

## **APPLE - ALTERNARIA BLOTCH, ETC.**

### General Information

#### Product Information

Read the entire Directions For Use and Conditions of Sale and Warranty before using this product.

This package contains Sercadis Xemium brand fungicide, a suspension concentrate (SC) containing the active ingredient fluxapyroxad. The active ingredient in Sercadis belongs to the succinate-dehydrogenase (SDH) inhibitor class of fungicides. To maximize disease control, apply Sercadis in a regularly scheduled protection spray program and use in a rotation program with other fungicides.

Because of its high specific activity, Sercadis has good residual activity against target fungi. Sercadis is not for use in greenhouse or transplant production.

#### Mode of Action

Fluxapyroxad, the active ingredient of Sercadis, belongs to the group of respiration inhibitors classified by the U.S.

EPA and Canada PMRA as a target site of action Group 7 fungicide.

#### Resistance Management

Sercadis contains fluxapyroxad, a Group 7 fungicide, and is effective against pathogens resistant to fungicides with modes of action different from those of target site Group 7, such as dicarboximides, sterol inhibitors, benzimidazoles, or phenylamides. Fungal isolates resistant to Group 7 fungicides may eventually dominate the fungal population if Group 7 fungicides are used predominantly and repeatedly in the same field in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control by Sercadis or other Group 7 fungicides. To maintain the performance of Sercadis in the field, DO NOT exceed the specified number of sequential applications of Sercadis or the total number of applications of Sercadis per season stated in Table 1. Sercadis Xemium brand fungicide Restrictions and Limitations Overview and Table 2.

Sercadis Xemium brand fungicide Crop-specific Directions. Adhere to the label instructions regarding the sequential use of Sercadis or other target site of action Group 7 fungicides that have a similar site of action on the same pathogens.

#### Resistance Management Advisory

The following recommendations may be considered to delay the development of fungicide resistance:

1. Tank mixtures – Use Sercadis in tank mixtures with fungicides from different target site of action groups that are registered/permitted for the same use and that are effective against the pathogens of concern. Use at least the minimum labeled rates of each fungicide in the tank mix. For tank mix exceptions, see Additives and Tank Mixing Information section and Table 2. Sercadis Xemium brand fungicide Crop-specific Directions.
2. IPM – Integrate Sercadis into an overall disease and pest management program. Follow cultural practices known to reduce disease development. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. Sercadis may be used in agricultural extension advisory (disease forecasting) programs, which recommend application timing based on environmental factors favorable for disease development.
3. Monitoring – Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development. If a Group 7 target site fungicide such as Sercadis appears to be less or no longer effective against a pathogen that it previously controlled or suppressed, contact a BASF representative, local extension specialist, or certified crop advisor for further investigation.

## Application Instructions

Apply specified rates of Sercadis Xemium brand fungicide as instructed in Table 2.

### Sercadis Xemium

brand fungicide Crop-specific Directions. Sercadis can be applied by ground and aerial application. For best results, thorough coverage of plant materials is required. Sercadis can also be applied through sprinkler irrigation equipment, except for use in rice. Check equipment frequently for calibration.

Under low-level disease conditions, use the minimum application rates; use maximum application rates and shortened spray schedules for severe or threatening disease conditions.

## Cleaning Spray Equipment

Spraying equipment must be cleaned thoroughly before and after applying this product, particularly if a product with potential to injure crops was used prior to Sercadis.

## Ground Application

Apply Sercadis in sufficient water to ensure thorough coverage of foliage, bloom, and fruit. Thorough coverage is required for optimum disease control. For ground applications to rice, use no less than 15 gallons of spray solution per acre.

## Instructions for Directed or Banded Crop Sprays

The application rates shown in Table 1 of the label. Sercadis Xemium brand fungicide Restrictions and Limitations Overview and Table 2. Sercadis Xemium brand fungicide Crop-specific Directions on this label reflect the amount of product to be applied uniformly over an acre of ground on a broadcast basis. In some crops, Sercadis may be applied as a directed or banded spray over the rows or plant beds with the alleys or row middles left unsprayed. For such uses, reduce the rate of Sercadis in proportion to the area actually sprayed to avoid applying the product at use rates higher than permitted on this label.

Example: A directed spray application to 45-inch plant beds separated by 15 inches of unsprayed row middles: 45 inches band width + 15 inches unsprayed row middles = 60 inches row width

## Aerial Application

For all crops listed in this label, aerial application can be made and thorough

coverage is required for optimum disease control. Avoid application under conditions when uniform coverage cannot be obtained or when spray drift may occur.

For aerial applications:

- Sugarcane - Use no less than 5 gallons of spray solution per acre.
- Rice - Use no less than 7 gallons of spray solution per acre.
- Apple - Use no less than 10 gallons of spray solution per acre.

## Directions For Use Through Sprinkler Irrigation Systems

### Sprayer Preparation

Clean chemical tank and injector system thoroughly. Flush system with clean water.

### Application Instructions

Apply Sercadis at rates and timings as required in this label.

### Use Precautions for Sprinkler Irrigation Applications

- DO NOT apply by sprinkler irrigation to rice. For all other crops, this product can be applied 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.
- Add Sercadis to the pesticide supply tank containing sufficient water to maintain a continuous flow by the injection equipment. In continuous moving systems, inject this product-water mixture continuously, applying the labeled rate per acre for that crop. DO NOT exceed 1/2 inch (13,577 gallons) of water per acre. In stationary or noncontinuous moving systems, inject the product water mixture in the last 15 to 30 minutes of each set allowing sufficient time for all of the required pesticide to be applied by all the sprinkler heads and applying the labeled rate per acre for that crop. DO NOT apply when wind speed favors drift beyond the area intended for treatment. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. Thorough coverage of foliage is required for good control. Maintain good agitation during the entire application period.
- Contact a state extension service specialist, equipment manufacturers or other experts for calibration questions.
- 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.

- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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.
- 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.
- 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.

- 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.
- 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 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.

#### Restrictions and Limitations

- DO NOT exceed the maximum product rate (fl ozs/A) per year, the maximum rate per application, or the total number of applications of Sercadis per season as stated in Table 1. Sercadis Xemium brand fungicide Restrictions and Limitations Overview and Table 2. Sercadis Xemium brand fungicide Crop-specific Directions. Preharvest interval (PHI) restrictions are also included in these tables.

- DO NOT use Sercadis in greenhouse or transplant production.

- Crop Rotation Restriction - The following crops may be planted immediately following the last application: barley, berries and small fruits, Brassica leafy vegetables, bulb vegetables, corn (all types), cotton, cucurbit vegetables, dried shelled peas and beans, ediblepodded legume vegetables, fruiting vegetables, grapes, leafy vegetables, mint (spearmint and peppermint), nongrass animal feeds (forage, fodder, straw, and hay), oat, oilseed crops (including flax seed, rapeseed and sunflower), peanut, pome fruits, rice, root vegetables, rye, sorghum and millet, soybean, stone fruits, strawberries, succulent shelled peas and beans, sugar beet, sugarcane, tree nuts, tuberous and corm vegetables (including potato), wheat and triticale, and any other crop labeled for direct application of this product. For all other crops, DO NOT plant sooner than 365 days after the last application.

- Sercadis is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.

### Limitations, Restrictions, and Exceptions

**Application Directions.** For scab, powdery mildew, frog-eye leafspot and rust, begin applications of Sercadis prior to disease development and continue on a 7 to 10 day interval.

For flyspeck, black rot, and Alternaria blotch, begin applications of Sercadis prior to disease development and continue on a 7 to 14 day interval.

For improved control of scab and other diseases, combine Sercadis with a protectant fungicide registered for control of the target disease. Use of these tank mixes will also help to manage the development of fungicide resistance.

### Use of Adjuvants and Other Products as Mixes with Sercadis.

The use of adjuvants or additives may improve the performance of Sercadis on apples. However, under certain conditions, mixtures of Sercadis with adjuvants, additives and/or other products may cause crop injury. Caution should be exercised if Sercadis is tank mixed with products formulated as emulsifiable concentrates (EC) or containing high amounts of solvents since injury may occur. Consult your local BASF representative for more information specific to your area.

**DO NOT** use Sercadis with:

- Crop oil concentrate (COC), methylated seed oil (MSO) adjuvants

BASF has not tested all varieties and cultivars with all possible tank mix combinations and rates of additives or adjuvants. Local environmental conditions also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, crop injury, or incompatibility due to additives, adjuvants or other products used in combination with Sercadis may result from mixing Sercadis with other products. Refer also to the Conditions of Sale and Warranty section of this label.

To minimize the likelihood of crop injury, BASF recommends testing Sercadis in combination with other products for crop safety on a small portion of the crop. However, environmental variability precludes direct and consistent projection of small area test results to future use.

Consult a BASF representative for more information concerning additives or adjuvants.

For aerial application to apple trees, use no less than 10 gallons of spray solution per acre.

No restriction on livestock grazing or feeding.

Resistance Management. To limit the potential for development of resistance, DO NOT make more than two (2) sequential applications of Sercadis before alternating to a labeled non-Group 7 fungicide.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field rates 0](#)

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Restricted Entry Interval

12 hours

Timings

[Prior to disease development.](#)