

Milo Diseases and Fungicide Trials

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1

The production landscape is slowly shifting in the state

| Year | Wheat | Corn | Soybean | Sorghum |
|------|-------|------|---------|---------|
| 2010 | 8.0 | 4.5 | 4.2 | 2.5 |
| 2016 | 8.2 | 4.8 | 4.0 | 3.0 |
| 2020 | 6.5 | 5.5 | 4.5 | 3.0 |

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2

Sorghum production was valued at 1.0 billion dollars in 2020

| Crop | Value (Billions USD) |
|----------|----------------------|
| Corn | 3.2 |
| Sorghum | 1.0 |
| Soybeans | 2.1 |
| Wheat | 1.2 |

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3

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
 - US\$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

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4

Stalk rot seed weight per panicle

| Treatment | Hybrids | | Lines | |
|------------------------|---------|----------|---------|--------|
| | 84G62 | DKS37-07 | BTx3042 | SC599 |
| Control | 93.6 a | 82.1 a | 32.9 | 53.3 a |
| <i>F. andiyazi</i> | 76.8 b | 53.9 b | 19.5 b | 34.6 b |
| <i>F. proliferatum</i> | 69.3 b | 53.5 b | 18.3 b | 27.8 b |
| <i>F. thapsinum</i> | 60.2 b | 40.3 b | 19.3 b | 36.2 b |
| <i>M. phaseolina</i> | 61.7 b | 42.4 b | 16.8 b | 33.0 b |

<https://apsjournals.apsnet.org/doi/pdf/10.1094/>

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5

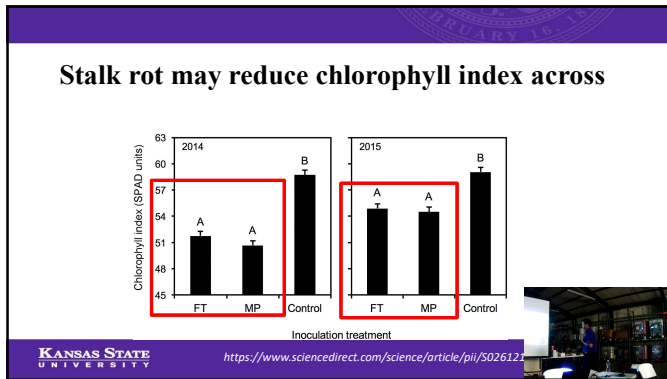
Stalk rot seed weight per panicle

| Pathogen treatment | 100-seed weight (g) |
|--------------------|---------------------|
| CON | 2.5 |
| FA | 2.1 |
| FP | 2.1 |
| FT | 2.1 |
| MP | 2.1 |

<https://apsjournals.apsnet.org/doi/pdf/10.1094/>

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6



7

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

8

Fusarium Stalk Rot

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

9

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

10

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

11

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

FMC | An Agricultural Sciences Company

XYWAY | LFR FUNGICIDE

12



13



14



15




16



17



18



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

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19

Grain Mold



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20

Grain Molds (various fungi)



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

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21

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

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22

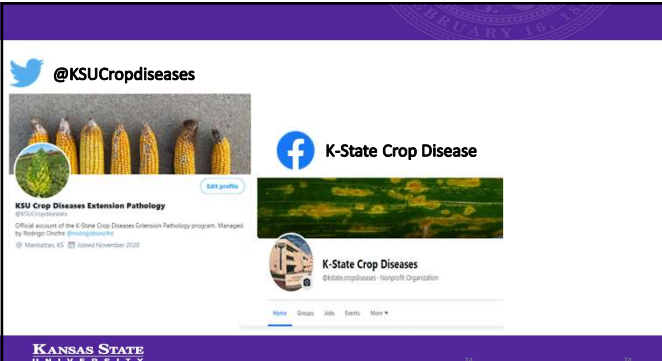
Need Help with a Sorghum issue?

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

Shipping address:
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23



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24



25