Diseases and Management Strategies in Corn on Corn

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Diseases Favored by Planting Continuous Corn
- Gray Leaf Spot
- Eyespot
- NCLB, SCLB, NCLS
- Anthracnose
- Stalk Rots
- Ear Rots
- Corn Lethal Necrosis
- Goss’s Wilt
- Corn Nematodes

Disease Management in Corn-on-Corn
- Crop Rotation
- Resistance or tolerance
  - Correct disease ID
- Fungicide application
  - Correct disease ID
  - ~$16-21/A (including $5/A application)
  - +2-3 bu/A needed ($7.00/bu corn)
  - Fungicides differ by PHI
- Tillage (when practical) to promote breakdown of debris

Will I get a return on my investment for a foliar fungicide application in corn?
FACTORS:
- Susceptible hybrid
- Continuous corn
- No-till
- Late planting
- High yield potential
- Irrigation
- Early disease activity
- Field history of severe disease
- Favorable weather for disease

2008 Sol Days - Jackson001
2008 Sol Days - Jackson002
2008 Sol Days - Jackson003
2008 Sol Days - Jackson004
Common Rust vs. Southern Rust

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Common Rust</th>
<th>Southern Rust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causal agent</td>
<td><em>Puccinia sorghi</em></td>
<td><em>Puccinia polysora</em></td>
</tr>
<tr>
<td>Pustule location</td>
<td>Both leaf surfaces</td>
<td>Mainly upper leaf surface</td>
</tr>
<tr>
<td>Pustule color</td>
<td>Brick red, golden brown to cinnamon brown</td>
<td>Light cinnamon brown to orange</td>
</tr>
<tr>
<td>Pustule distribution</td>
<td>Sparsely scattered</td>
<td>Dense clusters</td>
</tr>
<tr>
<td>Optimal temperatures</td>
<td>61-77°F</td>
<td>77-82°F</td>
</tr>
<tr>
<td>Management</td>
<td>Resistance, fungicide application, and avoid late planting</td>
<td></td>
</tr>
</tbody>
</table>

Appearance may differ by:
- Plant genetics
- Environmental conditions
- Time of season

Management
- Limited resistance available
- Planting date
- Fungicides

Potential Yield Loss

- **Common Rust**
  - 6% yield loss for each 10% leaf area affected
- **Gray Leaf Spot**

<table>
<thead>
<tr>
<th>Percent ear leaf area affected by early dent stage</th>
<th>Approximate yield loss expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% or less</td>
<td>0-2% loss</td>
</tr>
<tr>
<td>6-25 %</td>
<td>2-10% loss</td>
</tr>
<tr>
<td>25% - 75%</td>
<td>5-20% loss</td>
</tr>
<tr>
<td>75%-dead leaf</td>
<td>15-50% loss</td>
</tr>
</tbody>
</table>

Goss's Bacterial Wilt and Blight

- Increased incidence recently
  - Especially western NE, CO, WV, SD
- Pathogen survives in residue
- Requires wounding
- Symptoms
  - “Freckles”
  - Exudate
- Hybrid resistance (not immunity) is available
- Fungicides NOT effective