
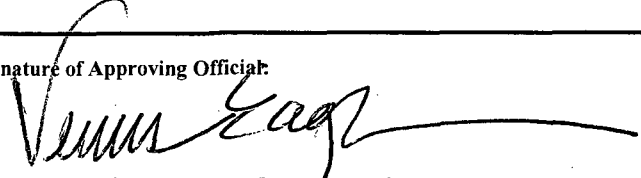


62719-678

3/5/2014

1/41

	<p>U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460</p>	<p>EPA Reg. Number:  62719-678</p>	<p>Date of Issuance:  MAR 05 2014</p>
<p>NOTICE OF PESTICIDE: <input checked="" type="checkbox"/> Registration <input type="checkbox"/> Reregistration (under FIFRA, as amended)</p>		<p>Term of Issuance: Conditional</p> <p>Name of Pesticide Product: TwinGuard WG</p>	
<p>Name and Address of Registrant (include ZIP Code): Dow AgroSciences LLC 9330 Zionsville Road Zionsville, IN 46268</p>			
<p>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.</p>			
<p>On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.</p> <p>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.</p> <p>This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided that you:</p> <ol style="list-style-type: none"><li>1. Submit and/or cite all data required for registration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data. You must comply with the following DCIs:<ol style="list-style-type: none"><li>a. Spinetoram GDCI-110008-1143, issued on October 19, 2012.</li></ol>If you have questions about the Spinetoram Generic DCI issued, you may contact Ms. Wilhelmena Livingston from the Pesticide Reevaluation Division at <a href="mailto:livingston.wilhelmena@epa.gov">livingston.wilhelmena@epa.gov</a>.</li><li>2. Make the following label changes before you release the product for shipment:<ul style="list-style-type: none"><li>• Revise the EPA Registration Number to read, "EPA Reg. No. 62719-678."</li></ul></li></ol>			
<p>Signature of Approving Official:  Venus Eagle, Product Manager 01 Insecticide-Rodenticide Branch, Registration Division (7505P)</p>		<p>Date:  MAR 05 2014</p>	

2/41

Page 2

EPA Reg. No. 62719-678

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.
4. Submit one copy of the revised final printed label for the record before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF, dated 7/22/13

If you have any questions, please contact Dr. Jennifer Urbanski at 703-347-0156 or [urbanski.jennifer@epa.gov](mailto:urbanski.jennifer@epa.gov).

Venus Eagle  
Product Manager 01  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

Enclosure

# TwinGuard™ WG

EPA Reg. No. 62719-XXX

## Registration Notes:

Proposed Section 3 label.

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

(Base label):

**TwinGuard™ WG****INSECTICIDE**

with ISOCLAST ACTIVE

For control or suppression of aphids, leaf feeding beetles, lepidopterous larvae (worms, caterpillars), dipterous leafminers, foliage feeding worms, lacebugs, plant bugs, thrips, whiteflies and certain scales and psyllids in barley, *Brassica* (cole) crops, bulb vegetables, citrus, cotton, cucurbits, fruiting vegetables (tomato, peppers, and eggplant), grape, leafy vegetables (except *Brassica*), leaves of root and tuber vegetables, succulent, edible and dried beans, okra, ornamentals (herbaceous and woody), pistachios, pome fruits, potato, root and tuber vegetables, soybean, stone fruits, strawberry, tree nuts, triticale and wheat.

Group	4C & 5	INSECTICIDE
-------	--------	-------------

## Active Ingredients:

spinetoram (a mixture of spinetoram-J and spinetoram-L) .....	20%
sulfoxaflor .....	20%
Other Ingredients .....	60%
Total .....	100.0%

Contains 40% active ingredient on a weight basis

**ACCEPTED**

MAR 05 2014

Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended, for the  
pesticide registered under:

EPA. Reg. No: 62719-678**Keep Out of Reach of Children****CAUTION**

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.
HOT LINE NUMBER	
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.	

**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, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**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.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

### Environmental Hazards

This product is highly toxic to bees exposed through contact during spraying and while spray droplets are still wet. Toxicity is reduced when spray droplets are dry. This product is toxic to bees exposed to treated foliage for up to 3 hours following application. 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.

Risk to managed bees and native pollinators from contact with pesticide spray or residues can be minimized when applications are made before 7:00 am or after 7:00 pm local time or when the temperature is below 55° F at the site of application.

Refer to the Directions for Use for crop specific restrictions and additional advisory statements to protect pollinators.

Spinetoram is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. 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.

Refer to label booklet for Directions for Use.

### 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.

Nonrefillable rigid containers 5 gallons or less:

### 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 must be disposed of on site or at an approved waste disposal facility.

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

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after

the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **Refillable rigid containers larger than 5 gal:**

##### **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 must be disposed of on site or at an approved waste disposal facility.

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

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

#### **Nonrefillable rigid containers larger than 5 gal:**

##### **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 must be disposed of on site or at an approved waste disposal facility.

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

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

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

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

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

7/41

EPA Reg. No. 62719-XXX

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

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

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

**NET WEIGHT** \_\_\_\_

8/41

(cover, shipping container):

**TwinGuard™ WG****INSECTICIDE****with ISOCLAST ACTIVE**

For control or suppression of aphids, leaf feeding beetles, lepidopterous larvae (worms, caterpillars), dipterous leafminers, foliage feeding worms, lacebugs, plant bugs, thrips, whiteflies and certain scales and psyllids in barley, *Brassica* (cole) crops, bulb vegetables, citrus, cotton, cucurbits, fruiting vegetables (tomato, peppers, and eggplant), grape, leafy vegetables (except *Brassica*), leaves of root and tuber vegetables, succulent, edible and dried beans, okra, ornamentals (herbaceous and woody) pistachios, pome fruits, potato, root and tuber vegetables, soybean, and stone fruits, strawberry, tree nuts, triticale and wheat.

## Active Ingredients:

spinetoram (a mixture of spinetoram-J and spinetoram-L) .....	20%
sulfoxaflor .....	20%
Other Ingredients .....	60%
Total .....	100.0%

Contains 40% active ingredient on a weight basis

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

FIRST AID	
<b>If in eyes</b>	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.
HOT LINE NUMBER	
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.	

**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.



9/  
41

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

EPA Reg. No. 62719-XXX

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

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

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

**NET WEIGHT** \_\_\_\_\_

10/  
41

(Page 1 through end):

---

**Precautionary Statements**

---

**Hazards 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, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**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.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

**Environmental Hazards**

This product is highly toxic to bees exposed through contact during spraying and while spray droplets are still wet. Toxicity is reduced when spray droplets are dry. This product is toxic to bees exposed to treated foliage for up to 3 hours following application. Do not apply this pesticide to blooming, pollen-shedding, or nectar producing parts of plants if bees may forage during this time period.

Risk to managed bees and native pollinators from contact with pesticide spray or residues can be minimized when applications are made before 7:00 am or after 7:00 pm local time or when the temperature is below 55° F at the site of application.

Refer to the Directions for Use for crop specific restrictions and additional advisory statements to protect pollinators.

Spinetoram is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. 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.

---

**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.

11/41

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 12 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 must be disposed of on site or at an approved waste disposal facility.

#### Nonrefillable rigid containers 5 gallons or less:

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

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

#### Refillable rigid containers larger than 5 gal:

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

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

#### Nonrefillable rigid containers larger than 5 gal:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

## Product Information

TwinGuard™ WG insecticide is used for control or suppression of many foliage feeding pests including aphids, lepidopterous larvae (worms or caterpillars), whiteflies, thrips, Colorado potato beetles, dipterous leafminers, and certain psyllids infesting labeled crops. Mix the suspension concentrate of TwinGuard WG with water and apply as a foliar spray with aerial or ground equipment suitable for conventional insecticide spraying.

## Use Precautions

### Integrated Pest Management (IPM) Programs

TwinGuard WG is recommended for IPM programs in labeled crops. Apply TwinGuard WG 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, TwinGuard WG 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 TwinGuard™ WG is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of TwinGuard WG in an IPM program may be reduced.

### Insecticide Resistance Management (IRM)

TwinGuard WG contains sulfoxaflor, a Group 4C insecticide, and spinetoram, a Group 5 insecticide. Insect biotypes with acquired resistance to Group 4C and 5 insecticides may eventually dominate the insect population if Group 4C and 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 TwinGuard WG. 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 IRM recommendations.
- Avoid use of the same active ingredient or mode of action (same insecticide group) on consecutive generations of insects. However, multiple applications to reduce a single generation are acceptable. Treat the next generation with a different active ingredient that has a different mode of action, or use no treatment for the next generation.
- Avoid using less than labeled rates of any insecticide when applied alone or in tank mixtures.

- Applications should be targeted against early insect developmental stages whenever possible.
- Base insecticide use on comprehensive IPM programs including crop rotations.
- Monitor treated insect populations in the field for loss of effectiveness.
- Do not treat seedling plants of edible crops grown for transplant in greenhouses, shade houses, or field plots.
- Contact your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problem.
- For further information or to report suspected resistance, contact your local Dow AgroSciences by calling 800-258-3033.

## Mixing Directions

### Application Rate Chart for Crop Uses

Application Rate of TwinGuard WG (oz/acre)	Total Active Ingredient Equivalent (lb ai/acre)	Active Ingredient (each active, lb ai/acre)
7.5	0.19	0.094
7	0.18	0.088
6.5	0.16	0.081
6	0.15	0.075
5.5	0.14	0.069
5	0.13	0.063
4.5	0.11	0.056
4	0.10	0.050
3.5	0.09	0.044
3	0.08	0.038
2.5	0.06	0.031
2	0.05	0.025
1.25	0.032	0.016
1	0.025	0.013

**TwinGuard™ WG - Alone:** Fill the spray tank with water to about 1/2 of the required spray volume. Start agitation and add the required amount of TwinGuard WG. 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.

**TwinGuard WG - Tank Mix:** When tank mixing TwinGuard WG 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. Rapid precipitation of the ingredients and failure to re-suspend when shaken indicates that the mixture is incompatible and should not be applied. If foliar fertilizers are used, the jar test should be repeated with each batch of fertilizer utilizing the mixing water source. Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

**Mixing Order for Tank Mixes:** Fill the spray tank with water to 1/4 to 1/3 of the 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. TwinGuard WG and other water dispersible granules
2. Wettable powders

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

1. Emulsifiable concentrates and water-based solutions
2. Spray adjuvants, surfactants, and oils
3. 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 to 35 mesh screen. This procedure assures good initial dispersion of these formulation types.

**Spray Tank pH:** A spray tank pH between 5.0 and 9.0 is suggested to achieve maximum performance of TwinGuard™ WG. If the water source is outside of this pH range, or tank mixing other pesticides, adjuvants, or foliar nutrients will cause the pH to fall outside this range, consider adjusting the spray tank pH to be between 5.0 and 9.0 before adding TwinGuard WG. To do this, add all other tank mix components first, then check the spray tank pH and adjust if desired, and then add TwinGuard WG. If you require additional information on how to adjust spray tank pH, contact your Dow AgroSciences representative.

**Use of Adjuvants:** The addition of agricultural adjuvants to sprays of TwinGuard WG may improve initial spray deposits, plant coverage, penetration into waxy leaf surfaces, redistribution and weatherability. Select adjuvants that are recommended and registered for your specific use pattern and follow their use directions. Always add adjuvants last in the mixing process.

- Use only adjuvant products labeled for agricultural use and follow the manufacturer's label directions. A nominal concentration of 1 to 2 quarts 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, thrips, 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.
- When an adjuvant is to be used with this product, Dow AgroSciences recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

## Application Directions

### NOT FOR RESIDENTIAL USE

Do not apply TwinGuard WG in greenhouses or other enclosed structures used for growing food crops.

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

## Spray Drift Management

### 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. Wind speed must be measured adjacent to the application site on the upwind

side, immediately prior to application.

### **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 ASABE Standard S-572 definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size. Exceptions may be indicated for specific crop groups.

### **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 atomizer suitable for insecticide spraying to provide a fine to coarse spray quality (per ASABE S-572, see nozzle catalogs). Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's specifications for ideal nozzle spacing and spray pressure. Minimize boom height to optimize uniformity of coverage and optimize deposition (on-target deposition) to reduce drift.

### **Tree, Vine, and Ornamentals Crop Application**

**Dilute Spray Application:** This application method is based upon 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.

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

### **Groundboom Application**

For groundboom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy. For ground boom and airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top of the crop canopy, spray must be directed into the canopy. Calibrate airblast application equipment and operate in a manner that achieves full displacement of the air within the crop canopy with air containing spray droplets.

### **Aerial Application**

Apply in a minimum spray volume of 3 gallons per acre (10 gallons or more per acre for trees, vines, grove, ornamentals, or orchard crops). Nozzle configuration should provide a medium to fine droplet size per ASABE S-572 standard (see USDA-ARS or NAAA handbook). Guidance for ASABE 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 80% of rotor span and swath adjustment (offset) to compensate for crosswinds. Observe minimum safe application height (maximum 12 feet for agricultural canopies). Use GPS equipment, swath markers or flagging to ensure proper application to the target area. Configure the boom nozzle used (e.g., at NAAA/ Operation Safe Fly-In) for both crosswind and near parallel winds. If application is made parallel to the wind direction, adjust swath width downward. Use swath adjustment (offset) to compensate for crosswinds. Do not apply under completely calm wind conditions. It is best to apply when wind speed is between 2 to 10 mph. Under conditions of low humidity and high temperatures, adjust spray volume and droplet size upward to compensate for evaporation of spray droplets. In tree crops, insect control by aerial application may be less than control by ground

16/41

application because of the reduced coverage.

**Additional Requirements for Aerial Applications:** Mount the spray boom on the aircraft to minimize drift caused by wingtip or rotor vortices. Use the minimum practical boom length and do 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.

#### **Chemigation Application**

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

**Directions for Sprinkler Chemigation:** Apply this product only through sprinkler irrigation systems including: center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, 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 TwinGuard WG must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For irrigation systems that do not move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle.

**Chemigation Equipment 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 TwinGuard™ WG needed to cover the desired acreage. Mix according to instructions in the Mixing Directions section above using a dilution concentrate matching your injector system requirements. Continually agitate the mixture during mixing and application.

**Chemigation Equipment Calibration:** In order to calibrate the irrigation system and injector to apply the mixture containing TwinGuard WG, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Calculate the amount of product required and premix. 3) Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 4) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. This value equals the gallons per minute output that the injector or eductor must deliver. Convert the gallons per minute to milliliters or ounces per minute if needed. 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.

#### **Chemigation Equipment Requirements:**

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



- The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 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.
- 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.

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

**Chemigation Precautions:**

- Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact state extension service specialists, equipment manufacturers or other experts.
- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and make necessary adjustments should the need arise and continuously monitor the injection.

**Chemigation Restrictions:**

- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 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.

18/41

- 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.

#### Rotational Crop Restrictions

Only a crop approved for sulfoxaflor (Transform WG or Closer SC) and spinetoram use (Delegate WG or Radiant SC) may be immediately rotated to a treated field. All other crops may be rotated 30 days following last application.

#### Use Directions

#### Barley, Triticale and Wheat

##### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
Aphids (except Russian wheat aphid)	1.25 – 2.0
Greenbug	
cereal leaf beetle	1.25 – 3.75
Russian wheat aphid	2.0 – 3.75
armyworms <sup>1</sup>	
corn earworm (headworm)	
grasshoppers (suppression)	
southwestern corn borer	
webworms	

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

**Application Timing:** Scout for **armyworms** with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Time applications of TwinGuard™ WG to coincide with peak egg hatch and/or small larval stage of each generation. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

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

**Resistance Management:** Do not make more than two consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after two consecutive applications of Group 4C or 5 insecticides, rotate to another class of effective insecticides for at least 1 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:

- **Preharvest Interval:** Do not apply within 21 days of grain or straw harvest or within 7 days of forage, fodder, or hay harvest.
- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.
- Do not make more than 2 applications per crop. Do not make more than 2 applications of any product containing sulfoxaflor, or 3 applications of any product containing spinetoram, per year.

19/  
41

- Do not apply more than a total of 7.25 oz of TwinGuard WG (0.09 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.09 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.14 lb ai per acre per year.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

### **Brassica (Cole) Leafy Vegetables (Crop Group 5)<sup>1</sup>**

<sup>1</sup>Brassica (cole) leafy vegetables (crop group 5) 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 TwinGuard WG to broccoli raab, Chinese cabbage (bok choy), collards, kale, mizuna, mustard greens, mustard spinach, rape greens

#### **Pests and Application Rates:**

<b>Pests</b>	<b>TwinGuard WG (oz/acre)</b>
aphids	2.0 – 2.5
armyworms <sup>1</sup> cabbage looper <sup>2</sup> diamondback moth <sup>2</sup> imported cabbageworm <sup>2</sup> light brown apple moth	3.5 – 6.5
dipterous leafminers, <i>Liriomyza</i> spp <sup>2</sup> thrips <sup>2</sup> whiteflies	4.0 – 6.5
Hawaiian beet webworm	4.5 – 6.5

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>Control of lepidopterous larvae, leafminers, and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area. Two applications may be required for optimum control of whiteflies.

**Application Rate:** Apply TwinGuard™ WG as a foliar spray at the rate specified to control target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Two applications may be required for optimum control of whiteflies.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. For diamondback moth and thrips, if additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 2 applications. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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 TwinGuard WG per calendar year for diamondback moth over an entire farm (an area of abutting or nearby fields).

#### **Restrictions:**

20/  
41

- **Preharvest Interval:** Do not apply within 3 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 6 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor or spinetoram that total more than 0.266 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not apply to seedling cole crops grown for transplant within a greenhouse, shade house, or field plot.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

### Bulb Vegetables (Crop Group 3)<sup>1</sup>

<sup>1</sup>Bulb vegetables (crop group 3) dry bulb onion, garlic, great-headed (elephant) garlic, green onion, leek, shallot, Welsh onion

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
armyworms <sup>1,2</sup> European corn borer <sup>2</sup> loopers <sup>2</sup>	3.5 – 6.5
dipterous leafminers <sup>2</sup> flea beetles (suppression) thrips <sup>2</sup>	4 – 6.5

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>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 Directions. Control of thrips requires thorough coverage of the crop. Coverage can be increased by using higher spray pressure and dual directed nozzles.

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

**Application Rate:** Apply TwinGuard WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for larger larvae or heavier infestations.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. For thrips, if additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 2 applications. Do not make more than 2 applications of Group 5 insecticides for thrips in a season. 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:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 5 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.
- Do not apply more than a total of 18.75 oz of TwinGuard™ WG (0.234 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total

21/41

more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.234 lb ai per acre per year.

- Do not make more than 2 consecutive applications per crop.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

### Citrus (Crop Group 10)<sup>1</sup>

<sup>1</sup>Citrus (crop group 10) grapefruit, lemons, limes, oranges, tangerines

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
Aphids	2.0 – 3.5
Asian citrus psyllid <sup>1</sup> citrus leafminer <sup>1</sup> citrus orangedog katydids <sup>2</sup> lepidopterous larvae, including: avocado leafroller citrus peelminer cutworms fruit tree leafroller light brown apple moth orange tortrix western tussock moth citrus snow scale mealybugs	4.0 – 7.0
citrus thrips, <i>Scirtothrips citri</i> <sup>1</sup>	5.0 – 7.0
citricola scale (suppression) Florida red scale California red scale (suppression only)	7.0

<sup>1</sup>Control of leafminers, thrips, and psylla may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

<sup>2</sup>Katydid: Control of nymphs only; suppression of adults.

**Advisory Pollinator Statement:** Notifying known beekeepers within 1 mile of the treatment area 48 hours before the product is applied will allow them to take additional steps to protect their bees. Also, limiting application to times when managed bees and native pollinators are least active, e.g., before 7 am or after 7 pm local time or when the temperature is below 55°F at the site of application, will minimize risk to bees.

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

**Application Rate:** The amount of TwinGuard WG applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations and/or smaller trees and a higher rate in the rate range for heavy infestations and/or larger trees.

**Low Volume Application (for Use in Florida Only):** TwinGuard WG may be applied by ground application in a minimum finished spray carrier volume of 2 gallons per acre. Spray applications must be made with spray nozzles that create a droplet size with a volume median diameter (VMD) of 90 microns or larger. An adjuvant may be used in the spray mixture at the specified rate of the manufacturer.

22/41

Evaluate the effect of specific adjuvants or tank mix partners on the performance of TwinGuard WG in low volume applications in a small-scale application before making large-scale applications.

To achieve good control, uniform coverage and proper equipment calibration are required. Apply only with air-assisted equipment. Low volume applications may not provide the same level of efficacy that can be obtained with an airblast sprayer at higher application volumes.

Reduce the potential for drift when making low volume applications. Factors that may impact drift include wind speed and temperature inversion. Only apply this product if the wind direction favors on-target deposition. Do not apply when wind velocity exceeds 15 mph. See the Application Directions section for additional information on reducing spray drift.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. For citrus thrips, rotate to another class of effective products for the next 2 applications after using 2 applications of TwinGuard™ WG within a season. 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:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.
- Do not make more than 3 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 3 applications of any product containing spinetoram, per year.
- Do not apply more than a total of 15 oz of TwinGuard WG (0.188 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.188 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not apply to citrus nurseries or citrus in greenhouses.
- Only one application is allowed between 3 days before bloom and until after petal fall per year.

#### Cotton

##### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
thrips (early season) <sup>2</sup>	1.0 – 5.0
cotton aphid	2.0 – 2.5
cotton bollworm (pre-bloom) cotton leafperforator European corn borer tobacco budworm	2.0 – 5.0
tarnished plant bug western tarnished plant bug silverleaf whitefly sweetpotato whitefly	4.0 – 5.0
armyworm <sup>1</sup> cotton bollworm (post-bloom) dipterous leafminers <sup>2</sup> loopers saltmarsh caterpillar thrips (mid to late season) <sup>2</sup>	3.0 – 5.0
brown stinkbug (suppression) southern green stinkbug (suppression)	5.0

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>Control of lepidopterous larvae, leafminers and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Advisory Pollinator Statement:** Notifying known beekeepers within 1 mile of the treatment area 48 hours before the product is applied will allow them to take additional steps to protect their bees.

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

For **cotton bollworm**, use a lower rate in the rate range at pre-bloom timings and a higher rate in the rate range at post-bloom timings. For **tobacco budworm** and/or **cotton bollworm**, scout fields twice per week and apply TwinGuard WG 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 (Inch)	Instar
Hatch	1/16	1 <sup>st</sup>
3	1/4	2 <sup>nd</sup>
5	1/2	3 <sup>rd</sup>
8	7/8	4 <sup>th</sup>
10	1	5 <sup>th</sup>

**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 TwinGuard WG when field scouting reveals three occurrences or more 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 TwinGuard WG when field scouting reveals 4 larvae per 1 foot of row or 25% defoliation.

**Application Rate:** Use a higher rate of TwinGuard™ WG in the 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. Two applications may be required for optimum whitefly or plant bug control under high pest pressure or heavy immigration of plant bugs from other crops.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:**

- **Preharvest Interval:** Do not apply within 28 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart.

24/41

- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor or spinetoram that total more than 0.266 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 6 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.

### Cucurbit Vegetables (Crop Group 9)<sup>1</sup>

<sup>1</sup>Cucurbit vegetables (crop group 9) cucumber, edible gourds, muskmelons (cantaloupe, honeydew, etc.), pumpkin, summer squash, watermelon, winter squash

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 2.5
armyworms <sup>1</sup> cabbage looper melonworm pickleworm rindworms	3.5 – 5.5
dipterous leafminers <sup>2</sup> thrips <sup>2</sup> whiteflies	4.0 – 5.5

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>Control of lepidopterous larvae, leafminers and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Advisory Pollinator Statement:** Notifying known beekeepers within 1 mile of the treatment area 48 hours before the product is applied will allow them to take additional steps to protect their bees. Also, limiting application to times when managed bees and native pollinators are least active, e.g., before 7 am or after 7 pm local time or when the temperature is below 55°F at the site of application, will minimize risk to bees.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply TwinGuard WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Two applications may be required for optimum whitefly control.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:

- **Preharvest Interval:** Do not apply within 3 days of harvest for all cucurbit crops except cucumbers. Do not apply within 1 day of harvest for cucumbers.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.



25/41

- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor or spinetoram that total more than 0.266 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or more than 6 applications of any product containing spinetoram per year. See Resistance Management regarding number of applications for specific pests.

### Fruiting Vegetables (Crop Group 8)<sup>1</sup> and Okra

<sup>1</sup>Fruiting vegetables (crop group 8) eggplant, ground cherry, pepino, pepper (except black), tomatillo, tomato

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
Aphids	2.0 – 2.5
armyworms <sup>1</sup> Colorado potato beetle European corn borer hornworms light brown apple moth loopers plantbugs tomato fruitworm, <i>Helicoverpa zea</i> tomato pinworm	3.5 – 5.5
dipterous leafminers, <i>Liriomyza</i> spp <sup>2</sup> flower thrips <sup>2</sup> Greenhouse whitefly [outdoors] pepper weevil (suppression) <i>Thrips palmi</i> <sup>2</sup> Silverleaf whitefly Sweetpotato whitefly	4.0 – 5.5

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>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 Directions.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae. 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. Time applications of TwinGuard™ WG to coincide with peak egg hatch in species without overlapping generations.

**Application Rate:** Apply TwinGuard WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Two applications may be required for optimum whitefly control.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. For **thrips**, if additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 2 applications. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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 Group 5 insecticides to consecutive generations of Colorado potato beetle and do not make more

than 2 applications per single generation of Colorado potato beetle.

**Restrictions:**

- Not for use on peppers in the State of Florida.
- **Preharvest Interval:** Do not apply within 1 day of harvest.
- **Minimum Re-Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per calendar year. Do not make applications of any product containing sulfoxaflor or spinetoram that total more than 0.266 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 6 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.
- Do not apply to seedling fruiting vegetables and okra grown for transplant within a greenhouse, shade house, or outdoor transplant bed.

## Grape

**Pests and Application Rates:**

Pests	TwinGuard WG ( oz/acre)
cutworm	4.0 – 6.5
European grapevine moth	
grape berry moth	
grape leaffolder	
light brown apple moth	
omnivorous leafroller	
orange tortrix	
plant bugs	
redbanded leafroller	
thrips <sup>1</sup>	
western grape leaf skeletonizer	
grape leafhopper	
mealybugs	

<sup>1</sup>Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Carefully adjust equipment and spray volume to assure thorough uniform coverage. Use a higher rate of TwinGuard™ WG in the rate range for larger larvae or moderate to severe infestations and/or larger plant volume.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.305 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 5 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

### Leafy Vegetables (Except *Brassica*) (Crop Group 4)<sup>1</sup>, Leaves of Root and Tuber Vegetables (Crop Group 2)<sup>2</sup> and Watercress

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

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

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 2.5
armyworms <sup>1</sup> cabbage looper corn earworm, <i>Helioverpa zea</i> diamondback moth imported cabbageworm leafhoppers light brown apple moth	3.5 – 6.5
dipterous leafminers, <i>Liriomyza</i> spp <sup>2</sup> thrips <sup>2</sup> silverleaf whitefly sweetpotato whitefly	4.0 – 6.5

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>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 Directions.

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

**Application Rate:** Apply TwinGuard WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Two applications may be required for optimum whitefly control.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not make more than 3 applications of Group 5 insecticides for

28/  
41

thrips in a season. 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:

- **Preharvest Interval:**  
**Leafy vegetables (including watercress):** Do not apply within 3 days of harvest.
- **Leaves of root and tuber:** Do not apply within 7 days of harvest. **Note:** Root, tuber and legume vegetables treated as described may only be harvested for the foliage, not for the root, tuber, bean or pea.
- **Minimum Treatment Interval:**  
**Leafy vegetables (including watercress):** Do not make applications less than 7 days apart.  
**Leaves of root and tuber:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 6 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.
- Do not apply to seedling leafy crops grown for transplant within a greenhouse, shade house, or outdoor transplant bed.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor or spinetoram that total more than 0.266 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

#### Ornamentals (Herbaceous and Woody) Growing Outdoors, in Nurseries (Including Conifer Seed Orchards) or in Greenhouses (Non-residential use only)

Pests	TwinGuard WG oz/ 3 gallons	TwinGuard WG oz/100 gallons	TwinGuard WG oz/acre
-------	-------------------------------	--------------------------------	-------------------------

29/41

aphids chrysomelid leaf feeding beetles, such as: elm leaf (1) viburnum leaf (larvae) willow leaf (1) European grapevine moth 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 light brown apple moth oblique banded leafroller oleander caterpillar orange striped oakworm spruce budworm tussock moths (hickory, whitemarked) western tent caterpillar winter moth yellownecked caterpillar (2) sawfly larvae, such as: European pine pear redheaded pine shore fly mealybugs such as: citrus mealybug Lygus bugs	0.06-0.08 (1.7-2.3 g)	2-2.75 (57-78 g)	4-5.5 (114-156 g)
dipterous gall midges pinyon spindlegall lacebug whiteflies pine needle scale (3)	0.08 (2.3 g)	2.75 (78 g)	5.5 (114-156 g)
scale (3) such as cottony cushion or false oleader (supression) spider mites, such as: two-spotted (4) (see 4 below for mite suppression/control expectations)	0.10 (3 g)	3.5 (99 g)	7.0 (198 g)

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

**Advisory Pollinator Statement:** Notifying known bee-keepers within 1 mile of the treatment area 48 hours before the product is applied will allow them to take additional steps to protect their bees. Also limiting application to times when managed bees and native pollinators are least active, e.g., before 7 am or after 7 pm local time or when temperature is below 55°F at the site of application, will minimize risk to bees.

**Pest-Specific Use Directions (for pest control nursery, also refer to Insecticide Resistance Management):**

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 armyworms:** Apply when larvae are small.
  - **Diamondback moth:** If additional treatments are required after two consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least two applications.
  - **Gypsy moth larvae:** Apply when larvae are small and all eggs have hatched.
  - **Spruce budworms:** Apply when larvae are exposed and actively feeding.
  - **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.
3. **Scale:** Time application to the crawler stage.
4. **Spruce spider mites and two-spotted spider mites:** Apply when spider mites are first observed prior to webbing and before mite populations have become severe. Reapply after 7 days in greenhouse setting and 14 days in outdoor settings (to contact newly hatched nymphs). **Uniform coverage of both upper and lower leaf surfaces is critical.**

**Note:** Control of spider mites with TwinGuard WG in certain research trials has been variable. The variability between these evaluations is not well understood but may be due to late application timing when mite populations and webbing were severe, poor spray coverage of both the upper and lower leaf surfaces, or interaction of the leaf surface with residues of TwinGuard WG. Addition of a nonionic spray adjuvant and at label rates in outdoor settings has been shown to improve spray coverage and enhance control of spider mites (follow surfactant manufacturer's label directions).

**Application Method:** Dilute TwinGuard™ WG in water and apply using suitable hand or power-operated application equipment (such as portable pump-up, backpack, hydraulic, boom) in a manner to provide complete and uniform plant coverage. Use of TwinGuard WG in lath and shadehouses is permitted.

TwinGuard WG may be aerially applied to commercially grown ornamentals only. Aerial or ground applications in product agriculture or directed ground applications to individual plants are permitted. Do not make aerial applications in immediate proximity of residential, commercial, government, institutional or other structures where people may be present including homes, apartments, offices, churches, schools and businesses. Aerial applicators should evaluate conditions existing at the time of application and make appropriate adjustments to reduce drift. In urban areas, however, use is limited to ground applications.

**Application Rate:** TwinGuard WG may be used up to a maximum labeled rate of (3.5 oz per 100 gallons, 7 oz per acre) per application on trees and ornamentals 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.

**Spray Volume:** 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.

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

- **Minimum Retreatment Interval:** Do not make applications less than 14 days apart.
- Do not make more than four applications per year
- Do not make more than two consecutive applications
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflo and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflo and spinetoram that total more than 0.266 lb ai per acre per year.

- Do not make more than 1 application during bloom. The single application during bloom must not exceed a rate of 5.5 oz/acre (0.069 lb per acre each of sulfoxaflor and spinetoram). Do not make applications during bloom of any product containing sulfoxaflor that exceed 0.07 lbs/acre.
- Do not treat pets.
- Do not graze livestock in treated areas.
- Do not apply directly to fish pools and other bodies of water that may contain fish.
- TwinGuard may be aerially applied to commercially grown ornamentals only. Do not aerially apply this product to any other crop except as specified on Dow AgroSciences approved labeling.

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

<sup>1</sup>Pome fruits (crop group 11) apples, crabapple, mayhaw, pears, quince

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 3.5
white apple leafhopper	
wooly apple aphid	3.5 – 7.0
plant bugs	
codling moth	6.0 – 7.0
oriental fruit moth	
European corn borer	
European grapevine moth	
gypsy moth	
laconobia fruitworm	
leafminers <sup>1</sup> , including:	
spotted tentiform	
western tentiform	
leafrollers, including:	
oblique-banded	
pandemis	
lesser appleworm	
light brown apple moth	
thrips <sup>1</sup>	
tufted apple budmoth	
apple maggot	7.0
(suppression)	
pear psylla <sup>1</sup>	
plum curculio	
(suppression)	
San Jose scale	(suppression)
(suppression)	

<sup>1</sup>Control of thrips, leafminers, and pear psylla may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. Closely follow regional spray recommendations for codling moth and oriental fruit moth treatments 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. TwinGuard WG 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. Time application for San Jose scale to the crawler stage. 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 TwinGuard™ WG applied per acre will depend upon tree size and pest

32/41

pressure. Use a lower rate in the rate range for light infestations and/or smaller trees and higher rate in the rate range for heavy infestations and/or larger trees.

**Resistance Management:** Do not make more than 2 consecutive applications of a Group 4C insecticide (sulfoxaflor) or 3 consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after 2 consecutive applications of Group 4C insecticide or 3 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Pear psylla is known to develop resistance quickly, do not make more than 2 applications of Group 5 insecticides for pear psylla in a season. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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 with Group 5 insecticides.

**Restrictions:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than 4 applications of any product containing spinetoram per year. See Resistance Management regarding number of applications for specific pests.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.438 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

**Potatoes (Crop Groups 1C and 1D)<sup>1</sup>**

<sup>1</sup>Root and tuber vegetables (crop group 1) including arracacha, arrowroot, bitter black salsify, bitter cassava, chayote (root), Chinese artichoke, chufa, daikon, dasheen, edible canna, ginger, Jerusalem artichoke, leren, lobok, lo pak, potato, radish, sweet cassava, sweet potato, tanier, true yam, turmeric, yam, yam bean, and other cultivars or hybrids of these

**Pests and Application Rates:**

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 3.5
Colorado potato beetle	3.0 – 5.0
armyworms <sup>1</sup>	4.0 – 5.0
artichoke plume moth	
dipterous leafminers, <i>Liriomyza</i> spp <sup>2</sup>	
European corn borer	
flea beetles (suppression)	
light brown apple moth	
loopers	
potato psyllid	
thrips <sup>2</sup>	
silverleaf whitefly	
sweetpotato whitefly	
leafhoppers	

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>Control of leafminers, psyllids, and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing 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 and in accordance with local



economic thresholds. When treating for worms, target eggs at hatch or small larvae. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply TwinGuard WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Heavy infestations may require repeat applications, but follow resistance management guidelines. Two applications may be required for optimum whitefly control.

**Chemigation:** TwinGuard WG may be applied to potatoes by chemigation at labeled rates. Refer to the Chemigation Application section.

#### Restrictions:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than 4 applications of any product containing spinetoram per year.
- Do not apply more than a total of 20 oz of TwinGuard WG (0.250 lb each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.250 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- See Resistance Management regarding number of applications for specific pests.

#### Root and Tuber Vegetables (Crop Groups 1A and 1B)<sup>1</sup>

<sup>1</sup>Root and tuber vegetables (crop group 1) including bitter black salsify, carrot, celeriac, chayote (root), chicory, chufa, daikon, dasheen, edible burdock, garden beet, ginseng, horseradish, lobok, lo pak, oriental radish, parsnip, radish, red Chinese radish, red Japanese radish, rutabaga, salsify, skirret, Spanish salsify, sugar beet, turnip, turnip-rooted chervil, turnip-rooted parsley, white Chinese radish, white Japanese radish, winter radish, and other cultivars or hybrids of these

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 3.5
Colorado potato beetle	3.0 – 5.0
armyworms <sup>1</sup>	4.0 – 5.0
artichoke plume moth	
dipterous leafminers, <i>Liriomyza</i> spp <sup>2</sup>	
European corn borer	
flea beetles (suppression)	
light brown apple moth	
loopers	
potato psyllid	
thrips <sup>2</sup>	
silverleaf whitefly	
sweetpotato whitefly	
leafhoppers	

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>Control of leafminers, psyllids, and thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing 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 and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae. Consult your Dow

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

**Application Rate:** Apply TwinGuard WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Heavy infestations may require repeat applications, but follow resistance management guidelines. Two applications may be required for optimum whitefly control.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not apply Group 5 insecticides to consecutive generations of Colorado potato beetle and do not make more than 2 applications of Group 5 insecticides per single generation of Colorado potato beetle. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:**

**Garden beet and sugar beet:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than 4 applications of any product containing spinetoram per year.
- Do not apply more than a total of 20 oz of TwinGuard™ WG (0.250 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.250 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- See Resistance Management regarding number of applications for specific pests.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

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

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than 4 applications of any product containing spinetoram per year.
- Do not apply more than a total of 17.5 oz of TwinGuard WG (0.219 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.219 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- See Resistance Management regarding number of applications for specific pests.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

**Celeriac, edible burdock, oriental radish, radish, rutabaga, turnip and other root vegetables not specifically listed:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 3 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 3 applications of any product containing spinetoram, per year.
- Do not apply more than a total of 15 oz of TwinGuard WG (0.188 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total

more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.188 lb ai per acre per year.

- Do not make more than 2 consecutive applications per crop.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

## Soybean

### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
armyworms <sup>1</sup>	1.25 – 2.5
cabbage looper	
corn earworm (podworm)	
green cloverworm	
saltmarsh caterpillar	
soybean looper	
true armyworm	
velvetbean caterpillar	
soybean aphid	2.0 – 2.5

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae.

**Application Rate:** Use a higher rate in the rate range for heavy infestations and/or difficult spray coverage situations.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or 5 insecticides, rotate to another class of effective insecticides for at least 1 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:

- **Preharvest Interval:** Do not apply within 28 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.
- Do not apply more than a total of 8.75 oz of TwinGuard™ WG (0.109 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.109 lb ai per acre per year.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than four applications of any product containing spinetoram per year.
- Do not make more than 2 consecutive applications per crop.
- Do not make more than 2 applications to soybean forage.

## Stone Fruits (Crop Group 12)<sup>1</sup>

<sup>1</sup>Stone fruits (crop group 12) apricots, cherries, nectarines, peaches, plums, prunes

### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 3.5
peach twig borer (dormant spray)	4.0 – 7.0
European grapevine moth	6.0 – 7.0

green fruitworm leafminers, including: spotted tentiform, western tentiform leafrollers, including: fruit tree oblique-banded pandemis red-banded variegated light brown apple moth peach twig borer (in-season spray) thrips <sup>1</sup> tufted apple bud moth western cherry fruit fly, <i>Rhagoletis indifferens</i>	
cherry fruit fly, <i>Rhagoletis cingulata</i> (suppression) oriental fruit moth plum curculio (suppression) San Jose scale (suppression)	7.0

<sup>1</sup>Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds.. Closely follow regional spray recommendations for oriental fruit moth applications based upon biofix dates, egg hatch, and/or pheromone trap catches. Oriental fruit moth larvae must be controlled before they penetrate the fruit. TwinGuard WG 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. Time application for San Jose scale to the crawler stage. 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 TwinGuard WG applied per acre will depend upon tree size and pest pressure. Use a lower rate in the rate range for light infestations or smaller trees and a higher rate in the rate range for heavy infestations or larger trees.

**Resistance Management:** Do not make more than 2 consecutive applications of a Group 4C insecticide (sulfoxaflor) or 3 consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after 2 consecutive applications of Group 4C insecticide or 3 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not treat consecutive generations of oriental fruit moth and leafrollers with Group 5 insecticides. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:**

- **Preharvest Interval:** Do not apply within 14 days of harvest for apricots or 7 days of harvest for other stone fruit crops.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than 4 applications of any product containing spinetoram per year.

- See Resistance Management regarding number of applications for specific pests.
- Do not apply more than a total of 21.25 oz of TwinGuard™ WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.438 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

## Strawberry

### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
armyworms <sup>1</sup>	4.0 – 6.0
leafrollers	
light brown apple moth	
thrips <sup>2</sup>	
plant bugs	

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>Control of thrips may be improved with the addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing Directions.

**Advisory Pollinator Statement:** Notifying known beekeepers within 1 mile of the treatment area 48 hours before the product is applied will allow them to take additional steps to protect their bees. Also, limiting application to times when managed bees and native pollinators are least active, e.g., before 7 a.m. or after 7 p.m. local time or when the temperature is below 55°F at the site of application, will minimize risk to bees.

**Application Timing:** Treat when pests appear and in accordance with local economic thresholds. When treating for worms, target eggs at hatch or small larvae. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

**Application Rate:** Apply as a foliar spray at the rate specified to control target pests. Use a higher rate in the range for larger larvae or moderate to severe pest infestations.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. For thrips, if additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 2 applications. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:

- **Preharvest Interval:** Do not apply within 1 day of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 7 days apart.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.305 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not make more than four applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 5 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.

## Succulent, Edible Podded and Dry Beans<sup>1</sup>

<sup>1</sup>Succulent, edible podded, and dry beans including adzuki bean, asparagus bean, bean, blackeyed pea, broad bean, chickpea, Chinese longbean, cowpea, fava bean, field bean, garbanzo bean, grain lupin, green lima bean, jackbean, kidney bean, lablab bean, lima bean, moth bean, mung bean, navy bean, pinto bean, rice bean, runner bean, snap bean, soybean (immature seed), sweet lupin, sword bean, tepary bean, wax bean, white lupin, white sweet lupin, yardlong bean.

### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids <sup>1</sup>	2.0 – 2.5
European corn borer (eggs & larvae)	2.0 – 5.0
armyworms <sup>1</sup> corn earworm, <i>Helicoverpa zea</i> light brown apple moth loopers	2.5 – 5.0
dipterous leafminers, <i>Liriomyza</i> spp <sup>2</sup> thrips <sup>2</sup>	3.25 – 5.0
plant bugs	3.5 – 5.0
brown stinkbug (suppression) southern green stinkbug (suppression)	5.0

<sup>1</sup>With the exception of yellowstriped armyworm and western yellowstriped armyworm.

<sup>2</sup>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 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 and in accordance with local economic thresholds. When treating for worms, target 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 three 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 TwinGuard™ WG as a foliar spray at the rate specified to control target pests. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 4C (sulfoxaflor) or Group 5 (spinetoram and spinosad) insecticides. If additional treatments are required after 2 consecutive applications of Group 4C or Group 5 insecticides, rotate to another class of effective insecticides for at least 1 application. Do not make more than 3 applications of Group 5 insecticides for thrips in a season. 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:

- **Minimum Treatment Interval:** Do not make applications less than 14 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop, or 6 applications of any product containing spinetoram, per year. See Resistance Management regarding number of applications for specific pests.
- Do not make more than 2 consecutive applications per crop.

### Succulent Beans:

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- Do not apply more than a total of 17.5 oz of TwinGuard WG (0.219 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total

39/  
41

more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.219 lb ai per acre per year.

#### Dried Beans:

- **Preharvest Interval:** Do not apply within 28 days of harvest.
- Do not apply more than a total of 7.5 oz of TwinGuard WG (0.094 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.094 lb ai per acre per year.

#### Tree Nuts (Crop Group 14)<sup>1</sup> and Pistachios

<sup>1</sup>Tree nuts (crop group 14) almonds, cashew, chestnut, filbert (hazelnut), macadamia nut, pecan walnut

#### Pests and Application Rates:

Pests	TwinGuard WG (oz/acre)
aphids	2.0 – 3.5
peach twig borer (dormant spray)	2.0 – 7.0
light brown apple moth oblique-banded leafroller peach twig borer (in-season spray) red-humped caterpillar walnut caterpillar walnut husk fly	4.0 – 7.0
codling moth fall webworm filbertworm hickory shuckworm pecan nut casebearer	6.0 – 7.0
navel orangeworm San Jose scale (suppression)	7.0

**Application Timing:** Apply TwinGuard WG as either a dormant or as a foliar spray in accordance with local economic thresholds. Closely follow regional spray recommendations based upon biofix dates, egg hatch, and/or pheromone trap catches. Lepidopterous larvae must be controlled before they penetrate the nuts or shoots. TwinGuard WG 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 local use recommendations for your area.

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

**Application Rate:** The amount of TwinGuard™ WG applied per acre will depend upon tree size, volume of foliage present and pest pressure. Use a higher rate in the rate range for larger trees or heavy infestations.

**Resistance Management:** Do not make more than 2 consecutive applications of a Group 4C insecticide (sulfoxaflor) or 3 consecutive applications of Group 5 insecticides (spinetoram and spinosad) within a crop season. If additional treatments are required after 2 consecutive applications of a Group 4C or 3 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least 1 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:**

- **Preharvest Interval:** Do not apply within 7 days of harvest.
- **Minimum Treatment Interval:** Do not apply treatments less than 7 days apart.
- Do not make more than 4 applications per crop. Do not make more than 4 applications of any product containing sulfoxaflor per crop or more than 4 applications of product containing spinetoram per year.
- Do not apply more than a total of 21.25 oz of TwinGuard WG (0.266 lb ai each of sulfoxaflor and spinetoram) per acre per year. Do not make applications of any product containing sulfoxaflor that total more than 0.266 lb ai per acre per year. Do not make applications of any product containing spinetoram that total more than 0.438 lb ai per acre per year.
- Do not make more than 2 consecutive applications per crop.
- Do not apply this product at any time between 3 days prior to bloom and until after petal fall.

---

**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 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 Limitation of Remedies in any manner.

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow



41/  
41

EPA accepted \_\_/\_\_/\_\_

.....