

**NDSU** NORTH DAKOTA  
STATE UNIVERSITY

STUDENT FOCUSED • LAND GRANT • RESEARCH UNIVERSITY

# Evaluation of Fungicides for Management of Phomopsis Stem Canker

**Michelle Gilley**, Sam Markell & Scott Meyer, NDSU, Dept. of Plant Pathology, Fargo, ND; Robert Harveson, University of Nebraska, Panhandle REC, Scottsbluff, NE; Febina Mathew, SDSU, Dept. of Plant Science, Brookings, SD; Joel Schaefer & Jeff Nehring, CHS Sunflower, Grandin, ND; Michael Kirsch & Joseph Caroline, Dow AgroSciences/Mycogen, Breckenridge, MN

# Outline

- Research Objectives
- Trial Details
- Treatments
- Results
- Conclusions

# Objective

- Evaluate fungicide efficacy for management of Phomopsis stem canker in North Dakota and Minnesota under natural conditions

# Trial Details

Location	Cooperator	Planting Date	V8	R1	R3-5	Harvest
Mapleton, ND	CHS	5/29/14	6/26/14	7/16/14	8/13/14 (R5)	10/9/14
St. Hilaire, MN	CHS	5/28/14	Flooded			
Rothsay, MN	Mycogen Seed	5/30/14	6/26/14	7/23/14	8/19/14 (R6)	10/20/14

- Final application will happen immediately following a thunderstorm or rainstorm, or at R5, whichever occurs first
- Trial was arranged in a randomized complete block design with four replications

<b>Treatment Number</b>	<b>Treatment</b>	<b>Rate oz/acre</b>	<b>Timing</b>
1	Non-Treated	NA	NA
2	Endura 70WG	8	R1
3	Folicur 3.6F	4	R1
4	Headline 250SC	6	R1
5	Endura 70WG	8	R3-5
6	Folicur 3.6F	4	R3-5
7	Headline 250SC	6	R3-5
8	Headline 250SC	6	R1
	Folicur 3.6F	4	R3-5
9	Endura 70WG	8	R1
	Folicur 3.6F	4	R3-5
10	Headline 250SC	6	R1
	Endura 70WG	8	R3-5
11	Folicur 3.6F	4	approx V8
	Headline 250SC	6	R1
	Endura 70WG	8	R3-5
12	Experimental	--	R1

# Phomopsis Stem Canker Disease Severity Rating



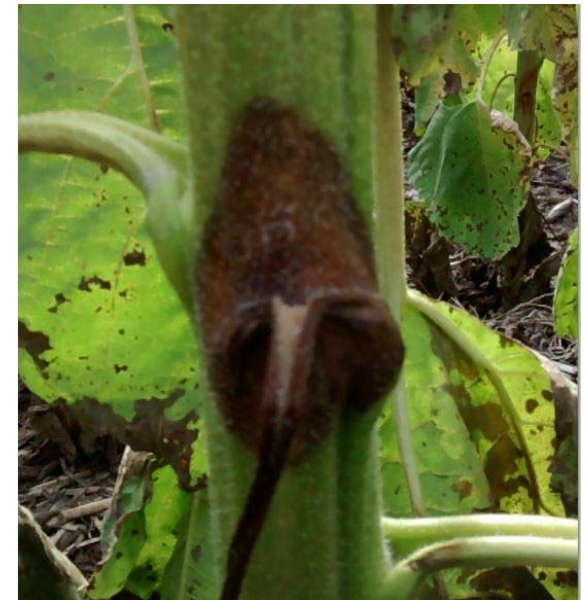
0 = No Infection

1 = Stem lesion < 2 inches

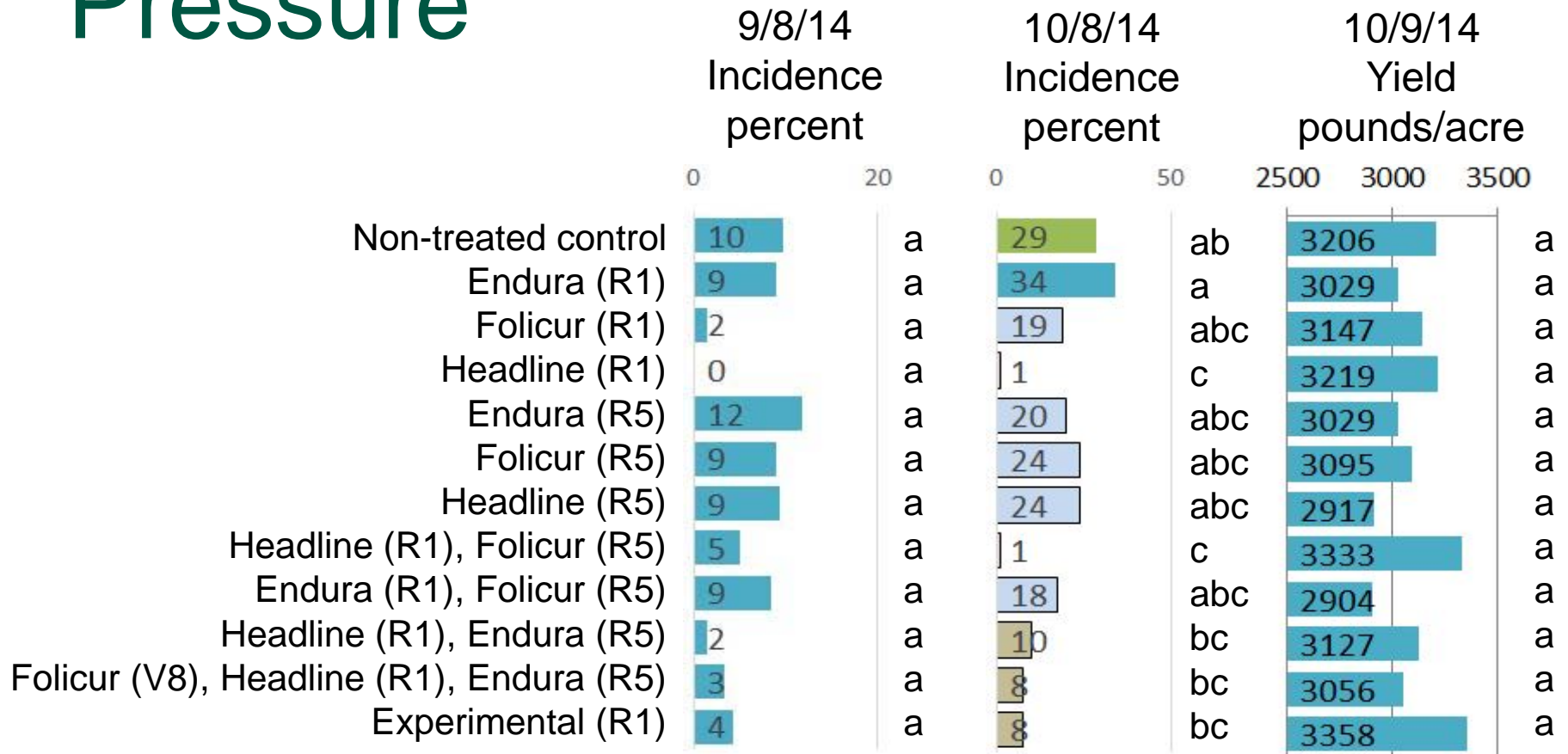
2 = Stem lesion > 2 inches

3 = Girdling stem lesion

4 = Lodged plant

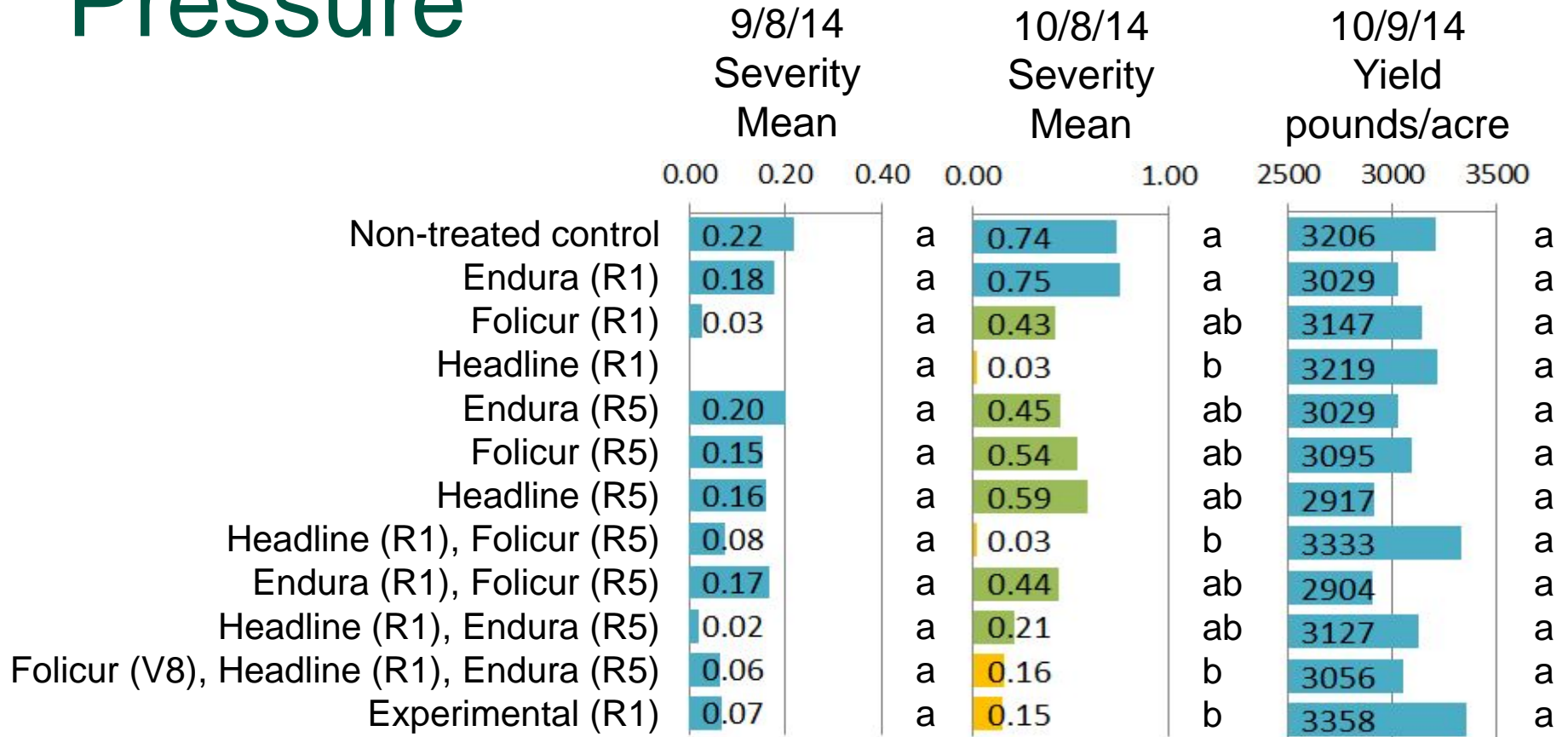


# Mapleton, ND - Low Phomopsis Pressure

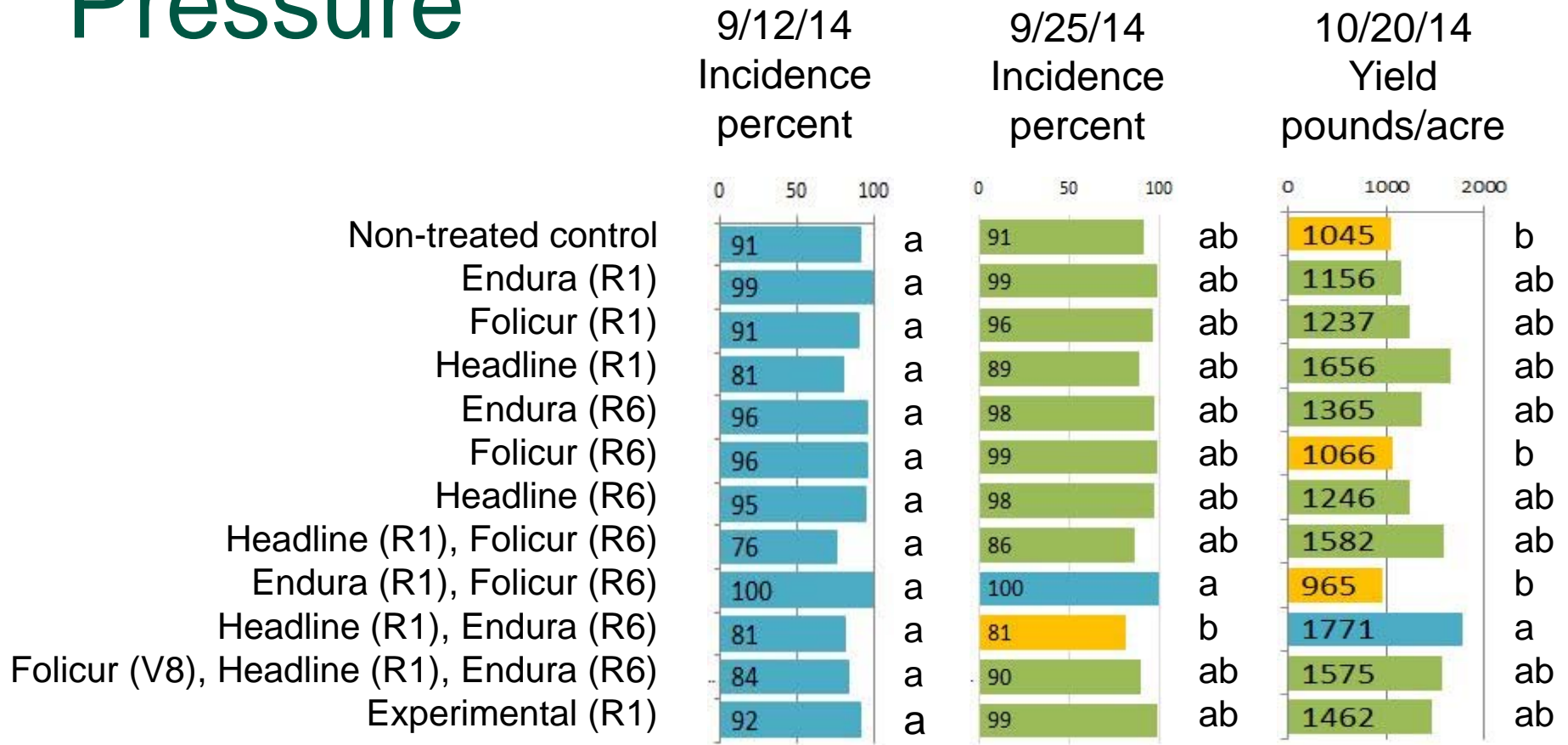




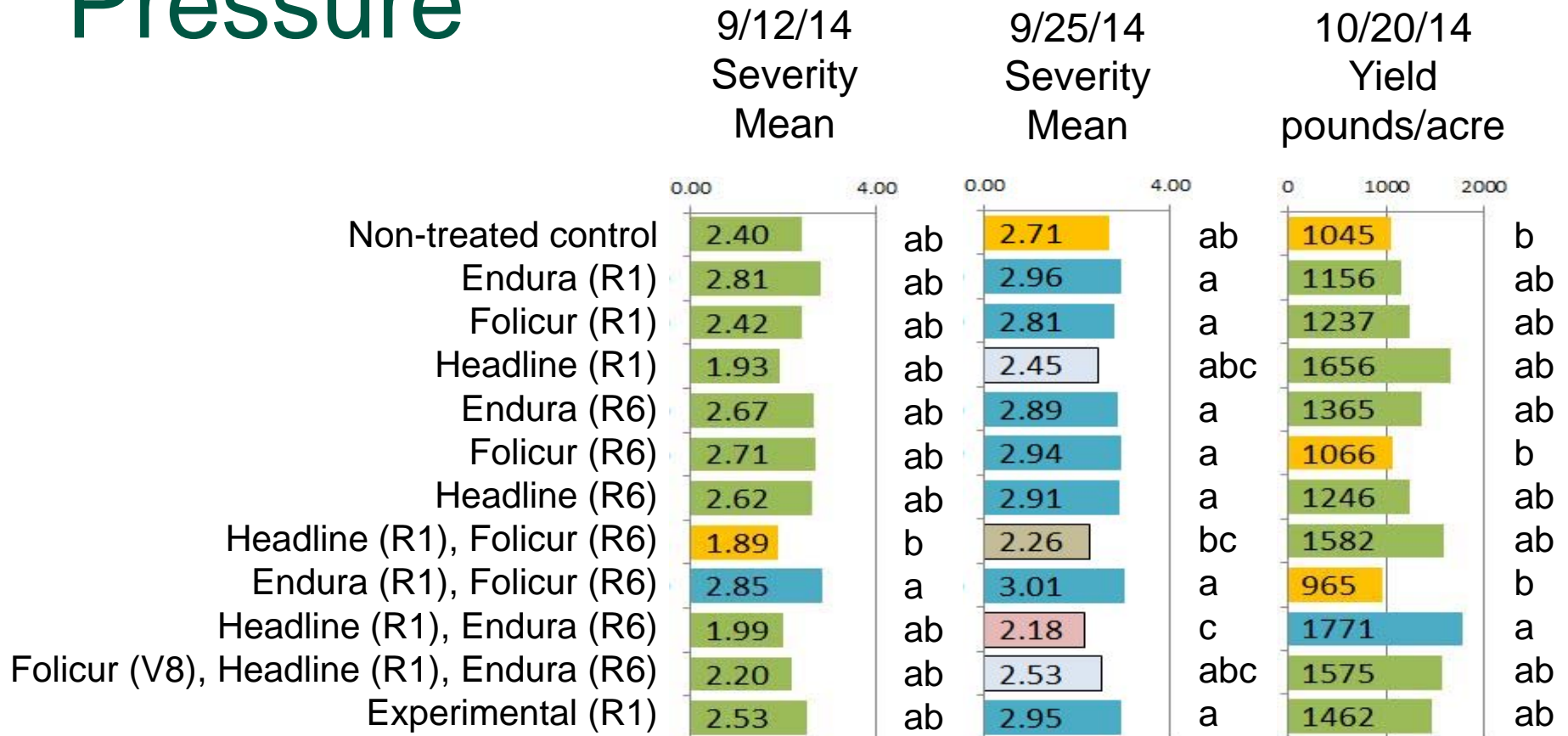
# Mapleton, ND - Low Phomopsis Pressure



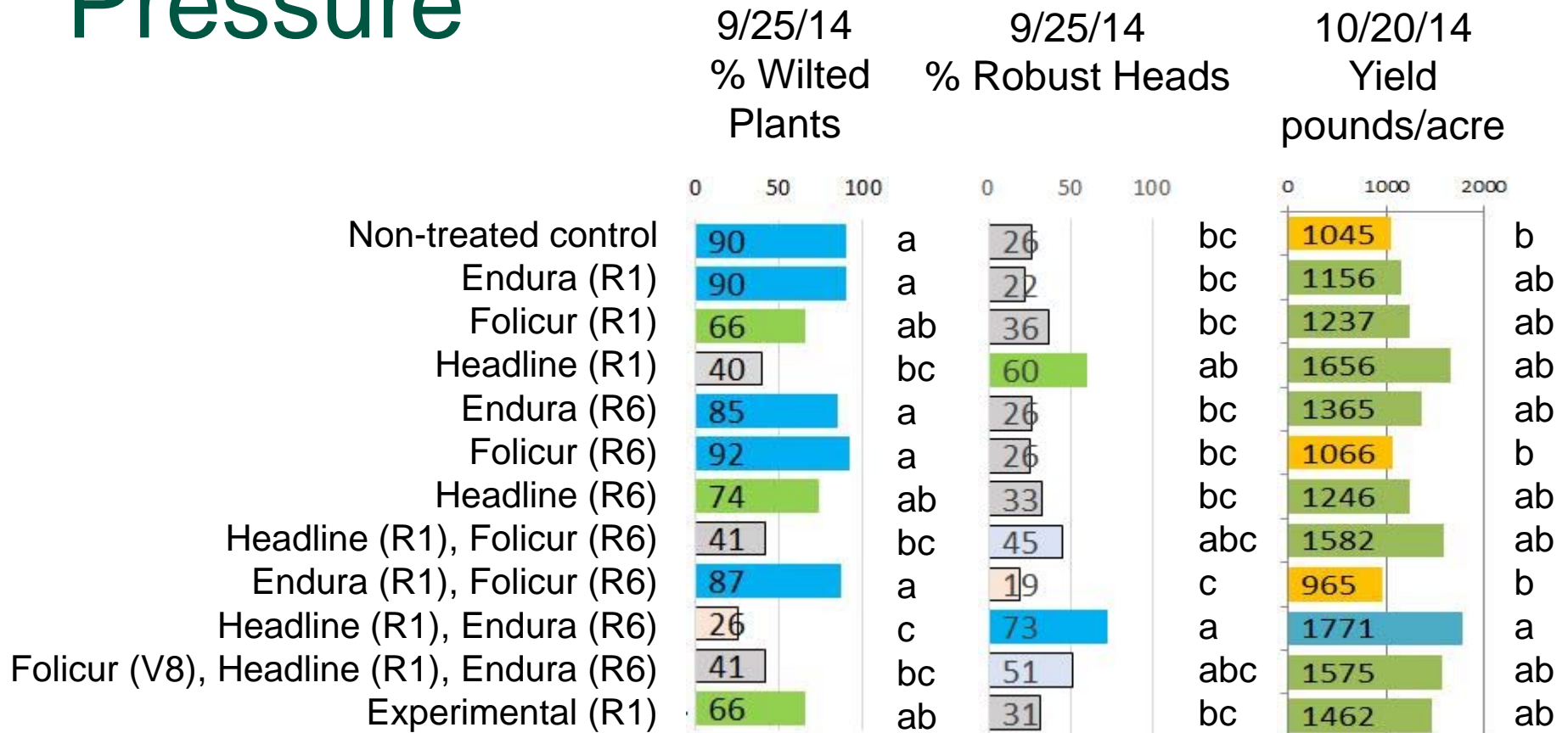
# Rothsay, MN – High Phomopsis Pressure



# Rothsay, MN – High Phomopsis Pressure



# Rothsay, MN – High Phomopsis Pressure



# NTC



# Endura at R1



# NTC



# Folicur at R1



# NTC



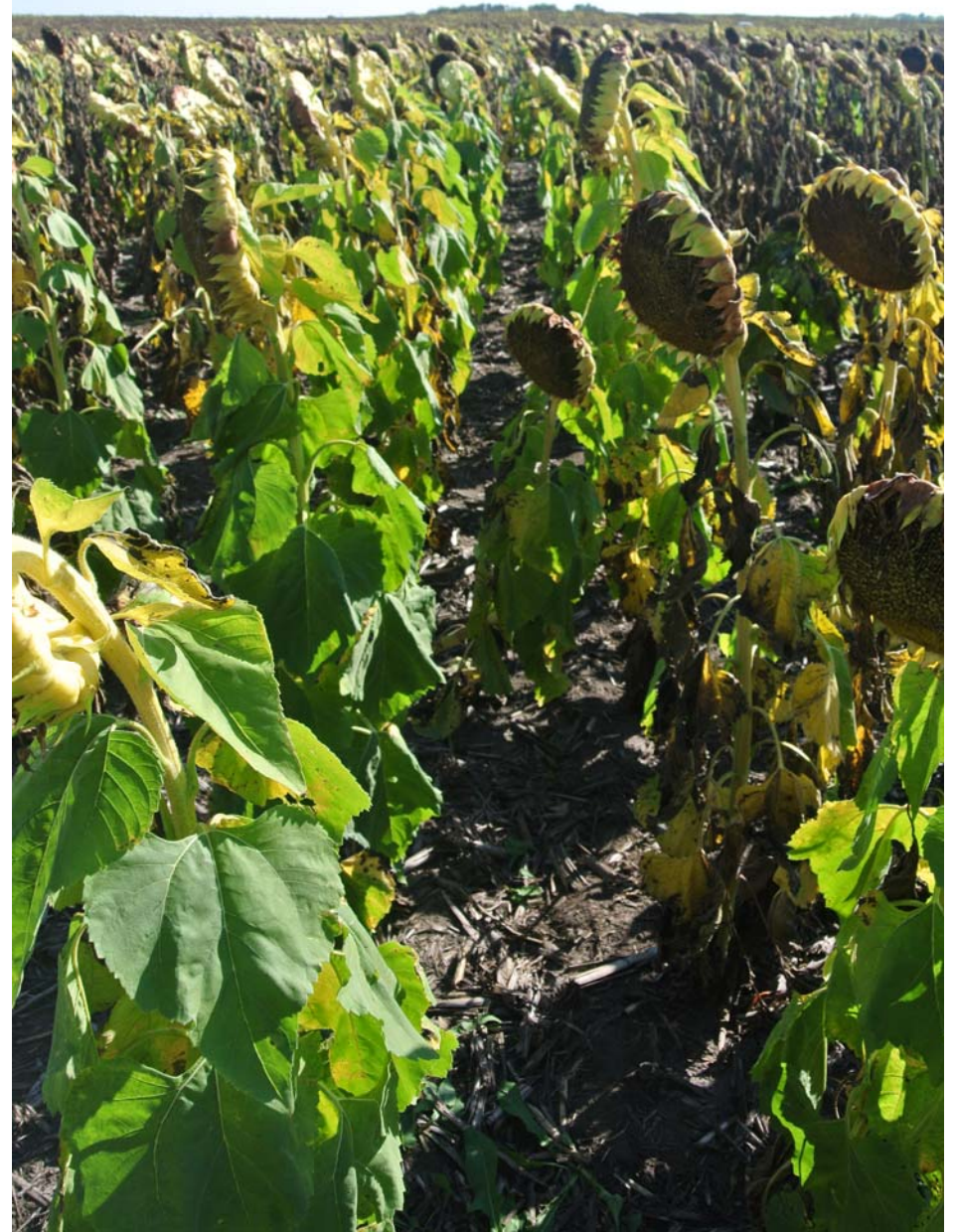
# Headline at R1



NTC



Headline R1, Endura R6





# Conclusions

- Regardless of Phomopsis pressure, Headline (FRAC 11) at R1 appears to help manage Phomopsis stem canker
- Folicur (FRAC 3) and Endura (FRAC 7) did not appear to manage Phomopsis as much, in these trials
- We hope to repeat the experiment with sites in ND, SD, MN and NE using Susceptible and MR/MS hybrids.

# Acknowledgements

Gerald Seiler, Ph.D.



Ryan Humann



**NDSU**  
Extension Service  
North Dakota State University

Christian Steffen

Austin Streifel



**NDSU**  
North Dakota State University  
**ND Agricultural**  
Experiment Station

Brant Berghuis

