



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

April 15, 2022

Davis Daiker  
Regulatory Product Manager  
Syngenta Crop Protection  
410 Swing Road  
P.O. Box: 18300  
Greensboro, NC 27419

Subject: PRIA Label Amendment – Label Mitigation Required by the Registration Review Interim Decision for Emamectin Benzoate; Addition of new use on soybean; Change of REI from 12 to 48 Hours; Other minor revisions  
Product Name: Denim Insecticide  
EPA Registration Number: 100-903  
Application Date: 07/01/2019, 12/13/2019, 04/13/2022  
Decision Number: 552698, 559029, 583490

Dear Mr. Daiker:

The application referred to above, submitted under the Federal Insecticide, Fungicide and Rodenticide Act, as amended is acceptable under FIFRA sec 3 (c)(5). You must submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Further, as previously stated in the pre-decisional letter (10/8/2021), the change of REI from 12 to 48 hours for EPA Reg. No. 100-904 must still be addressed. If you have any questions, please contact Jasmin Jackson by phone at 202-566-2797, or via email at Jackson.Jasmin@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Dee Colby". The signature is written in a cursive style with a large initial "D".

Dee Colby, Chief  
Invertebrate & Vertebrate Branch 3  
Registration Division  
Office of Pesticide Programs

Enclosures: stamped labels

(MASTER)

**RESTRICTED USE PESTICIDE**  
**Toxic to Fish, Mammals, and Aquatic Organisms**  
For Retail Sale to and use only by Certified Applicators or Persons  
under their direct supervision, and only for those uses covered  
by the Certified Applicator's certification.

**Denim® Insecticide**

For control of certain lepidopterous larvae (worms/caterpillars) on Cavalo Broccolo,  
Cotton, Soybean, and Tobacco

**EMAMECTIN BENZOATE    GROUP 6    INSECTICIDE**

Active Ingredient:	
Emamectin benzoate* .....	2.15%
Other Ingredients:	97.85%
Total:	100.00%

\* CAS No. 155569-91-8

Denim Insecticide is an emulsifiable concentrate containing 0.16 pounds of active ingredient per gallon.

Contains petroleum distillate.

**KEEP OUT OF REACH OF CHILDREN.**

**DANGER/PELIGRO**

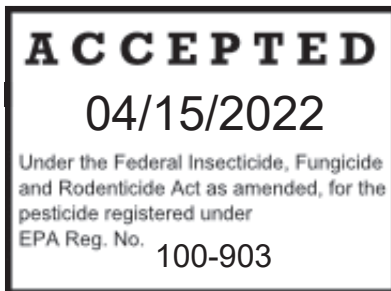
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional precautionary statements and directions for use in booklet.

EPA Est. xxxxx  
EPA Reg. No. 100-903

Product of xxxxx  
Formulated in xxxxx

Net Contents



<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Immediately call a poison control center or doctor for treatment advice.</li><li>• Do not give <b>any</b> liquid to the person.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If inhaled</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<p style="text-align: center;"><b>NOTE TO PHYSICIAN</b></p> <p>Contains petroleum distillate – vomiting may cause aspiration pneumonia. Probable mucosal damage may contraindicate the use of gastric lavage.</p> <p>Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements.</p> <p>In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since emamectin benzoate is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic emamectin benzoate exposure.</p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
<p style="text-align: center;"><b>HOTLINE NUMBER</b></p> <p style="text-align: center;">For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call <b>1-800-888-8372</b></p>	

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## PRECAUTIONARY STATEMENTS

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### Hazards to Humans and Domestic Animals

#### DANGER/PELIGRO

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear protective eyewear, goggles, or face shields. Harmful if swallowed or absorbed through the skin. Avoid contact with skin. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### Personal Protective Equipment (PPE)

**All applicators, including ground, airblast and aerial, and all mixers, loaders, flaggers, and other handlers must wear at a minimum the items listed below. See section below for additional requirements for aerial applications.**

- Coveralls worn over long-sleeved shirt and long-pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mil, nitrile rubber  $\geq 14$  mil, neoprene rubber  $\geq 14$  mil, polyvinyl chloride (PVC)  $\geq 14$  mil or Viton®  $\geq 14$  mil
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant apron when cleaning equipment, mixing or loading

**In addition to the above minimum requirements all mixers, loaders, and other handlers must wear:**

- A minimum of a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any R or P filter; OR a NIOSH-approved powered air purifying respirator with HE filters.

#### User Safety Requirements

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for

washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### **Engineering Controls**

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

### **User Safety Recommendations**

#### **Users should:**

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

### **Environmental Hazards**

This pesticide is toxic to fish, birds, mammals, and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

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

### **Physical or Chemical Hazards**

Do not use, pour, spill, or store near heat or open flame.

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## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## DIRECTIONS FOR USE

### RESTRICTED USE PESTICIDE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Denim Insecticide must be used only in accordance with recommendations on this label or in separately published Syngenta supplemental labeling recommendations for this product.

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

#### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 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 over long-sleeved shirt and long-pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mil, nitrile rubber  $\geq 14$  mil, neoprene rubber  $\geq 14$  mil, polyvinyl chloride (PVC)  $\geq 14$  mil or Viton  $\geq 14$  mil
- Chemical-resistant footwear plus socks
- Protective eyewear



**FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.**

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**GENERAL INFORMATION**

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Denim Insecticide is a selective insecticide for use on cavalo broccolo, cotton, soybean, and tobacco.

Denim Insecticide controls the larval stages (worms/caterpillars) of certain lepidopteran species. Although Denim Insecticide has some contact activity, to be most effective, larvae should ingest it. Shortly after exposure to Denim Insecticide, affected larvae are paralyzed, stop feeding, and subsequently die after 2-4 days.

Apply Denim Insecticide to plant foliage when larvae first appear, but before populations reach damaging levels. Target Denim Insecticide applications at small (1/4 inch in length) larvae.

Thorough spray coverage is essential for optimum performance. Apply Denim Insecticide in sufficient water to ensure good coverage of all plant surfaces. The use of greater water volumes will generally result in better coverage, especially under adverse conditions (e.g., hot, dry) or where a dense plant canopy exists. See the **Crop Use Directions** section of this label for specific spray volume recommendations for different crops.

The use of a penetrating type spray adjuvant, at the manufacturer's suggested rate, is recommended for all applications of Denim Insecticide. The use of an adjuvant typically improves coverage and penetration and results in optimum insect control, especially in crops with hard-to-wet leaf surfaces. However, do not use sticker/binder type adjuvants because they may reduce translaminar movement of the active ingredient into the plant.

Denim Insecticide has been tested for phytotoxicity and has a wide margin of safety on the crops listed on this label.

**Resistance Management**

<b>EMAMECTIN BENZOATE</b>	<b>GROUP 6</b>	<b>INSECTICIDE</b>
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Some insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

For resistance management, please note that Denim Insecticide contains a Group 6 insecticide (emamectin benzoate). Insect biotypes with acquired or inherent resistance to Group 6 insecticides may eventually dominate the pest population if Group 6 insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by Denim Insecticide or other Group 6 insecticides. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of Denim Insecticide or other Group 6 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

- For further information or to report suspected resistance contact your local Syngenta representative.

### **Maintaining Susceptibility to this Class of Chemistry**

- Avoid using Group 6 insecticides exclusively for season-long control of insect species with more than one generation per acre per calendar year.
- For insect species with successive or overlapping generations, apply Denim Insecticide or other Group 6 insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 6 insecticides. Do not exceed the maximum Denim Insecticide allowed per calendar year.
- Following a treatment window of Group 6 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 6 insecticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to these classes of chemistry.
- If resistance is suspected, do not reapply Denim Insecticide or other Group 6 insecticides.

### **Other Insect Resistance Management (IRM) Practices**

- Incorporate IPM techniques into your insect control program.
- Monitor treated insect populations for loss of field efficacy.
- Use tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.

### **Other Sources for Information on Insect Resistance Management**

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations. Visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org/>.

### **Use Restrictions**

- **Do not** apply more than a total of 0.045 lb ai of emamectin benzoate per acre per calendar year.
- **Do not** use Denim Insecticide in greenhouses, nurseries, plant propagation houses, or on any plants grown for use as transplants.
- **Do not** apply this product through any type of irrigation system.

- **Do not** allow livestock to graze in treated areas.
- **Do not** apply this product with aircraft in New York State to any crop.

### Rotational Restrictions

There are no rotational (plant back) restrictions with Denim Insecticide. Treated areas may be replanted with any crop immediately following application.

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## APPLICATION PROCEDURES

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### Chemigation

**Do not** apply this product through any type of irrigation system.

### Spray Equipment

Spray nozzles should be uniformly spaced and of the same size, and should provide accurate and uniform application. Use spray nozzles and boom pressures that provide a medium or coarser droplet size (as defined by ASABE S572.1) under application conditions. To ensure accuracy, calibrate sprayer before each use. For spray equipment and calibration information, consult sprayer manufacturers and/or state recommendations. All ground and aerial application equipment must be properly maintained and calibrated using appropriate carriers.

### Spray Volume

Applications using sufficient water volume to provide thorough and uniform coverage of the foliage generally provide the most effective lepidopterous larvae control. In situations where a dense canopy exists and/or larval infestations are high, use higher water volumes. See the **Crop Use Directions** section of this label for recommendations on spray volumes for different crops.

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## SPRAY DRIFT MANAGEMENT

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### SPRAY DRIFT

#### Aerial Applications

- **Do not** release spray at a height greater than 10 ft above the vegetative canopy unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Applicators must use  $\frac{1}{2}$  swath displacement upwind at the downwind edge of the field.

- **Do not** apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters.
- **Do not** apply during temperature inversions.

#### Airblast Applications

- Sprays must be directed into the canopy.
- **Do not** apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- **Do not** apply during temperature inversions.

#### Ground Boom Applications

- User must only apply with the release height recommended by the equipment manufacturer, but not more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- **Do not** apply when wind speeds exceed 15 mph at the application site.
- **Do not** apply during temperature inversions.

### **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

### **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### **Controlling Droplet Size – Ground Boom**

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### **BOOM HEIGHT – Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **RELEASE HEIGHT - Aircraft**

Higher release heights increase the potential for spray drift.

### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

### **WIND**

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

### **Spray Drift Precautions**

#### **Aerial Application (cotton and soybean only) and Ground Application**

- **Do not** apply by ground equipment within 25 ft, or by aerial equipment (cotton and soybean only) within 150 ft of lakes; reservoirs; rivers; permanent streams, marshes, pot holes, or natural ponds; estuaries; and commercial fish farm ponds.
- **Do not** cultivate within 25 ft of the aquatic area as to allow growth of a vegetative filter strip.
- **Do not** allow this product to drift onto nontarget areas. Drift may result in illegal residues on adjacent crops or injury to non-target species. Risk of exposure to

sensitive areas can be reduced by making applications when wind direction is away from the sensitive area.

- **Do not** apply when weather conditions may cause drift. Avoid applications when temperature is high and/or the humidity is low. These conditions increase the evaporation of spray droplets and the likelihood of drift to aquatic areas.
- Make applications when wind velocity favors on target product deposition (approximately 3 - 10 mph).
- **Do not** apply when wind velocity is greater than 10 mph or wind gusts exceed 10 mph.
- **Do not** apply when wind speed is below 2 mph due to variable wind direction and high inversion potential.

**Note:** When states have more stringent regulations, they should be observed.

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## **MIXING PROCEDURES**

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1. Prepare no more spray mixture than is needed for the immediate application.
2. Thoroughly clean spray equipment before using this product.
3. Agitate the spray solution before and during the application.
4. Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply rinsate to a previously treated area.
5. Keep product container tightly closed when not in use.

### **Denim Insecticide Alone**

1. Add 1/3 of the required amount of water to the spray or mixing tank.
2. With the agitator running, add the Denim Insecticide to the spray tank.
3. Continue agitation while adding the remainder of the water.
4. Begin application of the solution after the Denim Insecticide has completely dispersed into the mix water.
5. Maintain agitation until all of the mixture has been applied.

**Note:** **Do not** use liquid fertilizer as a carrier for Denim Insecticide.

### **Denim Insecticide + Tank Mixtures**

1. Add 1/3 the required amount of water to the mix tank.
2. Start the agitator running before adding any tank mix partners.
3. When using Denim Insecticide in tank mixtures, all products in water-soluble packaging should be added to the tank before any other tank mix partner,

including Denim Insecticide. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank. Then add other tank mix partners in this order: wettable powders, wettable granules (dry flowables), liquid flowables, liquids and emulsifiable concentrates. Always allow each tank mix partner to fully disperse before adding the next product.

4. Provide sufficient agitation while adding the remainder of the water.
5. Maintain the agitation until all of the spray mixture has been applied.

**NOTE:** If using Denim Insecticide in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank mix product label. No label dosage rate should be exceeded, and the most restrictive label precautions and limitations should be followed. This product should not be mixed with any product that prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

### **Compatibility**

Denim Insecticide is compatible with most insecticide, fungicide, and foliar nutrients products. However, the physical compatibility of Denim Insecticide with tank mix partners should be tested before use. To determine the physical compatibility of Denim Insecticide with other products, use a jar test as described below:

1. Using a quart jar, add the proportionate amounts of the products to 1 qt. of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last.
2. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible.
3. Once compatibility has been proven acceptable, use the same procedure for adding required ingredients to the spray tank.

**Note:** The safety of all potential tank mixes on all crops listed on this label may not have been tested. Before applying any tank mixture not specifically recommended on this label, the safety to the target crop should be confirmed.



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**CROP USE DIRECTIONS**

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**CAVALO BROCCOLO**

<b>Pest</b>	<b>Rate/A Per Application</b>	<b>Remarks</b>
Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Cross-Striped Cabbageworm Diamondback Moth Fall Armyworm Imported Cabbageworm Soybean Looper	6-12 fl oz/A	0.0075-0.015 lb ai/A

Mix with water and apply by ground equipment as a foliar spray. Apply thoroughly to ensure good upper and lower leaf coverage. Thorough coverage is essential for good insect control on crops. Use 6 fl oz/A for low to moderate infestations and 12 fl oz/A for severe infestations. Apply when larvae are first observed and repeat applications as necessary to maintain control.

- **Do not** apply by aircraft.
- **Do not** apply through any type of irrigation system.
- **Do not** exceed 36 fl oz (0.045 lb ai/A) of Denim Insecticide per acre per calendar year.
- **Do not** apply at less than a 7-day interval.
- **Do not** apply within 7 days of harvest.
- **Do not** allow livestock to graze in treated areas.

## COTTON

**Note: For aerial application on cotton, workers must not mix or load more than 194 gallons of Denim Insecticide per day and must not mix or load Denim Insecticide for more than a total of 30 days out of a year.**

Pest	Rate/A Per Application	Remarks
Beet armyworm	6.0 - 8.0 fl oz/A	Application should be targeted at small (1/4 inch) larvae. At least 2 applications may be needed to control a generation during an extended egg laying period.
Cabbage looper Cotton bollworm Fall armyworm Soybean looper Tobacco budworm  <b>Suppression Only:</b> Spider mites <sup>1</sup> , (Tetranychid spp.)	8.0 - 12.0 fl oz/A	Application should be targeted at small (1/4 inch) larvae. At least 2 applications may be needed to control a generation during an extended egg laying period.

<sup>1</sup> Denim Insecticide provides suppression of spider mite (*Tetranychid* spp.) populations. Suppression means either erratic control ranging from good to poor, or consistent control at a level below that which is generally considered acceptable for commercial control.

Thorough spray coverage of plant foliage is recommended for optimum performance. Apply in a minimum of 5 gal/A when applied by ground and 2 gal/A when applied by air. The use of a penetrating type spray adjuvant, at the manufacturer's suggested rate, is recommended to provide optimum coverage and insect control. Do not use a sticker/binder type adjuvant.

- **Do not** apply through any type of irrigation system.
- **Do not** apply at rates lower than those recommended on this label.
- **Do not** make more than two sequential applications without rotating to another product with a different mode of action.
- **Do not** apply following a field failure of another product if larvae are large (>1/4 inch in length).
- **Do not** apply more than a total of 36 fl oz/A (0.045 lb ai/A) per acre per calendar year.
- **Do not** apply more than 12.0 fl oz/A (0.015 lb ai/A) per application.
- Allow a minimum of 5 days between applications.
- **Do not** apply within 21 days of harvest.
- **Do not** allow livestock to graze in treated areas.

**SOYBEAN [Not for use in California]**

Pest	Rate/A Per Application	Remarks
Beet armyworm	6.0 – 8.0 fl oz/A	Application should be targeted at larvae up to ½ inch in length except cotton bollworm/corn earworm and tobacco budworm which should be targeted at ¼ inch larvae.
Cabbage looper Cotton bollworm/corn earworm Fall armyworm Green cloverworm Saltmarsh caterpillar Soybean looper Tobacco budworm Velvetbean caterpillar  <b>Suppression Only:</b> Spider mites <sup>1</sup> , ( <i>Tetranychid</i> spp.)	8.0 – 12.0 fl oz/A	At least 2 applications may be needed to control a generation during an extended egg laying period.  For ground application, apply this product diluted in a minimum of 5 gal/A. If the crop canopy is dense or the worm infestation is high, increase the amount of water.  For aerial application, apply this product in a minimum of 5 gal/A. Under adverse conditions (high humidity, low relative humidity, or dense canopy), increase the amount of water.

<sup>1</sup> Denim Insecticide provides suppression of spider mite (*Tetranychid* spp.) populations. Suppression means either erratic control ranging from good to poor, or consistent control at a level below that which is generally considered acceptable for commercial control.

- **Do not** apply through any type of irrigation system.
- **Do not** make more than two sequential applications without rotating to another product with a different mode of action.
- **Do not** apply more than a total of 36 fl oz/A (0.045 lb ai/A) per acre per calendar year.
- **Do not** apply more than 12.0 fl oz/A (0.015 lb ai/A) per application.
- Allow a minimum of 7 days between applications.
- **Do not** allow livestock to graze in treated areas.
- **Do not** harvest treated soybean forage, straw, or hay as feed for meat or dairy animals.
- **Do not** feed treated soybean fodder or silage to meat or dairy animals.
- **Do not** apply within 28 days of harvest.

## TOBACCO

Pest	Rate/A Per Application	Remarks
Beet armyworm	6.0 - 8.0 fl oz/A	Application should be targeted at small (1/4 inch) larvae. At least 2 applications may be needed to control a generation during an extended egg laying period.
Cabbage looper Fall armyworm Soybean looper Tobacco budworm Tobacco hornworm Tomato hornworm	8.0 - 12.0 fl oz/A	Application should be targeted at small (1/4 inch) larvae. At least 2 applications may be needed to control a generation during an extended egg laying period.

Thorough spray coverage of plant foliage is recommended for optimum performance. Apply in a minimum of 20 gal/A. The use of a penetrating type spray adjuvant, at the manufacturer's suggested rate, is recommended to provide optimum coverage and insect control. Do not use a sticker/binder type adjuvant.

- **Do not** apply by aircraft.
- **Do not** apply through any type of irrigation system.
- **Do not** apply at rates lower than those recommended on this label.
- **Do not** make more than 2 sequential applications without rotating to another product with a different mode of action.
- **Do not** apply following a field failure of another product if larvae are large (> ¼ inch in length).
- **Do not** apply more than a total of 36 fl oz/A (0.045 lb ai/A) per acre per calendar year.
- **Do not** apply more than 12.0 fl oz/A (0.015 lb ai/A) per application.
- Allow a minimum of 5 days between applications.
- **Do not** apply within 14 days of harvest.
- **Do not** allow livestock to graze in treated areas.

## **STORAGE AND DISPOSAL**

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

### **Pesticide Storage**

Store in a tightly closed original container in a cool, dry place.

### **Pesticide Disposal**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### **Container Handling (less than or equal to 5 gallons)**

**Non-refillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this 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 approved by state and local authorities

### **Container Handling (greater than 5 gallons)**

**Non-refillable container.** Do not reuse or refill this container. Triple 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  $\frac{1}{4}$  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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

### **Container Handling (greater than 5 gallons)**

**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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 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 approved by state and local authorities.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.**

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the SYNGENTA Logo and the PURPOSE ICON  
are Trademarks of a Syngenta Group Company.

Viton™ is a trademark of the Chemours Company FC, LLC.

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For non-emergency (e.g., current product information), call Syngenta Crop Protection at 1-800-334-9481.
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Manufactured for:  
Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300

Denim Insecticide 903 MAS 0718 AMEND-D DEC 2019-CL kdy 4/13/22  
000100-00903.2019120519D.DENIM-AMEND-DEC2019-CL.pdf

**RESTRICTED USE PESTICIDE**  
**Toxic to Fish, Mammals, and Aquatic Organisms**  
For Retail Sale to and use only by Certified Applicators or Persons  
under their direct supervision, and only for those uses covered  
by the Certified Applicator's certification.

**SUPPLEMENTAL LABELING**

**Syngenta Crop Protection, LLC**  
P. O. Box 18300  
Greensboro, North Carolina 27419-8300

**SCP 903A-S2**

<b>EMAMECTIN BENZOATE</b>	<b>GROUP</b>	<b>6</b>	<b>INSECTICIDE</b>
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**Denim® Insecticide**

**This supplemental label expires on 10/14/2023 and must not be used or distributed after this date.**

Active Ingredient:	
Emamectin benzoate* .....	2.15%
Other Ingredients:	97.85%
Total:	100.00%

\*CAS No. 155569-91-8

Denim Insecticide is an emulsifiable concentrate containing 0.16 pounds of active ingredient per gallon.

Contains petroleum distillate.

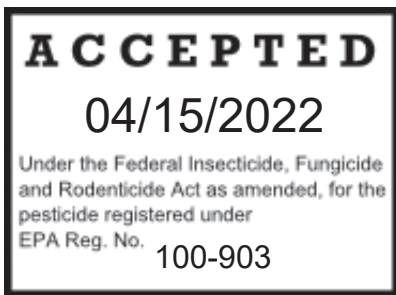
**KEEP OUT OF REACH OF CHILDREN.**

## **DANGER/PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

EPA Reg. No. 100-903

**All applicable directions, restrictions and precautions on the EPA registered label are to be followed. Before using Denim Insecticide as permitted according to this supplemental label, read and follow all applicable directions, restrictions, and precautions on the EPA registered label on or attached to the pesticide product container. This Supplemental Labeling contains revised use instructions and or restrictions that may be different from those that appear on the container label. This Supplemental Labeling must be in the possession of the user at the time of pesticide application. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.**



## AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 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 over long-sleeved shirt and long-pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mil, nitrile rubber  $\geq 14$  mil, neoprene rubber  $\geq 14$  mil, polyvinyl chloride (PVC)  $\geq 14$  mil or Viton  $\geq 14$  mil
- Chemical-resistant footwear plus socks
- Protective eyewear

## SPRAY DRIFT MANAGEMENT

### SPRAY DRIFT

#### Aerial Applications

- **Do not** release spray at a height greater than 10 ft above the vegetative canopy unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Applicators must use  $\frac{1}{2}$  swath displacement upwind at the downwind edge of the field.
- **Do not** apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters.
- **Do not** apply during temperature inversions.

#### Airblast Applications

- Sprays must be directed into the canopy.
- **Do not** apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- **Do not** apply during temperature inversions.

#### Ground Boom Applications

- User must only apply with the release height recommended by the equipment manufacturer, but not more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- **Do not** apply when wind speeds exceed 15 mph at the application site.
- **Do not** apply during temperature inversions.



## **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

### **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### **Controlling Droplet Size – Ground Boom**

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

#### **BOOM HEIGHT – Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### **RELEASE HEIGHT - Aircraft**

Higher release heights increase the potential for spray drift.

### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

### **WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

#### **Spray Drift Precautions**

##### **Aerial Application (cotton and soybean only) and Ground Application**

- **Do not** apply by ground equipment within 25 ft, or by aerial equipment (cotton and soybean only) within 150 ft of lakes; reservoirs; rivers; permanent streams, marshes, pot holes, or natural ponds; estuaries; and commercial fish farm ponds.
- **Do not** cultivate within 25 ft of the aquatic area as to allow growth of a vegetative filter strip.

- **Do not** allow this product to drift onto nontarget areas. Drift may result in illegal residues on adjacent crops or injury to non-target species. Risk of exposure to sensitive areas can be reduced by making applications when wind direction is away from the sensitive area.
- **Do not** apply when weather conditions may cause drift. Avoid applications when temperature is high and/or the humidity is low. These conditions increase the evaporation of spray droplets and the likelihood of drift to aquatic areas.
- Make applications when wind velocity favors on target product deposition (approximately 3 - 10 mph).
- **Do not** apply when wind velocity is greater than 10 mph or wind gusts exceed 10 mph.
- **Do not** apply when wind speed is below 2 mph due to variable wind direction and high inversion potential.

**Note:** When states have more stringent regulations, they should be observed.

# DIRECTIONS FOR USE

## SOYBEAN [Not for use in California]

Pest	Rate/A Per Application	Remarks
Beet armyworm	6.0 – 8.0 fl oz/A	Application should be targeted at larvae up to ½ inch in length except cotton bollworm/corn earworm and tobacco budworm which should be targeted at ¼ inch larvae.
Cabbage looper Cotton bollworm/corn earworm Fall armyworm Green cloverworm Saltmarsh caterpillar Soybean looper Tobacco budworm Velvetbean caterpillar  <b>Suppression Only:</b> Spider mites <sup>1</sup> , ( <i>Tetranychid</i> spp.)	8.0 – 12.0 fl oz/A	At least 2 applications may be needed to control a generation during an extended egg laying period.  For ground application, apply this product diluted in a minimum of 5 gal/A. If the crop canopy is dense or the worm infestation is high, increase the amount of water.  For aerial application, apply this product in a minimum of 5 gal/A. Under adverse conditions (high humidity, low relative humidity, or dense canopy), increase the amount of water.

<sup>1</sup> Denim Insecticide provides suppression of spider mite (*Tetranychid* spp.) populations. Suppression means either erratic control ranging from good to poor, or consistent control at a level below that which is generally considered acceptable for commercial control.

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- **Do not** make more than two sequential applications without rotating to another product with a different mode of action.
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- Allow a minimum of 7 days between applications.
- **Do not** allow livestock to graze in treated areas.
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- **Do not** feed treated soybean fodder or silage to meat or dairy animals.
- **Do not** apply within 28 days of harvest.

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