Louisiana Agricultural Technology & Management Conference
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225-936-9078 Mobile Phone
Sugarcane Fungicide Solutions

EPA Registered
- Headline (strobilurin)
- Caramba (triazole)
- Headline AMP (strobilurin + triazole)

Pending EPA Registration
- Sercadis (carboxamide)
- Priaxor® (strobilurin + carboxamide)

For Control of Brown Rust and Orange Rust
### Fungicide Comparisons

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Priaxor™ Xemium® Brand Fungicide</th>
<th>Headline AMP® Fungicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredients</td>
<td>Pyraclostrobin + Fluxapyroxad</td>
<td>Pyraclostrobin + Metconazole</td>
</tr>
<tr>
<td>Chemical Groups</td>
<td>Strobilurin + Carboxamide</td>
<td>Strobilurin + Triazole</td>
</tr>
<tr>
<td>Method of Control</td>
<td>Contact, preventative, curative</td>
<td>Contact, preventative, curative</td>
</tr>
<tr>
<td>Residual</td>
<td>28 days</td>
<td>21-28 days</td>
</tr>
</tbody>
</table>

Priaxor® Fungicide is not currently registered for use in sugarcane
### Sugarcane Fungicide Rate Comparisons

#### Priaxor®

<table>
<thead>
<tr>
<th>Rate (fl oz/A)</th>
<th>Priaxor® =</th>
<th>Headline® +</th>
<th>Xemium®</th>
<th>fl oz/A</th>
<th>fl oz/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5.32</td>
<td>+ 2.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6.65</td>
<td>+ 2.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7.98</td>
<td>+ 3.38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>9.30</td>
<td>+ 3.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10.64</td>
<td>+ 4.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Headline AMP®

<table>
<thead>
<tr>
<th>Rate (fl oz/A)</th>
<th>Headline AMP® =</th>
<th>Headline® +</th>
<th>Caramba®</th>
<th>fl oz/A</th>
<th>fl oz/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>5.8</td>
<td>+ 6.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7.0</td>
<td>+ 7.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>8.2</td>
<td>+ 8.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>9.3</td>
<td>+ 9.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>10.5</td>
<td>+ 11.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>11.7</td>
<td>+ 12.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Control of Brown Rust and Orange Rust
Xemium® Fungicide
How it Works

- **Xemium** very efficiently blocks the respiratory Complex II (= succinate dehydrogenase or SDH).

- This disrupts the energy supply and biosynthesis of essential building blocks.

- Growth of fungal cells is stopped.

- In combination with **Xemium’s** systemicity, this results in preventative and curative activity.

A highly efficient SDHI with high mobility
**Xemium® Fungicide**

Targets the Mitochondrial Respiratory Chain

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**Complex I**  
**Complex II**  
**Complex III**  
**Complex IV**  
**Complex V**

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**NADH**  
**NAD⁺**  
**Succinate**  
**Fumarate**

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**Krebs cycle**

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**SDHIs**

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**Carboxamides**  
**Benzamides**

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Complex II is the molecular target of SDHIs
Xemium® Fungicide
Effect on Brown Rust Development Stages

0 1 2 3 4 5 6 7 8 9 days

Green leaf tissue

Pigmented spores

Spore germination
Leaf penetration
Intercellular mycelium
Uredosorus formation
Spore maturation
Spore release

Preventative action
Curative action

Puccinia triticina

Previous Carboxamides
Triazoles
Strobilurins

INTERNAL
Xemium® Fungicide
Targets the Mitochondrial Respiratory Chain

Adsorbed to waxy layer and evenly transported in leaves
Xemium® Fungicide
Continuous Protection Against Septoria - Field

Field trial UK 2008: 5% initial attack; 1 application at GS 59; comparison of full dose rates. DAT = days after treatment

Curative activity confirmed in field trials
Xemium® Fungicide
Distribution in cereal leaves

Better acropetal mobility

Brown rust 1 day preventative. Source: Dr. Speakman, APR/FM
Brown rust lesions on leaves were taken by image analysis, 3 reps.
Dr. Jeff Hoy, LSU Sugarcane Plant Pathologist
# 2013 Sugarcane Fungicide Study

Gravois Farms, Pailina, LA

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cane Yield (Tons/A)</th>
<th>TRS Sugar (lb/Ton)</th>
<th>Sugar Yield (lb/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated Check</td>
<td>42.5</td>
<td>198.4</td>
<td>8425</td>
</tr>
<tr>
<td>Headline 6 fl oz/A + Caramba 8 fl oz/A</td>
<td>42.7</td>
<td>198.7</td>
<td>8455</td>
</tr>
<tr>
<td>Headline 9 fl oz/A + Caramba 8 fl oz/A</td>
<td>42.6</td>
<td>194.1</td>
<td>8266</td>
</tr>
<tr>
<td>Headline 9 fl oz/A + Caramba 12 fl oz/A</td>
<td>43.2</td>
<td>198.3</td>
<td>8573</td>
</tr>
<tr>
<td>Quilt Xcel 16 fl oz/A</td>
<td>42.1</td>
<td>201.2</td>
<td>8485</td>
</tr>
</tbody>
</table>

F-Value

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>0.9663</td>
<td>0.9307</td>
<td>0.8522</td>
</tr>
</tbody>
</table>

2 reps.
## 2013 Brown Rust Fungicide Trial
LSU AgCenter (Mike Hebert), Gravois Farms
Thibodaux, LA

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Tonnage (T/A)</th>
<th>TRS (lb/T)</th>
<th>Sugar (lb/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (Check)</td>
<td>56.7abc</td>
<td>186.7ab</td>
<td>11,072a</td>
</tr>
<tr>
<td>Headline 6 oz. (1x)</td>
<td>49.4c</td>
<td>184.3ab</td>
<td>9,618a</td>
</tr>
<tr>
<td>Headline 6 oz. + Caramba 8 oz.</td>
<td>58.7ab</td>
<td>208.4a</td>
<td>11,862a</td>
</tr>
<tr>
<td>Headline 9 oz. + Caramba 8 oz.</td>
<td>59.9a</td>
<td>168.7b</td>
<td>10,193a</td>
</tr>
<tr>
<td>Headline 12 oz. + Caramba 8 oz.</td>
<td>53.5bc</td>
<td>188.9ab</td>
<td>10,094a</td>
</tr>
<tr>
<td>Quilt XL 16 oz.</td>
<td>60.0a</td>
<td>174.7b</td>
<td>10,445a</td>
</tr>
</tbody>
</table>

Numbers within a column that have the same letter are not significantly different ($P=0.05$). There were two replications for most treatments and each replication was sampled 4 times, so each mean is an average of eight values. Note that there was only one replication of the Control (check) and the Headline 6 oz. (1x) treatments so theses means are an average of four values.
2012 Research Trial Comparing the Efficacy of BASF Fungicides
LSU AgCenter, St. Gabriel, LA

Sugar (lbs/A)

- Priaxor 7.5 fl oz/A
- Priaxor 5 fl oz/A + Caramba 14 fl oz/A
- Headline AMP 12 fl oz/A + Sercadis 4.5 fl oz/A
- Priaxor 5 fl oz/A + Caramba 14 fl oz/A
- Sercadis 4.5 fl oz/A
- Headline 12 fl oz/A
- Headline 9 fl oz/A

HoCP 96-540 Plant Cane, Harvested 12/10/12 - Dr. Jeff Hoy, LSU Sugarcane Plant Pathologist
Sugarcane
Priaxor
2012

Unt. vs Priaxor