.0781
19	0.0742
18	0.0703
17	0.0664
16	0.0625
15	0.0586
14	0.0547
13	0.0508
12	0.0469
11	0.0430
10	0.0391
9	0.0352
8	0.0313
7	0.0273
6	0.0234
5	0.0195
4	0.0156

Mixing GF-1629 SC Alone: Fill the spray tank with water to about 1/2 of the required spray volume. Start agitation and add the required amount of GF-1629 SC. Continue agitation while mixing and filling the spray tank to the required spray volume. Maintain sufficient agitation during application to ensure uniformity of the spray mix. Do not allow water or spray mixture to back-siphon into the water source.

Tank Mixing: When tank mixing GF-1629 SC with other materials, a compatibility test (jar test) using

relative proportions of the tank mix ingredients should be conducted prior to mixing ingredients in the spray tank. If foliar fertilizers are used, the jar test should be repeated with each batch of fertilizer utilizing the mixing water source. **Do not use acidifying buffering agents in tank-mixes with GF-1629 SC.** Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

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

Add different formulation types in the following order:

1. Water dispersible granules
2. Wettable powders
3. GF-1629 SC and other aqueous suspensions

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

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

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

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

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

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

Application

Proper application techniques help ensure thorough spray coverage and correct dosage for optimum insect control. The following recommendations are provided for ground and aerial application of GF-1629 SC. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy density to ensure adequate spray coverage.

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Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph.

Temperature Inversion

Do not make aerial or ground applications into temperature inversions. 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 ASAE standard S572 definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Ground Row Crop Application

Use calibrated power-operated ground spray equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 5 to 10 gallons per acre should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, twin jet flat fan nozzles or other insecticide atomizer suitable for insecticide spraying to provide a fine to coarse spray quality (per ASAE S572, see nozzle catalogs). Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and spray pressure. Minimize boom height to optimize uniformity of coverage and optimize on-target deposition.

Ground Orchard Spraying

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

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

Additional Requirements for Ground Applications

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application. For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy. 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

Apply in spray volume of 3 to 5 or more gallons per acre (10 or more gallons per acre for trees, vines or orchard crops). Nozzle configuration should provide a medium to fine droplet size per ASAE S-572 standard (see USDA-ARS or NAAA handbook). Guidance for ASAE S-572 nozzle configuration can be found at the following web site: <http://apmru.usda.gov/downloads/downloads.htm>. Boom length must be less than 75% of wing or 85% of rotor span and swath adjustment (offset) to compensate for crosswinds. Observe minimum safe application height (max. 12 feet for agricultural canopies). Use GPS equipment, swath markers or flagging to ensure proper application to the target area. The boom nozzle

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configurations used should be patterned (e.g., at NAAA/ Operation Safe Fly-In) for both crosswind and near parallel winds. If application is made parallel to the wind direction, swath width should be adjusted downward. Use swath adjustment (offset) to compensate for crosswinds. It is best to apply when wind speed is between 2 to 10 mph. Do not apply under completely calm wind conditions. Under conditions of low humidity and high temperatures, adjust spray volume and droplet size upward to compensate for evaporation of spray droplets. In tree crops, control achieved by aerial application may be lower than by application with ground equipment.

Additional Requirements for Aerial Applications

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

Application by Chemigation

GF-1629 SC may be applied through properly equipped chemigation systems for insect control in corn, cranberry and potatoes. Follow use directions for these crops in the Uses section of this label. Do not apply GF-1629 SC by chemigation to other labeled crops except as specified in Dow AgroSciences supplemental labeling or product bulletins.

General Directions for Chemigation:

GF-1629 SC 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-1629 SC must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For sprinkler systems that do not move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle.

Preparation: The following use directions are to be followed when this product is applied through 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-1629 SC needed to cover the desired acreage. Mix according to instructions in the Mixing section above using a dilution concentrate matching your injector system requirements. Continually agitate the mixture during mixing and application.

Equipment Calibration: In order to calibrate the irrigation system and injector to apply the mixture containing GF-1629 SC, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Calculate the amount of product required and premix. 3) Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 4) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. This value equals the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute if needed. 5) Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the injector pump/system be calibrated at least twice before operation, and the system should be monitored during operation.

15 8 41

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 manufactures recommendations. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

Precautions:

- Lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers or other experts.
- Do not connect an irrigation system used for pesticide application (including greenhouse systems) to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place 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 shut the system down 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 runoff and pose a hazard to livestock, wells, or adjoining crops.
- Do not enter treated area during the reentry interval specified in the Agricultural Use Requirements section of this label unless required PPE is worn.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

Specific Equipment Requirements:

1. The system must contain 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional interlock, e.g. normally closed, valve located on the intake side of the injection system to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pressure drops or water flow stops.
5. Use of public water supply requires approval of a backflow prevention device or air gap (preferred) by both state and local authorities.
6. 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.
7. To insure uniform mixing of the insecticide in the water line, inject the mixture in the center of the pipe diameter or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. The injection point must be located after all back-flow prevention devices on the water line.
8. The tank holding the insecticide mixture should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injector point.

Rotational Crop Restrictions

16 8 41

Only a labeled crop may be rotated to a treated field. All other crops may be rotated 12 months following last application.

Uses

Asparagus (Post Harvest Protection of Ferns Only)

Pest and Application Rates:

Pest	GF-1629 SC (fl oz/acre)
asparagus beetle	8 – 16

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated to control asparagus beetle in asparagus ferns. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of the beetle. Heavy infestations may require repeat applications.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 48 fl oz of GF-1629 SC (0.188 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 3 applications per crop.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** This use is only for asparagus ferns; do not apply within 60 days of spear harvest.

Banana and Plantain

Pests and Application Rates: (numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC	
	(fl oz/acre)	(fl oz/100 gal)
banana rust thrips (1) Hawaiian flower thrips (1) lepidopterous larvae, including banana moth	16 – 22	5.34 – 7.34

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

Specific Use Directions:

Application Timing: Apply GF-1629 SC as a directed fine spray toward bunches and spray to runoff. Apply no later than 2 weeks after bunch emergence and before flower petals senesce and again 1 to 2 days before bunch cover.

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

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not apply GF-1629 SC more than 4 times per crop or more than 6 times per calendar year.

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 4 applications per crop or 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 56 days of harvest.

Bulb Vegetables

Including, but not limited to: Dry Bulb Onion, Garlic, Great-Headed (Elephant) Garlic, Green Onion, Leek, Shallot, Welsh Onion

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1,2) European corn borer (2) loopers (2)	10 – 20
dipterous leafminers (2) flea beetles (suppression) thrips (2)	12 – 20

- (1) With the exception of yellowstriped armyworm and western yellowstriped armyworm.
- (2) Control of lepidopterous larvae, leafminers, and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants under Mixing. If thorough coverage is desired, then high pressure (>70 psi) directed sprays with dual directed nozzles can assist leaf penetration of onion.

Specific Use Directions:

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

18 8 41

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for larger larvae or heavier infestations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 60 fl oz of GF-1629 SC (0.234 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 5 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.

Bushberries

Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Lingonberry, Salal

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms	12 – 24
blueberry gall midge (suppression)	
blueberry maggot (suppression)	
cherry fruitworm	
cranberry fruitworm	
currant fruitfly (suppression)	
fireworms	
leafrollers	
loopers	
thrips (suppression) (1)	

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

Specific Use Directions:

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

Application Rate: The amount of GF-1629 SC to apply per acre will depend upon plant size, volume of foliage present and pest pressure. Choose a lower rate in the specified rate range for light infestations and/or small plants and a higher rate for heavy infestations and/or larger plants.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences

19 7 41

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

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 6 days apart.
- **Preharvest Interval (PHI):** Do not apply within 3 days of harvest.

Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars and/or Hybrids of These

Pests and Application Rates:

(number in parentheses (-) refers to footnote below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) green fruitworm leafrollers looper raspberry fruitworm sawfly western raspberry fruitworm	12 – 24

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

Specific Use Directions:

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

Application Rate: The amount of GF-1629 SC to apply per acre will depend upon plant size, volume of foliage present and pest pressure. Use a higher rate in the specified rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.

Cereal Grains (except Rice)

Including, but not limited to: Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Grain Sorghum, Triticale, Wheat

Pests and Application Rates:

(number in parentheses (-) refers to footnote below)

Pests	GF-1629 SC (fl oz/acre)
cereal leaf beetle	4 – 12
armyworms (1) corn earworm (headworm) grasshoppers (suppression) southwestern corn borer webworms	6 – 12

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

Specific Use Directions:

Application Timing: Scout for **armyworms** with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Applications of GF-1629 SC should be timed to coincide with peak egg hatch and/or small larval stage of each generation.

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for heavy infestations, advanced growth stages of target pests, or difficult spray coverage situations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 36 fl oz of GF-1629 SC (0.141 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 3 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 21 days of grain or straw harvest or within 3 days of forage, fodder, or hay harvest.

Citrus

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
citrus leafminer (1) citrus orangedog citrus psylla (suppression) (1) citrus thrips (1) katydids (2) lepidopterous larvae, including: avocado leafroller citrus peelminer	12 – 24

21 7 41

cutworms fruit tree leafroller orange tortrix western tussock moth	
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- (1) Control of leafminers, thrips, and psylla may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.
- (2) Katydid: Control of nymphs only; suppression of adults.

Specific Use Directions:

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

Application Rate: The amount of GF-1629 SC to apply per acre will depend upon tree size and pest pressure. Use a lower rate in the specified rate range for light infestations and/or smaller trees and a higher rate for heavy infestations and/or larger trees.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. To delay resistance development in citrus thrips, rotate to another class of effective products for the next 2 applications after using GF-1629 SC. 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. To further aid in resistance management, do not apply to citrus nurseries or citrus in greenhouses.

Restrictions:

- Do not apply more than a total of 48 fl oz of GF-1629 SC (0.188 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 3 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.
- Do not apply to citrus nurseries or citrus in greenhouses.

Cole Crops (Brassica Vegetables)

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Cauliflower, Cavalo, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (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-1629 SC to: Broccoli Raab, Chinese Cabbage (Bok Choy), Collards, Kale, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) cabbage looper (2) diamondback moth (2) imported cabbageworm (2)	10 – 20
dipterous leafminers (<i>Liriomyza</i> spp) (2) thrips (2)	12 – 20

- (1) With the exception of yellowstriped armyworm and western yellowstriped armyworm.
- (2) Control of lepidopterous larve, leafminers, and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Make treatment decisions for the entire farm and consider area wide programs if other growers are in close proximity. Do not make more than 6 applications of GF-1629 SC per calendar year for diamondback moth over an entire farm (an area of abutting or nearby fields).

Restrictions:

- Do not apply more than a total of 68 fl oz of GF-1629 SC (0.266 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.
- Do not apply to seedling cole crops grown for transplant within a greenhouse, shade house, or field plot.

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) corn earworm (<i>Helicoverpa zea</i>) European corn borer southwestern corn borer western bean cutworm	6 – 12

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

Specific Use Directions:

Application Timing: Scout for corn borers and armyworms with enough regularity to monitor egg laying and egg hatch. Applications of GF-1629 SC should be timed to coincide with peak egg hatch of each generation. For corn earworm control and armyworms, a 2-day re-treatment schedule may be necessary at silking. For control of all other pests, a 5- to 7-day re-treatment schedule may be necessary if the crop is growing rapidly or if there is heavy pest pressure.

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a

higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests.

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

Chemigation: GF-1629 SC may be applied to corn by chemigation at labeled rates. Refer to the Application by Chemigation section for application guidelines.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

Sweet Corn, Popcorn, Corn Grown for Seed

- Do not apply more than a total of 72 fl oz of GF-1629 SC (0.281 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** For corn earworm at silking, do not make applications less than 2 days apart. For all other pests and timings, do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):**
 - Sweet corn and corn grown for seed:** Do not apply within 1 day of grain harvest or 3 days of forage or fodder harvest.
 - Popcorn:** Do not apply within 28 days of grain harvest or 3 days of forage or fodder harvest.

Field Corn and Teosinte

- Do not apply more than a total of 32 fl oz of GF-1629 SC (0.125 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 3 applications per calendar year.
- **Minimum Re-Treatment Interval:** For corn earworm at silking, do not make applications less than 2 days apart. For all other pests and timings, do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 28 days of grain harvest or within 3 days of fodder or forage harvest.

Cotton

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
tobacco budworm cotton bollworm (pre-bloom) cotton leafperforator European corn borer	5.6 – 16
armyworm (1) cotton bollworm (post-bloom) dipterous leafminers (2) loopers saltmarsh caterpillar thrips (2)	8.5 – 16

- (1) With the exception of yellowstriped armyworm and western yellowstriped armyworm.
- (2) Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: For cotton bollworm, use a lower rate in the specified rate range at pre-bloom timings and a higher rate at post-bloom timings. For tobacco budworm and/or cotton bollworm, fields should be scouted twice per week and GF-1629 SC applied when the majority of the population is within blackhead egg stage to 1/8-inch larval length. The following table illustrates the size of development of worms in relation to age and stage of development (instar) as a guide to timing treatments for optimum control:

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

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

Beet armyworm: Economic thresholds vary with local conditions and sampling methods. The following is an example of one such method: apply GF-1629 SC when field scouting reveals 3 or more occurrences of egg hatch or larval feeding per 100 feet of row.

Loopers: Economic thresholds vary with local conditions and sampling methods. The following is an example of one such method: apply GF-1629 SC when field scouting reveals 4 larvae per 1 foot of row or 25% defoliation.

Application Rate: Choose a higher rate of GF-1629 SC within the specified rate range and higher spray volume when one or more of the following is true: tobacco budworms or bollworms are more than 1/4 inch in length; target pest population is 2X above state threshold level; or foliage canopy is tall/dense and worms are present in the lower part of the canopy. Heavy infestations may require repeat applications, but follow resistance management guidelines.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. For tobacco budworm and/or cotton bollworm where early season conservation of beneficial insects is practical, use GF-1629 SC to control the 1st and 3rd generation of tobacco budworm and/or cotton bollworm. Where conservation of beneficial insects is not as critical (for example, fields have received non-selective early season treatments for boll weevil or lygus bugs), use GF-1629 SC to control either the 2nd or 3rd generation of tobacco budworm and/or cotton bollworm.

Restrictions:

- Do not apply more than a total of 68 fl oz of GF-1629 SC (0.266 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 28 days of harvest.

25 7 41

Cranberry

Pests and Application Rates:

(number in parentheses (-) refers to footnote below)

Pests	GF-1629 SC (fl oz/acre)
armyworms currant fruit fly (suppression) fireworms leafrollers loopers sparganothis fruitworm thrips (suppression) (1)	12 – 24

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

Specific Use Directions:

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

Application Rate: Application rate of GF-1629 SC within the rate range will depend upon plant size, volume of foliage present and pest pressure. Use a higher rate in the specified rate range for larger larvae or moderate to severe infestations and and/or larger plant volume.

Chemigation: GF-1629 SC may be applied to cranberry by chemigation at labeled rates. Refer to the Application by Chemigation section for application guidelines for chemigation.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of spinetoram or spinosad, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 21 days of harvest.

Cucurbits

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) cabbage looper	10 – 20

melonworm pickleworm rindworms	
dipterous leafminers (2) thrips (2)	12 - 20

- (1) With the exception of yellowstriped armyworm and western yellowstriped armyworm.
- (2) Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for target pest. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area

Restrictions:

- Do not apply more than a total of 68 fl oz of GF-1629 SC (0.266 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per crop.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 3 days of harvest for all cucurbit crops except cucumbers. Do not apply within 1 day of harvest for cucumbers.

Fig

Pest and Application Rates:

Pest	GF-1629 SC (fl oz/acre)
navel orangeworm	24 - 28

Specific Use Directions:

Application Timing: Apply GF-1629 SC when pests appear or in accordance with local conditions. Applications should closely follow regional spray recommendations. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional use recommendations for your area.

Application Rate: The rate of GF-1629 SC will depend upon tree size, volume of foliage present, and pest pressure. Choose a higher rate in the specified rate range for larger trees or heavy infestations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to

another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Although navel orangeworm has not had major resistance problems, avoid applying GF-1629 SC against more than 2 generations per year.

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 7 days of harvest.

Fruiting Vegetables and Okra

Including, but not limited to: Eggplant, Ground Cherry, Okra, Pepino, Pepper (except black), Tomatillo, Tomato

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) Colorado potato beetle European corn borer hornworms loopers tomato fruitworm (<i>Helicoverpa zea</i>) tomato pinworm	10 – 20
dipterous leafminers (2) (<i>Liriomyza</i> spp) flower thrips (2) pepper weevil (suppression) <i>Thrips palmi</i> (2)	12 – 20

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

(2) Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: Scout weekly throughout the season to monitor populations of leafminers and thrips to determine when economic thresholds are exceeded. Scout weekly throughout the season to monitor beneficial populations. For lepidopterous larvae, scout with enough regularity to monitor the population size of each of the labeled pests. Applications of GF-1629 SC should be timed to coincide with peak egg hatch in species without overlapping generations. For maintenance sprays for lepidopterous larvae, use a lower rate in the specified rate range. Consult current pest management recommendations for specific guidelines.

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not apply GF-1629 SC to

consecutive generations of Colorado potato beetle and do not make more than 2 applications per single generation of Colorado potato beetle.

Restrictions:

- Do not apply more than a total of 68 fl oz of GF-1629 SC (0.266 lb ai of spinetoram) per acre per calendar year.
- **Maximum Number of Applications:** Do not make more than 6 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.
- Do not apply to seedling fruiting vegetables grown for transplant within a greenhouse, shade house, or outdoor transplant bed.

Grape

Pests and Application Rates:

(number in parentheses (-) refers to footnote below)

Pests	GF-1629 SC (fl oz/acre)
cutworm grape berry moth grape leafroller omnivorous leafroller orange tortrix redbanded leafroller thrips (1) western grape leaf skeletonizer	12 – 20

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

Specific Use Directions:

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

Application Rate: Equipment and spray volume should be carefully adjusted to assure thorough uniform coverage. Use a higher rate of GF-1629 SC in the specified rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 5 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 7 days of harvest.

Herbs

Including, but not limited to: Angelica, Balm, Basil, Borage, Burnet, Chamomile, Catnip, Chervil (Dried), Chive, Chive (Chinese), Clary, Coriander (Leaf), Costmary, Cilantro (Leaf), Curry (Leaf), Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage (Leaf), Marigold, Marjoram, Nasturtium, Parsley (Dried), Pennyroyal, Rosemary, Rue, Sage, Savory (Summer and Winter), Sweet Bay, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) loopers thrips (2)	10 – 16

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

(2) Control of thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated to control target pests. Use a higher rate in the specified rate range for larger larvae or high infestations and/or larger plant volume. Heavy infestations may require repeat applications, but follow resistance management guidelines.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 121 fl oz of GF-1629 SC (0.48 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 5 applications per crop.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.

Leafy Vegetables, Leaves of Root and Tuber and Legume Vegetables, Cilantro, and Watercress

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) cabbage looper diamondback moth corn earworm (<i>Helicoverpa zea</i>) imported cabbageworm	10 – 20
dipterous leafminers (<i>Liriomyza</i> spp) (2) thrips (2)	12 – 20

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

(2) Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture.
See Use of Adjuvants section under Mixing.

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 68 fl oz of GF-1629 SC (0.266 lb ai of spinetoram) per acre per crop.
- Maximum Number of Applications:** Do not make more than 6 applications per crop.

- Minimum Re-Treatment Interval:**

Leafy vegetables: Do not make applications less than 4 days apart.

Leaves of Root, Tuber and Legume Vegetables: Do not make applications less than 7 days apart.

Preharvest Interval (PHI):

Leafy vegetables: Do not apply within 1 day of harvest.

Leaves of Root, Tuber and Legume Vegetables: Do not apply within 3 days of harvest. Root, tuber and legume vegetables treated as described may only be harvested for the foliage not the root, tuber, bean or pea.

- Do not apply to seedling leafy vegetable crops grown for transplant within a greenhouse, shade house, or outdoor transplant bed.

Legume Vegetables (Succulent and Dried Beans and Peas)

Including, but not limited to: Adzuki Bean, Blackeyed Pea, Chickpea, Cowpea, Crowder Pea, Edible-Pod Pea, English Pea, Fava Bean, Field Bean, Field Pea, Garbanzo Bean, Garden Pea, Green Pea, Kidney Bean, Lentil, Lima Bean, Lupins, Mungbean, Navy Bean, Pigeon Pea, Pinto Bean, Runner Bean, Snap Bean, Snow Pea, Sugar Snap Pea Tepary Bean, Wax Bean, Yardlong Bean

Pests and Application Rates:

(numbers in parentheses (-) refer to footnote below)

Pests	GF-1629 SC (fl oz/acre)
European corn borer (eggs & larvae)	6 – 16
armyworms (1) corn earworm (<i>Helicoverpa zea</i>) loopers	8 – 16
dipterous leafminers (2) (<i>Liriomyza</i> spp) thrips (2)	10 – 16

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

(2) Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: For determining when to treat, scout with enough regularity to monitor the population size of each of the labeled pests. Heavy infestations may require repeat applications, but follow resistance management guidelines. Treat when pests appear, targeting eggs at hatch or small larvae. For European corn borer, treat when moth flights first appear and use the lower end of the rate range to control eggs and larvae every 3 days before they enter the plant. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional recommendations for your area.

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area

Restrictions:

Succulent Beans and Peas:

- Do not apply more than a total of 56 fl oz of GF-1629 SC (0.219 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per crop.
- **Minimum Re-Treatment Interval:** For European corn borer, do not make applications less than 3 days apart. For all other pests, do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 3 days of harvest.

Dried Beans and Peas:

- Do not apply more than a total of 24 fl oz of GF-1629 SC (0.094 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 6 applications per crop.
- **Minimum Re-Treatment Interval:** For European corn borer, do not make applications less than 3 days apart. For all other pests, do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 28 days of harvest.

Mint

Pests and Application Rates:

(number in parentheses (-) refers to footnote below)

Pests	GF-1629 SC (fl oz/acre)
armyworms cutworms dipterous leafminers (1) loopers thrips (suppression) (1)	8 - 24

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

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated to control target pests. Heavy infestations may require repeat applications, but follow resistance management guidelines. Use a higher rate in the specified rate range for larger larvae or heavier infestations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 121 fl oz of GF-1629 SC (0.48 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 4 applications per crop.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 7 days of harvest.

Peanut

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) cabbage looper corn earworm European corn borer green cloverleaf worm red-necked peanut worm saltmarsh caterpillar soybean looper velvetbean caterpillar	6 - 16

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

Specific Use Directions:

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

Application Rate: Use a higher rate of GF-1629 SC in the specified rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 48 fl oz of GF-1629 SC (0.188 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 3 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 3 days of nut, forage or hay harvest.
- **Grazing Restriction:** Do not allow grazing of peanut hay

Pome Fruits

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

Pests and Application Rates:

(number in parentheses (-) refers to footnote below)

Pests	GF-1629 SC (fl oz/acre)
<i>East of Rocky Mountains:</i> codling moth oriental fruit moth	18 – 28
<i>West of Rocky Mountains:</i> codling moth oriental fruit moth	24 – 28
European corn borer gypsy moth laconobia fruitworm leafminers (1), including: spotted tentiform western tentiform leafrollers, including: oblique-banded pandemis lesser appleworm thrips (1) tufted apple budmoth	18 – 28

apple maggot (suppression) pear psylla (1) plum curculio (suppression)	24 – 28
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(1) Control of thrips, leafminers, and pear psylla may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: Codling moth and oriental fruit moth treatments should closely follow regional spray recommendations based on biofix dates, egg hatch, and/or pheromone trap catches. Codling moth and oriental fruit moth larvae must be controlled before they penetrate the fruit. GF-1629 SC is a larvicide, begin applications shortly before egg hatch. For codling moth, egg hatch typically begins at 220 to 250 degree-days (base 50°F) after biofix. Pear psylla numbers can increase rapidly; begin applications before damaging numbers are reached. For codling moth, oriental fruit moth, and pear psylla, repeat applications may be needed to maintain control; but follow resistance management guidelines. Consult with your Dow AgroSciences representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

Application Rate: The amount of GF-1629 SC per-acre will depend upon tree size and pest pressure. Choose lower rates in the specified rate range for light infestations and/or smaller trees and higher rates for heavy infestations and/or larger trees.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 3 consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after 3 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid treating consecutive generations of codling moth, oriental fruit moth, leafrollers, and pear psylla.

Restrictions:

- Do not apply more than a total of 112 fl oz of GF-1629 SC (0.438 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 7 days of harvest.

Potatoes and Tuberous and Corm Vegetables, and Globe Artichoke

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) artichoke plume moth Colorado potato beetle dipterous leafminers (<i>Liriomyza</i> spp) (2) European corn borer loopers thrips (2)	12 – 16

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

(2) Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for heavy infestations or advanced growth stages of target pests. Heavy infestations may require repeat applications, but follow resistance management guidelines.

Chemigation: GF-1629 SC may be applied to potatoes by chemigation at labeled rates. Refer to the Application by Chemigation section for application guidelines.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not apply GF-1629 SC to consecutive generations of Colorado potato beetle and do not make more than 2 applications per single generation of Colorado potato beetle.

Restrictions:

- Do not apply more than a total of 64 fl oz of GF-1629 SC (0.250 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- **Preharvest Interval (PHI):**
 - Globe Artichoke:** Do not apply within 2 days of harvest.
 - Sugar and garden beets:** Do not apply within 7 days of harvest.
 - All others:** Do not apply within 7 days of harvest.

Root Vegetables

Including, but not limited to: Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-Rooted Chervil, Turnip-Rooted Parsley

Pests and Application Rates:

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) dipterous leafminers (<i>Liriomyza</i> spp) (2) European corn borer flea beetles (suppression) loopers thrips [†]	12 – 16

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

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

Specific Use Directions:

Application Timing: For determining when to treat, scout with enough regularity to monitor the population size of each of the labeled pests. Treat when pests appear, targeting eggs at hatch or small

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

Application Rate: Apply GF-1629 SC as a foliar spray at the rate indicated for the target pest. Use a higher rate in the specified rate range for larger larvae or heavier infestations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

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

- Do not apply more than a total of 56 fl oz of GF-1629 SC (0.219 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 3 days of harvest.

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

- Do not apply more than a total of 48 fl oz of GF-1629 SC (0.188 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** do not make more than 3 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 3 days of harvest.

Soybean

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) cabbage looper corn earworm (podworm) green cloverworm saltmarsh caterpillar soybean looper true armyworm velvetbean caterpillar	4 - 8

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

Specific Use Directions:

Application Timing: Treat when field counts or crop injury indicates damaging pest populations are present or developing. Time applications to treat small larvae and use sufficient spray volume to ensure good coverage. Use a higher rate in the specified rate range for heavy infestations and/or difficult spray coverage situations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to

another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 28 fl oz of GF-1629 SC (0.109 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 28 days of harvest.

Stone Fruits

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
peach twig borer (dormant spray)	12 – 28
cherry fruit fly green fruitworm leafminers, including: spotted tentiform, western tentiform leafrollers, including: oblique-banded fruit tree pandemis red-banded variegated peach twig borer (in-season spray) thrips (1) tufted apple bud moth western cherry fruit fly	18 – 28
oriental fruit moth plum curculio (suppression)	24 – 28

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

Specific Use Directions:

Application Timing: Oriental fruit moth applications should closely follow regional spray recommendations based on biofix dates, egg hatch, and/or pheromone trap catches. Oriental fruit moth larvae must be controlled before they penetrate the fruit. GF-1629 SC is a larvicide, begin applications shortly before egg hatch. For oriental fruit moth and thrips, repeat applications may be needed to maintain control; but follow resistance management guidelines. Peach twig borer applications can be made as dormant, delayed dormant, or May sprays. For cherry fruit fly and western cherry fruit fly, maintain protective sprays at 7-day intervals while adults are present and fruit is susceptible to attack. For all pests, consult with your Dow AgroSciences representative, state agricultural experiment station, certified pest control advisor or extension specialist for specific application timings in your area.

Application Rate: The amount of GF-1629 SC per acre will depend upon tree size and pest pressure. Choose lower rates in the specified rate range for light infestations or smaller trees and higher rates for

heavy infestations or larger trees.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 3 consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after 3 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Avoid treating consecutive generations of oriental fruit moth and leafrollers.

Restrictions:

- Do not apply more than a total of 112 fl oz of GF-1629 SC (0.438 lb ai of spinetoram) per acre per year.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 3 days apart for thrips, nor less than 7 days apart for all other listed pests.
- **Preharvest Interval (PHI):** Do not apply within 7 days of harvest for cherries, plums, and prunes, within 14 days of harvest for peaches and apricots, or within 1 day of harvest for nectarines.

Strawberry

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
armyworms (1) leafrollers thrips (2)	12 – 20

- (1) With the exception of yellowstriped armyworm and western yellowstriped armyworm.
- (2) Control of thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

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

Application Rate: Use GF-1629 SC at the rates indicated by application as a foliar spray to control target pests. Use a higher rate in the specified range for larger larvae or moderate to severe pest infestations. For thrips, a 3- to 4-day re-treatment schedule may be necessary if there is heavy pest pressure or if the pest population is increasing rapidly. For control of all other pests, a 5- to 7-day re-treatment schedule may be necessary if the crop is growing rapidly or if there is heavy pest pressure.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 78 fl oz of GF-1629 SC (0.305 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 5 applications per calendar year.

- **Minimum Re-Treatment Interval:** Do not make applications less than 3 days apart for thrips, nor less than 4 days apart for all other listed pests.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.

Tree Nuts and Pistachios

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

Pests and Application Rates:

(numbers in parentheses (-) refer to footnotes below)

Pests	GF-1629 SC (fl oz/acre)
peach twig borer (dormant spray)	6 – 28
oblique-banded leafroller peach twig borer (in-season spray) red-humped caterpillar walnut caterpillar walnut husk fly	12 – 28
codling moth fall webworm filbertworm hickory shuckworm pecan nut casebearer	18 – 28
navel orangeworm	24 – 28

Specific Use Directions:

Application Timing: Apply GF-1629 SC as either a dormant treatment or as a foliar spray when pests first appear or in accordance with local conditions. Applications should closely follow regional spray recommendations based on biofix dates, egg hatch, and/or pheromone trap catches. Lepidopterous larvae must be controlled before they penetrate the nuts or shoots. GF-1629 SC is a larvicide, begin applications shortly before egg hatch. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional use recommendations for your area.

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

Application Rate: The amount of GF-1629 SC per acre will depend upon tree size, volume of foliage present and pest pressure. Choose a higher rate in the specified rate range for larger trees or heavy infestations.

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 3 consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after 3 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- Do not apply more than a total of 112 fl oz of GF-1629 SC (0.438 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 4 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not apply treatments less than 7 days apart.
- **Preharvest Interval (PHI):** Do not apply within 14 days of harvest.

Tropical Tree Fruits

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, TI Palm Leaves, Wax Jambu, White Sapote

Pests and Application Rates:

Pests	GF-1629 SC (fl oz/acre)
katydids (1) lepidopterous larvae, including: avocado leafroller citrus peelminer cutworms fruit tree leafroller navel orangeworm orange tortrix western tussock moth thrips (2)	16 – 28

- (1) Katydids: Control of nymphs only, suppression of adults.
- (2) Control of thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Rate: The amount of GF-1629 SC per acre will depend upon tree size and pest pressure. Choose a lower rate in the specified rate range for light infestations and/or small trees and a higher rate for heavy infestations and/or large trees.

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

Resistance Management: To reduce the potential for resistance development in target pest species, do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. Do not apply to tropical tree fruits grown in greenhouses and nurseries.

Restrictions:

- Do not apply more than a total of 56 fl oz of GF-1629 SC (0.219 lb ai of spinetoram) per acre per crop.
- **Maximum Number of Applications:** Do not make more than 3 applications per calendar year.
- **Minimum Re-Treatment Interval:** Do not apply treatments less than 4 days apart.
- **Preharvest Interval (PHI):** Do not apply within 1 day of harvest.

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