The production landscape is slowly shifting in the state.
Sorghum production was valued at 1.0 billion dollars in 2020

The incidence of stalk rot in individual fields may reach 90 to 100 percent with yield losses of 50 percent

• At least 5% of yield are lost yearly to stalk rot in KS
  – U$50 million
• Plant lodging
• More important may be the yield losses that go unnoticed.
  – reduced ear and head size
  – poor filling of grain
  – early head lodging as plants mature early
Stalk rot seed weight per panicle

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Hybrids</th>
<th>Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>84G62</td>
<td>DKS37-07</td>
</tr>
<tr>
<td>Control</td>
<td>93.6 a</td>
<td>82.1 a</td>
</tr>
<tr>
<td><em>F. andiyazi</em></td>
<td>76.8 b</td>
<td>53.9 b</td>
</tr>
<tr>
<td><em>F. proliferatum</em></td>
<td>69.3 b</td>
<td>53.5 b</td>
</tr>
<tr>
<td><em>F. thapsinum</em></td>
<td>60.2 b</td>
<td>40.3 b</td>
</tr>
<tr>
<td><em>M. phaseolina</em></td>
<td>61.7 b</td>
<td>42.4 b</td>
</tr>
</tbody>
</table>


Charcoal Rot

(*Macrophomina phaseolina*)

- Premature death
- Black microsclerotia
- Shredded interior
- Smaller head
- Wide host range
  - 500 plant species in +100 families
  - Including soybeans, corn, sorghum
**Fusarium Stalk Rot**

- Premature death
- Lodging
- Reddish inner stalk
- Stalk disintegration
- Head/grain reduction

**Fusarium stalk rot**

- Overwinters in corn residue
- Temperatures 80-100°F
- Premature death, lodging, reddish inner stalk, stalk disintegration
- Management: avoid root damage, control insects, diseases, weeds, and timely harvest
Stalk Rot Management

- Choose good stalk strength and stay green characteristics
- Balanced fertility
- Avoid high plant populations
- Root damages
- Control insects, diseases, weeds
- Timely harvest
- Any other moisture conservation practice.
- Check hybrid lodging ratings

Sorghum fungicide trial

- Application time: Planting and mid-flowering
- Active ingredient: flutriafol
  - FRAC group 3: Demethylation inhibitor (DMI)
- In-furrow, dribble over the top, and dribble over the top 2 in off the furrow

Bavaria, KS
Sorghum season 2022. Bavaria, KS
Fungicide treatments resulted in an 7.4 bu/a yield increase compared to the non-treated

At-planting treatments resulted in better stalk rot control compared to the non-treated and foliar treatments
Grain Mold

- This tends to be a problem during fall with cool, wet weather that delays harvest
- Sorghum molds are not dangerous to livestock
- Moldy grain should not be stored
Grain Molds
(various fungi)

- Reduced Yields
- Poor Seed quality
- **Reduced germination**
- Storage problems

**Grain Mold Management**

- Plant resistant hybrids
  - Bronze and reds are more resistant due to higher tannin levels
- Timely harvest
- Do not store moldy grain for long periods
- Keep grain moisture <10% and grain temperature < 50 F
Need Help with a Sorghum issue?

• Contact your local K-State Extension Office.
• Use this link for the sample submission form: https://www.plantpath.k-state.edu/extension/diagnostic-lab/documents/DiseaseLabChecksheet.pdf

Shipping address:
K-State Plant Disease Diagnostic Lab
4032 Throckmorton PSC
1712 Claflin Road
Manhattan, KS 66506
clinic@ksu.edu
785-532-1383
Thank you!

Rodrigo Onofre
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