

62719-544

09/28/2007

1/31



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg.

Number:

62719-544

Date of Issuance:

09/28/07

Term of Issuance:

Conditional

Name of Pesticide Product:

GF-1587 SC-NC

NOTICE OF PESTICIDE:

☒ Registration
☐ Reregistration
(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

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)(C) provided that you:

1. Submit and/or cite all data required for registration/re-registration of your product under FIFRA Section 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit responses required for re-registration of your product under FIFRA Section 4.
2. Make the following label changes:
 - a. Revise the Environmental Hazards section to read as follows: ***"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"

- b. It appears you have copied directions/precautions for a crop use label to this non-crop label. Therefore, revise the labeling appropriately:
- (1). Under General Information, page 5, delete "*aerial*" from the first paragraph and add the precaution "*Do not apply by air*".
 - (2). Under General Use Precautions, re-word/revise some of the IPM and IRM statements to be consistent with non-crop use label.
 - (3). On page 7, either delete the "Rate Chart for Crop Uses" or revise to reflect non-crop uses.
 - (4). On pages 8 and 9, delete all the paragraphs under Application – these pertain to agricultural crops uses.
 - (5). On page 10 under Ornamentals, delete "*excessive*" in the statement "to the point of excessive runoff".
 - (6). On page 14, delete section on control of cat fleas or submit and/or cite data to support this public health pest's claim.
 - (7). It is unclear who the intended user group is for "Sub- Label B: Residential Uses". The proposed labeling bears advertising claims on page 20 that suggests it is intended for residential consumer use. However, the directions for use (rate table, application equipment, application rate, etc.) suggest it is for use by commercial applicators around residential sites. If it is intended for residential consumer use, you must delete this section and apply for separate registration. If it is intended for use by commercial applicators around residential sites, revise this section so that it is consistent with the labeling for similar spinosad products (e.g., Conserve SC Turf and Ornamental, EPA Reg. No. 62719-291).
 - (8). Add the following statements under the General Use Precautions of the labeling:
 - Do not allow people or pets to contact treated surfaces until the spray has dried.
 - Do not treat pets.
 - Do not apply by air.
 - Do not apply directly to fish pools and other bodies of water.
 - Do not apply through any type of irrigation system.
 - Do not apply to forests.
- c. Revise the "Warranty Limitations and Disclaimer" as follows: Change "To the extent permitted by law" to read "*To the extent consistent with applicable law*".

3. Submit the data listed below conducted in accordance with the 40 CFR 158 test guidelines, by the associated due dates:

<u>Guideline Ref. No.</u>	<u>Title of Study</u>	<u>Date Due</u>
Ecological Effects		
72-2	Acute freshwater invertebrate	June 28, 2008
OPPTS 850.1025	Oyster acute toxicity test (shell deposition) raw data or new study	June 28, 2008
72-3a	Acute estuarine/marine fish	Sept. 28, 2009
72-3b	Acute freshwater fish	Sept. 28, 2008
72-4c	Mysid chronic toxicity test	February 28, 2009
OPPTS 850.1735	Whole Sediment Acute Toxicity Invertebrates, Freshwater	February 28, 2009
OPPTS 850.1740	Whole Sediment Acute Toxicity Invertebrates, Estuarine	February 28, 2009
OPPTS 850.3030	Honey bee toxicity of residues on foliage	February 28, 2009

Product Chemistry

Submit a revised CSF: The CSF for the basic formulation (dated 09-29-05) must be corrected because (a) the names of some inert ingredients provided in the formulation process do not match with those stated on the CSF (b) the pH value stated on the CSF differs from the value in the data submitted. Thus, you must incorporate these corrections and submit a revised CSF for evaluation. See accompanying Product Chemistry review.

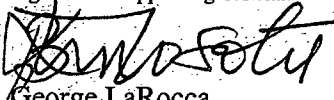
Submit to the Agency, data on one year storage stability testing (830.6317), conducted concurrently with the corrosion characteristics study (830-6320) at 0, 3, 6, 9 and 12 months of warehouse storage.

For further clarifications and/or additional information on the required labeling revisions and data requirements, please see copy of the Agency's Product Chemistry Review, "Human Health Risk Assessment", "Environmental Fate and Ecological Risk Assessment" and "Residue Chemistry Summary" dated March 6, 2006, September 20, July 31 and August 9, 2007, respectively.

Please note that your failure to satisfy any of the conditions imposed on this registration (e.g., failure to submit the required data by the specified deadlines, or the data submitted were not generated in accordance with applicable test guidelines) may result in the Agency's issuance of a cancellation notice, under FIFRA 6(e). 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.

Signature of Approving Official:


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

Date:

September 28, 2007

[Sub Label A: Commercial Uses]

(Base label):

GF-1587 SC-NC**Insecticide****ACCEPTED
with COMMENTS
In EPA Letter Dated:**

SEP 28 2007

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.**62719-544

**For control or suppression of lepidopterous larvae (worms, caterpillars),
dipterous leafminers, thrips, sawfly larvae, and certain leaf-feeding beetles in
commercial aquatic plants, ornamentals, tree farms or plantations, turfgrass, and
for control of red imported fire ants.**

Group	5	INSECTICIDE
--------------	----------	--------------------

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)

.....11.7%
Other Ingredients88.3%
Total100.0%

Contains 1 lb of active ingredient per gallon (120 g ai/liter)

Keep Out of Reach of Children**CAUTION**

Precautionary Statements

Hazards to Humans and Domestic Animals**Causes Moderate Eye Irritation**

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

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.

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 bees exposed to spray residues for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Agricultural Use Requirements

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

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

Notice: Read the entire label. 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 • Indianapolis, IN 46268 U.S.A.

Net Contents ____

(cover):

GF-1587 SC-NC**Insecticide**

For control or suppression of lepidopterous larvae (worms, caterpillars), dipterous leafminers, thrips, sawfly larvae, and certain leaf-feeding beetles in commercial aquatic plants, ornamentals, tree farms or plantations, turfgrass, and for control of red imported fire ants.

Group	5	INSECTICIDE
--------------	----------	--------------------

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)

.....11.7%
 Other Ingredients88.3%
 Total100.0%

Contains 1 lb of active ingredient per gallon (120 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 additional precautionary information including Personal Protective Equipment (PPE) and User Safety Recommendations, and Directions for Use including Storage and Disposal.

Notice: Read the entire label. 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 • Indianapolis, IN 46268 U.S.A.

Net Contents ____

(Page 1 through end):

Precautionary Statements

Hazard to Humans and Domestic Animals

CAUTION

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

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.

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 bees exposed to spray residues for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Directions for Use

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

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

Non-Agricultural Use Requirements

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

- Adults, children, and pets should not contact treated surfaces until the spray has dried.

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

General Information

GF-1587 SC-NC is used for control or suppression of many foliage feeding pests including lepidopterous larvae (worms or caterpillars), dipterous leafminers, thrips, sawfly larvae, certain psyllids and leaf-feeding beetles, and red imported fire ant. This product's active ingredient, spinetoram, is derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. The suspension concentrate of GF-1587 SC-NC 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-1587 SC-NC is recommended for IPM programs in labeled crops. GF-1587 SC-NC 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-1587 SC-NC 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-1587 SC-NC is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of GF-1587 SC-NC in an IPM program may be reduced.

Insecticide Resistance Management (IRM)

General Recommendations: GF-1587 SC-NC 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-1587 SC-NC 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.
- 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 internet at www.dowagro.com.

Specific Resistance Avoidance Recommendations in Greenhouses¹ and for Commercial Production of Herbaceous (Non-Woody) Ornamentals in Nurseries¹

- Regardless of the crop or pest being treated (excluding dipterous leafminers and diamondback moths), do not apply a Group 5 insecticide (spinetoram or spinosad) more than 10 times in a 12-month period inside a greenhouse or other structure that can be altered to be closed or open. For dipterous leafminer and diamondback moth control, do not apply a Group 5 insecticide (spinetoram or spinosad) more than 6 times in a 12-month period inside a greenhouse or other structure that can be altered to be closed or open, regardless if other insect pests are also being treated. It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- For commercial production of herbaceous (non-woody) ornamentals in nurseries (including plant propagation beds), do not apply a Group 5 insecticide (spinetoram or spinosad) more than 10 times in a 12-month period per crop regardless of the pest being treated (excluding dipterous leafminers and diamondback moths). For control of dipterous leafminers and diamondback moth in areas for commercial production of herbaceous (non-woody) ornamentals in nurseries (including plant propagation beds), do not apply a Group 5 insecticide (spinetoram or spinosad) more than 6 times in a 12-month period per crop, regardless if other insect pests are also being treated.
- Never apply more than 3 consecutive applications of a Group 5 insecticide (spinetoram or spinosad). If additional treatments are needed, rotate to a different active ingredient with a different mode of action. Use only recommended label rates.
- It is recommended to make localized area treatments of ornamental plants where pest problems are anticipated or occur rather than general area-wide broadcast treatments.

¹ A greenhouse is defined as a structure or space enclosed with a nonporous covering inside which plants are propagated or produced. A nursery is defined as a facility or area engaged in the outdoor propagation and production of plants.

Mixing

Always shake well before use. Avoid freezing.

Rate Chart for Crop Uses

Application Rate of GF-1587 SC-NC (fl oz/acre)	Active Ingredient Equivalent (lb ai/acre)
12	0.0938
11	0.0859
10	0.0781
9.5	0.0742
9	0.0703
8.5	0.0664
8	0.0625
7.5	0.0586
7	0.0547
6.5	0.0508
6	0.0469
5.5	0.0430
5	0.0391
4.5	0.0352
4	0.0313
3.5	0.0273
3	0.0234
2.5	0.0195
2	0.0156

Rate Chart for Small Plantings or Spot Sprays

GF-1587 SC-NC fl oz per acre (based on 100 gal/acre)	Amount of GF-1587 SC-NC Per Volume of Spray Solution: Fluid Ounces or Milliliters					
	Per 1 Gallon of Spray		Per 3 Gallons of Spray		Per 10 Gallons of Spray	
	fl oz	milliliters	fl oz	milliliters	fl oz	milliliters
2	0.02	0.6	0.06	1.8	0.2	6
4	0.04	1.2	0.12	3.6	0.4	12
6	0.06	1.8	0.18	5.4	0.6	18
8	0.08	2.4	0.24	7.2	0.8	24
10	0.10	3	0.30	9	1	30
12	0.12	3.6	0.36	10.8	1.2	36
14	0.14	4.2	0.42	12.6	1.4	42

For small plantings or spot sprays, add the required amount of GF-1587 SC-NC to the recommended amount of water (table is based on 100 gallons of water per acre), mix thoroughly and apply uniformly to plant foliage up to the point of runoff. Mix only as much spray as needed for a single treatment. Do not use more than 3 gallons of spray per 1000 sq ft of area. Follow all label instructions for mixing and

applications.

Mixing GF-1587 SC-NC 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-1587 SC-NC. 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-1587 SC-NC 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-1587 SC-NC.** 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-1587 SC-NC and other aqueous suspensions

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

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

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be 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, dense foliage, penetration into waxy leaf surfaces, and when less than optimum application equipment is used.

- Use only adjuvant products labeled for agricultural use and follow directions on the manufacturer's label. A nominal concentration of 1 to 2 qt 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-1587 SC-NC. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy density to ensure adequate spray coverage.

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.

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 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.

Uses

Commercial Aquatic Plant Production

Use GF-1587 SC-NC for control of China mark moth larvae infesting aquatic ornamental plants grown in commercial production facilities. This use is restricted to commercial facilities that utilize fully contained

above or in-ground pools or containers for the purpose of commercial production of aquatic ornamental plants.

Application Timing and Rate: Prepare a spray mixture containing 0.08 fl oz (2.3 mL) of GF-1587 SC-NC per gallon of water. Apply the spray mixture to aquatic foliage at a rate not to exceed 1 gallon of spray mixture per 100 sq ft of water surface area using suitable hand or power-operated application spray equipment. Apply when China mark moth larvae are present. Applications at 2-week intervals, 2 to 3 times per year have been shown to be effective when larvae are present.

Phytotoxicity: GF-1587 SC-NC has been tested alone on a wide variety of herbaceous and woody ornamental plants without phytotoxic symptoms. However, because it is not possible to test all possible tank mix combinations (including adjuvants) and ornamental plant species, varieties, and cultivars, and because environmental factors and varietal and plant stage of growth may affect phytotoxic expression, it is recommended that a small group of test plants be treated at the anticipated use rate of GF-1587 SC-NC either alone or in tank mix combinations and observed for at least 5 to 7 days to determine phytotoxicity before treating large numbers of those plants. **Note:** The professional user assumes responsibility for determining if GF-1587 SC-NC is safe to treated plants when applied either alone or in tank mixtures under commercial growing conditions.

Restrictions:

- **Do not** apply this product to aquatic environments (such as ponds; landscape pools or containers or ponds; lakes, rivers or streams) other than fully contained commercial production pools or containers.
- Do not apply more than a total of 56 fl oz of GF-1587 SC-NC (0.438 lb ai of spinetoram) per acre per year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart
- If GF-1587 SC-NC treated water needs to be discharged due to cleaning, repairing, or other reasons, discharge is allowed only onto land. Do not discharge GF-1587 SC-NC treated water from commercial production pools or containers into surface water.

Ornamentals (Herbaceous and Woody) Growing Outdoors, in Nurseries (Including Conifer Seed Orchards), or in Greenhouses

Use GF-1587 SC-NC to control insect pests listed in the following table. Dilute GF-1587 SC-NC in water and apply using suitable hand or power-operated application equipment (such as, but not limited to, portable pump-up, backpack, hydraulic, boom) in a manner to provide complete and uniform plant coverage. Attempt to penetrate dense foliage, but avoid over-spraying to the point of excessive runoff. Uniform coverage of both upper and lower leaf surfaces is critical for effective insect control.

GF-1587 SC-NC may be tank mixed with other insect control products if broader spectrum insect control is required. When using tank mixtures, also follow all label directions of the mixing partner(s).

Use of GF-1587 SC-NC in lath and shade houses is permitted.

Phytotoxicity: GF-1587 SC-NC has been tested alone on a wide variety of herbaceous and woody ornamental plants without phytotoxic symptoms. However, because it is not possible to test all possible tank mix combinations (including adjuvants) and ornamental plant species, varieties, and cultivars, and because environmental factors and varietal and plant stage of growth may affect phytotoxic expression, it is recommended that a small group of test plants be treated at the anticipated use rate of GF-1587 SC-NC either alone or in tank mix combinations and observed for at least 5 to 7 days to determine phytotoxicity before treating large numbers of those plants. **Note:** The professional user assumes responsibility for determining if GF-1587 SC-NC is safe to treated plants when applied either alone or in tank mixtures under commercial growing conditions.

Research has demonstrated that some spotting of African violet (*Saintpaulia*) flowers may occur.

Specific Use Directions:

Application Timing: Monitor pest populations. Applications should be targeted against early insect developmental stages whenever possible.

Application Rate: GF-1587 SC-NC may be used up to a maximum labeled rate of 0.15 fl oz per gallon (14.7 fl oz per 100 gallons) per application on trees and ornamentals as a general treatment regardless of the target insect pest. Use recommended pest-specific rates when a single insect pest or group of insect pests within a rate category is the only intended target. Do not reapply within less than 7 days.

Resistance Management: Dipterous leafminers and diamondback moth are particularly prone to resistance issues in greenhouses and ornamental nurseries. Follow label restrictions. 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. If uncertain of the generation cycle, no more than 3 consecutive applications should be used, nor should there be continuous use for more than 30 days. Rotate to a different active ingredient with a different mode of action or use no treatment for the next generation or 30 days if the generation cycle is not known.

Pests and Application Rates:

(numbers in parentheses (-) refer to Specific Recommendations below)

Pests	GF-1587 SC-NC (fl oz/gallon)	GF-1587 SC-NC (fl oz/100 gallons)
chrysomelid leaf feeding beetles, such as: elm leaf (1) viburnum leaf (larvae) willow leaf (1)	0.045 (1.3 ml/gallon) ^{††}	4.5 (133 ml/100 gallons) ^{††}
lepidopterous larvae, such as: azalea caterpillar bagworm beet armyworm cabbage looper California oakworm cankerworm diamondback moth eastern tent caterpillar fall webworm Florida fern caterpillar geranium budworm gypsy moth oblique banded leafroller oleander caterpillar orange striped oakworm spruce budworm tussock moths (hickory, white-marked) western tent caterpillar yellow-necked caterpillar (2)		
sawfly larvae, such as: European pine pear redheaded pine		
thrips ^{†††} (exposed) in greenhouse settings, such as: (3) Cuban laurel western flower		

dipterous gall midges pinyon spindlegall thrips ^{†††} (exposed) in outdoor settings, such as: Cuban laurel western flower (3)	0.075 (2.2 ml/gallon)	7.5 (222 ml/100 gallons)
dipterous leafminers, such as: serpentine (4) Nantucket pine tip moth	0.15 (4.4 ml/gallon)	15 (444 ml/100 gallons)

^{††}ml = milliliters, 1ml = 1cc (cubic centimeter)

^{†††}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 Recommendations for pest control in the greenhouse or nursery. Also refer to Specific Resistance Avoidance Recommendations in Greenhouses and for Commercial Production of Herbaceous (Non-Woody) Ornamentals in Nurseries:

- (1) **Elm leaf beetle and willow leaf beetle** (adults and larvae): For effective control, apply in the spring or early summer when feeding is observed.
- (2) For effective control of the following lepidopterous larvae:
 - **Bagworms:** Apply when bags are small and larvae are actively feeding.
 - **Beet armyworm:** Apply when larvae are small.
 - **Tent caterpillars and fall webworms:** Apply early when webs are first observed and direct the spray into the web and surrounding foliage within at least 3 feet of the nest.
 - **Gypsy moth larvae:** Apply when larvae are small and all eggs have hatched.
 - **Spruce budworms:** Apply when larvae are exposed and actively feeding.
- (3) **Exposed thrips (Cuban laurel and western flower):** For effective control, apply early at first signs of infestation and repeat until infestation is controlled, but follow resistance management guidelines. Addition of an adjuvant has been shown to enhance control of thrips (see Use of Adjuvants section under Mixing).
- (4) **Serpentine leafminers:** For effective control, apply early when stippling or mining of leaves is first observed and repeat until infestation is controlled, but follow resistance management guidelines. Addition of an adjuvant has been shown to enhance control of dipterous leafminers (see Use of Adjuvants section under Mixing).

Restrictions:

- Do not apply more than a total of 56 fl oz of GF-1587 SC-NC (0.438 lb ai of spinetoram) per acre per year.
- **In Greenhouses:** For dipterous leafminers and diamondback moth, do not apply GF-1587 SC-NC more than 6 times in a 12-month period inside a greenhouse or a structure that can be altered to be closed or open, regardless if other insect pests are also being treated. For all other listed pests (exclusive of dipterous leafminers and diamondback moth), do not apply GF-1587 SC-NC more than 10 times in a 12-month period inside a greenhouse or a structure that can be altered to be closed or open.
- **Minimum Re-Treatment Interval:** Do not reapply within less than 7 days.

Tree Farms or Plantations

Conifers, Including Christmas Trees, and Deciduous Trees

Specific Use Directions:

Application Timing: Time applications to reach larvae when small or just hatching. A 7-day re-treatment schedule may be necessary to maintain control. Consult with your Dow AgroSciences representative, state agricultural experiment station, certified pest control advisor or extension specialist for information on application timing for specific pests in your area.

Application Rates: The rate of GF-1587 SC-NC per acre will depend upon tree size and severity of infestation. Use a higher rate in the specified rate range for large trees or heavy infestations. Apply in sufficient volume to ensure thorough coverage.

Pests and Application Rates:

Pests	GF-1587 SC-NC (fl oz/acre)
lepidopterous larvae, such as: bagworm cone moth coneworm fall webworm gypsy moth hemlock looper jackpine budworm pine tip moth red-humped caterpillar spruce budworm tent caterpillar tussock moths sawfly larvae, such as: European pine pear red-headed pine	2 – 11

Restrictions:

- Do not apply more than a total of 39 fl oz of GF-1587 SC-NC (0.305 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:** Do not apply treatments less than 7 days apart.
- **Preharvest Interval:** None.

Turfgrass

Specific Use Directions:

Use GF-1587 SC-NC to control insect pests listed in the table. Dilute GF-1587 SC-NC in water and apply using suitable hand or power-operated application equipment (such as, but not limited to, portable pump-up, backpack, hydraulic, boom, turf "spray gun").

GF-1587 SC-NC may be tank mixed with other insect control products if broader spectrum insect control is required. When using tank mixtures, also follow all label directions of the mixing partner(s).

Application Timing: Monitor pest populations. Applications should be targeted against early insect developmental stages whenever possible.

Application Rate: Application GF-1587 SC-NC may be used up to a maximum labeled rate of 0.80 fl oz per 1000 sq ft (35 fl oz per acre) per application on turfgrass as a general treatment regardless of the target insect pest. Use pest-specific rates when a single insect pest or group of insect pests within a rate category is the only intended target.

Resistance Management: 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. If uncertain of the generation cycle, no more than 3 consecutive applications should be used, nor should there be continuous use for more than 30 days. Rotate to a different active

17/31

ingredient with a different mode of action or use no treatment for the next generation or 30 days if the generation cycle is not known. Do not reapply within less than 7 days.

Pests [†]	GF-1587 SC-NC (fl oz/1000 sq ft)	GF-1587 SC-NC (fl oz/acre)
armyworms-small larvae such as: fall armyworm (1) sod webworms (including tropical) (2)	0.16 (4.8 ml/1000 sq ft)	7 (207 ml/acre)
cutworms-small larva such as: black cutworm variegated cutworm (1,2)	0.55 (16.5 ml/1000 sq ft)	24 (710 ml/acre)
annual bluegrass weevil armyworms-large larvae such as: fall armyworm (1) black turfgrass ataenius (adults) cutworms-large larvae such as: black cutworm variegated cutworm (1,2) fleas, such as: cat flea (3)	0.80 (24 ml/1000 sq ft)	35 (1036 ml/acre)

[†]Numbers in parentheses refer to Specific Use Recommendations below.

^{**}ml = milliliters, 1 ml = 1 cc (cubic centimeter)

Specific Use Recommendations:

1. **Fall armyworm** and **black cutworm** larvae: The lower rate may be used for control of light infestations of small larvae (less than 3/4 of an inch for armyworms, an inch or less for cutworms); the higher rate should be used for control of heavy infestations and large larvae (3/4 of an inch or larger for armyworms, larger than an inch for cutworms). Applications for **fall armyworms** during the early morning or late afternoon can maximize control. Watering or mowing of the treated area should be delayed for 12 to 24 hours after treatment.
2. **Black cutworm**, **sod webworm**, and **tropical sod webworm** larvae: Applications during the late afternoon or early evening can maximize control. Watering or mowing of the treated area should be delayed for 12 to 24 hours after treatment.
3. Control of **cat fleas**: Apply early or late in the day since effective control requires direct contact of adults and larvae with the dilute spray prior to drying. Thorough spray coverage is necessary for outside areas frequented by pets. A second application at 7 to 14 days is recommended to control adults that have emerged from pupae present during the initial treatment. **Do not treat pets with GF-1587 SC-NC.**

Restrictions:

- Do not apply more than a total of 56 fl oz of GF-1587 SC-NC (0.438 lb ai of spinetoram) per acre per year.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.

Fire Ants – Mound Application in Turfgrass and Ornamentals, in Greenhouses, and in Other Outdoor Areas

Recommended Dilution Rate	
GF-1587 SC-NC (fl oz per 1 gallon)	GF-1587 SC-NC (fl oz per 10 gallons)
0.067 (2 ml)	0.67 (20 ml)

Specific Use Recommendations:

18/31

Fire ants such as red imported: Apply diluted GF-1587 SC-NC to individual fire ant mounds as a drench application. Use 1 to 2 gallons per mound depending upon the mound size. For mounds less than 8 inches in diameter, use 1 gallon of dilution per mound. Use a higher volume, up to 2 gallons, on mounds 8 inches or larger in diameter. Apply approximately 10% of the dilution volume around the perimeter of the mound out to about 12 inches and pour the remaining volume directly on the mound. Do not disturb mounds prior to application. If possible, apply following a recent rainfall. For best results, apply in cool weather, 65 to 85°F, or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays should not be used as they may disturb the ants and cause migration, reducing control.

Restrictions:

- Do not apply more than a total of 2 fl oz of GF-1587 SC-NC (0.016 lb ai of spinetoram) per acre per year.

Terms and Conditions of Use

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

Warranty Disclaimer

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

Inherent Risks of Use

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

Limitation of Remedies

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

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

19/31

EPA accepted __/__/__

[Sub Label B: Residential Uses]

(Base label):

GF-1587 SC-NC

Insecticide

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

SEP 28 2007

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

62719-544

**For control or suppression of lepidopterous larvae (worms, caterpillars),
dipterous leafminers, thrips, Colorado potato beetle, fruit flies, and red imported
fire ants in home lawns, gardens, and ornamental plants.**

**[Editor's note: Graphic devices illustrating plants which may be treated and/or pests which attack
crops and/or predatory beneficials and/or natural enemies which may be used in conjunction with
the below listed statements.]**

[Editor's note: Additional Statements for Use as Sale Copy]

and/or

Liquid concentrate

and/or

Easy to use

and/or

User friendly

and/or

No guesswork

and/or

CONCENTRATE

and/or

Makes up to ___ gallons of spray [Editor's note: dilution rate is 0.06 fl oz/gal]

and/or

For vegetables, apples, and citrus trees

and/or

Controls worms (caterpillars)

and/or

Kills worms (caterpillars)

and/or

Controls citrus leafminers

and/or

Controls Colorado potato beetle

and/or

Kills Colorado potato beetle

and/or

Controls certain insects in vegetable gardens

and/or

Controls certain insects in the garden

and/or

Controls certain insects in vegetable gardens

and/or

For vegetables

and/or

No odor water-based formula

and/or

Water-based formula

and/or

Contains spinetoram

and/or

Do-it-yourself home garden insect control

and/or

Leaves no oily residue

and/or

Kills certain home garden insect pests

and/or

Short post-harvest interval

and/or

Pick apples 7 days after spraying**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)

.....	11.7%
Other Ingredients	88.3%
Total	100.0%

Contains 1 lb of active ingredient per gallon (120 g ai/liter)

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

Avoid contact with eyes or clothing. Wear long-sleeved shirt, long pants, and shoes plus socks. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

First Aid

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

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

Environmental Hazards

This product is toxic to bees exposed to spray residues for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

22/31

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

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 • Indianapolis, IN 46268 U.S.A.

Net Contents _____

(cover):

GF-1587 SC-NC

Insecticide

For control or suppression of lepidopterous larvae (worms, caterpillars), dipterous leafminers, thrips, Colorado potato beetle, fruit flies, and red imported fire ants in home lawns, gardens, and ornamental plants.

[Editor's note: Graphic devices illustrating plants which may be treated and/or pests which attack crops and/or predatory beneficials and/or natural enemies which may be used in conjunction with the below listed statements.]

[Editor's note: Additional Statements for Use as Sale Copy]

and/or

Liquid concentrate

and/or

Easy to use

and/or

User friendly

and/or

No guesswork

and/or

CONCENTRATE

and/or

Makes up to __ gallons of spray [Editor's note: dilution rate is 0.06 fl oz/gal]

and/or

For vegetables, apples, and citrus trees

and/or

Controls worms (caterpillars)

and/or

Kills worms (caterpillars)

and/or

Controls citrus leafminers

and/or

Controls Colorado potato beetle

and/or

Kills Colorado potato beetle

and/or

Controls certain insects in vegetable gardens

and/or

Controls certain insects in the garden

and/or

Controls certain insects in vegetable gardens

and/or

For vegetables

and/or

No odor water-based formula

and/or

Water-based formula

and/or

Contains spinetoram

and/or

Do-it-yourself home garden insect control

and/or

Leaves no oily residue

and/or

Kills certain home garden insect pests

and/or

Short post-harvest interval

and/or

Pick apples 7 days after spraying

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)

..... 11.7%
Other Ingredients 88.3%
Total 100.0%

Contains 1 lb of active ingredient per gallon (120 g ai/liter)

Keep Out of Reach of Children

CAUTION

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

Notice: Read the entire label. 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. _____

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

Net Contents ____

(Page 1 through end):

Precautionary Statements

Hazard to Humans and Domestic Animals

CAUTION

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing. Wear long-sleeved shirt, long pants, and shoes plus socks. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

First Aid

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

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

Environmental Hazards

This product is toxic to bees exposed to spray residues for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

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.

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in ornamental gardens or parks, or on lawns and grounds.

Storage and Disposal

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

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

Pesticide Disposal: If empty: Do not reuse this container. Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency or 1-800-992-5994 for disposal instructions. Never place unused product down any indoor or outdoor drain.

General Information

GF-1587 SC-NC is an insect control product for control or suppression of many foliage feeding pests including lepidopterous larvae (worms or caterpillars), dipterous leafminers, thrips, Colorado potato beetle, fruit flies, and red imported fire ant. This product's active ingredient, spinetoram, is derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism.

Users should carefully read the Insecticide Resistance Management (IRM), and Mixing instruction sections found under General Use Precautions on this label. Specific use guidelines for home lawns, gardens, and ornamentals can be found below. **Adults, children, and pets should not contact treated surfaces until the spray has dried.**

General Use Precautions

Insecticide Resistance Management (IRM)

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.
- 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. If uncertain of the generation cycle, no more than 3 consecutive applications should be used, nor should there be continuous use for more than 30 days. Consider rotating to a different active ingredient with a different mode of action, or use no treatment for the next generation or 30 days, if the generation cycle is not known.
- 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.

Mixing

Always shake well before use. Avoid freezing.

Use Rate Table

Unit of Measure [†]	Amount of GF-1587 SC-NC to Use per 1 Gallon, 10 Gallons or 100 Gallons of Spray		
	Per 1 Gallon of Spray	Per 10 Gallons of Spray	Per 100 Gallons of Spray
Fluid Ounces (fl oz)	0.06 fl oz	0.6 fl oz	6 fl oz
Milliliters (ml)	2 ml	18 ml	180 ml
Tablespoons (Tbs)	1/6 Tbs	1.5 Tbs	12 Tbs
Teaspoons (tsp)	1/2 tsp	4 tsp	36 tsp

[†]Conversion factors: 1 fl oz = 30 ml = 2 tablespoons (Tbs) = 6 teaspoons (tsp) (1 teaspoon = 1/3 tablespoon)

Uses

Home Gardens

In the state of Georgia, do not apply GF-1587 SC-NC to: Broccoli Raab, Chinese Cabbage (Bok Choy), Collards, Kale, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens.

Use GF1587 SC-NC to control insect pests listed in the following table. Add the required amount of GF-1587 SC-NC to the recommended amount of water, mix thoroughly, and apply uniformly to plant foliage to point of runoff. Uniform coverage of both upper and lower leaf surfaces is essential for effective insect control. It is recommended to mix only as much spray as needed for a single treatment. **Do not use kitchen utensils for measuring. Keep measuring utensils with product and away from children.**

Apply when listed pests are present. Applications should be targeted against early insect developmental stages whenever possible. Repeat applications may be made as indicated in the table below, but follow resistance management guidelines.

Restrictions are specified in the table below, by crop.
(numbers in parentheses (-) refer to footnotes below)

Crops	Pests Controlled	Maximum Number of Applications per Season	Minimum Days to Wait Before Reapplying	Minimum Days to Wait from Last Application to Harvest
apple and other pome fruits including but not limited to: pears, crabapples, mayhaw and quince	codling moth leafminers leafrollers oriental fruit moth pear psylla tufted apple budmoth	4	7	7
asparagus (post-harvest to protect ferns)	asparagus beetles	3 (per crop)	4	60
bushberries and caneberries , including, but not limited to: blueberry, blackberry, raspberry, loganberry, currant, gooseberry, huckleberry, elderberry, juneberry, lingonberry, and salal	armyworms fireworms fruit flies fruitworms leafrollers loopers thrips(1)	6	bushberries, 6; caneberries, 4	bushberries, 3; caneberries, 1
citrus trees , including, but not limited to: grapefruit, lemons, limes, oranges, and tangerines (to prevent fruit scarring from thrips, treat when fruit is marble size)	katydids(2) leafminers thrips(1) worms (caterpillars)	3	7	1
cole crops (Brassica vegetables) , including, but not limited to: broccoli, broccoli raab, Brussels sprouts, cauliflower, cavalo, Chinese broccoli, cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, and rape greens	cabbage looper dipterous leafminers(1) diamondback moth imported cabbageworm worms (caterpillars)	6	4	1
sweet corn and popcorn (for corn earworms, treat silk frequently as it grows)	corn borers worms (caterpillars), including corn earworm	6	at silking, 2; all other times, 4	1
cucurbits , including, but not limited to: cucumber, edible gourds, muskmelons (cantaloupe, honeydew, etc.), pumpkin, summer and winter squash, and watermelon	dipterous leafminers(1) thrips(1) worms (caterpillars)	6 (per crop)	4	all except cucumber, 3; cucumber, 1
fruiting vegetables , including, but not limited to:	Colorado potato beetle dipterous leafminers(1)	6	4	1

eggplant, ground cherry, pepino, pepper, tomatillo, and tomato	thrips(1) worms (caterpillars)			
grape	leafrollers thrips(1) worms (berry moth)	5	4	7
herbs, leafy and dried	dipterous leafminers(1) thrips(1) worms (caterpillars)	5	4	1
leafy vegetables , including, but not limited to: arugula, celery, chervil, corn salad, cress, dandelion, dock, edible chrysanthemum, endive, fennel, garden purslane, head and leaf lettuce, parsley, radicchio, rhubarb, spinach, and Swiss chard	dipterous leafminers(1) worms (caterpillars)	6 (per crop)	4	1
legume vegetables (succulent and dried beans and peas) , including, but not limited to: blackeyed pea, garbanzo bean, garden pea, lima bean, snap bean, and snow pea	borers dipterous leafminers(1)	6	European corn borer, 3; all other pests, 4	succulent, 3; dried, 28
potato and other tuberous and corn vegetables , including, but not limited to: cassava, chayote root, Chinese artichoke, ginger, Jerusalem artichoke, potatoes, sweet potatoes, tumeric, and yams	Colorado potato beetle corn borers dipterous leafminers(1) thrips(1) worms (caterpillars)	4	7	7
stone fruits , including, but not limited to: apricots, cherries, nectarines, peaches, plums, and prunes	borers fruit flies leafminers leafrollers thrips(1) worms (caterpillars)	4	7	cherry, plum and prune, 7; peach and apricot, 14; nectarine, 1
strawberry	armyworms leafrollers thrips (1)	5	thrips, 3; all other pests, 4	1
tropical tree fruits : atemoya, avocado, cherimoya, custard apple, guava, longan, lychee, mango, papaya, passionfruit, rambutan, sapodilla, sapote, star apple, starfruit, and wax jambu	katydids (2) thrips worms (caterpillars)	3	4	1
tree nuts , including, but not limited to: almonds, cashew, chestnut, macadamia, pecan, pistachio, and walnut	husk fly leafrollers navel orangeworms peach twig borer shuckworms webworms	4	7	14

all crops listed in this table	fire ants	See Home Lawns and Ornamental Section
--------------------------------	-----------	---------------------------------------

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

Restrictions:

- Do not apply more than a total of 47 fl oz of GF-1587 SC-NC (0.367 lb ai of spinetoram) per acre per year.

Home Lawns and Ornamental Plants

Use GF1587 SC to control insect pests listed in the following table. Add the required amount of GF-1587 SC-NC to the recommended amount of water, mix thoroughly, and apply uniformly to plant foliage to point of runoff. Uniform coverage of both upper and lower leaf surfaces is essential for effective insect control. It is recommended to mix only as much spray as needed for a single treatment. **Do not use kitchen utensils for measuring. Keep measuring utensils with product and away from children.**

Apply when listed pests are present. Applications should be targeted against early insect developmental stages whenever possible. Repeat applications may be made as indicated in the table below.

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

Use Site	Pests Controlled	Comments
lawns	worms, including small (<3/4") armyworm, and sod webworm cat fleas	Mix the amount of GF-1587 SC-NC recommended per gallon of spray and uniformly apply a minimum of 3 gallons of spray per 1000 sq ft of area. Delay watering or mowing for 12 to 24 hours after application. Armyworms: For best results, apply in early morning or late afternoon. Cat fleas: Apply early or late in the day since effective control requires direct contact of adults and larvae with the dilute spray prior to drying. Thorough coverage is necessary for outside areas frequented by pets. A second application at 7 to 14 days is recommended to control adults that have emerged from pupae present during the initial treatment. Do not treat pets with GF-1587 SC-NC.
outdoor ornamentals (herbaceous and woody plants)	dipterous leafminers(1) gall midges leaf-feeding beetles sawfly larvae thrips(1) worms, including loopers, webworms, bagworms, gypsy moth, and tent caterpillars	Mix the amount of GF-1587 SC-NC recommended per gallon of spray and uniformly spray foliage to the point of runoff. Uniform coverage of upper and lower leaf surfaces is essential for effective insect control.
lawns, ornamentals, home gardens (see listed crops in Home Gardens section) and	fire ants	Individual Fire Ant Mounds: Mix the amount of GF-1587 SC-NC recommended per gallon of spray and use a sprinkler can or similar device to apply the diluted spray as a mound drench, using 1 to 2 gallons per mound. Do not use pressurized sprays. Apply about 10% of the spray volume around the perimeter of the

other outdoor areas		mound and the remainder directly to the mound. Do not disturb fire ant mound prior to application. If possible, apply following recent rainfall. For best results apply when weather is cool, 65 to 85°F, or in early morning or late evening. Treat new mounds as they appear.
---------------------	--	---

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

Restrictions:

- Do not apply more than a total of 47 fl oz of GF-1587 SC-NC (0.367 lb ai of spinetoram) per acre per year.

Terms and Conditions of Use

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

Warranty Disclaimer

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

Inherent Risks of Use

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

Limitation of Remedies

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

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

EPA accepted __/__/__