

## **CANEBERRY, CROP SUBGROUP 13-07A**

### 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, inhibits an oxysterol binding protein (OSBP) homologue.

#### 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 49 by the Fungicide Resistance Action Committee (FRAC). Oxathiapiprolin inhibits an oxysterol-binding protein (OSBP) homologue. Oxysterol-binding proteins are implicated in the movement of lipids between membranes, among other processes. Inhibiting OSBP may disrupt other processes in the fungal cell, such as signaling, maintaining cell membranes, and the formation of more complex lipids that are essential for the cell to survive. 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.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of oxathiapiprolin or other Group 49 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicide from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.

- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crop and pathogens.
- For further information or to report suspected resistance contact Syngenta at 1-866-Syngent(a) (866-796-4368). You can also contact your pesticide distributor or university extension specialist to report resistance.

## 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, micro-sprinkler 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 Gold 200 /1,000 feet of row, based on plant row spacing.

#### 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 (see table in the label).

#### 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 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.

- 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.

- 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.

See table in the label for ROTATIONAL CROP RESTRICTIONS instructions.

## 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.
- Orondis Gold 200 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.

### SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent

sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

#### Limitations, Restrictions, and Exceptions

#### CANEBERRY, CROP SUBGROUP 13-07A

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

#### Application Timing

- 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.

#### Use Directions

- 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 1/4 - 1/2 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 Gold 200 (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.

#### 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: 7 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.

Method

[Band application](#)

[Soil-directed Spray](#)

Pre-Harvest Interval

1 day

Rates

[field\\_rates 0](#)

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Restricted Entry Interval

4 hours

Timings

[Before plants start to grow in the Spring.](#)