Serifel is an agricultural biofungicide product for use in mushroom production.

This supplemental labeling expires December 7th, 2018, and must not be used or distributed after this date.

Active Ingredient:
Bacillus amyloliquefaciens strain MBI 600*†………………………………………………………………………………………. 11.0%
Other Ingredients: .................................................................................................................................................. 89.0%
Total: ................................................................................................................................................................. 100.0%

*Serifel contains a minimum of 5.5 x 10¹⁰ colony forming units per gram.
†Formerly named Bacillus subtilis strain MBI 600

EPA Reg. No. 71840-18
CAUTION/PRECAUCION

Directions For Use

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire Serifel container label, EPA Reg. No. 71840-18, must be in possession of the user at the time of application.
- Read the label affixed to the container for Serifel before applying.
- Use of Serifel according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for Serifel.

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 BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

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 Rates and Instructions Table

<table>
<thead>
<tr>
<th>Crop</th>
<th>Target Diseases</th>
<th>Application Instructions and Rates for Serifel®</th>
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</thead>
<tbody>
<tr>
<td>Mushroom Growing Beds (Compost incorporation)*</td>
<td><strong>Green Mold Trichoderma spp.</strong> (e.g. <em>T. harzianum, T. aggressivum</em>).</td>
<td>For suppression of Green Mold in mushroom compost (e.g. Phase II growing systems). For optimum performance, Serifel must be well mixed into the compost. Wet mixing: Apply 1.5 – 5 lb. of Serifel in a sufficient amount of water to thoroughly mix it into the volume of compost required for 8,000 square feet of bed surface area. Dry mixing: Thoroughly mix 1.5 – 5 lb. Serifel with 80 to 100 lb. of gypsum, limestone or chalk and thoroughly mix into the volume of compost required for 8,000 square feet of bed surface area.</td>
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<tr>
<td>Mushroom Growing Beds (Surface drench)*</td>
<td><strong>Green Mold Trichoderma spp.</strong> (e.g. <em>T. harzianum, T. aggressivum</em>).</td>
<td>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.</td>
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<tr>
<td>Mushroom Spawn Grains*</td>
<td><strong>Green Mold Trichoderma spp.</strong> (e.g. <em>T. harzianum, T. aggressivum</em>).</td>
<td>For suppression of Green Mold in mushroom compost applied with spawning media. Thoroughly mix 1.5 – 5 lb. of Serifel with 80 to 100 lbs of gypsum, limestone or chalk. Use this mixture to coat spawn grains (approximately 1,600 units). Bed surface at spawning (e.g. Phase II growing systems): Apply treated spawn to 8,000 square feet of bed surface area. Compost incorporation (e.g. Phase III growing systems): Mix the treated spawn into the mushroom growing substrate. Apply treated spawn to the volume of compost required for 8,000 square feet of bed surface area.</td>
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<tr>
<td>Mushroom Growing Supplement*</td>
<td><strong>Green Mold Trichoderma spp.</strong> (e.g. <em>T. harzianum, T. aggressivum</em>).</td>
<td>For suppression of Green Mold in mushroom compost applied with supplement. Thoroughly mix 1.5 – 5 lb. of Serifel with 80 - 100 lbs of gypsum, limestone or chalk. Use this mixture to coat supplement (approximately 2,000 lbs). Bed surface at spawning (e.g. Phase II growing systems): Apply supplement to 8,000 square feet of bed surface area. Compost incorporation (e.g. Phase III growing systems): Mix the treated supplement into the mushroom growing substrate. Apply treated supplement to the volume of compost required for 8,000 square feet of bed surface area.</td>
</tr>
</tbody>
</table>

*Not registered for use in California.
Conditions of Sale and Warranty

The Directions For Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION (“BASF”) or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions For Use, subject to the inherent risks, referred to above.

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TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

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