

# **BERRIES, CANEBERRY SUBGROUP 13-07A - BLACKBERRY RUST**

## General Information

### PRODUCT INFORMATION

Acadia 2 SC is a broad spectrum, preventative fungicide with systemic and curative properties recommended for the control of many important plant diseases. These additional benefits are due to positive effects on plant physiology. The effects may vary according to factors such as the crop, crop hybrid, or environment. Acadia 2 SC may be applied as a foliar spray in alternating spray programs or in tank mixes with other registered crop protection products. All applications must be made according to the use directions that follow.

### USE RESTRICTIONS

DO NOT spray Acadia 2 SC where spray drift may reach apple trees.

DO NOT use spray equipment which has been previously used to apply Acadia 2 SC to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties.

DO NOT graze or feed clippings from treated turf areas to animals. DO NOT use in greenhouses.

DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.

### USE PRECAUTIONS

Acadia 2 SC is extremely phytotoxic to certain apple varieties.

**AVOID SPRAY DRIFT.** Extreme care must be used to prevent injury to apple trees (and apple fruit). **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**

Acadia 2 SC may demonstrate some phytotoxic effects when mixed with products that are formulated as ECs. These effects are enhanced if applications are made under cool, cloudy conditions and these conditions remain for several days following

application. In addition, adjuvants that contain some form of silicone have also contributed to phytotoxicity.

## PRODUCT USE INSTRUCTIONS

**Application:** Thorough coverage is necessary to provide good disease control. Make no more spray solution than is needed for application. Avoid spray overlap, as crop injury may occur.

**Adjuvants:** When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification is recommended.

**Efficacy:** Under certain conditions conducive to extended infection periods, use another registered fungicide for additional applications if maximum amount of Acadia 2 SC has been used. If resistant isolates to Group 11 fungicides are present, efficacy can be reduced for certain diseases. The higher rates in the rate range and/or shorter spray intervals may be required under conditions of heavy infection pressure, with highly susceptible varieties, or when environmental conditions are conducive to disease.

## INTEGRATED PEST (DISEASE) MANAGEMENT

Acadia 2 SC should be integrated into an overall disease and pest management strategy whenever the use of a fungicide is required. Cultural practices known to reduce disease development should be followed. This should include selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing and placement of irrigation. Consult your local agricultural authorities for additional IPM strategies established for your area. Acadia 2 SC may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

**Crop Tolerance:** Plant tolerance has been found to be acceptable for all crops on the label, however, not all possible tank-mix combinations have been tested under all conditions. When possible, it is recommended to test the combinations on a small portion of the crop to ensure that a phytotoxic response will not occur as a result of application. See Product Use Precautions for apple phytotoxicity information.

## RESISTANCE MANAGEMENT

## GROUP 11 FUNGICIDES

Acadia 2 SC (azoxystrobin) is a Group 11 fungicide. The mode of action for Acadia 2 SC is the inhibition of the Qol (quinone outside) site within the electron transport system [Group 11]. Fungal pathogens can develop resistance to products with the same mode of action when used repeatedly. Because resistance development cannot be predicted, use of this product should conform to resistance management strategies established for the crop and use area. Consult your local or State agricultural authorities for resistance management strategies that are complementary to those in this label.

Resistance management strategies may include alternating and/or tank-mixing with products having different modes of action or limiting the total number of applications per season. Atticus, LLC encourages responsible resistance management to ensure effective long-term control of the fungal diseases on this label.

Follow the crop specific resistance management recommendations in the directions for use.

If no resistance recommendation on number of applications is specified in the directions for use, follow the recommendations in the table in the label.

In situations requiring multiple sprays, develop season long spray programs for Group 11 (Qol) fungicides. In crops where two sequential Group 11 fungicide applications are made, they should be alternated with two or more applications of a fungicide that is not in Group 11. If more than 12 applications are made, observe the following guidelines:

- When using a Qol fungicide as a solo product, the number of applications must be no more than 1/3 (33%) of the total number of fungicide applications per season.
- For Qol mixes in programs in which tank mixes or pre mixes of Qol with mixing partners of a different mode of action are utilized, the number of Qol containing applications must be no more than 1/2 (50%) of the total number of fungicide applications per season.
- In programs in which applications of Qol are made with both solo products and mixtures, the number of Qol containing applications must be no more than 1/2 (50%) of the total number of fungicide applications per season.

If a Group 11 fungicide is applied to the seed or soil, do not make another

application with a Group 11 fungicide for at least 3 weeks.

#### SOILBORNE/SEEDLING DISEASE CONTROL

For those crops that have specific use directions for soil borne disease control: Acadia 2 SC can provide control of many soil borne diseases if applied early in the growing season. Specific applications for soil borne diseases include in-furrow applications and banded applications applied over the row, either shortly after plant emergence or during herbicide applications or cultivation. These applications will provide control of pre- or post-emergence damping off and diseases that infect plants at the soil-plant interface.

The use of either type of application depends on the cultural practices in the region. In some locations, one type of application may provide better disease control than the other, depending on the timing of the disease epidemic. Seedling diseases are generally controlled by in-furrow applications while banded applications are more effective against soil borne diseases that develop later in the season. Consult your local expert to get some guidance regarding application type.

Under cool, wet conditions, crop injury from soil directed applications can occur.

#### BANDED

- Apply Acadia 2 SC prior to infection as a directed spray to the soil, using single or multiple nozzles, adjusted to provide thorough coverage of the lower stems and the soil surface surrounding the plants.
- Band width should be limited to 7 inches or less.
- Apply Acadia 2 SC at a rate of 0.40-0.80 fl. oz. product (0.10-0.20 oz. a.i.)/1,000 row feet. For banded applications on 22-inch rows, the maximum application rate is 0.70 fl. oz./1,000 row feet.
- These applications come into contact with the foliage and are counted as foliar applications when considering resistance management.
- They may be applied during cultivation or hilling operations to provide soil incorporation.

#### IN-FURROW

- Apply Acadia 2 SC as an in-furrow spray in 3-15 gallons of water at planting.
- Mount the spray nozzle so the spray is directed into the furrow just before the seeds are covered.
- Use the higher rate when the weather conditions are expected to be conducive for

disease development, if the field has a history of Pythium problems, or if minimum/low till programs are in place.

See table in the label for IN-FURROW APPLICATION RATES.

#### SPRAY DRIFT MANAGEMENT

To avoid spray drift, do not apply when conditions favor drift beyond the target area. The interaction of many equipment and weather related factors determine the potential for spray drift. AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

#### ATTENTION

Acadia 2 SC is extremely phytotoxic to certain apple varieties.

AVOID SPRAY DRIFT. Extreme care must be used to prevent injury to apple trees (and apple fruit). DO NOT spray Acadia 2 SC where spray drift may reach apple trees.

DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.

DO NOT use spray equipment which has been previously used to apply Acadia 2 SC to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties.

#### APPLICATION INSTRUCTIONS THROUGH IRRIGATION SYSTEMS (CHEMIGATION)

##### Application Through Irrigation Systems (Chemigation)

- Use only on crops for which chemigation is specified on this label.
- Apply this product only through center pivot, solid set, hand move, or moving wheel irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- Apply in 0.1-0.25 inches/acre. Excessive water may reduce efficacy.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for

pesticide application to a public water system, unless the pesticide label-prescribed ' safety devices for public water systems are in place.

- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Spray Preparation: Chemical tank and injector system should be thoroughly cleaned. Flush system with clean water.

Drip irrigation: Acadia 2 SC may be applied through drip irrigation systems for soil borne disease control. The soil should have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start, whichever is shorter. For maximum efficacy, subsequent irrigation (water only) should be delayed for at least 24 hours following drip application.

#### Sprinkler Irrigation

- Apply this product through sprinkler irrigation systems including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move irrigation systems.

- Do not apply this product through any other type of irrigation system except as specified on this label.

- Apply with center pivot or continuous-move equipment distributing 1/2 acre-inch or less during treatment.

- In general, use the least amount of water required for proper distribution and coverage.

- If stationary systems (solid set, handlines or wheel lines other than continuous-move) are used, this product should be injected into no more than the last 20-30 minutes of the set.

- Do not apply when winds are greater than 10-15 mph to avoid drift or wind skips.

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

- Plant injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform treated water.

- Thorough coverage of foliage is required for good control.

- Good agitation should be maintained during the entire application period.

If you have questions about calibration you should contact State Extension Service specialist, equipment manufacturers or other experts.

### Operating Instructions

1. Do not apply when wind speed favors drift beyond the area intended for treatment.
2. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
9. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

### Center Pivot Irrigation Equipment

Notes: (1) Use only with drive systems which provide uniform water distribution. (2) Do not use end guns when chemigating Acadia 2 SC through center pivot systems

because of non-uniform application.

- Determine the size of the area to be treated.
- Determine the time required to apply 1/8 to 1/2 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures as specified by the equipment manufacturer.
- When applying Acadia 2 SC through irrigation equipment, use the lowest obtainable water volume while maintaining uniform distribution. Run the system at 80-95% of the manufacturer's rated capacity.
- Using water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Acadia 2 SC required to treat the area covered by the irrigation system.
- Add the required amount of Acadia 2 SC and sufficient water to meet the injection time requirements to the solution tank.
- Make sure the system is fully charged with water before starting injection of the Acadia 2 SC solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
- Maintain constant solution tank agitation during the injection period.
- Continue to operate the system until the Acadia 2 SC solution has cleared the sprinkler head.

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

- Determine the acreage covered by the sprinklers.
- Fill injector solution tank with water and adjust flow rate to use the contents over a 20 to 30-minute interval. When applying Acadia 2 SC through irrigation equipment, use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of Acadia 2 SC required to treat the area covered by the irrigation system.
- Add the required amount of Acadia 2 SC into the same quantity of water used to calibrate the injection period.
- Operate the system at the same pressure and time interval established during the calibration.
- Stop injection equipment after treatment is completed. Continue to operate the system until the Acadia 2 SC solution has cleared the last sprinkler head.

#### 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, back-flow 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 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.

Limitations, Restrictions, and Exceptions

BERRIES, CANEBERRY SUBGROUP 13-07A

## Application Instructions

- Begin applications at onset of disease and continue as required until harvest. Make applications on a 7- to 14-day schedule. Use a minimum water volume of 10 gallons per acre by ground and a minimum of 3 gallons by air.
- Do not apply more than two sequential applications of Acadia 2 SC or other Group 11 fungicides before alternation with a fungicide that is not in Group 11.

## Specific Use Restrictions:

- 1) Do not apply more than 92.3 fl. oz. of product/A/year.
- 2) Do not apply more than 1.5 lbs. a.i./A/year of azoxystrobin-containing products.
- 3) Acadia 2 SC may be applied the day of harvest (0-day PHI).

## Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

## Rates

[field rates 0](#)

[field rates 1](#)

[field rates 2](#)

[field rates 3](#)

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## Restricted Entry Interval

4 hours

## Timings

[Begin applications at onset of disease and continue as required until harvest.](#)