2024 Disease Challenges and How to Prepare for 2025

Andrew Friskop – Cereal Crop Extension Pathologist

What I Will Cover Today

• Foliar Disease Challenges of 2024?

- Fusarium head blight (scab) risk
- What about 2025?

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• Field Trials – "Worst Case Scenario"



What did we observe in 2024?

Early Season Conditions

- Cool and wet start to the 2024 growing season
- Wide range in planting dates
- Strong winds (reduced humidity)
- Early stripe rust and stem rust reports in Southern Plains

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June 6 - Stripe Rust Found in Southeast and Southwest ND

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June 21, 2024 – Susceptible Varieties



June 28, 2024 – Susceptible Varieties



July 5, 2024 – Susceptible Varieties



EXTENSION

July 12, 2024 – Susceptible Varieties



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July 19, 2024 – Susceptible Varieties



Variety Importance - July 5, 2024



What Did We See in the Fields?

2024 Wheat Disease Prevalence – Late Season

NDSI





Supported by USDA-NIFA, Crop Protection and Pest Management – Extension Implementation Program

Preparing for 2025

Look at your production practices:
Disease profile of your variety?
-Fungicide? Situational based? At least one?
-What diseases are your concern?
-Crop rotation? Residue management?





Variety	Stem Rust	Leaf Rust	Tan Spot	Bacterial Leaf Streak	FHB
WB9590	2	3	8	8	7
SY Valda	2	2	7	6	5
AP Murdock	2	5	4	6	6
MN Torgy	2	3	3	5	4
SY Ingmar	2	3	6	6	6
AP Smith	1	3	3	5	6
Faller	2	7	7	5	4
WB9719	2	5	5	5	6
LCS Trigger	2	1	4	4	3
Glenn	2	6	6	5	4
	1				

HRSW Variety – Disease Risk Index Value

LCS Trigger **MN** Torgy Glenn Faller **AP Smith** SY Valda **AP Murdock** SY Ingmar WB9719 WB9590

NDSI

TENSION



Friskop, Scherer and Green

Variety	Stem Rust	Leaf Rust	Tan Spot	Bacterial Leaf Streak	FHB
ND Riveland	1	1	5	6	5
AAC Stronghold	1	1	6	7	6
Joppa	1	1	5	7	5
ND Stanley	1	1	5	6	5
AAC Cabri	2	1	6	7	6
AAC Strongfield	1	1	6	7	8

HRSW Variety – Disease Risk Index Value



Friskop and Scherer

Preparing for 2025

- Look at your production practices:
 - -Disease profile of your variety?
 - -Fungicide timing? Situational based? At least one?
 - -What diseases are your concern?
 - -Crop rotation? Residue management?





Tillering Timing: Fungal leaf spots

Many very good to excellent product options

Flag Leaf Timing: Rust Diseases Fungal leaf spots

Many very good to excellent product options



Early-flowering (+7 days) Fusarium head blight Late season flag leaf

Product Options: Fair (20-25%) Good (55-60%)



Early-flowering (+7 days) Fusarium head blight Late season flag leaf

Product Options: Fair (20%) Good (55-60%)



What if I assume I will have to manage multiple wheat diseases?



Field Trials – Worst Case Scenario

Two Locations

- 1. Fargo (Low Disease)
- 2. Thompson (Very High)

Four diseases inoculated

- 1. Tan spot
- 2. Bacterial Leaf Streak
- 3. Leaf Rust

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4. Fusarium Head Blight

Four varieties
1. AP Murdock
2. WB9590
3. ND Stampede
4. ND Thresher

Funded by SBARE and NDWC

HRSW Variety – Disease Risk Index Value



Field Trials – Worst Case Scenario

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4. Fusarium Head Blight

Four varieties

- 1. AP Murdock
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Two fungicide treatments

- 1. No fungicide
- 2. Propiconazole @ 3-4 leaf Miravis Ace @ early flowering

Funded by SBARE and NDWC

Results – Low Disease Location

FHB Field Severity

0

Thresher Yes 0.03 Thresher_No 0.2 Stampede_Yes 0.4 Stampede No Murdock Yes 0.3 Murdock No WB9590 Yes WB9590 No

1.7

2

Thresher Yes Thresher No. Stampede_Yes Stampede No Murdock Yes Murdock No WB9590 Yes WB9590 No

0

Yield (bu/A)

50

100

*No = no fungicide; Yes = fungicide program

NDSU EXTENSION*Bacterial leaf streak most important foliar disease

4

5.4

6



*No = no fungicide; Yes = fungicide program

NDSU EXTENSION*Bacterial leaf streak most important foliar disease

Final Thoughts

- Highest wheat disease levels in the past five years
- Diseases were still managed well
- Plan for 2025 starts with variety selection
- Fungicides are a great tool, but will not cure disease problems

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Questions and Thanks

360 Website – Small Grain and Corn Disease Information



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