

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



Andrew Friskop

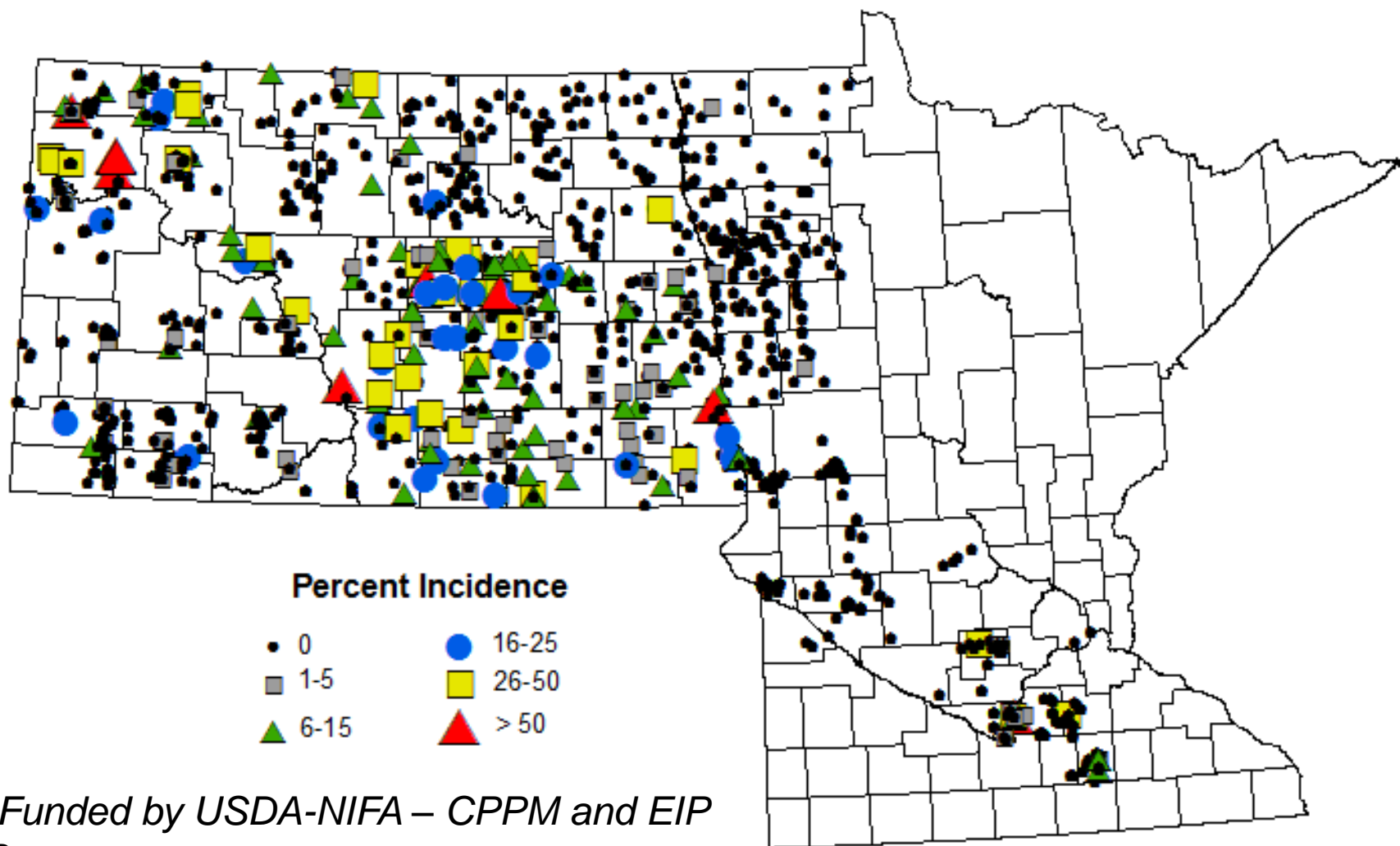
NDSU Cereal Extension Plant Pathologist

Tan Spot



Tan Spot Percent Incidence

Season Final, 2017



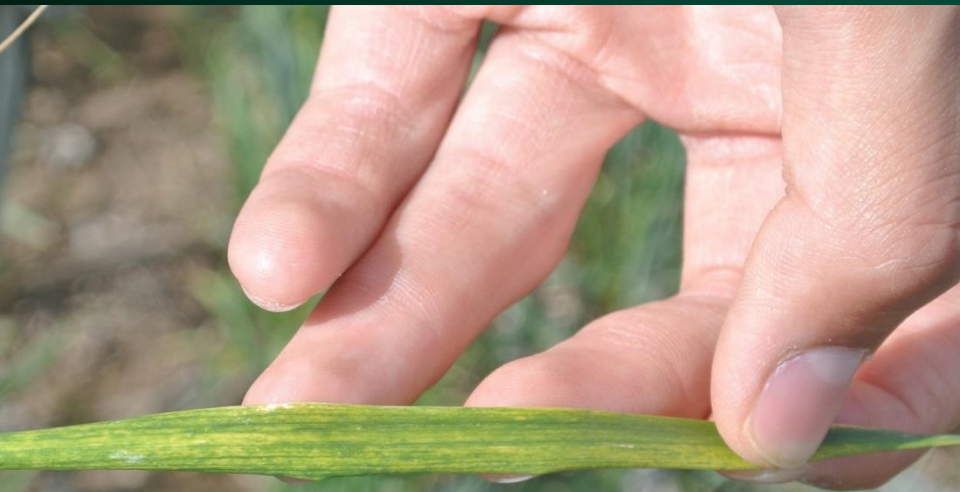
**Funded by USDA-NIFA – CPPM and EIP Program*

Tan Spot Management

- Crop rotation
- Varietal resistance
- Fungicide application
 - Scout, Assess Risk
 - Several effective fungicides



Wheat Streak Mosaic Virus High Plains Virus

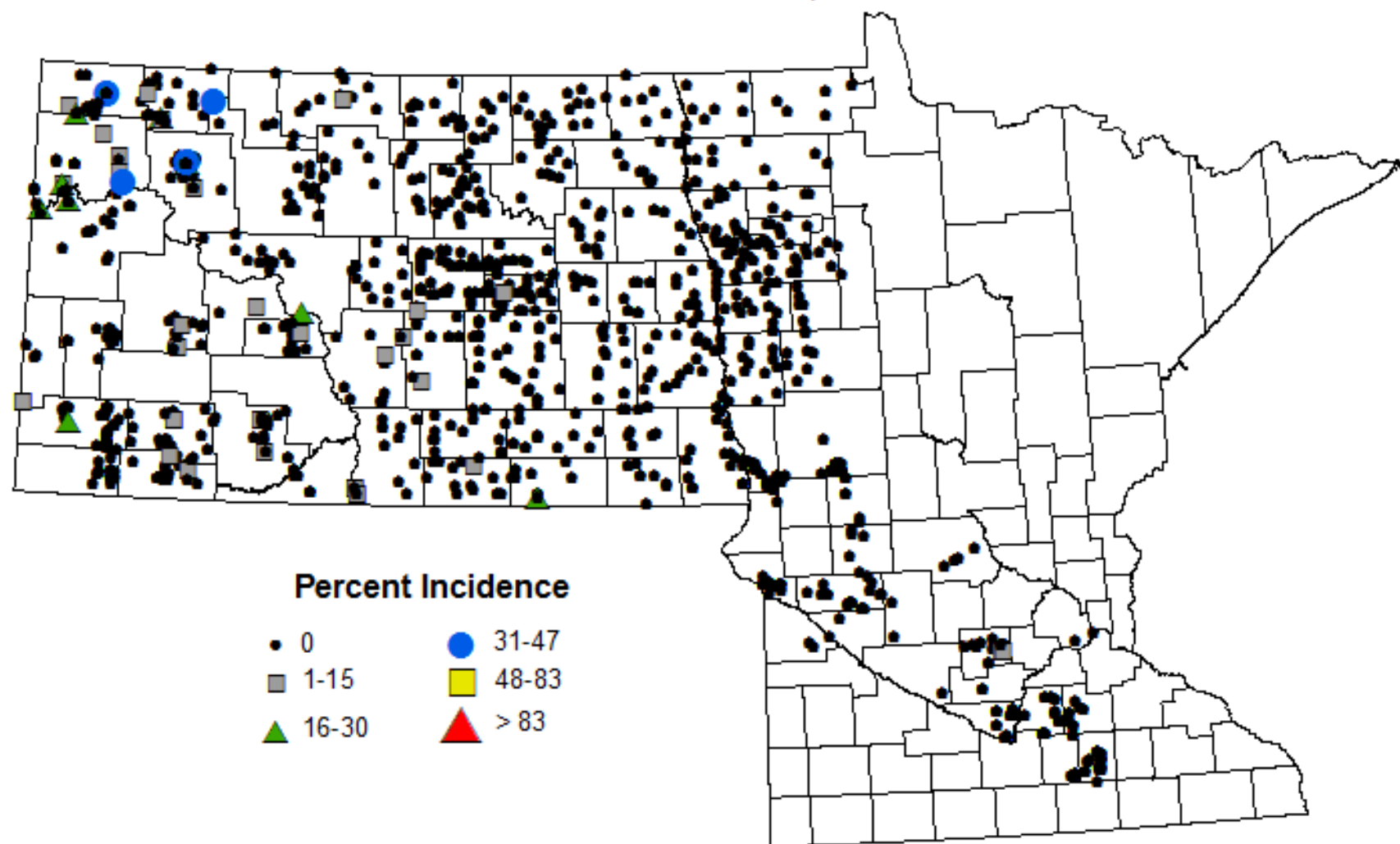


IDSU Electron Microscopy Lab



Wheat Streak Mosaic Virus

Season Final, 2017



Manage Volunteers

Herbicide

Tillage (if appropriate)

Break the Green Bridge!!!



Seeding Date

Spring Wheat

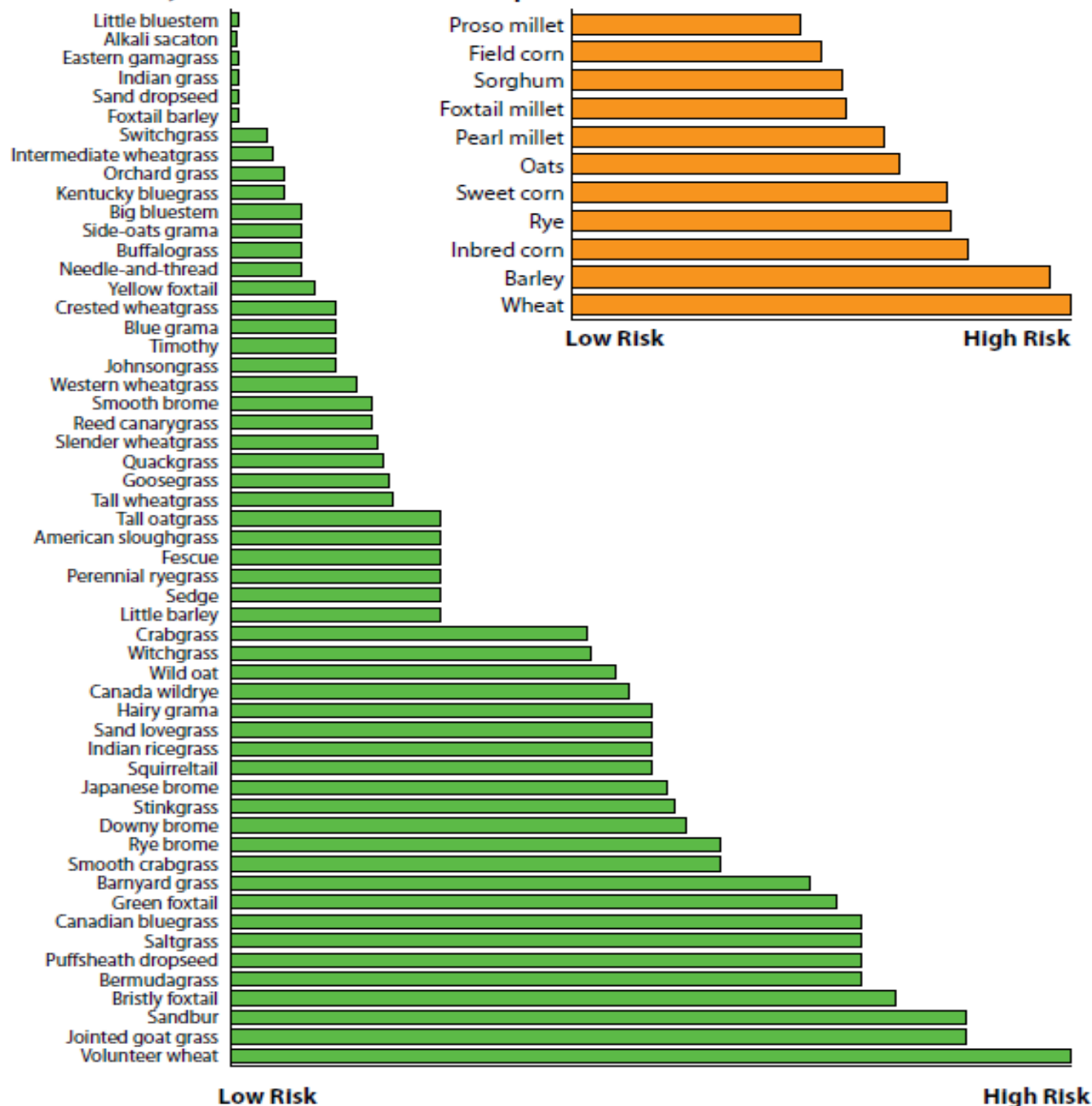
- Seed early to avoid warm temperatures

Winter Wheat

- Northern ND – September 1-15
- Southern ND – September 16-30



Grassy Weed Hosts



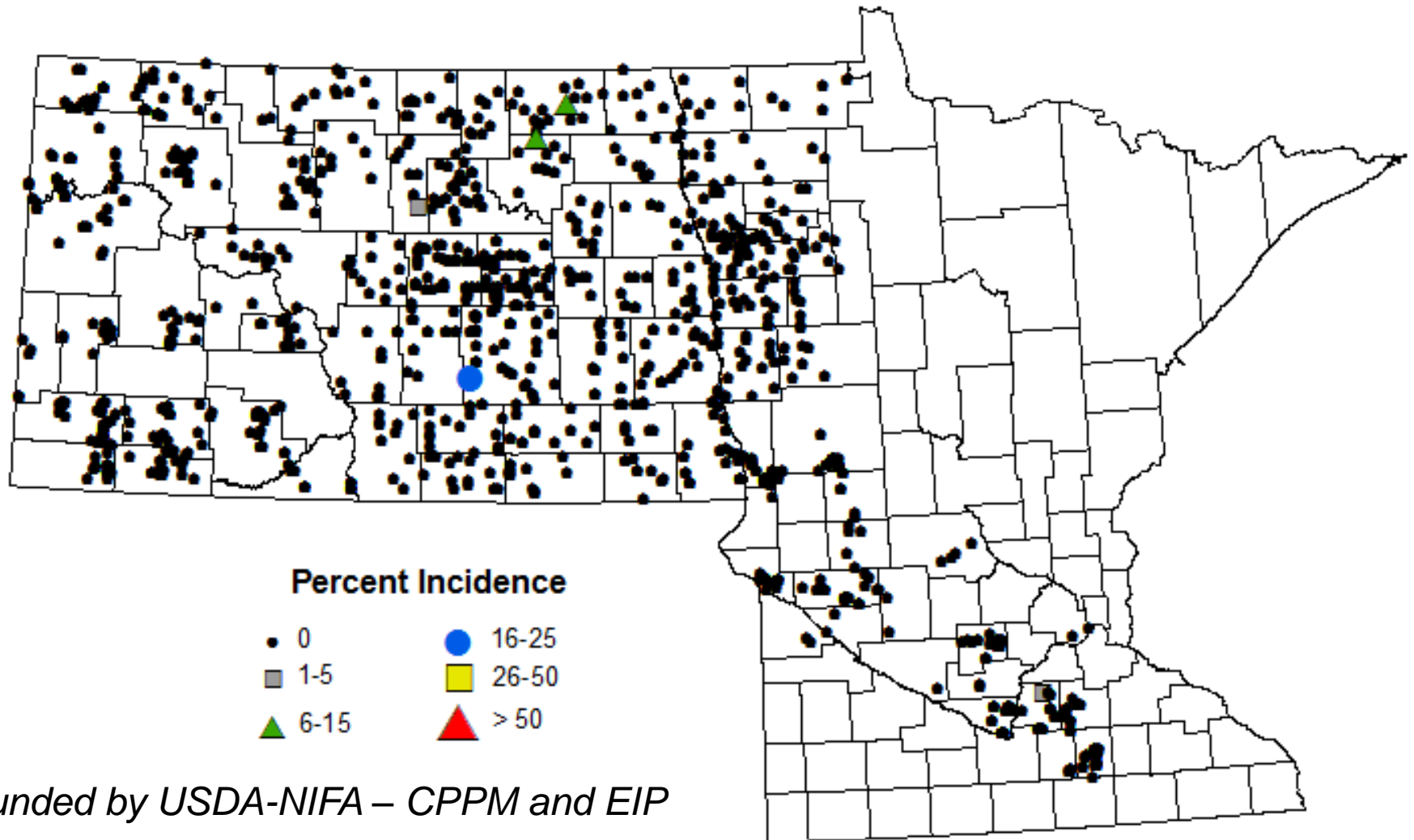
From Kansas State
University Extension:

Stripe Rust

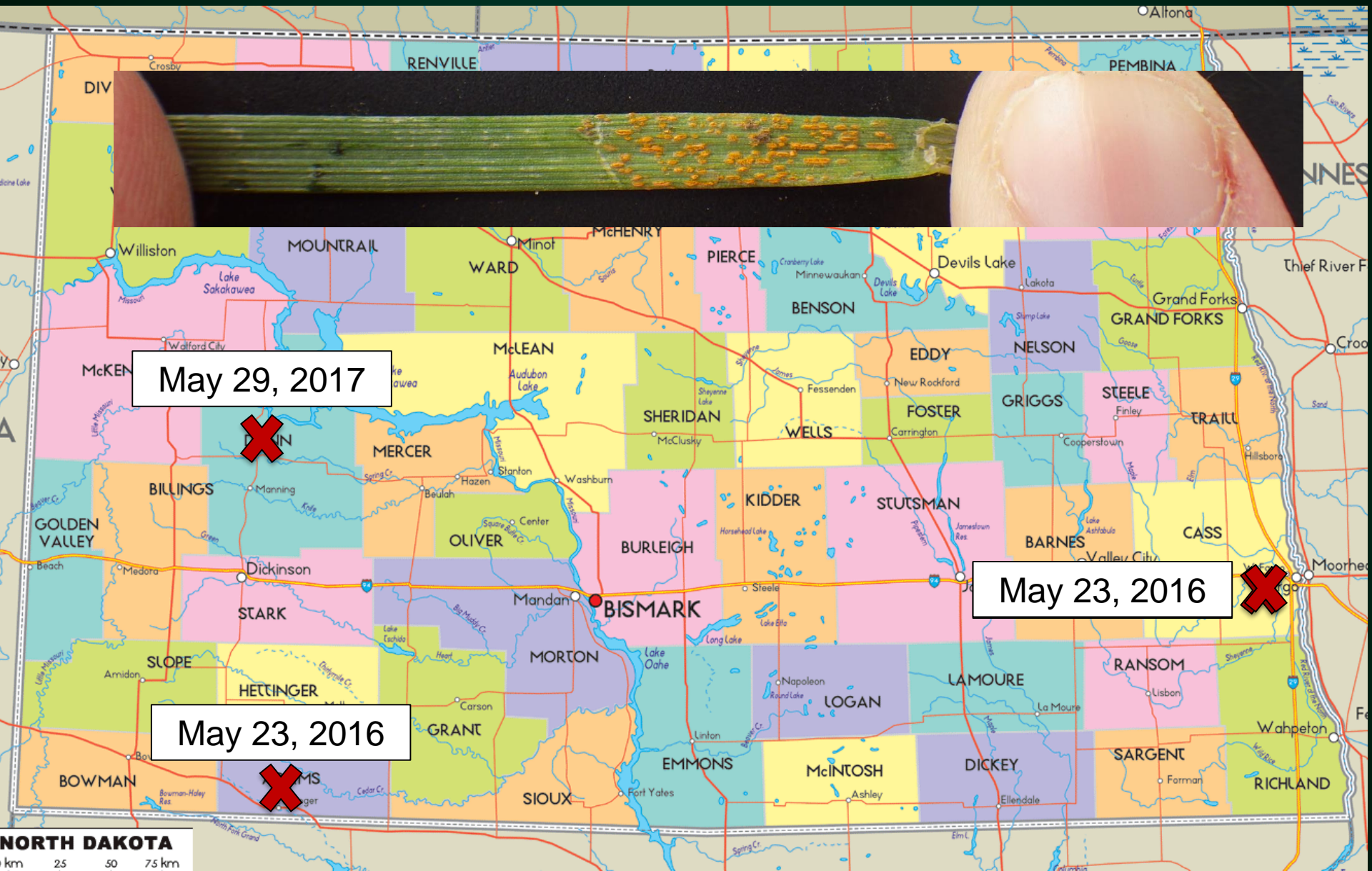


Wheat Stripe Rust Incidence

Season Final, 2017



**Funded by USDA-NIFA – CPPM and EIP Program*

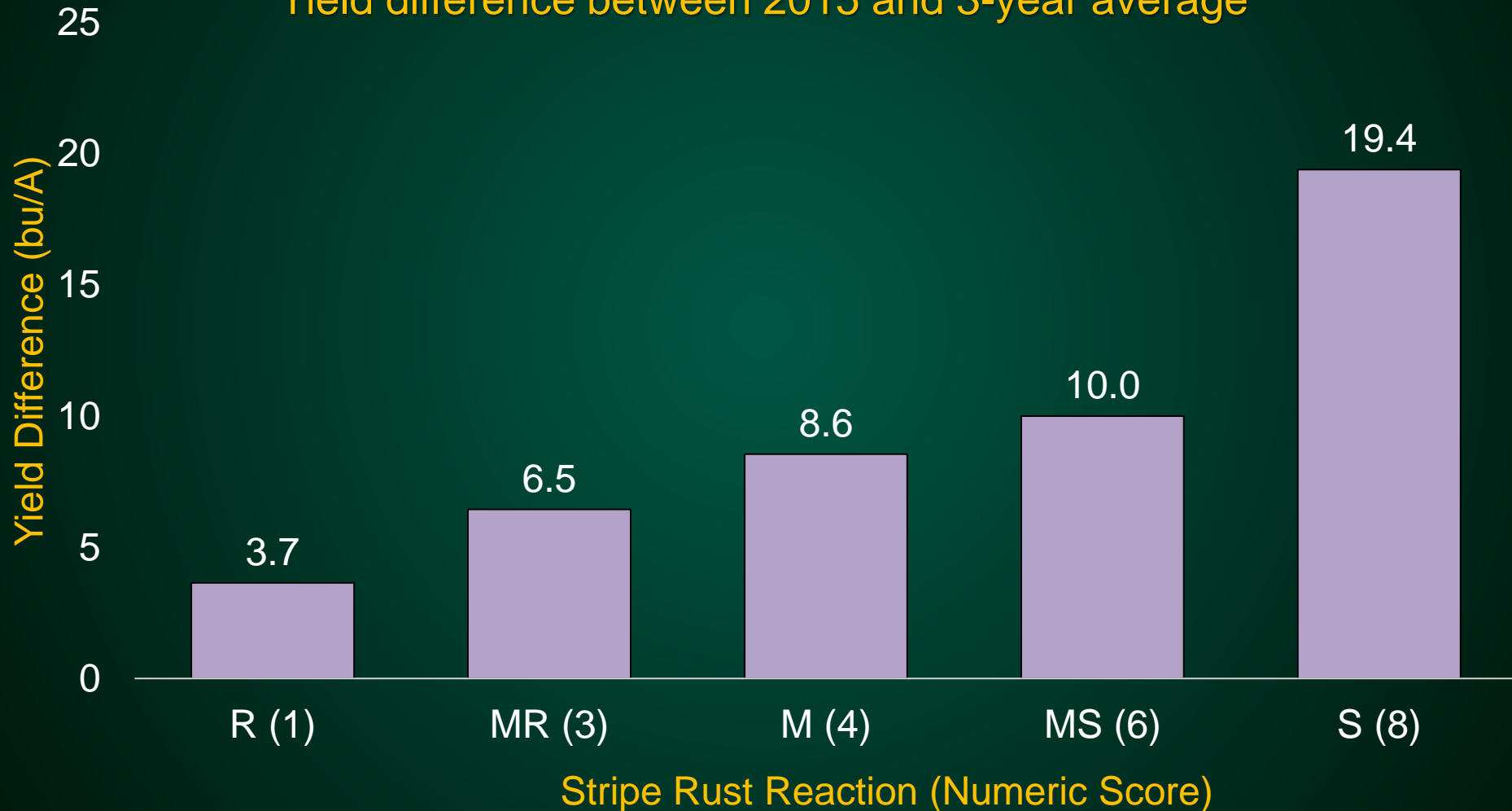




HRSW-Yield Loss–Wishek-Stripe Rust

Tri-county Field Plot maintained by the CREC

*Yield difference between 2015 and 3-year average

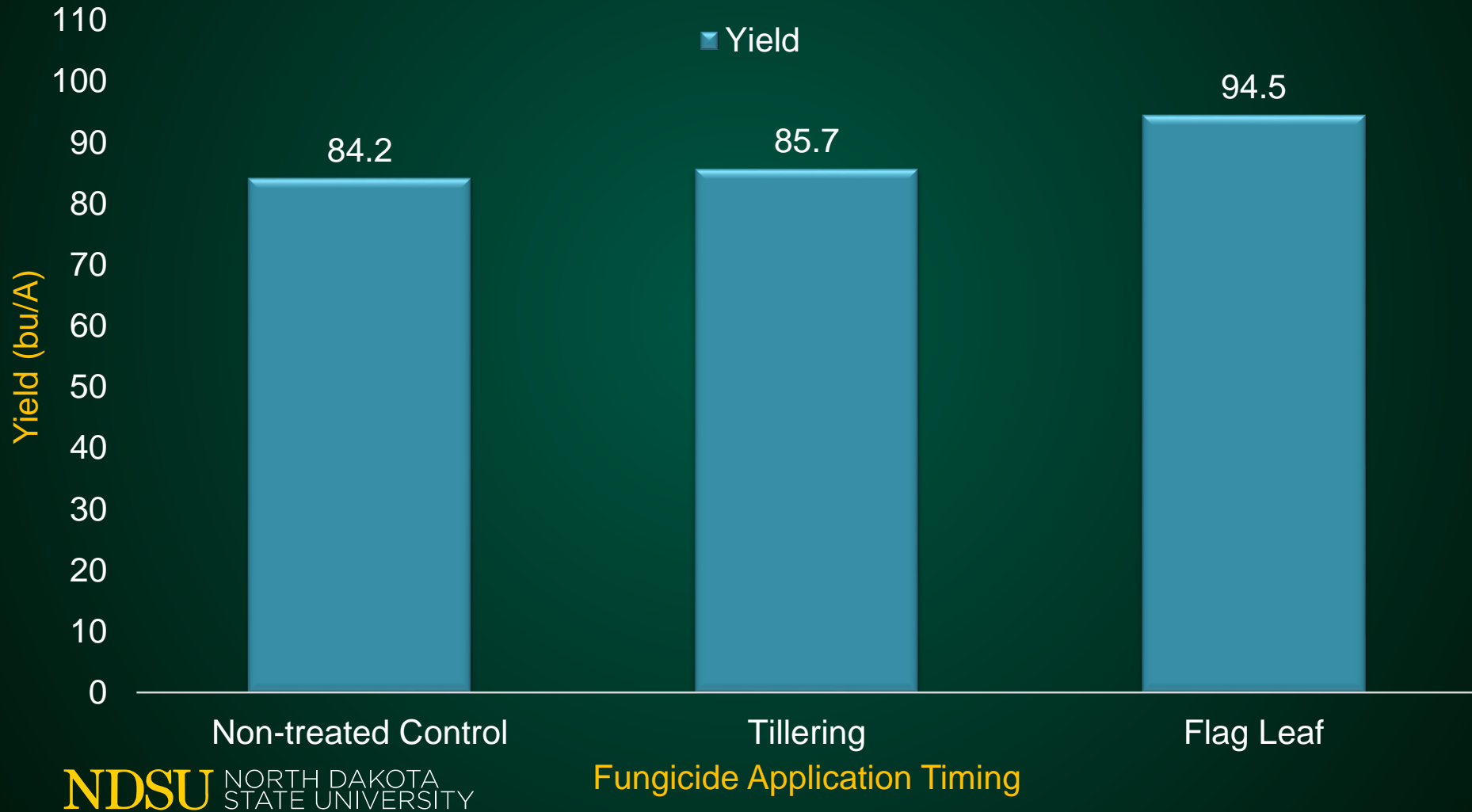




Fungicide Timing – Stripe Rust

*Data from 2015 Fargo, 7 trials, susceptible HRSW variety

*High level of stripe rust, natural epidemic



Fungicide Update for FHB



Forecasting Models

- Prolonged periods of moisture
- High humidity
- Prior and during heading and flowering

FUSARIUM HEAD BLIGHT Prediction Center

ND Commentary last update 2017-06-13 Andrew Friskop.

Winter wheat is flowering and some of the earliest planted spring wheat is starting to head. Fusarium head blight risk for the state is low and is likely attributed to the dry weather most of the state has been experiencing. In the past few days, several rain events have occurred in the state and more are projected in the upcoming days. If areas of the state have several days of prolonged moisture and high humidity, scab risk will likely increase. Continue to monitor the growth stage in wheat and use the model to estimate scab risk.

1. Choose a State
State: North Dakota [Help]

2. Choose a Model
Wheat: Spring Winter
Susceptibility: Susceptible
Link to Spring Wheat Variety Information

3. Weather Forecast Mode
Forecast (hrs): 0 24 48 72
Assessment Date: 06/14/2017

Advanced: Save Model and Location
Name: [Save As New] [Delete]
Saved Locs: [Delete]

Legend
Blight Risk
High
Medium
Low
Not Applicable
No Data

Risk Map Opacity [Query]

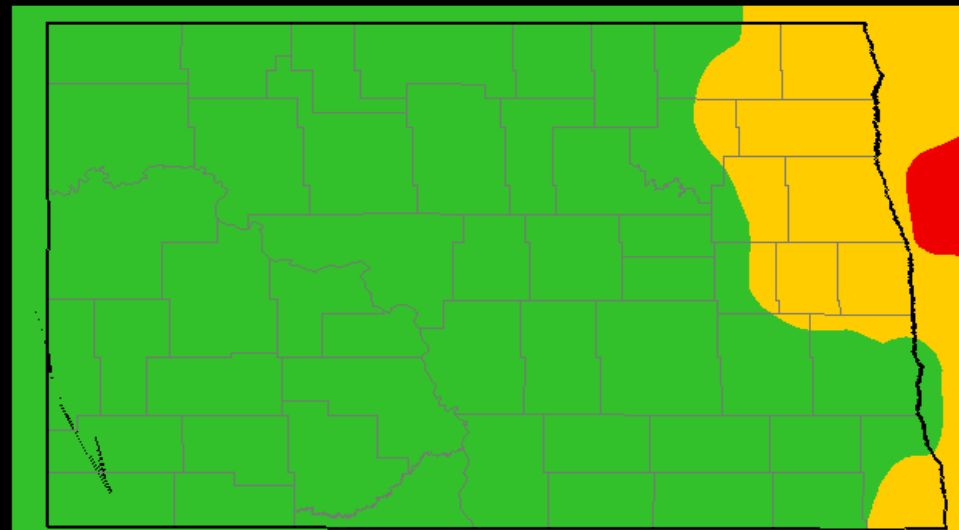
Map showing North Dakota with city labels: Regina, Winnipeg, Bismarck, Grand Forks, Fargo, Minot, Dickinson, Jamez, and Devils Lake.

Logos: PENN STATE, OHIO STATE UNIVERSITY EXTENSION, KSTATE, USWBSI

Disclaimer

Fusarium Head Blight - Susceptible Varieties

July 4, 2017



Low Medium High

Fusarium Head Blight Risk

Fungicide Efficacy

*Fungicides provide best suppression when used on a less susceptible variety

*Only FRAC 3/DMI/Triazoles have efficacy

100% Control

45-60%

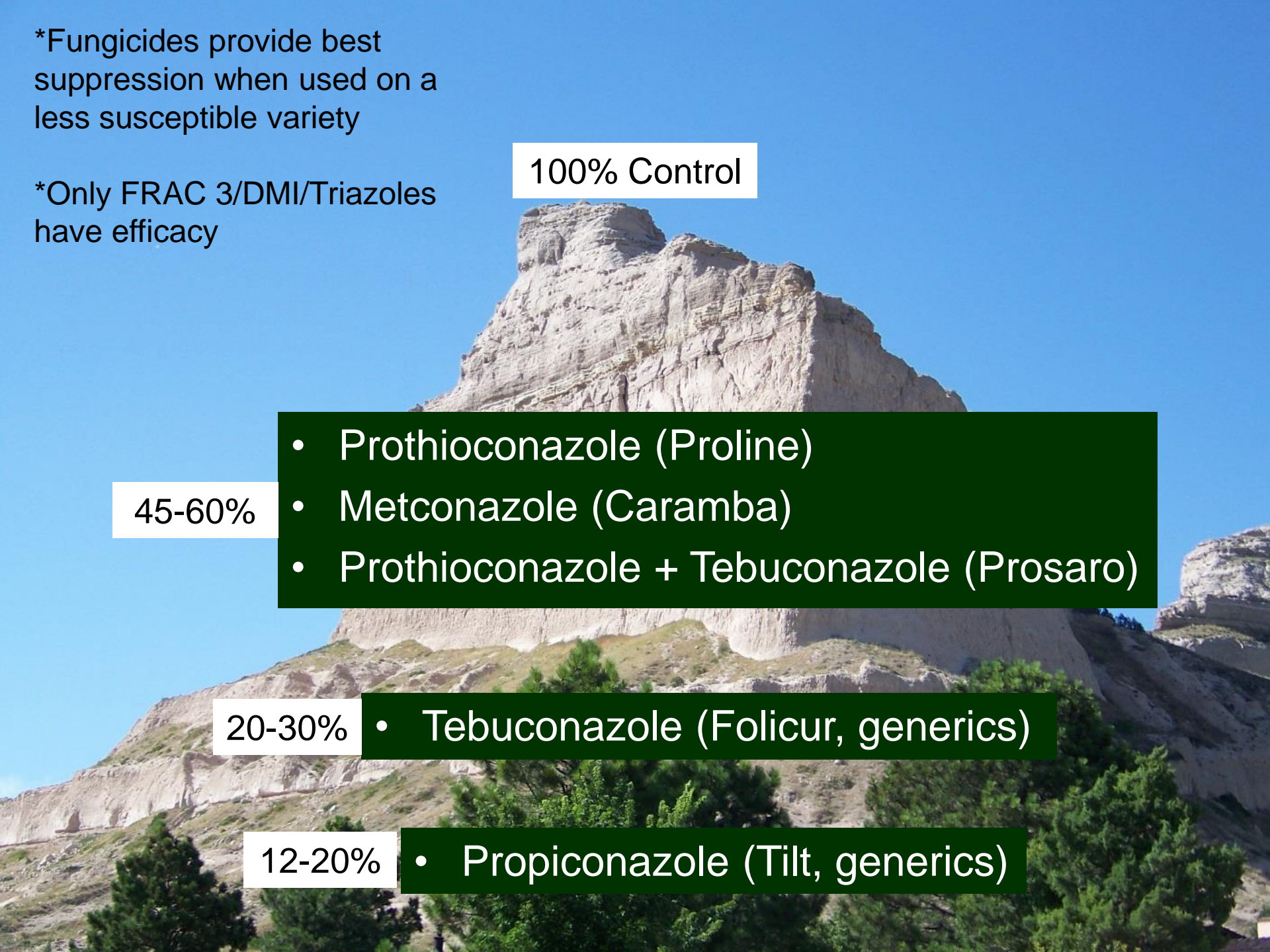
- Prothioconazole (Proline)
- Metconazole (Caramba)
- Prothioconazole + Tebuconazole (Prosaro)

20-30%

- Tebuconazole (Folicur, generics)

12-20%

- Propiconazole (Tilt, generics)



Fungicide Timing



Wheat – 50% main stems are flowering



NDS

Barley – 50% main stems are headed

What About Two Fungicide Applications?

Fungicide	Growth Stage	DON Levels (ppm)	
		Fargo	Langdon
Non-treated Control		1.5	8.15
Prosaro	Early-flowering	0.58	3.45
Prosaro	4 days later	0.75	2.34
Prosaro	Early-flowering	0.18	1.64
Caramba	4 days later		
Caramba	Early-flowering	0.43	3.49
Folicur	4 days later		
Proline	Early-flowering	0.34	6.02
Folicur	4 days later		
Folicur	Early-flowering	0.99	N/A
Folicur	4 days later		

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



LSD 0.05 = 0.31

Fungicide and Timing

Fungicide Trial – HRSW – LREC - DON

From Venkat Chapara, LREC



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?