

# **STALK AND STEM VEGETABLES, CROP SUBGROUP 22A - NEW PLANTINGS**

## General Information

### PRODUCT INFORMATION

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

- Orondis Gold 200 is a suspension concentrate containing oxathiapiprolin and is for use by foliar or soil application for the control or suppression of the diseases listed on this label.
- Orondis Gold 200 is active against selected Oomycete diseases listed on this label and has preventive, residual, curative, eradicated and anti-sporulant activity.
- Orondis Gold 200 is locally systemic, translaminar, and moves systemically in the xylem.
- See Section 7.0 for specific crop/disease recommendations.

### MODE OF ACTION

Oxathiapiprolin, the active ingredient in Orondis Gold 200, acts as an oxysterol-binding protein modulator in fungal cells.

### 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 Gold 200 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.

### Integrated Pest Management (IPM)

Syngenta recommends the use of Integrated Pest Management (IPM) programs to control pests. Orondis Gold 200 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.

### Resistance Management

Orondis Gold 200 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 Gold 200 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 Gold 200 with any fungicide for which resistance to the target disease has developed.
- Make no more than 2 sequential applications before rotating to a fungicide with a different mode of action.
- Do not follow soil applications of Orondis Gold 200 or other 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 Gold 200 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.

## APPLICATION DIRECTIONS

### Methods of Application

## SOIL APPLICATION

- For suppression or control of soil borne diseases, as recommended in this label, Orondis Gold 200 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 Gold 200 will suppress or control certain seedling root rot and crown diseases that limit crop stand establishment.
- For soil application, apply Orondis Gold 200 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.

### 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.

### 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 Gold 200 to the target disease zone.

### Application Equipment

#### 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.

#### 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.

#### Application Volume and Spray Coverage

See Sections 4.1 and 7.0 for application volume information.

#### Application through Irrigation Systems (Chemigation)

##### CHEMIGATION RESTRICTIONS

- Apply Orondis Gold 200 only through drip (trickle) or strip tubing irrigation systems or 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 label-prescribed 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 Gold 200 must provide for uniform distribution of Orondis Gold 200-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 low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

##### APPLICATION DIRECTIONS FOR IRRIGATION SYSTEMS

- Preparation: A pesticide tank is recommended for the application of Orondis Gold 200 in 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 Gold 200 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

Gold 200 to water; never put Orondis Gold 200 into a dry tank or other mixing equipment without first adding water. See Section 4.4.2 for tank-mixing sequence. Continue to agitate the mixture throughout the application process. Good agitation is required in the injection tank. Use mechanical or hydraulic agitation; do not use air agitation.

- Injection into Chemigation Systems: Inject the proper amount of Orondis Gold 200 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.

- o In moving systems, apply specified dosage of Orondis Gold 200 as a continuous injection. In non-moving systems, inject Orondis Gold 200 for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.

- o Mix the amount of Orondis Gold 200 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 non-moving systems, inject into system for the time established during calibration.

- Uniform Water Distribution: Non-uniform distribution can result in crop injury, lack of effectiveness, or illegal pesticide residues in or on the crop being treated. Ensure the 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 Gold 200 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 Gold 200 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 Gold 200 must be applied in a manner that ensures the product is in the root zone.
- Orondis Gold 200 must be in the root zone to provide effective control of target pests.
- Orondis Gold 200 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 Gold 200 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 Gold 200 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.

#### 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.

#### 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, quick-closing 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.

7. Do not apply when wind speed favors drift beyond the area intended for treatment.

## RESTRICTIONS AND PRECAUTIONS

See Section 7.0 for crop-specific Restrictions and Precautions.

### 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.
- DO NOT formulate this product into other end-use products.

### Limitations, Restrictions, and Exceptions

## STALK AND STEM VEGETABLES, CROP SUBGROUP 22A

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

### Application Timing

- New plantings: Use as a crown soak prior to planting.

### Use Directions

- 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:  $(100 \div \text{number plants per acre}) \times \text{use rate} = \text{product needed to treat 100 crowns in 10 gallons of solution}$ .
- 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.

### 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 Gold 200 (or other oxathiapiprolin-containing product) in no more than 33% of the soil fungicide applications, or a maximum of 2 applications, whichever is fewer.

#### USE RESTRICTIONS

- 1) Refer to Section 6.1 for additional product use restrictions.
- 2) Maximum Single Application Rate: 9.6 fl oz/A (0.12 lb ai/A of oxathiapiprolin-containing products)
- 3) Minimum Application Interval: 14 days
- 4) Maximum Annual Rate: 19.2 fl oz/A/year (0.25 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

Method

[Soaking](#)

Rates

[field rates 0](#)

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Restricted Entry Interval

4 hours

Timings

[Preplant](#)