

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

October 5, 2017

Ms. Heidi B. Irrig Regulatory Residue Manager Syngenta Crop Protection, LLC P.O. Box 18300 Greensboro, NC 27419

Subject: PRIA Label Amendment – new use for cacao; adds supplemental label for cacao;

associated Petition # 6E8505 Product Name: Orondis OD

EPA Registration Number: 100-1572

Application Date: 8/12/16 Decision Number: 520632

Dear Ms. Irrig:

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/registration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

A stamped copy of your Master and Supplemental labeling are 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. If you have any questions, please contact Heather Garvie by phone at 703-308-0034, or via email at <a href="mailto:garvie.heather@epa.gov">garvie.heather@epa.gov</a>.

Sincerely, Cffiles-Parker

Cynthia Giles-Parker, Chief

Fungicide Branch

Registration Division (7505P)

Enclosure – stamped "accepted" labels

### [Master Label]

GROUP U15 FUNGICIDE

### Orondis® OD

[Alternate Brand Names: Orondis® Opti A, Orondis® Ultra A]

### **Fungicide**

Active Ingredient:

Orondis® OD is formulated as an oil dispersion and contains 0.83 pounds of oxathiapiprolin per gallon of product.

### KEEP OUT OF REACH OF CHILDREN. CAUTION/PRECAUCIÓN

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 inside booklet.

EPA Reg. No. 100-1572

EPA Est. No.

SCP 1572

**Net Contents** 

ACCEPTED

10/05/2017

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

EPA Reg. No. 100-1572

<sup>\*</sup> CAS No. 1003318-67-9

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# 1.0 FIRST AID

clothing

# If on skin or • Take off contaminated clothing.

- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

### **HOT LINE NUMBER**

For 24-Hour Medical Emergency Assistance (Human or Animal)
Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident)
Call

1-800-888-8372

# 2.0 PRECAUTIONARY STATEMENTS

# 2.1 Hazards to Humans and Domestic Animals CAUTION/PRECAUCIÓN

Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear chemical-resistant gloves made of barrier laminate, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, or Viton®  $\geq$ 14 mils. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

# 2.2 Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt
- Long pants
- Shoes and socks
- Chemical-resistant gloves made of barrier laminate, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or Viton ≥ 14 mils.

### 2.2.1 USER SAFETY REQUIREMENTS

Follow the 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.

### 2.2.2 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.
- 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.

### 2.3 Environmental Hazards

This product is toxic to aquatic invertebrates. For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

### **DIRECTIONS FOR USE**

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

Orondis OD must be used only in accordance with instructions on this label, in separately issued labeling or exemptions under FIFRA (Supplemental Labels, Special Local Need Registration, FIFRA Section 18 exemptions), or as otherwise permitted by FIFRA. Always read the entire label, including the Conditions of Sale and Limitation of Warranty and Liability.

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.

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

### 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 the label about personal protective equipment (PPE), and restricted-entry interval, and notification to workers (as applicable). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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

- Coveralls
- Shoes and socks
- Chemical-resistant gloves (made of any waterproof material)

## 3.0 PRODUCT INFORMATION

Read all label directions before use. All applications must be made according to the use directions that follow.

- Orondis OD is an oil dispersion containing oxathiapiprolin and is recommended for use by foliar or soil application for the control or suppression of the diseases listed on this label.
- Orondis OD is active against selected Oomycete diseases listed on this label.
- Orondis OD is a systemic fungicide and moves systemically in the plant xylem.
   Uptake into the leaf tissue allows good translaminar movement and protection of new plant growth.
- Orondis OD must be applied in a regularly scheduled protective spray program in rotation with other fungicides.
- See **Section 7.0** for specific crop/disease recommendations.

#### 3.0.1 RAINFASTNESS

Orondis OD rapidly penetrates into plant tissues and is rainfast within 30 minutes after spray residues have dried.

### 3.0.2 MODE OF ACTION

Oxathiapiprolin, the active ingredient in Orondis OD, acts as an oxysterol-binding protein modulator in fungal cells.

### 3.0.3 CROP TOLERANCE

Not all crops within a crop group, and not all varieties, cultivars, or hybrids of crops, have been individually tested for crop safety. It is not possible to evaluate for crop safety all applications of Orondis OD on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator.

# 3.1 Integrated Pest Management (IPM)

Syngenta recommends the use of Integrated Pest Management (IPM) programs to control pests. Orondis OD may be used as part of an IPM program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when disease forecasting models reach locally determined action levels. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine the appropriate management, cultural practice and treatment threshold levels for the specific crop, geography and diseases.

# 3.2 Resistance Management

GROUP U15 FUNGICIDE

Orondis OD contains the active ingredient oxathiapiprolin, which has been assigned Group U15 by the Fungicide Resistance Action Committee (FRAC). Oxathiapiprolin modulates an oxysterol-binding protein (OSBP) in fungal cells. Repeated use of products for control of specific plant pathogens may lead to selection of resistant strains of fungi and result in a reduction of disease control. A disease management program for Orondis OD that includes rotation and tank mixing with fungicides with a different mode of action is essential to reduce the risk of fungicide resistance development.

As part of a resistance management strategy:

- Do not tank-mix Orondis OD with any fungicide for which resistance to the target disease has developed.
- Make no more than 2 sequential applications of Orondis OD before rotating to a fungicide with a different mode of action.
- Do not follow soil applications of oxathiapiprolin-containing products with foliar

- applications of oxathiapiprolin-containing products.
- Different application methods (foliar and soil) must not be combined when protecting a crop during a growing season.
- Do not use Orondis OD or other oxathiapiprolin-containing products for more than 33% of the total fungicide applications per season per crop.
- For guidance on a particular crop and disease control situation, consult your state extension specialist for official state recommendations.

# 4.0 APPLICATION DIRECTIONS

# **4**.1 Methods of Application

### 4.1.1 FOLIAR APPLICATION (INCLUDING AERIAL APPLICATION)

See **Section 7.0** for specific foliar application instructions. Orondis OD may be used with adjuvants, for example, nonionic surfactants, crop oils, methylated seed oils, and blends at typical agricultural use rates for these adjuvants.

### 4.1.2 SOIL APPLICATION

- For suppression or control of soil borne diseases, as recommended in this label, Orondis OD must be applied in a manner that ensures the product solution adequately saturates the target crop root/crown zone.
- When applied to the root/crown zone before, during, or soon after sowing or transplanting the crop, Orondis OD will suppress or control certain seedling root rot and crown diseases that limit crop stand establishment.
- For soil application, apply Orondis OD using drip irrigation, transplant water application (water wheel or continuous stream transplanters), surface band or directed application, or in-furrow application using the rates in the table below. See table and **Section 4.5** for drip irrigation instructions.
- If the application method does not move the product to the target root/crown disease zone, the application must be followed with irrigation or cultivation to correctly place the product for disease control.

# Soil application rates for Orondis OD /1,000 feet of row, based on plant row spacing.

Orondis OD Conversion Chart for Drip (Trickle) Chemigation, Continuous Transplant Water, and Direct/Banded/In-Furrow Application							
Corresponding	Rate in fl	Rate in fl oz product/1,000 row ft; based on planted row spacing (in inches) of:					
field rate (fl oz/acre)	30	34	36	48	60	72	84
4.8	0.28	0.31	0.33	0.44	0.55	0.66	0.77
9.6	0.55	0.62	0.66	0.88	1.10	1.32	1.54
19.2	1.10	1.25	1.32	1.76	2.20	2.65	3.09
38.6	2.22	2.51	2.66	3.55	4.43	5.32	6.20

### **Transplant Water Application**

- Transplants should be adequately watered before transplanting. Ensure transplant water volume is sufficient to thoroughly wet the root zone.
- See table for continuous-stream transplanters. Ensure 4-8 fl oz transplant water/ transplant depending on sandy (4 fl oz) vs silty soil (6-8 fl oz).
- For water-wheel transplanters, use the plant population to determine the rate per plant.

Example:

$$\frac{38.6 \text{ fl oz product}}{\text{acre}} \times \frac{\text{acre}}{4356 \text{ squash plants}} = \frac{0.00886 \text{ fl oz product}}{\text{squash plant}}$$

### **Surface Band or Directed Application**

- Apply in a 4- to 12-inch band. See table for rates.
- Follow application with cultivation or irrigation (1/2 1 inch) to move Orondis OD to the target disease zone.

### **Transplant Tray Application**

- Apply as a foliar spray to the transplants in the transplant tray 24-48 hours prior to transplanting. Immediately water the spray off the foliage into the transplant tray soil, not watering past soil saturation.
- For this application, the acre of transplants receives the full recommended acre
  rate for transplant tray application, applied as a foliar spray, which is then
  washed into the transplant cubes. Transplant cubes should be on the dry side at
  the beginning of this treatment.

# **4**.2 Application Equipment

Orondis OD can be applied with commonly used ground equipment, hose-end, pressurized, greenhouse and hand-held sprayers, air or chemigation equipment, except as otherwise directed, using sufficient water to obtain thorough coverage of plants. Maintain agitation during mixing and application to assure uniform product suspension.

#### 4.2.1 SHIELDED SPRAYERS

- Shielding the boom or individual nozzles can reduce the effects of wind.
- However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

### 4.2.2 AIR-ASSISTED (AIR-BLAST) FIELD CROP SPRAYERS

- Air-assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result.
- It is the responsibility of the applicator to determine that a sprayer is suitable for

- the intended application, that it is configured properly, and that drift potential has been minimized.
- Note: Air-assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air-assisted field crop sprayer can be used.

#### 4.2.3 SPRAY TANK CLEAN-OUT

- Prior to application, start with clean, well maintained application equipment.
   Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.
- Drain application equipment. Thoroughly rinse and flush all application equipment with clean water.
- Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

# **4.**3 Application Volume and Spray Coverage

See **Sections 4.1 and 7.0** for application volume information.

# **4**.4 Mixing Directions

### 4.4.1 ORONDIS OD ALONE

- 1. Fill clean spray tank 1/2 2/3 full of water.
- 2. While agitating, add the required amount of Orondis OD, continuing agitation until the product is completely dispersed.
- 3. Continue filling the tank, with agitation. Spray immediately after preparation, continuing agitation during spraying.

#### 4.4.2 TANK-MIX PRECAUTIONS

- The crop safety of all tank mixtures with Orondis OD which may include physically compatible pesticides, fertilizers, adjuvants, and/or additives, has not been tested.
- When using a tank mixture with Orondis OD, it is important to understand crop safety.
- To test for crop safety prepare a small volume of the intended tank mixture, apply it
  to an area of the target crop as directed by both this label and the tank-mix partner
  product labels, and observe the treated crop to ensure that a phytotoxic response
  does not occur.
- Some materials including oils, surfactants, adjuvants, and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase potential for crop injury.

#### 4.4.3 TANK-MIX COMPATIBILITY TEST

Orondis OD is physically compatible with many commonly used fungicides, herbicides, insecticides, biological control products, liquid fertilizers, non-ionic surfactants, crop oils, methylated seed oils and drift control additives. However, since the formulations of products change, it is important to test the physical compatibility of desired tank mixes and check for undesirable physical effects, including settling out or flocculation.

A jar compatibility test is recommended prior to tank mixing with other pesticides and/or adjuvants/additives, in order to ensure the compatibility of Orondis OD with other tank-mixed pesticide, adjuvant or fertilizer partners. The recommended procedure for conducting jar tank-mix compatibility tests is as follows:

Compatibility Test: Since pesticides, adjuvants and fertilizers can vary in quality, always check tank-mix compatibility with tank-mixed partners each time before use. Be especially careful when using complete suspension or fluid fertilizers as carriers, as serious compatibility problems are more likely to occur with these products. Commercial application equipment may improve tank-mix compatibility in some instances. The following test assumes a spray volume of 25 gallons/A. For other spray volumes, make appropriate changes in the components. Check tank-mix compatibility using this procedure:

- 1. Add 1 pt of carrier (either the water or liquid fertilizer to be used in the spray operation) to each of two clear 1-qt jars with tight lids.
- 2. To **one** of the jars, add ¼ teaspoon or 1.2 ml of a commercially available tank-mix compatibility agent approved for this use (¼ teaspoon is equivalent to 2 pt/100 gallons of spray). Invert the jar, shake or stir gently to ensure thorough mixing.
- 3. To **both** jars, add the appropriate amount of each tank-mix partner. If more than one tank-mix partner is to be used, add them separately with dry formulations (wettable powders or water dispersible granules) first, followed by liquid flowables, capsule suspensions, emulsifiable concentrates and finally adjuvants. After each addition, invert the jar, shake or stir gently to thoroughly mix. The appropriate amount of each tank-mix partner for this test, is as follows:
  - **Dry formulations:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
  - **Liquid formulations:** For each pint to be applied per acre, add 1/2 teaspoon or 2.5 milliliters to each jar.
- 4. After adding all ingredients, put lids on and tighten, then invert each jar 10 times to fully mix. Let the mixtures stand for 15-30 minutes and then assess by looking for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if a compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry dry formulations in water before addition, or (B) add the compatibility agent directly into

liquid formulations, before addition to the tank-mixture. If these procedures are followed but incompatibility is still observed, do not use the tank-mixture.

#### 4.4.4 ORONDIS OD IN TANK MIXTURES

- Always follow the tank mix instructions of the product label that is most restrictive.
- Apply at least the minimum labeled rate of each fungicide in the tank mix.
- Consult a Syngenta representative or local agricultural authorities for more information concerning tank mixtures.
- When using in a tank-mix, add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after addition of each product.
  - 1. Water-soluble bag (WSB)
  - 2. Water-soluble granules (SG)
  - 3. Water-dispersible granules (WG)
  - 4. Wettable powders (WP)
  - 5. Water-based suspension concentrates (SC)
  - 6. Capsule suspension (CS)
  - 7. Suspo-emulsion (SE)
  - 8. Oil dispersion (OD) (Orondis OD)
  - 9. Emulsion in water (EW)
  - 10. Emulsifiable concentrates (EC)
  - 11. Water-soluble concentrates (SL)
  - 12. Adjuvants, surfactants, oils
  - 13. Soluble fertilizers
  - 14. Drift retardants

# **4.**5 Application through Irrigation Systems (Chemigation)

### 4.5.1 CHEMIGATION RESTRICTIONS

- Apply Orondis OD only through drip (trickle) or strip tubing irrigation systems and sprinkler irrigation systems (such as center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems).
- Do not connect any irrigation system (including greenhouse systems) used for
  pesticide applications to a public water system unless the pesticide labelprescribed safety devices for public water systems (Section 4.5.4) are in place.
  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 at least 60 days out of the
  year.
- The irrigation system used for application of Orondis OD must provide for uniform distribution of Orondis OD-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 contain a functional check valve, vacuum relief valve and lowpressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

#### 4.5.2 APPLICATION DIRECTIONS FOR IRRIGATION SYSTEMS

- Preparation: A pesticide tank is recommended for the application of Orondis OD in drip chemigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. With the mix tank 1/4 to 1/2 full with water and the agitator running, measure the required amount of Orondis OD and add it to the tank. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. Note: Always add the Orondis OD to water; never put Orondis OD into a dry tank or other mixing equipment without first adding water. See Section 4.4.2 for tank-mixing sequence. Good agitation is required in the injection tank. Continue to agitate the mixture throughout the application process. Use mechanical or hydraulic agitation; do not use air agitation.
- **Injection into Chemigation Systems:** Inject the proper amount of Orondis OD into the irrigation water flow using a positive displacement injection pump or a Venturi injector. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water.
  - In moving systems, apply specified dosage of Orondis OD as a continuous injection. In non-moving systems, inject Orondis OD for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.
  - Mix the amount of Orondis OD needed for acreage to be treated into the quantity of water determined during prior calibration. For moving systems, inject into the system continuously for one complete revolution of the field. For nonmoving systems, inject into system for the time established during calibration.
- Uniform Water Distribution: Non-uniform distribution can result in crop injury, lack
  or effectiveness, or illegal pesticide residues in or on the crop being treated. Ensure
  the drip chemigation system is operating properly to uniformly distribute the
  chemigation application to the crop. Contact the equipment manufacturer, the local
  University Extension agent or other experts if you have questions about achieving
  uniform distribution of the application.
- Monitoring of Chemigation Applications: A person knowledgeable of the
  chemigation system and responsible for its operation, or under the supervision of a
  responsible person, shall shut the system down and make necessary adjustments
  should the need arise. Wear the personal protective equipment as defined in the
  PPE section of the label for applicators and other handlers when making
  adjustments or repairs on the chemigation system when Orondis OD is in the
  irrigation water.
- **Operation:** Start the water pump and let the system achieve the desired pressure before starting the injector. Start the injector. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all Orondis OD is flushed from system.
- Cleaning the System: Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

### **Drip (Trickle) Irrigation Instructions**

- Orondis OD must be applied in a manner that ensures the product is in the root zone.
- Orondis OD must be in the root zone to provide effective control of target pests.
- Orondis OD is most effective when it is applied so that the roots are at or near the site of application; manage irrigation so that significant quantities of Orondis OD remain in the root zone.
- Do not begin applications until after crop emergence in direct-seeded crops.
- Do not make applications if soil moisture is below the level required for active plant growth.
- This product must be applied uniformly in the root zone or poor performance may result. Drip tape or emitters must be located within or directly adjacent to the root zone.
- Orondis OD must not be applied at the same time that a drip irrigation line clean out product is being used as performance may be reduced.
- The drip system must be properly designed, free of leaks, and operated in a manner that provides uniform application of water throughout the field.
- In most situations, this product should be applied during the first 1/3 of the irrigation cycle, starting just after the system has come up to pressure.
- The minimum injection period is the time that it takes water to move from the injection point to the furthest emitter in the irrigation zone (propagation time). If this time is not known, it can be calculated by measuring the time for a soluble dye to move from the injection point to the farthest emitter. A longer injection improves uniformity throughout the zone, but needs to allow for at least an equal period of water to flush the system and move the product through the soil.

### 4.5.3 OPERATING INSTRUCTIONS FOR CHEMIGATION

- 1. 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.
- 2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3. The pesticide injection pipeline must also contain a functional, 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.
- 4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5. 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.
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

### 4.5.4 SPECIFIC INSTRUCTIONS FOR PUBLIC WATER SYSTEMS

- 1. 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.
- 2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3. The pesticide injection pipeline must contain a functional, automatic, quickclosing check valve to prevent the flow of fluid back toward the injection pump.
- 4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or, in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. Systems must use a metering device, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

The following crops may be planted at the specified interval following application of Orondis OD.

Crop, Crop Group, or Crop Subgroup	Plant-back Interval (in Days)
Tuberous and Corm Vegetables (Subgroup 1C) Bulb Vegetables (Group 3-07) Leafy Greens (Crop Subgroup 4-16A) Brassica Leafy Greens (Crop Subgroup 4-16B) Brassica Head and Stem Vegetables (Crop Group 5-16) Cacao Peas, Succulent Shelled Peas, Edible-Podded Fruiting Vegetables (Group 8-10) Cucurbit Vegetables (Group 9) Strawberries Oilseed (Group 20) Stalk and Stem Vegetables (Crop Subgroup 22A) Ginseng Tobacco	0
Cereals (Groups 15,16) Grass animal feeds (Group 17)	30
Herbs and Spices (Group 19) Legume Vegetables, except succulent shelled and edible-podded peas Non-grass Animal feed (Group 18) Peanuts All other crops not listed	180

# 6.0 RESTRICTIONS AND PRECAUTIONS

See **Section 7.0** for crop-specific restrictions and precautions.

### 6.1 Use Restrictions

- Different application methods (foliar and soil) must not be combined when protecting a crop during a growing season.
- Use this product only in commercial and farm plantings.
- **DO NOT** use for home plantings.
- Orondis OD may be used in greenhouse production of tomatoes, bell and non-bell peppers, and edible peel cucurbits (cucumbers, summer squash). DO NOT use in greenhouses on any other crops.
- **DO NOT** formulate this product into other end-use products.

# **6**.2 Spray Drift Precautions

The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

### **6.2.1 IMPORTANCE OF DROPLET SIZE**

- The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives.
- The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage.
- Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.
- A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provides a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

### 6.2.2 AERIAL APPLICATION SPRAY DRIFT MANAGEMENT

- **Nozzle Type –** Solid-stream or other low-drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles –** Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectra.
- Nozzle Orientation Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectra than other orientations.

- Pressure Selecting the pressure that produces the coarsest droplet spectrum for a
  particular nozzle and airspeed reduces spray drift potential. For some nozzle types
  such as solid streams, lower pressures can produce finer droplet spectra and increase
  drift potential.
- Boom Length Using shorter booms decreases drift potential. Boom lengths are
  expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade
  diameter. Shorter boom length and proper positioning can minimize drift caused by
  wingtip or rotor vortices.
- Application Height Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.

### 6.2.3 GROUND APPLICATION SPRAY DRIFT MANAGEMENT

- Nozzle Type Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.
- Application Height Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

### 6.2.4 WIND

- Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction.
- Many factors, including droplet size and equipment type also determine drift potential at any given wind speed.
- AVOID GUSTY OR WINDLESS CONDITIONS.
- Local terrain can also influence wind patterns.
- Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

### **6.2.5 TEMPERATURE AND HUMIDITY**

- Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential.
- Droplet evaporation is most severe when conditions are both hot and dry.

### **6.2.6 SURFACE TEMPERATURE INVERSIONS**

- Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud.
- Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning.
- Mist or fog may indicate the presence of an inversion in humid areas. Inversions
  may also be identified by producing smoke and observing its behavior. Smoke
  that remains close to the ground, or moves laterally in a concentrated cloud under
  low wind conditions indicates a surface inversion. Smoke that moves upward and
  rapidly dissipates indicates good vertical air mixing.

### **6.2.7 SENSITIVE AREAS**

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

### **6.2.8 DRIFT CONTROL ADDITIVES**

- Using product compatible drift control additives can reduce drift potential.
- When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label.
- If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.
- Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology.

# 7.0 CROP USE DIRECTIONS

# 7.1 Basil, fresh and dried (Field and Greenhouse)

Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Downy mildew (Peronospora belbahrii)	2.0 – 4.8	Begin foliar applications prior to disease development and continue on a 5- to 10-day interval.	For conventional ground application, apply in at least 15 gallons per acre, increasing spray volume as the plants mature to ensure thorough coverage of the foliage.

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 5 days
- 4) **Maximum Annual Rate:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Pre-harvest Interval (PHI): 0 days

Cauliflower

# 7.2 Brassica, Head and Stem Vegetables, Crop Group 5-16

Crops (including all cultivars, varieties, and/or hybrids of these)

Broccoli

Cabbage

Brussels sprouts Cabbage, Chinese, Napa

Rate Target Disease (fl oz/A) Application Timing Use Directions				
Tanget Product (III Carry   Pepinetation Timing	Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
(Peronospora parasitica)  prior to disease development and continue on a 5- to 10-day interval.  prior to disease development and continue on a 5- to 10-day interval.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the peroperation mature to ensure thorough coverage the foliage.  For air-assisted ground application, and at least 10 gallons per acre.	(Peronospora	2.0 – 4.8	prior to disease development and continue on a 5- to 10-	For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.  For aerial application, apply at least 2

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 5 days
- 4) **Maximum Annual Rate:** 19.2 fl oz/A/year (0.12 lb ai/A of oxathiapiprolin-containing products)
- 5) Pre-harvest Interval (PHI): 0 days

# 7.3 Brassica Leafy Greens, Crop Subgroup 4-16B

Crops (including all cultivars, varieties, and/or hybrids of these)			
Cress, garden	Radish, leaves		
, ·	Rape greens		
Hanover salad	Rocket, wild		
Kale	Shepherd's purse		
Maca	Turnip greens		
Mizuna	Watercress		
	Cress, garden Cress, upland Hanover salad Kale Maca		

Collards Mustard greens

Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Downy mildew (Peronospora parasitica)	2.0 – 4.8	Begin foliar applications prior to disease development and continue on a 5- to 10-day interval.	For conventional ground application, apply at least 15 gallons per acre, increasing spray volume as the plants mature to ensure thorough coverage of the foliage.  A non-ionic surfactant, modified seed oil, spreader sticker, or crop oil concentrate may be added at a rate recommended by the adjuvant label.

### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer **Section 6.1** for additional product use restrictions.
- 2) For applications made to **watercress**, production fields must be drained of water at least 24 hours prior to application, and water must not be reapplied for a minimum of 24 hours following the application and each reapplication.
- 3) **Maximum Single Application Rate:** 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 4) Minimum Application Interval: 5 days
- 5) **Maximum Annual Rate:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
- 6) Pre-harvest Interval (PHI): 0 days

# 7.4 Bulb Vegetables, Crop Group 3-07

Crops (including all cultivars, varieties, and/or hybrids of these)			
Chive, fresh leaves	Kurrat	Onion, green	
Chive, Chinese, fresh leaves	Lady's leek	Onion, macrostem	
Daylily, bulb	Leek	Onion, pearl	
Elegans hosta	Leek, wild	Onion, potato, bulb	
Fritillaria, bulb	Lily, bulb	Onion, tree, tops	
Fritillaria, leaves	Onion, Beltsville bunching	Onion, Welsh, tops	
Garlic, bulb	Onion, bulb	Shallot, bulb	
Garlic, great-headed, bulb	Onion, Chinese, bulb	Shallot, fresh leaves	

Garlic, serpent, bulb Onion, fresh

Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Downy mildew (Peronospora destructor)	2.0 - 4.8	Begin foliar applications prior to disease development and continue on a 5- to 10-	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.
		day interval.	For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.
			For air-assisted ground application, apply at least 10 gallons per acre.
			For aerial application, apply at least 2 gallons per acre.

### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 5 days
- 4) **Maximum Annual Rate:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Pre-harvest Interval (PHI): 0 days

### 7.5 Cacao

Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Black pod rot (Phytophthora spp.)	4.8 – 19.2	Soil Application-Resets or New Plantings: Make first application at planting and up to one additional application approximately 3-6 months later, coinciding with a root growth flush.	Apply as a soil spray around the base of the tree, to the zone of maximum root density, or through irrigation water (micro-sprinkler or drip).  For effective disease control, ensure that the product solution thoroughly wets the target root zone. If the application method does not move the product to the root zone, and rain is not imminent, then follow with irrigation.
		Soil Application- Established Plantings: Make two applications at a 3- to 6-month interval, coinciding with root growth flush.	Apply as a soil spray beneath the tree canopy or through irrigation water (micro-sprinkler or drip).  For effective disease control, ensure that the product solution thoroughly wets the target root zone. If the application method does not move the product to the root zone, and rain is not imminent, then follow with irrigation.
	2.4 – 4.8	Foliar/Fruit Application: Make single application to fruit before initial signs of black pod rot appear.  For post-harvest control of black pod rot, apply at 0-1 day before harvest.	Apply in sufficient volume to provide uniform and complete coverage of fruit.

#### **Resistance Management:**

 Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.

- 1) Refer to **Use Restrictions** section of the booklet for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a) **Soil Application:** 19.2 fl oz/A (0.125 lb ai/A of oxathiapiprolin-containing products)
  - b) Foliar/Fruit Application: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 90 days
- 4) Maximum Annual Rate:
  - a) **Soil Application:** 38.6 fl oz/A/year (0.25 lb ai/A/year of oxathiapiprolin-containing products)
  - b) **Foliar/Fruit Application:** 4.8 fl oz/A/year (0.03 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Maximum Number of Applications:
  - a) Do not make more than two soil applications per year.
  - b) Do not make more than one foliar/fruit application per year.
- 6) Pre-harvest Interval (PHI): 0 days

# 7.6 Caneberry, Crop Subgroup 13-07A

Crops (including all cultiva	rs, varieties, and/or hybrids of these)
Blackberry	Raspberry, red and black

Loganberry Wild raspberry

Logariborry		na raopsorry	
Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Phytophthora root rot (Phytophthora spp.)	4.8 – 38.6	Make first application before plants start to grow in the spring.  Make a second application during a period favorable for root growth and at least 7 days after the first application.	Apply as a banded, soil-directed spray in a minimum of 20 gal/A of water. Direct the spray along each side of the crop row and direct the application to the soil, near and under the lower leaves.  Use a higher rate in the listed rate range for moderate to severe infections.  The application is to be made at the per acre rate concentrated in a band.  Apply ¼ - ½ inch of water after application, either by overhead sprinkler irrigation or garden hose drench on the row.

### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- Do not make more than two applications per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Maximum Single Application Rate:** 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 7 days
- 4) **Maximum Annual Rate:** 77.2 fl oz/A/year (0.50 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Pre-harvest Interval (PHI): 1 day

# 7.7 Citrus Fruit, Crop Group 10-10

Crops (including all cultivars,	varieties, and/or hybrids of the	se)	
Australian desert lime Australian finger lime Australian round lime Brown River finger lime Calamondin Citron Citrus hybrids Grapefruit Japanese summer grapefruit Kumquat	Lemon Lime Mediterranean mandarin Mount White lime New Guinea wild lime Orange, sour Orange, sweet Pummelo Russell River lime	Satsuma mandarin Sweet lime Tachibana orange Tahiti lime Tangelo Tangerine (Mandarin) Tangor Trifoliate orange Uniq fruit	

rtaniquat	Dete		
Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Brown rot Citrus foot rot Gummosis Root rot Trunk canker (Phytophthora spp.)	4.8 – 19.2	Citrus Resets or New Plantings: Make first application at planting and up to one additional application approximately 3-6 months later, coinciding with a root growth flush.	Apply as a soil spray around the base of the tree, to the zone of maximum root density, or through irrigation water (micro-sprinkler or drip).  For effective disease control, ensure that the product solution thoroughly wets the target root zone. If the application method does not move the product to the root zone, and rain is not imminent, then follow with irrigation.
		Established Plantings: Make two applications at a 3- to 6-month interval, coinciding with root growth flush.	Apply as a soil spray beneath the tree canopy or through irrigation water (micro-sprinkler or drip).  For effective disease control, ensure that the product solution thoroughly wets the target root zone. If the application method does not move the product to the root zone, and rain is not imminent, then follow with irrigation.
Brown rot ( <i>Phytophthora</i> spp.)	2.4 – 4.8	Make single application to fruit before initial signs of brown rot appear.  or  For post-harvest control of brown rot, apply at 0-1 day before harvest.	Applications may be made by ground or air. Apply in sufficient volume to provide uniform and complete coverage of fruit.

### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- **DO NOT** use in citrus nurseries.
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both

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for disease control.

### **USE RESTRICTIONS**

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a) Foliar/Fruit Applications: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
  - b) **Soil Applications:** 19.2 fl oz/A (0.12 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 30 days
- 4) Maximum Annual Rate:
  - a) Foliar/Fruit Applications: 4.8 fl oz/A (0.03 lb ai/A/year of oxathiapiprolin-containing products)
  - b) **Soil Applications:** 38.6 fl oz/A/year (0.25 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Maximum Number of Applications:
  - a) Do not make more than two soil applications per year.
  - b) Do not make more than one foliar/fruit application per year.
- 6) Pre-harvest Interval (PHI): 0 days

# 7.8 Cucurbit Vegetables, Crop Group 9

Crops (including all cultivars, varieties, and/or hybrids of these)  Chayote (fruit) Muskmelon Squash, summer (field and chinese waxgourd (Chinese Cantaloupe preserving melon) Casaba Crookneck squash Citron melon Crenshaw melon Scallop squash Cucumber (field and greenhouse) Golden pershaw melon Gherkin Honeydew melon Straightneck squash Gourd, edible Honey balls Vegetable marrow Zucchini Gourd, edible Honey balls Squash, winter Acorn squash Hyotan Mango melon Squash, winter Acorn squash Butternut squash Calabaza Hubbard squash Calabaza Hubbard squash Spaghetti squash Watermelon Watermelon  Pumpkin	.o Cucurbit vegetables, Crop Group 9					
Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber (field and greenhouse) Gherkin Gourd, edible Hyotan Cucuzza Hechima Chinese okra Momordica spp. Balsam apple Citron melon Casaba Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini Squash, winter Acorn squash Butternut squash Calabaza Hubbard squash Spaghetti squash Watermelon Watermelon	Crops (including all cultivars, vari	Crops (including all cultivars, varieties, and/or hybrids of these)				
Bittermelon Chinese cucumber	Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber (field and greenhouse) Gherkin Gourd, edible Hyotan Cucuzza Hechima Chinese okra Momordica spp. Balsam apple Balsam pear Bittermelon	Cantaloupe Casaba Crenshaw melon Golden pershaw melon Honeydew melon Honey balls Mango melon Persian melon Pineapple melon Santa Claus melon Snake melon True cantaloupe	greenhouse) Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini Squash, winter Acorn squash Butternut squash Calabaza Hubbard squash Spaghetti squash			

Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Downy mildew (Pseudoperonospora cubensis)	2.0 - 4.8	Begin foliar applications prior to disease development and continue on a 5- to 14-	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.
		day interval.	For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.
			For air-assisted ground application, apply at least 10 gallons per acre.
			For aerial application, apply at least 2 gallons per acre.

Phytophthora Blight (Phytophthora capsici)	4.8 - 38.6	Apply at planting, in furrow, by drip or in transplant water.	See Section 4.1.2 for at-planting, infurrow, or transplant-water instructions.  See Section 4.5.2 for drip irrigation instructions.
	2.0 - 4.8	Begin foliar applications prior to disease development, and continue on a 3- to 14-day interval.  For pickle fruit protection, apply with a copper fungicide starting at 1 inch fruit on 3- to 5-day intervals.	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.  For aerial application, apply at least 2 gallons per acre.
Downy Mildew Phytophthora Blight (foliar)	2.0 - 4.8	Begin foliar applications prior to disease development and continue on a 5- to 14-day interval.	Greenhouse Production of edible peel cucurbits (cucumbers, summer squash): Use a rate range of 0.07 - 0.167 fl oz (0.42 tsp - 1 tsp) per gallon of spray per 1518 sq ft.

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both for disease control.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a. Foliar and Fruit Applications: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
  - b. **Soil Applications:** 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval:
  - a. Foliar and Fruit Applications: 3 days for Phytophthora Blight and 5 days for Downy mildew
  - b. Soil Applications: 7 days
- 4) Maximum Annual Rate:
  - a. **Foliar and Fruit Applications:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
  - b. **Soil Applications**: 77.2 fl oz/A/year (0.50 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Pre-harvest Interval (PHI): 0 days

# 7.9 Fruiting Vegetables, Crop Group 8-10

Crops (including all cultivars, varieties, and/or hybrids of these)

African eggplant Martynia Pepper, non-bell (field and

Bush tomato Naranjilla greenhouse)
Cocona Okra Roselle

Currant tomato Pea eggplant Scarlet eggplant

Eggplant Pepino Sunberry
Garden huckleberry Pepper, bell (field and Tomatillo

Goji berry greenhouse) Tomato (field and greenhouse)

Groundcherry Tree tomato

,	Data		
Torget Disease	Rate	Application Timing	Han Directions
Target Disease	(fl oz/A)	Application Timing	Use Directions
Buckeye Rot (Phytophthora parasitica) Late Blight (Phytophthora infestans) Pepper Downy Mildew (Peronospora tabacina) Phytophthora Blight	2.0 - 4.8	Begin foliar applications prior to disease development and continue on a 5- to 14-day interval.	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.
(Phytophthora capsici)			For aerial application, apply at least 2 gallons per acre.
Buckeye Rot Late Blight Phytophthora Blight (foliar)	2.0 - 4.8	Begin foliar applications prior to disease development and continue on a 5- to 14-day interval.	Greenhouse Production of bell and non-bell peppers and tomatoes: Use a rate range of 0.07 - 0.167 fl oz (0.42 tsp - 1 tsp) per gallon of spray per 1518 sq ft.
Phytophthora Blight (Phytophthora capsici)	4.8 - 38.6	Apply at planting, in furrow, by drip or in transplant water.	See <b>Section 4.1.2</b> for at-planting, infurrow, or transplant-water instructions.  See <b>Section 4.5.2</b> for drip irrigation instructions.

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both for disease control.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a. Foliar Applications: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
  - b. Soil Applications: 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)

3) Minimum Application Interval:

a. Foliar Applications: 5 daysb. Soil Applications: 7 days

4) Maximum Annual Rate:

a. Foliar Applications: 19.2 fl oz/A/year (0.12 lb ai/A of oxathiapiprolin-containing products)
b. Soil Applications: 77.2 fl oz/A/year (0.50 lb ai/A of oxathiapiprolin-containing products)

5) Pre-harvest Interval (PHI): 0 days

## 7.10 Ginseng

Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Phytophthora Root Rot (Phytophthora cactorum)	4.8 - 38.6	Begin foliar applications prior to disease development, and continue on a 14-day interval.	Use the higher rates for heavy disease pressure conditions and susceptible varieties.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.
			For aerial application, apply at least 2 gallons per acre.

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both for disease control.

When 3 or more applications are made, use Orondis (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate: 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 14 days
- 4) **Maximum Annual Rate:** 77.2 fl oz/A/year (0.50 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Maximum Number of Applications: Do not make more than 4 applications per year.
- 6) Do not use on Ginseng in California.
- 7) Pre-harvest Interval (PHI): 14 days

# 7.11 Leafy Greens, Crop Subgroup 4-16A

Crops (including all cultivars, varieties, and/or hybrids of these)				
Amaranth, Chinese Amaranth, leafy Aster, Indian Blackjack Cat's whiskers Chervil, fresh leaves Cham-chwi Cham-na-mul Chipilin Chrysanthemum, gar Cilantro, fresh leaves Corn salad Cosmos		Dandelion Dang-gwi Dillweed Dock Dol-nam-mul Ebolo Endive Escarole Fameflower Feather cockscomb Good King Henry Huauzontle Jute, leaves Lettuce, bitter Lettuce, leaf	Orach Parsley, fresh leaves Plantain, buckhorn Primrose, English Purslane, garden Purslane, winter Radicchio Spinach Spinach, malabar Spinach, New Zealand Swiss chard Tanier spinach Violet, Chinese	
Target Disease	Rate (fl oz/A)	Application Timing	Use Directions	
Downy Mildew (Bremia lactucae)	9.6 - 38.6	Apply at planting (in furrow, in transplant water, or by drip) or in subsequent drip irrigation.	See Section 4.1.2 for atplanting, in-furrow, or transplantwater instructions.  See Section 4.5.2 for drip irrigation instructions.	
	2.0 - 4.8	Begin foliar applications prior to disease development, and continue on a 3- to 14-day interval.	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.	
Downy Mildew (Peronospora farinosa)	2.4 - 4.8	Begin applications prior to disease development, and continue on a 3- to 10-day interval.	For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.  For aerial application, apply at least 2 gallons per acre.	

### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both for disease control.

- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a. Foliar Applications: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
  - b. **Soil Applications:** 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: a. Foliar Applications: 3 days
  - b. Soil Applications: 7 days
- 4) Maximum Annual Rate:
  - a. Foliar Applications: 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing
    - products)
  - b. Soil Applications: 77.2 fl oz/A/year (0.50 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Pre-harvest Interval (PHI): 0 days

# 7.12 Peas, Succulent Shelled and Edible-Podded

Crops (including all	ng all cultivars, varieties, and/or hybrids of these)			
Pisum spp.  Dwarf pea  Edible-pod pea		English pea Garden pea Green pea	Snow pea Sugar snap pea	
Target Disease	Rate (fl oz/A)	Application Timing	Use Directions	
Downy Mildew (Peronospora viciae, Phytophthora phaseoli)	2.4 - 4.8	Begin applications prior to disease development, and continue on a 5- to 7- day interval.	Use the higher rate when disease is present, for longer application intervals, or for susceptible varieties.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.  For aerial application, apply at least 2 gallons per acre.	

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate: 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 5 days
- 4) **Maximum Annual Rate:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Not for use on Succulent Shelled and Edible-Podded Peas in California.
- 6) Pre-harvest Interval (PHI): 0 days

# 7.13 Stalk and Stem Vegetables, Crop Subgroup 22A

Crops (including all cultivars, varieties, and/or hybrids of these)				
Agave Aloe vera Asparagus Bamboo shoots	Celtuc Fenne Fern, e Kale, s	l, Florence, fresh leaves and edible	Kohlrabi stalk Palm hearts Prickly pear, pads Prickly pear, Texas, pads	
Target Disease	Rate	Application Timing	Use Directions	
Phytophthora rot ( <i>Phytophthora</i> spp.)	4.8 – 38.6 fl oz/A	New plantings: Use as a crown soak prior to planting.	Use 10 gallons of solution, or the volume required to fully submerge 100 crowns.  To determine the amount of product needed to treat 100 crowns, first determine the number of plants per acre using typical plant spacing.  Then use the following formula:   (100 ÷ number plants per acre) x use rate = product needed to treat 100 crowns in 10 gallons of solution.  Make a crown soak solution in a large enough container to ensure that the crowns are fully submerged.  Place crowns in fungicide solution and soak for a minimum of 10 minutes.  After soaking, remove from solution, drain, and then plant the crowns.	
		Established plantings: Make first application to established asparagus beds at least 14 days prior to harvest (first cutting).  Make second application on the day of the first cutting.	Apply as a soil-directed banded spray in a minimum of 20 gal/A of water.  The application is to be made at the per acre rate concentrated in a band.  Apply ¼ - ½ inch of water after application, either by overhead sprinkler irrigation or garden hose drench on the row.  Orondis may be applied by drip irrigation using the following directions:  Apply 1/2 acre-inch of water alone.  Then apply the first 1/4 - 1/3 of the irrigation water with Orondis.	

	• Finally, apply the final 2/3 – 3/4 of the irrigation water without Orondis.
	Refer to <b>Section 4.5.2</b> for additional drip irrigation instructions.

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the soil fungicide applications, or a maximum of 2 applications, whichever is fewer.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate: 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 14 days
- 4) **Maximum Annual Rate:** 77.2 fl oz/A/year (0.50 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Maximum Number of Applications: Do not make more than two applications per year.
- 6) Pre-harvest Interval (PHI): 0 days

## 7.14 Tobacco

	Rate		
Target Disease	(fl oz/A)	Application Timing	Use Directions
Black Shank (Phytophthora parasitica var. nicotianae)	4.8	Apply as a foliar spray to the tobacco transplants in the transplant tray 24-48 hours prior to transplanting.	Immediately water the spray off the foliage into the transplant tray soil, not watering past soil saturation.  See <b>Section 4.1.2</b> for additional information.
	9.6 - 38.6	Apply at planting (in furrow or in transplant water).	See <b>Section 4.1.2</b> for additional information.
		Apply soil-directed or banded applications at 1st cultivation or layby.	See <b>Section 4.1.2</b> for additional information.
Blue Mold (Peronospora tabacina)	2.0 - 4.8	Begin applications prior to disease development, and continue on a 7- to 10-day interval.	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.  For air-assisted ground application, apply at least 10 gallons per acre.  For aerial application, apply at least 2 gallons per acre.

#### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both for disease control.
- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a. **Foliar Applications (including transplant tray application):** 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
  - b. **Soil or Soil-Directed Applications:** 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 7 days for all application types
- 4) Maximum Annual Rate:
  - a. **Foliar Applications:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
  - b. Soil or Soil-Directed Applications (including transplant tray application): 77.2 fl oz/A/year (0.50 lb ai/A of oxathiapiprolin-containing products)

For aerial application, apply at least 2

gallons per acre.

- 5) Not for use on Tobacco in California
- 6) Pre-harvest Interval (PHI): 7 days

7.15 Tuberous	and Co	rm Vegetables, Crop	Subgroup 1C
Crops (including a	II cultivars, v	varieties, and/or hybrids of	these)
Arracacha Arrowroot		Chayote (root) Chufa	Sweet potato Tanier
Artichoke, Chinese Artichoke, Jerusaler Canna, edible	n	Dasheen (taro) Ginger Leren	Turmeric Yam bean Yam, true
Cassava, bitter and sweet		Potato	ram, nue
Target Disease	Rate (fl oz/A)	Application Timing	Use Directions
Late Blight ( <i>Phytophthora</i> <i>infestans</i> )	1.6 - 4.8	Begin foliar applications prior to disease development, and continue on a 5- to 14-day interval.	Use the higher rates when disease is present, for longer application intervals, or for susceptible varieties.  For conventional ground application, apply at least 15 gallons per acre, increasing the spray volume as the plants mature to ensure thorough coverage of the foliage.
			For air-assisted ground application, apply at least 10 gallons per acre.

#### Apply as a 6- to 8-inch band directly Pink Rot 4.8 - 19.2Apply as an in-furrow over the seed pieces in the furrow, and (Phytophthora application at planting. erythroseptica) then close furrows.

6.8 Make first application at For effective disease control, ensure nickel-sized tubers that the product solution thoroughly (coinciding with beginning wets the target root zone. If the of flowering). application method does not move the product to the root zone, follow with Follow with a second irrigation to do so. application after 10-14 days.

### **Resistance Management:**

- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of
- Do not follow soil applications of oxathiapiprolin-containing products with foliar applications of oxathiapiprolin-containing products. Use either soil applications or foliar applications but not both for disease control.

- When 3 or more applications are made, use Orondis OD (or other oxathiapiprolin-containing product) in no more than 33% of the applications, or a maximum of 4 applications, whichever is fewer.
- On multiple plantings in the same year, do not exceed 6 applications per acre per year.

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a. **Foliar Applications:** 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
  - b. **Soil or Soil-Directed Applications:** 19.2 fl oz/A (0.12 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 5 days
- 4) Maximum Annual Rate:
  - a. **Foliar Applications:** 19.2 fl oz/A/year (0.12 lb ai/A/year of oxathiapiprolin-containing products)
  - b. **Soil or Soil-Directed Applications:** 38.6 fl oz/A (0.25 lb ai/A of oxathiapiprolin-containing products)
- 5) Not for use on Tuberous and Corm Vegetables in California
- 6) Pre-harvest Interval (PHI): 5 days

## 8.0 STORAGE AND DISPOSAL

### STORAGE AND DISPOSAL

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

### **Pesticide Storage**

Keep container closed when not in use. Always store pesticides in the original container only, away from other pesticides, food, pet food, feed, seed, fertilizers, and veterinary supplies. If a leaky container must be contained within another, mark the outer container to identify the contents. Storage areas must be locked and secure from vandalism, with precautionary signs posted. The storage area must be dry, well-lit, and well-ventilated. Keep pesticide storage areas clean. Clean up any spills promptly. Protect pesticide containers from extreme heat and cold. Store herbicides, insecticides and fungicides in separate areas within the storage unit. Place liquid formulations on lower shelves and dry formulations above. Maintaining a spill kit and fire extinguisher on hand and having emergency phone numbers posted will allow you to be prepared for emergencies. If spill cleanup PPE is stored nearby, but outside the pesticide storage area, it will be accessible when needed.

### **Pesticide Disposal**

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

### **Container Handling [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 a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. 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 – mini-bulk)**

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 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 - bulk]

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 the container before final disposal, empty the remaining contents from this container into application 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 pressure 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.

# 9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**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.

# 10.0 APPENDIX

# **10**.1 Orondis OD Use Summary Table

**IMPORTANT:** The table below is a summary of the Crop Use Directions for Orondis OD. However, it is important for the user to read and follow the complete instructions contained within this label.

Crop or Crop Group or Crop Subgroup with examples	Maximum Rate per Application (fl oz/A)	Maximum Rate per Application (lb ai/A)	Minimum Application Interval (days)	Pre- Harvest Interval (PHI days)	Maximum Rate per Year (fl oz/A)	Maximum Rate per Year (Ib ai/A)
Basil, fresh and dried	4.8	0.03	5	0	19.2	0.12
Brassica, Head and Stem Vegetables (Crop Group 5- 16): cabbage, broccoli, cauliflower	4.8	0.03	5	0	19.2	0.12
Brassica Leafy Greens (Crop Subgroup 4- 16B): collards, mustard greens	4.8	0.03	5	0	19.2	0.12

Bulb Vegetables (Crop Group 3- 07)	4.8	0.03	5	0	19.2	0.12
Cacao	4.8 foliar or 19.2 soil	0.03 foliar or 0.12 soil	90	0	4.8 foliar or 38.6 soil	0.03 foliar or 0.25 soil
Caneberry (Crop Subgroup 13-07A): blackberry, wild raspberry	38.6	0.25	7	1	77.2	0.50
Citrus Fruit (Crop Group 10- 10): lemon, orange	4.8 foliar or 19.2 soil	0.03 foliar or 0.12 soil	30	0	4.8 foliar or 38.6 soil	0.03 foliar or 0.25 soil
Cucurbit vegetables (Crop Group 9): cucumber, cantaloupe, watermelon, squash	4.8 foliar or 38.6 soil	0.03 foliar or 0.25 soil	3 foliar or 7 soil	0	19.2 foliar or 77.2 soil	0.12 foliar or 0.50 soil
Fruiting vegetables (Crop Group 8- 10): tomato, pepper	4.8 foliar or 38.6 soil	0.03 foliar or 0.25 soil	5 foliar or 7 soil	0	19.2 foliar or 77.2 soil	0.12 foliar or 0.50 soil
Ginseng*	38.6	0.25	14	14	77.2	0.50
Leafy Greens (Crop subgroup 4-16A): lettuce, spinach	4.8 foliar or 38.6 soil	0.03 foliar or 0.25 soil	3 foliar or 7 soil	0	19.2 foliar or 77.2 soil	0.12 foliar or 0.50 soil
Peas, succulent shelled and edible-podded*	4.8	0.03	5	0	19.2	0.12
Stalk and Stem Vegetables (Crop Subgroup 22A): asparagus, kohlrabi	38.6	0.25	14	0	77.2	0.50
Tobacco*	4.8 foliar or 38.6 soil	0.03 foliar or 0.25 soil	7	7	19.2 foliar or 77.2 soil	0.12 foliar or 0.50 soil

Tuberous and Corm vegetables* (Crop Subgroup 1C): potato	4.8 foliar or 19.2 soil	0.03 foliar or 0.12 soil	5 foliar or 10 soil	5	19.2 foliar or 38.6 soil	0.12 foliar or 0.25 soil
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<sup>\*</sup> Not for use on these crops in California.

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For non-emergency (e.g., current product information), call Syngenta Crop Protection at 1-800-334-9481.

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

SCP 1572

Orondis OD 1572 MAS 0317 AMEND-B MAR2017-Cacao\_Tox \_Clean - rk - 8/2/17 000100-01572.20170420B.ORON.OD\_AMEND\_ APR2017-Cacao-tox-CL.pdf

### SUPPLEMENTAL LABELING

### Syngenta Crop Protection, LLC

P. O. Box 18300 Greensboro, North Carolina 27419-8300

**SCP 1572** 

GROUP U15 FUNGICIDE

#### Orondis® OD

[Alternate Brand Names: Orondis® Opti A, Orondis® Ultra A]

### **Fungicide**

This supplemental label expires on 07/10/20 and must not be used or distributed after this date.

Active Ingredient:

Oxathiapiprolin*:	10.2%
Other Ingredients:	89.8 <sup>%</sup>
Total:	100.0%

<sup>\*</sup> CAS No. 1003318-67-9

Orondis® OD is formulated as an oil dispersion and contains 0.83 pounds of oxathiapiprolin per gallon of product.

### KEEP OUT OF REACH OF CHILDREN. CAUTION/PRECAUCIÓN

EPA Reg. No. 100-1572

All applicable directions, restrictions, and precautions on the EPA-registered label are to be followed. Before using Orondis OD 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.



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

100-1572



### **DIRECTIONS FOR USE**

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

### **CROP USE DIRECTIONS**

### Cacao

Oucuo	Rate		
Target Disease	(fl oz/A)	Application Timing	Use Directions
Black pod rot (Phytophthora spp.)	4.8 – 19.2	Soil Application-Resets or New Plantings: Make first application at planting and up to one additional application approximately 3-6 months later, coinciding with a root growth flush.	Apply as a soil spray around the base of the tree, to the zone of maximum root density, or through irrigation water (micro-sprinkler or drip).  For effective disease control, ensure that the product solution thoroughly wets the target root zone. If the application method does not move the product to the root zone, and rain is not imminent, then follow with irrigation.
		Soil Application- Established Plantings: Make two applications at a 3- to 6-month interval, coinciding with root growth flush.	Apply as a soil spray beneath the tree canopy or through irrigation water (micro-sprinkler or drip).  For effective disease control, ensure that the product solution thoroughly wets the target root zone. If the application method does not move the product to the root zone, and rain is not imminent, then follow with irrigation.
	2.4 – 4.8	Foliar/Fruit Application: Make single application to fruit before initial signs of black pod rot appear.  For post-harvest control of black pod rot, apply at 0-1 day before harvest.	Apply in sufficient volume to provide uniform and complete coverage of fruit.

### **Resistance Management:**

 Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.

- 1) Refer to **Use Restrictions** section of the booklet for additional product use restrictions.
- 2) Maximum Single Application Rate:
  - a) Soil Application: 19.2 fl oz/A (0.125 lb ai/A of oxathiapiprolin-containing products)
  - b) **Foliar/Fruit Application:** 4.8 fl oz/A (0.03 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 90 days

- 4) Maximum Annual Rate:
  - a) **Soil Application:** 38.6 fl oz/A/year (0.25 lb ai/A/year of oxathiapiprolin-containing products)
  - b) **Foliar/Fruit Application:** 4.8 fl oz/A/year (0.03 lb ai/A/year of oxathiapiprolin-containing products)
- 5) Maximum Number of Applications:
  - a) Do not make more than two soil applications per year.
  - b) Do not make more than one foliar/fruit application per year.
- 6) Pre-harvest Interval (PHI): 0 days

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