

# **MUSHROOM GROWING BEDS (SURFACE DRENCH)**

## General Information

## Product Information

This package contains Serifel Biofungicide, a wettable powder (WP). The active ingredient in Serifel is *Bacillus amyloliquifaciens* strain MBI600, a biological agent providing suppression of listed foliar and soilborne plant diseases. Apply Serifel preventively in low to medium disease pressure situations. Serifel can be applied as a foliar spray, a directed or banded spray, a soil or plant drench, as an in-furrow application, or through chemigation. Serifel can be applied alone or in a tank mix with other registered pest control products, unless otherwise noted in the Crop-Specific Directions. Apply Serifel in a regularly scheduled protective spray program and use in a rotation program with other fungicides. Under higher disease pressure situations, tank mix Serifel with registered fungicide products.

## Integrated Pest Management

Serifel can be integrated into an overall disease and pest management program. Cultural practices known to reduce disease development should be followed. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. Serifel may be used in agricultural extension advisory (disease forecasting) programs, which recommend application timing based on environmental factors favorable for disease development.

## Application Instructions

Apply rates of Serifel as instructed by the Crop-Specific Directions. Apply Serifel with ground equipment, aerial equipment or through sprinkler irrigation equipment. Equipment must be checked frequently for calibration. If heavy rainfall or irrigation occurs shortly after application, reapplication of Serifel may be necessary.

Under low-level disease conditions, the minimum application rates can be used while maximum application rates and shortened spray schedules are to be used for severe or threatening disease conditions. Tank mixing Serifel with other fungicides can also improve performance.

### Instructions for Directed or Banded Sprays Related to Ground Applications

The application rates shown in the Crop-specific Directions on the label reflect the amount of product to be applied uniformly over an acre of ground on a broadcast basis. In some crops, Serifel® Biofungicide

may be used 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 labeled Serifel rates in proportion to the area actually sprayed. This adjustment is necessary to avoid applying the product at use rates higher than permitted according to label directions. The following formula may be used to determine the broadcast equivalent rate for doing directed or banded sprays (See label for formula.)

### Limitations, Restrictions, and Exceptions

#### Product Information

This package contains Serifel, a wettable powder (WP). The active ingredient in Serifel is *Bacillus amyloliquefaciens* strain MBI 600, a beneficial microbe providing suppression of Green Mold in mushroom production. Apply Serifel preventively in low to medium disease pressure situations. Mix Serifel with mushroom spawn grains or mushroom growing supplement, or apply Serifel as a drench alone to the surface of mushroom beds or in tank mixes with other pesticide products registered for use in mushroom production.

#### Application Instructions

For all treatments of Serifel, carefully read and follow all label directions, use rates and restrictions. For treatment of mushroom spawn grains and growing supplement, use the stated maximum label rates when heavy disease development is anticipated. For drench applications, application of Serifel prior to or in the early stages of disease development provides the best suppression of Green Mold. Use the stated maximum label rates for conditions conducive to rapid disease development or when disease development is anticipated. For proper application,

determine the number of square feet of bed surface to be treated and the label use rate. For drench applications, prepare only the amount of spray solution required to treat the measured square feet of bed surface. Accurate spray equipment calibration is essential prior to use.

## Directions for Use through Drip and Sprinkler Chemigation Systems

### Use Precautions for Drip and Sprinkler Irrigation Applications

- Apply this product only through sprinkler (solid set and hand move) or drip type irrigation systems. DO NOT apply this product through any other type of irrigation system.
- Add Serifel to the pesticide supply tank under agitation 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.
- 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 non-uniform distribution of treated water. Maintain good agitation during the entire application period.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 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 back flow.
- 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.
- 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.

#### Solid State and Hand Move Irrigation Equipment

- Determine acreage (square footage) covered by sprinkler.
- Fill injector solution tank with water and adjust flow rate to use contents over a 10- to 30-minute interval.
- Determine the amount of Serifel that is required to treat the area.
- Add the required amount of Serifel into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures specified by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Serifel at the end of the irrigation cycle or as a separate application to

maximize fungicide retention.

- Stop injection equipment after treatment is completed. Continue to operate the system until Serifel solution has cleared the last sprinkler head.

#### Application Instructions and Rates for Serifel

For suppression of Green Mold on the surface of mushroom beds. Serifel should be applied as a preventative treatment.

Apply 1.5 - 5 lb. of Serifel in 150 gallons of irrigation water as a drench to 8,000 square feet of bed surface at casing. Repeat applications can be made before 1st flush, between 1st and 2nd flush and between 2nd and 3rd flush according to disease pressure. During application, maintain adequate agitation in the irrigation tank to prevent product sedimentation. Thorough coverage of beds is essential for effective disease suppression. Serifel can be applied with commonly used ground equipment: hose-end, pressurized, greenhouse and hand-held sprayers. To achieve good coverage, use proper spray pressure, gallonage per square feet of bed surface, nozzles, nozzle spacing and ground speed.

- Not registered for use in California.

#### Method

[Drench](#)

#### Rates

[field rates 0](#)

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#### Restricted Entry Interval

4 hours

Exception: if the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

#### Timings

[N.A.](#)