



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

100-1421

Date of Issuance:

August 15, 2014  
replaces version dated 2/6/2014

NOTICE OF PESTICIDE:

Registration  
 Reregistration

(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Minecto Duo Insecticide

Name and Address of Registrant (include ZIP Code):

John Abbott  
Syngenta Crop Protection, LLC  
PO Box 18300  
Greensboro, NC 27419

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

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

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

This is a corrected Notice of Registration replacing the original issued on 2/6/2014 as an unconditional registration. The registration is conditional since Registration Review Data Call Ins (DCIs) have been issue for thiamethoxam.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must:

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:
  - a. Thiamethoxam GDCI-060109-1308, issued on March 14, 2013
  - b. Thiamethoxam GDCI-060109-1309, issued on March 18, 2013

Signature of Approving Official:

Meredith Laws, Chief  
Insecticide-Rodenticide Branch, Registration Division (7505P)

Date:

August 15, 2014

If you have questions about the Generic DCIs listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: [http://www.epa.gov/oppsrrd1/contacts\\_prd.htm](http://www.epa.gov/oppsrrd1/contacts_prd.htm).

2. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No 100-1421.”
3. Submit one copy of the 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 Confidential Statements of Formula (CSFs):

- Basic CSF, dated 6/24/2011
- Alternate #1 CSF, dated 9/28/2012
- Alternate #2 CSF, dated 9/28/2012
- Alternate #3 CSF, dated 9/28/2012
- Alternate #4 CSF, dated 6/24/2011

If you have any questions, please contact Tom Harris at 703-308-9423 or [harris.thomas@epa.gov](mailto:harris.thomas@epa.gov).

Sincerely,

Meredith Laws, Chief  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

Enclosure

(Booklet)

**Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.**

**Minecto Duo**

Insecticide

GROUP	4A	28	INSECTICIDES
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For control of listed insect pests infesting specified crops

Active Ingredients:

Thiamethoxam <sup>1</sup> .....	20.0%
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Cyantraniliprole <sup>2</sup> .....	20.0%
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Other Ingredients:	60.0%
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Total:	100.0%
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<sup>1</sup>CAS No. 153719-23-4

<sup>2</sup>CAS No. 736994-63-1

Minecto Duo is a water-dispersible granule that contains 3.2 ounces of active ingredient of thiamethoxam and 3.2 ounces of cyantraniliprole per pound of formulated product.

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

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[on bag].

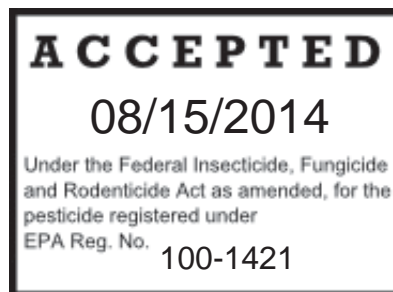
EPA Reg. No. 100-RUER

EPA Est. XXXX

SCP XXXXA-M(draft new product version E)

Net Weight

[Non-Refillable Container]



<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.</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>
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</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>
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-xxx-xxxx for emergency medical treatment information.	
<b>HOT LINE NUMBER</b> 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>	

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## **PRECAUTIONARY STATEMENTS**

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### **Hazards to Humans and Domestic Animals**

#### **CAUTION**

Causes moderate eye irritation.. Avoid contact with eyes, or clothing.

#### **Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material – Category A (e.g., natural rubber ≥14 mils)

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

### **Engineering Control Statements**

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.

### **Environmental Hazards**

This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates, oysters and shrimp. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging in/or adjacent to the treatment area.

- **Surface Water Advisory**

This product may impact surface water quality due to spray drift and runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of thiamethoxam water from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours. (See manual at the following internet address: <http://www.wsi.nrcs.usda.gov/products/W2Q/pest/core4.html>).

- **Ground Water Advisory**

This product has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into the ground water if used in areas where soils are permeable, particularly where the water table is shallow.

- **Spray Drift Advisory**

Do not allow this product to drift.

## PROTECTION OF POLLINATORS



**APPLICATION RESTRICTIONS** EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

**This product can kill bees and other insect pollinators.**

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen resulting from seed treatment, soil application, and foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants in and around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: [www.aapco.org/officials.html](http://www.aapco.org/officials.html). Pesticide incidents should also be reported to the National Pesticide Information Center at: [www.npic.orst.edu](http://www.npic.orst.edu) or directly to EPA at:

[beekill@epa.gov](mailto:beekill@epa.gov)

## 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 Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.



### **1.FOR CROPS UNDER CONTRACTED POLLINATION SERVICES**

**Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met.**

**If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.**



### **2.FOR FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS**

**Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:**

- **The application is made to the target site after sunset**
- **The application is made to the target site when temperatures are below 55°F**
- **The application is made in accordance with a government-initiated public health response**
- **The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying**
- **The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.**



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.

This labeling must be in the possession of the user at the time of application.

### RESTRICTIONS

- Minecto Duo is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops. Do not apply Minecto Duo or allow it to drift to blooming crops or weeds while bees are foraging in/or adjacent to the treated area.
- Use this product only in commercial and farm plantings.
- Not for use in home plantings.
- Not for use on ornamental plants or plants being grown for ornamental purposes.
- Do not use in greenhouses.
- Do not treat plants grown for transplanting.
- Do not apply to crops grown from thiamethoxam treated seed.
- Do not make ground applications within 25' or aerial applications within 50' of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries, or coastal areas. Do not cultivate within 25' of the aquatic area to allow growth of a vegetative filter strip.
- Unless otherwise stated for a specific crop, do not apply a total of more than 0.4 lb ai/A of Cyantraniprole containing products per year. This is the total from all application methods (eg. seed, soil, foliar).

### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 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 – Category A (e.g., natural rubber ≥14 mils)
- Shoes plus socks

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

**Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.**

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## INFORMATION

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Minecto Duo is a soil or foliar applied insecticide with dual modes of action that controls listed lepidopteran, sucking and chewing insect pests.

When Minecto Duo is applied to the soil, it is readily taken up by the roots of germinating seedlings or transplants and is rapidly translocated throughout the plant. Because of its systemic activity, Minecto Duo provides excellent residual control of key insect pests in vegetables and potatoes.

Foliar application of Minecto Duo exhibits excellent translaminar and locally systemic movement into plant tissue as well as accumulation on the leaf surface. Penetration into the leaf tissue forms a reservoir of active ingredient which results in extended residual control. Effective crop protection results from rapid feeding inhibition.

- Minecto Duo aids in the suppression of listed pests. Suppression can mean either inconsistent control (good to poor), or consistent control at a level below that generally considered acceptable for commercial control.
- Minecto Duo is a selective insecticide and is compatible with integrated pest management programs.
- Minecto Duo is safe when used in accordance with this label.

### **For best performance of soil applications, follow these directions:**

- Minecto Duo can be applied during planting or transplanting as an in-furrow spray, transplant hole drench or narrow surface band above the seedline, or on dry fertilizer (potatoes only). Minecto Duo can be applied after planting as a post-seeding, post-transplanting, hill drench, drip chemigation, or root zone shank application.
- Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil. For vegetables, apply Minecto Duo within 21 days after either plant emergence or transplanting.
- Although Minecto Duo is rapidly taken up by plant roots and rapidly moves throughout the plant, the use of sufficient water volume and root zone placement will ensure that the chemical contacts the roots, resulting in optimal uptake and performance.

### **For best performance of foliar applications, follow these directions:**

- Apply Minecto Duo when insect pest populations begin to build, but before populations reach economically damaging levels. Check with your local agricultural authority for economic thresholds for pests controlled by Minecto Duo.
- Thorough spray coverage is essential for optimal performance. Apply Minecto Duo in sufficient water to ensure good coverage. See specific application information in the **Crop Use Directions** section of this label. The use of higher water volumes will result in better coverage, especially under adverse conditions (e.g., hot, dry) or where a dense plant canopy exists.
- Minecto Duo is rainfast once the spray solution has dried on treated plants.

## RESISTANCE MANAGEMENT

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.

Minecto Duo contains a Group 4A insecticide (thiamethoxam, belonging to the neonicotinoid class of chemistry) and a Group 28 insecticide (cyantraniliprole, belonging to the diamide class of chemistry). Insect biotypes with acquired or inherent resistance to Group 4A or Group 28 insecticides may eventually dominate the insect population if Group 4A or Group 28 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 Minecto Duo or other Group 4A or Group 28 insecticides.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

### **In order to maintain susceptibility to these classes of chemistry:**

- Avoid using Group 4A and/or Group 28 insecticides exclusively for season long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, apply Minecto Duo or other Group 4A and/or Group 28 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 in the Directions for Use) of the Group 4A and/or Group 28 insecticides. Do not exceed the maximum Minecto Duo allowed per year.
- Following a treatment window of Group 4A and/or Group 28 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 4A and/or Group 28 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 Minecto Duo or other Group 4A or Group 28 insecticides.

### **Other Insect Resistance Management (IRM) practices include:**

- Incorporating IPM techniques into your insect control program.
- Monitoring treated insect populations for loss of field efficacy.
- Using 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.

### **For additional 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/>.

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## APPLICATION PROCEDURES AND SPRAY EQUIPMENT

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### Soil Application

Select spray nozzles or metering orifices which will provide accurate and uniform deposition. Minecto Duo can be applied during planting or transplanting as an in-furrow spray, transplant hole drench or narrow surface band above the seedline; after planting as a post-seeding, post-transplanting, hill drench, drip chemigation, or root zone shank application. These application methods allow the insecticide to be absorbed by plant roots. Although Minecto Duo is rapidly taken up by plant roots and rapidly moves throughout the plant, the use of sufficient water volume and root zone placement will ensure that the chemical contacts the roots, resulting in optimal uptake and performance.

When making post-emergence applications, direct the application at the base of the plant for optimum root uptake. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult sprayer manufacturers and/or State Extension Service specialists.

**Dry Bulk Granular Fertilizer – Potatoes only:** Many dry bulk fertilizers may be impregnated or coated with Minecto Duo and used to control insects in potatoes. When applying Minecto Duo with dry bulk granular fertilizer, follow all directions for use and precautions on the Minecto Duo label contained in the potato direction for use section regarding rates per acre, pests controlled, and rotational crop restrictions.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application, are the responsibility of the individual and/or company selling the insecticide/fertilizer mixture.

Prepare the insecticide/fertilizer mixture by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray Minecto Duo onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray onto the fertilizer only, avoiding the walls of the blender. Do not pour or dribble Minecto Duo directly from the product container onto the fertilizer.

### Blender Mixing Directions

Fill the blender with the required amount of dry bulk granular fertilizer to be used. Start the blender. Spray the Minecto Duo directly onto the moving fertilizer. Allow the mixture to blend for at least 5 minutes or until uniform. Spread the insecticide/fertilizer mixture as soon as possible.

Calculate the amount of Minecto Duo by the following formula:

$$\frac{\text{oz./acre Minecto Duo}}{\text{lb./acre Fertilizer}} \times 2,000 \text{ lb./ton} = \text{oz./ton Minecto Duo}$$

**Important:** When more than 1,000 lb./A of dry bulk granular fertilizer is to be applied, mix Minecto Duo with water to improve coverage on the dry fertilizer. Mix one part Minecto Duo with up to 2 parts water [1:2] in a mix tank before application to fertilizer. Use a maximum of 2 qt. liquid per ton of fertilizer.

*Precautions: Do not impregnate Minecto Duo on straight unadulterated agricultural limestone, since adsorption will not be achieved. Limestone prills, which contain a binding agent and fertilizer blends containing limestone can be impregnated.*

**Application:** Apply the mixture uniformly to the soil with properly calibrated equipment **immediately** after blending. Non-uniform application of the insecticide/fertilizer mixture may result in unsatisfactory insect control.

## **Chemigation**

Applications of Minecto Duo alone or in combination with other pesticides registered for application through irrigation systems may be applied in irrigation water at rates specified on this label. Apply this product only through low-pressure micro-sprinkler, drip type irrigation systems or through sprinkler irrigation equipment (center pivot, solid set, hand move or moving wheel irrigation systems - **potatoes only**).

### **Directions for All Specified Types of Irrigation Systems**

#### **Uniform Water Distribution and System Calibration**

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Dilute Minecto Duo in the solution tank at a ratio of at least 5 parts of water to one part of Minecto Duo. Injecting a larger volume of a more dilute solution will usually allow a more accurate calibration of the metering equipment. Meter the insecticide into the irrigation water during the irrigation cycle.

**Using Water from Public Water Systems:** DO NOT APPLY Minecto Duo THROUGH ANY IRRIGATION SYSTEM **PHYSICALLY CONNECTED** TO A PUBLIC WATER SYSTEM. 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. Minecto Duo may be applied through irrigation systems, which may be **supplied** by a public water system **only if** the water from the public water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements.

### **Operating Instructions for All specified Types of Irrigation Systems**

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.
2. The system must contain a functional check-valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
4. 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. 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.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or Venturi injector), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Do not apply when wind speed favors drift beyond the area intended.
9. The pesticide injection pipeline must be on the downstream (field) side of the system filters to avoid potential pesticide off-site contamination or misapplication as a result of the filter back-flushing process.
10. Have a dedicated pesticide injection tank for chemigation purposes rather than tank-mixing pesticides with fertilizers or other non-pesticide chemigation products. This reduces the potential for incompatibility issues which could result in misapplication.
11. Make Minecto Duo injections into the center of the water pipe for a thorough and quick mix. This can be accomplished with an "injection tube" which should contain a check valve.

## **Application Instructions – Low Pressure Micro-Sprinkler or Drip Type Irrigation Equipment**

Minecto Duo must be applied on the schedule specified in the Crop Use Directions, not according to the irrigation schedule. The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through low-pressure micro-sprinkler or drip type irrigation equipment. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemicals through irrigation equipment.

1. Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
2. Use only pressure injection or Venturi equipment.
3. Determine the area to be treated in each irrigation run.
4. Measure the output of each of the emitters or drip tubes closest to and farthest from the injection point.
5. For calibration, substitute a concentrated detergent (such as Wisk) for the Minecto Duo mixture in the injector (solution) tank. It is important to use the same volume of soap solution as the planned volume of Minecto Duo solution when calibrating the system. The detergent will bubble as it leaves the emitters. Check the time period over which the bubbles occur for both the closest and farthest emitters. If these times are not within 2 minutes of each other, adjust the dilution ratio and/or the injection rate.

### **Step-by-Step Calibration and Application Instructions**

1. Before starting to calibrate, operate the system until all of the emitters are putting out at equal flow rates or until the system is operating at full pressure.
2. Make up an indicator solution of detergent or fertilizer, using the same rate of indicator as the planned volume of Minecto Duo to be used in the mix.
3. Set the injector to apply the indicator solution at the injection rate to be used in the actual Minecto Duo application.
4. Attach a 12-inch length of flexible tubing over the emitter closest to the injection point, another 12-inch length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solutions are observed.
5. Begin injecting the indicator solution. Direct the flow from the flexible tubes into a small container. Begin timing when the indicator solution is first detected. Stop timing when the indicator solutions are no longer detected in the container.
6. If the period of detection of the indicator solution between the near and far emitter is within 2 minutes, comparable coverage will be obtained. If they are not, make adjustments by increasing the dilution ratio, using more water per part of Minecto Duo, or adjust the injector to a slower flow rate.
7. Once the system is calibrated, dilute the needed amount of Minecto Duo with water and any other tank mix partners in the injection tank at a minimum dilution of 5 parts water to 1 part

Minecto Duo. Follow the directions for mixing and equipment set up in the **Mixing Procedures** section of this label for complete details.

8. Do not begin to inject Minecto Duo into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
9. Inject the Minecto Duo solution into the system at the beginning of the irrigation set in 1/2 -1 inch of irrigation water.

### **Application Instructions – Sprinkler irrigation equipment (center pivot, solid set, hand move or moving wheel irrigation systems – Potatoes only)**

Minecto Duo alone or in combination with other products which are registered for application through sprinkler irrigation may be applied through irrigation systems. Apply this product through center pivot, solid set, hand move, or moving wheel irrigation systems. Lack of effectiveness or illegal pesticide residues 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. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### **Calibration and Application Instructions**

Minecto Duo must be applied under the schedule specified in the specific Crop Use Directions, not according to the irrigation schedule unless the events coincide.

Set the equipment to apply the minimum amount of water per acre. Run the system at 85 - 90% of the manufacturer's maximum rated travel speed.

The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

### **Center Pivot Irrigation Equipment**

Notes: (1) Use only drive systems that provide uniform water distribution. (2) Do not use end guns when chemigating Minecto Duo through center pivot systems because of non-uniform application. (3) Plug the first nozzle closest to the well-head to protect the water source.

1. Determine the size of the area to be treated.
2. Determine the time required to apply 0.1 – 0.25 inches of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. Run the system at 80 - 95% of the manufacturer's rated maximum travel speed.
3. Using water, determine the injection pump output when operated at normal line pressure.
4. Determine the amount of Minecto Duo, and any tank mix partners, required to treat the area covered by the irrigation system.



5. Add the required amount of Minecto Duo, any tank mix partners, and sufficient water to meet the injection time requirements to the solution tank. (See **Mixing Procedures** section of this label.)
6. Make sure the system is fully charged with water before starting injection of the Minecto Duo solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
7. Maintain constant agitation in the solution tank during the injection period.
8. Inject the specified amount of Minecto Duo per acre continuously for one complete revolution of the system.
9. Stop the injection equipment after treatment is completed. Continue to operate the system until the Minecto Duo solution has cleared all of the sprinkler heads.
10. Allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water.

### **Solid Set, Hand Move, and Moving Wheel Irrigation Equipment**

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20-40 minute time interval.
3. Determine the amount of Minecto Duo required to treat the area covered by the irrigation system.
4. Add the required amount of Minecto Duo, and any other tank mix partners, into the same quantity of water used to calibrate the injection period. (See **Mixing Procedures** section of this label.)
5. Operate the system at the same pressure and time interval established during the calibration.
6. Inject specified amount of Minecto Duo per acre for either a 20-40 minute period at the end of a regular irrigation set, or as a 20-40 minute injection as a separate application not associated with a regular irrigation to maximize retention of the insecticide by the foliage.
7. Stop injection equipment after treatment is completed. Continue to operate the system until the Minecto Duo solution has cleared the last sprinkler head. To ensure lines are flushed and free from remaining pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

## GROUND APPLICATION

Select spray nozzles which will provide accurate and uniform spray deposition. Use spray nozzles, which provide medium-sized droplets and reduce drift. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult nozzle manufacturers and/or State Extension Service specialists.

Apply Minecto Duo using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage but is not required. Do not make applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

*Precautions: (1) When using water volumes of 5-10 gals., fine-sized droplets may be used to improve spray coverage. (2) Select nozzles, which produce the desired droplet sizes at the normal rated pressure range. (3) When spraying fine-sized droplets, carefully check **all** nozzles for flow and calibrate the sprayer. (4) The sprayer should travel at a uniform speed across the field. (5) Monitor environmental conditions and follow **Spray Drift Precautions** carefully.*

## AERIAL APPLICATION

Apply Minecto Duo in water, using the minimum spray volume indicated in the **Crop Use Directions** section of this label. Increase spray volume where practical to improve coverage. Do not make application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

### Spray Drift Precautions

As with all crop protection products, it is important to avoid off-target movement. Do not allow spray to drift onto adjacent land, crops, or aquatic areas. To avoid spray drift:

- Make applications when wind velocity favors on-target product deposition (approximately 3-10 mph). Do not apply when wind velocity exceeds 10 mph. Do not make applications when wind gusts approach 10 mph.
- Do not make applications when wind direction is toward the aquatic area to reduce the risk of exposure to sensitive aquatic areas.
- Do not cultivate or plant crops within 25 ft. of the aquatic area as to allow growth of a vegetative filter strip.
- Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased 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.
- Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift, and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage. Do not make applications more than 10 ft. above the crop canopy.

- For aerial applications, mount the spray boom on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length must be used and must not exceed 75% of wing span or rotor diameter.

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## MIXING PROCEDURES

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Prepare no more spray mixture than is needed for the immediate operation. Thoroughly clean spray equipment before using this product. Vigorous agitation is necessary for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation. Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area. Keep product container tightly closed when not in use.

### **Minecto Duo Alone**

Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the desired amount of Minecto Duo to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after Minecto Duo has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

### **Minecto Duo + Tank Mixtures**

Add 1/2 of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. Add tank mix partners in this order: products packaged in water-soluble packaging, wettable powders, wettable granules (dry flowables) such as Minecto Duo, liquid flowables, liquids, emulsifiable concentrates, and surfactants / adjuvants. Always allow each tank mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all of the mixture has been applied.

**Note:** When using Minecto Duo in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including Minecto Duo. 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.

If using Minecto Duo in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations, which appear on the tank mix product label. Do not exceed any label dosage rate, and follow the most restrictive label precautions and limitations. Do not mix this product with any product which 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.

When an adjuvant is to be used with this product, use an adjuvant that meets the standard of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program.

### **Compatibility**

Minecto Duo is compatible with most commonly used pesticides, crop oils, adjuvants, and nutritional sprays. However, since it is not possible to test all possible mixtures, the user should pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with Minecto Duo. To determine the physical compatibility of Minecto Duo with other products, use a jar test, as described below.

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. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

The crop safety of all potential tank mixes on all crops has not been tested. Confirm the safety to the target crop before applying any tank mixture not specified on this label.

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## CROP USE DIRECTIONS

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### Pollinator Precautions



- Minecto Duo is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops.
- Do not apply Minecto Duo or allow it to drift to blooming crops while bees are foraging in/or adjacent to the treatment area. This is especially critical if there are adjacent orchards that are blooming (Refer to **Spray Drift Precautions** for additional information).
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Consult with your local cooperative extension service or state agency responsible for regulating pesticide use for additional pollinator protection practices

### **BRASSICA (COLE) LEAFY VEGETABLES – CROP GROUP 5 INCLUDING:**

#### **Head & Stem *Brassica***

Broccoli, Broccoli, Chinese (gai lon), Brussels sprouts, Cabbage, Chinese (napa) Cabbage, Chinese mustard (gai choy) Cabbage, Cauliflower, Cavalo broccolo, Kohlrabi

#### **Leafy *Brassica* Greens**

Broccoli raab (rapini), Cabbage, Chinese (bok choy), Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens

Application Method	Pests	Product Rate Per Acre Per Application
Soil	Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafminers (larvae) Southern Cabbageworm Whiteflies Yellowstriped Armyworm	11 – 14 oz./A

**Soil Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per crop season.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
  1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
  2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
  3. In drip (trickle) chemigation.
  4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
Refer to Resistance Management section.**

Application Method	Pests	Product Rate Per Acre Per Application
Foliar	Alfalfa Looper Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafminers (larvae) Sugarbeet Armyworm Thrips (Foliage Feeding) <sup>1</sup> Whiteflies Yellowstriped Armyworm	4 – 7 oz./A

**Foliar Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 7 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):**
  - 1 Day for Head & Stem *Brassicas*
  - 7 Days for Leafy *Brassica* Greens
- **Pest Control:** <sup>1</sup>Suppression.



**Refer to Pollinator Precautions section, Environmental Hazards and Directions for Use.**

**Refer to Resistance Management section.**

**CUCURBIT VEGETABLES – CROP GROUP 9 INCLUDING:**

Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Gourd, edible (hyotan, cucuzza, hechima, Chinese okra), *Momordica* species (balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo*) includes true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin, Squash: summer (crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini) and winter (butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

Application Method	Pests	Product Rate Per Acre Per Application
Soil	Aphids Cucumber Beetle <sup>1</sup> Flea Beetles Leafhoppers Leafminers (larvae) Melonworm Pickleworm Whiteflies	11 – 14 oz./A

**Soil Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantranilprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
  1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
  2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
  3. In drip (trickle) chemigation.
  4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days
- **Pest Control:** <sup>1</sup> Early Season Suppression



**Refer to Pollinator Precautions section, Environmental Hazards and Directions for Use.**  
**Refer to Resistance Management section.**

Application Method	Pests	Product Rate Per Acre Per Application
Foliar	Aphids Cabbage Looper Corn Earworm Cucumber Beetle <sup>1</sup> Flea Beetles Leafminers (larvae) Melonworm Pickleworm Rindworm species complex Thrips (Foliage Feeding) <sup>1</sup> Tobacco Budworm Whiteflies	4 – 7 oz./A

**Foliar Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./Acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 5 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):** 1 day
- **Pest Control:** <sup>1</sup>Suppression.



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
Refer to Resistance Management section.**



**FRUITING VEGETABLES – CROP GROUP 8 INCLUDING:**

Eggplant, Groundcherry, Pepino, Peppers (bell, cooking, pimento, and sweet), Tomatillo, Tomato

Application Method	Pests	Product Rate Per Acre Per Application
Soil	Aphids Beet Armyworm Colorado Potato Beetle Fall Armyworm Flea Beetles Hornworms Leafhoppers Leafminers (larvae) Loopers Potato Psyllid Southern Armyworm Spotted Cucumber Beetle <sup>1</sup> Tomato Fruitworm Tomato Pinworm Whiteflies Yellowstriped Armyworm	11 – 14 oz./A

**Soil Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
  1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
  2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
  3. In drip (trickle) chemigation.
  4. Shankd into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days
- **Pest Control:** <sup>1</sup> Early Season Suppression



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
Refer to Resistance Management section.**

Application Method	Pests	Product Rate Per Acre Per Application
Foliar	Aphids Beet Armyworm Colorado Potato Beetle European Corn Borer Fall Armyworm Flea Beetles Hornworms Leafhoppers Leafminers (larvae) Loopers Pepper Weevil Southern Armyworm Stinkbugs Thrips (Foliage Feeding) <sup>1</sup> Tobacco Budworm Tomato Fruitworm Tomato Pinworm Whiteflies Yellowstriped Armyworm	4 – 7 oz./A

**Foliar Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantranilprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 5 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):** 1 day
- **Pest Control:** <sup>1</sup>Suppression



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
Refer to Resistance Management section.**

**LEAFY VEGETABLES – CROP GROUP 4 INCLUDING:**

Amaranth, Arugula, Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Chrysanthemum: edible-leaved & garland, Corn Salad, Cress: garden and upland, (yellow rocket, winter cress), Dandelion, Dock (sorel), Endive (escarole), Fennel, Florence (finocchio), Lettuce: head & leaf, Orach, Parsley, Purslane: garden & winter  
 Radicchio (red chicory), Rhubarb, Spinach including New Zealand & Vine (Malabar, Indian), Swiss chard

Application Method	Pest	Product Rate Per Acre Per Application
Soil	Aphids Beet Armyworm Cabbage Looper Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafhoppers Leafminers (larvae) Whiteflies	11 – 14 oz./A

**Soil Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./Acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
  1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
  2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
  3. In drip (trickle) chemigation.
  4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
 Refer to Resistance Management section.**

Application Method	Pest	Product Rate Per Acre Per Application
Foliar	Aphids Beet Armyworm Cabbage Looper Corn Earworm Diamondback Moth European Corn Borer Fall Armyworm Flea Beetles Imported Cabbageworm Leafhoppers Leafminers (larvae) Southern Armyworm Sugarbeet Armyworm Tobacco Budworm Whiteflies	4 – 7 oz./A

**Foliar Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz./acre of Minecto Duo or 0.175 lb. a.i. of thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 7 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):** 7 days



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
Refer to Resistance Management section.**

**TUBEROUS AND CORM VEGETABLES – CROP GROUP 1C INCLUDING:**

Potato, Sweet potato, Yams, Yam bean, Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Canna, Cassava, Bitter and Sweet, Chayote (root), Chufa, Dasheen, Ginger, Leren, Tanier, Turmeric

Application Method	Pest	Product Rate Per Acre Per Application
Soil	Aphids Colorado Potato Beetle European Corn Borer <sup>1</sup> Flea Beetles Potato Leafhopper Potato Psyllid Wireworm (seed piece only)	6.5 – 10 oz./A

**Soil Application Use Restrictions:**

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 10 oz. of Minecto Duo or 0.125 lb. a.i. of soil applied thiamethoxam containing products or 0.4 lb. a.i. of cyantraniliprole containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Method:** Apply specified dosage to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
  1. An in-furrow spray during planting. Spray directly on the seed pieces in the furrow. Apply in sufficient water to ensure good coverage of seed pieces.
  2. Apply specified amount of Minecto Duo impregnated on dry granular fertilizer before or during planting.
  3. Apply at plant emergence. Direct spray at the soil near the base of the plant during the last hilling operation. Incorporate into the root zone with sufficient overhead irrigation within 24 hours.
  4. Apply as a broadcast spray to the soil during the last hilling operation. Incorporate into the root zone with sufficient overhead irrigation within 24 hours.
  5. Apply at plant emergence through overhead chemigation after hilling. Use from 0.10-0.50 inches of water. (For more details: see application through irrigation systems for potatoes in **APPLICATION PROCEDURES AND SPRAY EQUIPMENT** section.)
- **Pest Control:** <sup>1</sup> Early Season Suppression



**Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.  
Refer to Resistance Management section.**

**Minecto Duo Conversion Chart for Drip Linear Application**

	20"	30"	34"	36"	38"	40"	46"	60"	72"	78"	80"	84"	Row Spacing
	26,136	17,424	15,374	14,520	13,756	13,068	11,363	8,712	7,260	6,702	6,534	6,223	Linear Ft./A
Rate (oz/Acre)	Rate in oz. of product per 1,000 linear feet for specified row spacing and rate per acre												lb a.i./A
6.5	0.25	0.37	0.42	0.45	0.47	0.50	0.57	0.75	0.90	0.97	0.99	1.04	0.163
10.0	0.38	0.57	0.65	0.69	0.73	0.77	0.88	1.15	1.38	1.49	1.53	1.61	0.25
11.0	0.42	0.63	0.72	0.76	0.80	0.84	0.97	1.26	1.52	1.64	1.68	1.77	0.28
12.0	0.46	0.69	0.78	0.83	0.87	0.92	1.06	1.38	1.65	1.79	1.84	1.93	0.30
13.0	0.50	0.75	0.85	0.90	0.95	0.99	1.14	1.49	1.79	1.94	1.99	2.09	0.33
14.0	0.54	0.80	0.91	0.96	1.02	1.07	1.23	1.61	1.93	2.09	2.14	2.25	0.35

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## ROTATIONAL RESTRICTIONS

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Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. However, the cover crop may not be grazed or harvested for food or feed. For all other rotational crops intended for food or feed, the plant-back intervals listed below must be observed.

### Immediate Plant-Back Interval:

Treated areas may be replanted immediately following harvest or as soon as practical following the last application with **Brassica** (cole) leafy vegetables (crop group 5), cucurbit vegetables (crop group 9), fruiting vegetables (crop group 8), leafy vegetables (crop group 4), dry bulb onion, cotton, sunflower, oilseed crops (rapeseed, Indian rapeseed, Indian mustard seed, field mustard seed, black mustard seed, flax seed, safflower seed, crambe seed and borage seed), blueberries, and strawberries.

### 30 - Day Plant-Back Interval:

Alfalfa, legume vegetables (crop groups 6), cereal grains (crop groups 15) (note: can use forage, fodder, or straw only from corn, barley, buckwheat, millet, rye, sorghum, or wheat planted with less than a 12-month plantback), peanut, tuberous and corm vegetables (crop group 1D), potato, root vegetables (crop group 1A).

120-Day Plant-Back Interval: Grass forage, fodder, and hay (crop group 17).

**For all other crops, a 12-month plant-back interval must be observed.**

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## STORAGE AND DISPOSAL

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

### Pesticide Storage

Store in a cool, dry place.

### Pesticide Disposal

Pesticide wastes may be toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be used 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 in proper disposal methods.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

**Container Handling** (*plastic container*)

**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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. 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.

**Container Handling** (*bag*)

**Non-refillable container.** Do not reuse or refill this container.

Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by other procedures allowed by state and local authorities.

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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

SCP XXXXA-M(draft new product version E Minecto Duo)

(Non-detachable container label)

**Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.**

**Minecto Duo**

Insecticide

GROUP	4A	28	INSECTICIDES
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For control of listed insect pests infesting specified crops

Active Ingredients:

Thiamethoxam <sup>1</sup> .....	20.0%
Cyantraniliprole <sup>2</sup> .....	20.0%

Other Ingredients: 60.0%

Total: 100.0%

<sup>1</sup>CAS No. 153719-23-4

<sup>2</sup>CAS No. 736994-63-1

Minecto Duo is a water-dispersible granule that contains 3.2 ounces of active ingredient of thiamethoxam and 3.2 ounces of cyantraniliprole per pound of formulated product.

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

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.

**AGRICULTURAL USE REQUIREMENTS**

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

EPA Reg. No. 100-RUER

EPA Est. XXXXX

SCP XXXXA-M(draft new product version E Minecto Duo)

Net Weight

[Non-Refillable Container]



## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

#### CAUTION

Causes moderate eye irritation. Avoid contact with eyes, or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long-sleeved shirt, long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A).

<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.</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>
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</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>
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-xxx-xxxx for emergency medical treatment information.	
<b>HOT LINE NUMBER</b> 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>	

### Environmental Hazards

This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates, oysters and shrimp.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging in/or adjacent to the treatment area.

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwater.

## **STORAGE AND DISPOSAL**

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

### **Pesticide Storage**

Store in a cool, dry place.

### **Pesticide Disposal**

Pesticide wastes may be toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be used 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 in proper disposal methods.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

### **Container Handling**

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**Refer to Surface Water Advisory, Ground Water Advisory, Spray Drift Advisory, Chemigation and Physical or Chemical Hazards sections in booklet.**

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SCP XXXXA-M(draft new product version E Minecto Duo)

Minecto Duo RUER Draft New Prod Ver E-clean-dk-2/6/14  
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