Wheat Diseases Observed During 2017 and Fungicide Update for Scab and DON

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Tan Spot Percent Incidence
Season Final, 2017

*Funded by USDA-NIFA – CPPM and EIP Program
Tan Spot Management

- Crop rotation
- Varietal resistance
- Fungicide application
  - Scout, Assess Risk
  - Several effective fungicides
Wheat Streak Mosaic Virus
High Plains Virus
Manage Volunteers

Herbicide

Tillage (if appropriate)

Break the Green Bridge!!!
Seeding Date

Spring Wheat
• Seed early to avoid warm temperatures

Winter Wheat
• Northern ND – September 1-15
• Southern ND – September 16-30
From Kansas State University Extension:
Wheat Stripe Rust Incidence
Season Final, 2017

*Funded by USDA-NIFA – CPPM and EIP Program*
HRSW-Yield Loss–Wishek-Stripe Rust

Tri-county Field Plot maintained by the CREC

*Yield difference between 2015 and 3-year average

Yield Difference (bu/A)

Striped Rust Reaction (Numeric Score)

- R (1): 3.7
- MR (3): 6.5
- M (4): 8.6
- MS (6): 10.0
- S (8): 19.4
Fungicide Timing – Stripe Rust

*Data from 2015 Fargo, 7 trials, susceptible HRSW variety
*High level of stripe rust, natural epidemic

Non-treated Control: 84.2
Tillering: 85.7
Flag Leaf: 94.5

Yield (bu/A)

Fungicide Application Timing

NDSU NORTH DAKOTA STATE UNIVERSITY
Fungicide Update for FHB
Forecasting Models

- Prolonged periods of moisture
- High humidity
- Prior and during heading and flowering
Fungicide Efficacy
Propiconazole (Tilt, generics) 12-20%

Tebuconazole (Folicur, generics) 20-30%

Prothioconazole (Proline) 45-60%

Metconazole (Caramba) 45-60%

Prothioconazole + Tebuconazole (Prosaro) 45-60%

Fungicides provide best suppression when used on a less susceptible variety

*Only FRAC 3/DMI/Triazoles have efficacy

100% Control
Fungicide Timing
Wheat – 50% main stems are flowering
Barley – 50% main stems are headed
What About Two Fungicide Applications?
<table>
<thead>
<tr>
<th>Fungicide</th>
<th>Growth Stage</th>
<th>DON Levels (ppm)</th>
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<tbody>
<tr>
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<td>Fargo</td>
<td>Langdon</td>
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<td>Non-treated Control</td>
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<td>8.15</td>
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<td>Early-flowering</td>
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<td>Caramba</td>
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<td>Proline</td>
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<tr>
<td>4 days later</td>
<td></td>
<td>0.99</td>
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</tr>
</tbody>
</table>
A New Fungicide For FHB?

Miravis ACE

- Adepidyn + Propiconazole
- Adepidyn – FRAC 7
- Succinate DeHydrogenase Inhibitor (SDHI)
- Commercially available in 2019
Fungicide Trial – Durum – Fargo - DON

DON Level (ppm)

- 2
- 1.8
- 1.6
- 1.4
- 1.2
- 1
- 0.8
- 0.6
- 0.4
- 0.2
- 0

LSD 0.05 = 0.31

Non-treated

Prosaro @ Fks 10.5

Miravis ACE @ Fks 10.5

Prosaro @ Fks 10.51

Miravis ACE @ Fks 10.51

Prosaro @ Fks 10.51 + 4 days

Miravis ACE @ Fks 10.51 + 4 days

Fungicide and Timing
**Fungicide Trial – HRSW – LREC - DON**

From Venkat Chapara, LREC

**DON Level (ppm)**

- Non-treated: 3.4
- Caramba @ 15 oz
- Folicur @ 4 oz
- Prosaro @ 6.5 oz
- Miravis ACE @ 11.5 oz
- Miravis ACE @ 13.7 oz

**Fungicide and Timing**
Summary

• Wheat diseases can be found in dry and wet years

• Scouting continues to be one of our best tools to use for assessing disease

• New fungicide for scab looks like an effective addition
Questions?