Early Season Diseases of Field Crops

Factors Favoring Seedling Disease

- Wet conditions at planting
- Cool temperatures
- Soil compaction
- Poorly drained soils
- Conservation tillage
- Some herbicide interactions

Early Season Diseases

- Seed Decay
- Pre-emergence damping off
- Post-emergence damping off
- Insect Vectored Diseases

Soybean Seedling Diseases

- Pythium
- Fusarium
- Rhizoctonia
- Phytophthora
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Wrap up

- What is the economic impact of seedling disease?
- Should I treat for seedling problems?
- Resistance: When does it kick in?
- Does tillage have an effect on seedling disease?
- Important Disease Outbreaks / Updates

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Soybean Cyst Nematode

- Symptoms: low yields, stunted yellow plants in patches
- Signs: adult females and cysts on roots
- Look-alike symptoms: nutrient deficiencies and several herbicides

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Phytophthora Root & Stem Rot

- More sporulation forming blight when temperature is favorable
- Organisms and Anthracnose
- Infected roots
- Sporangia
- Mycelium
- Remains in soil

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Bean Pod Mottle Virus
- Most common viral disease in Nebraska soybean fields
- Seed transmitted and sap-transmitted by beetle feeding

Aggressiveness to Corn and Soybean by *Pythium* isolates from Corn-Soybean Rotation Fields

<table>
<thead>
<tr>
<th>Pythium Population</th>
<th>low</th>
<th>low/medium</th>
<th>medium</th>
<th>high</th>
<th>high/medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil</td>
<td>17</td>
<td>36</td>
<td>12</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>Soybean*</td>
<td>0</td>
<td>18</td>
<td>19</td>
<td>5</td>
<td>59</td>
</tr>
<tr>
<td>Corn*</td>
<td>0</td>
<td>40</td>
<td>13</td>
<td>3</td>
<td>44</td>
</tr>
</tbody>
</table>

* 34 isolates from soil
* 106 isolates from soybean plants
* 30 isolates from corn plants

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