Serifel® Biofungicide for Disease Control in Grapes

Benefits of Serifel Biofungicide
- Greater CFU count than competitors
- Tankmix compatible with conventional products
- Rainfast within 3 hours
- Proven resistance management
- Low use rate

Serifel Biofungicide Mode of Action: Membrane Integrity Disruptor (FRAC Grp 44)

Serifel Biofungicide at Work
- Healthy powdery mildew hyphae
- Collapsed hyphae from Serifel biofungicide metabolites

Metabolites
- Iturin
- Surfactin

Metabolites insert into pathogen membrane
- Healthy pathogen membrane
- Pathogen membrane disrupted

Technical Information Bulletin
Grape Powdery Mildew Control with Serifel® Biofungicide

**Cluster Severity (%)**

<table>
<thead>
<tr>
<th>Product</th>
<th>Cluster Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>2.8</td>
</tr>
<tr>
<td>Howler® 5 lb ACEG –ALT– Flint® Extra 3 oz BDF</td>
<td>1</td>
</tr>
<tr>
<td>LifeGard® 4.5 oz ACEG –ALT– Flint Extra 3 oz BDF</td>
<td>0.5</td>
</tr>
<tr>
<td>Veneto™ 0.8% ACEG –ALT– Flint Extra 3 oz BDF</td>
<td>0.3</td>
</tr>
<tr>
<td>Serifel Biofungicide 8 oz ACEG –ALT– Flint Extra 3 oz BDF</td>
<td>0.3</td>
</tr>
<tr>
<td>MIX – Serifel Biofungicide 8 oz + Microthiol Disperss 5 lb A-F</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Grape Botrytis Control with Serifel Biofungicide

**Cluster Botrytis Severity (%) @ 13DALT**

<table>
<thead>
<tr>
<th>Product</th>
<th>Cluster Botrytis Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>13.3</td>
</tr>
<tr>
<td>Serenade® Optimum 14 oz</td>
<td>6.0</td>
</tr>
<tr>
<td>Serifel Biofungicide 8 oz</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Why Serifel Biofungicide Provides Consistency*

**Pathogen Death**

50-120°F

**Iturin & others**

70-90°F

Fungicidal & bactericidal

**Surfactin**

50-70°F

Growth, motility & SAR


Best Use Recommendations

- **Use Rate:** 4-16 oz/ac
- **Below Ground:** 8-16 oz/ac
- **Above Ground:** 4-8 oz/ac
- **PHI:** 0 days
- **REI:** 4 hours
- **Signal Word:** Caution
- **MOA:** 44
- **Rotation Restriction:** None
- **Adjuvant:** Spreader

To learn more about crop protection products from BASF, visit [www.agproducts.basf.us](http://www.agproducts.basf.us)