Rice Kernel and False Smut Disease Management

- Prepared by Don Groth, Professor, LSU AgCenter Rice Research Station, Crowley, LA and Clayton Hollier, Professor, LSU AgCenter, Department of Plant Pathology and Crop Physiology, Baton Rouge LA.
Kernel and false smut
Causal organisms

- False smut: *Ustilaginoidea virens* (Cooke) Takah.
Kernel and false smut affect rice at heading.
The pathogens overwinters in the soil and on seeds. They become active in moist conditions and infect the rice seeds at flowering.
Kernel smut infects the endosperm and partially or completely replaces it with masses of dark spores that ooze out of the seed in moist conditions.
False smut infects the developing seed and completely replaces it with a mass of spores surrounding a hard sclerotia.
False smut starts as a light green ball of spores covered by a thin silver colored skin. The balls erupt exposing the orange spores. As time passes spores turn dark green to black.
Damage from smuts occurs due to contamination of other grains by spores during harvest, milling causing quality problems and discoloration during parboiling and cooking.
Fungicides applied for control of other diseases have activity against grain smuts. A boot application of a propiconazole containing fungicide has the best activity.
# Labeled Rice Fungicide

<table>
<thead>
<tr>
<th>Propiconazole</th>
<th>Propiconazole + Strobulin</th>
<th>Strobulin</th>
<th>Flutolanil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tilt</td>
<td>Quilt</td>
<td>Quadris</td>
<td>Moncut</td>
</tr>
<tr>
<td>PropiMax</td>
<td>Stratego</td>
<td>Gem</td>
<td></td>
</tr>
<tr>
<td>Bumper</td>
<td>Tank Mix</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Management Practices

- No scouting is possible since disease does not appear until heading and control is ineffective after this stage.
- Excessive nitrogen increases diseases.
- Some varieties have resistance.
- Boot applications of certain fungicides reduce disease.
- Planting early allows rice to escape infection.
Suggested additional sources of additional information

- Rice Varieties and Management Tips, LSU AgCenter Pub. 2270
- Rice Disease Fact Sheet, LSU AgCenter Pub. 3084
- Louisiana Rice Production Handbook, LSU AgCenter Pub. 2321
- www.lsuagcenter.com
- Contact your local cooperative extension agent