

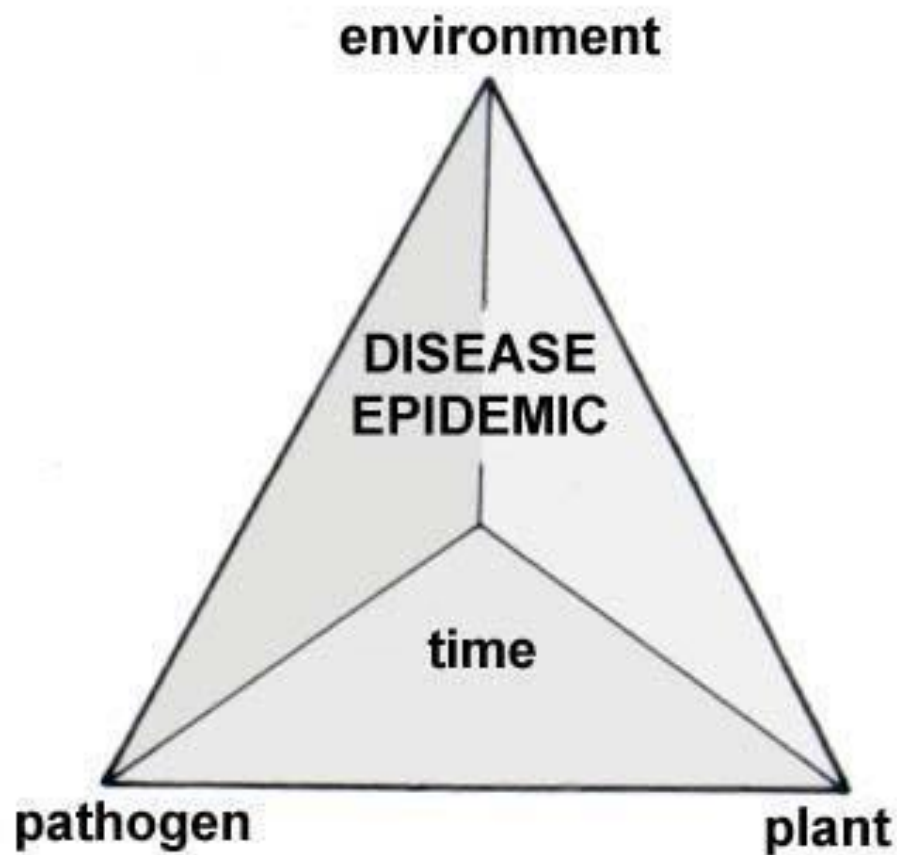


# Disease Management in Winter Wheat

Heather M. Kelly  
Field Crops Plant Pathologist  
UT-WTREC, Jackson, TN



# Disease Pyramid



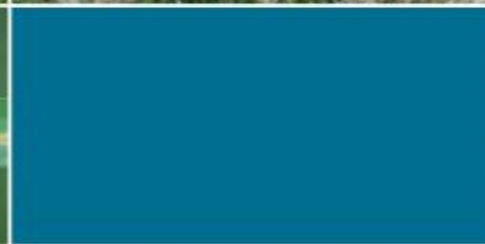
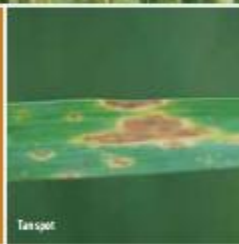
1. **Plant** → susceptible variety
2. **Pathogen** → influenced by field history, location, etc.
3. **Environment** → promotes disease development

For yield loss to be an issue



4. **Time** → all 3 factors have to occur at a critical time/growth stage

# Wheat Disease Identification





# Wheat Diseases

- Powdery Mildew



# Wheat Diseases

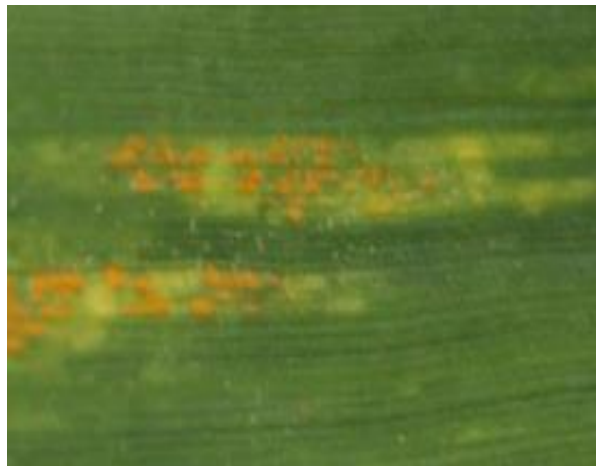
- **Leaf/Septoria Blotch**
- **Glume/Stagonospora Blotch**





# Wheat Diseases

- **Stripe Rust**



# Wheat Diseases

- **Leaf Rust**





# Wheat Diseases

- **Fusarium Head Blight (FHB, Head Scab)**

[www.wheatcab.psu.edu](http://www.wheatcab.psu.edu)





<http://www.wheatscab.psu.edu/>

# FUSARIUM HEAD BLIGHT Prediction Center

**US Commentary** last update 2012-08-02 Tom Auer,

Some tips for using the application: - Follow the steps to map the risk for state, model, and date. - Click the query button near the bottom left and then click on the risk map to get risk at any location. - After selecting a state, make sure that a Weather Stations layer is checked on, and then click a station to get risk for that station.

## FUSARIUM RISK Assessment Tool

- Home
- About
- Prediction
- Model
- Fusarium

### 1. Choose a State

State:

### 2. Choose a Model

Wheat:     
[Link to Spring Wheat Variety Info Sheet](#)

### 3. Forecast Mode

Forecast (hrs):      
Assessment Date:

#### Advanced: Save Model and Location

Name:    
Saved Locs:

#### Legend

<b>Blight Risk</b>	<b>Weather Stations</b>
<span style="display:inline-block; width:10px; height:10px; background-color:red; border:1px solid black;"></span> High	<input type="checkbox"/> FAA
<span style="display:inline-block; width:10px; height:10px; background-color:yellow; border:1px solid black;"></span> Medium	<input type="checkbox"/> AgNet
<span style="display:inline-block; width:10px; height:10px; background-color:lightgreen; border:1px solid black;"></span> Low	<input type="checkbox"/> Inactive (for model)
<span style="display:inline-block; width:10px; height:10px; background-color:lightgrey; border:1px solid black;"></span> No Data	

Risk Opacity

**State**

**Model**

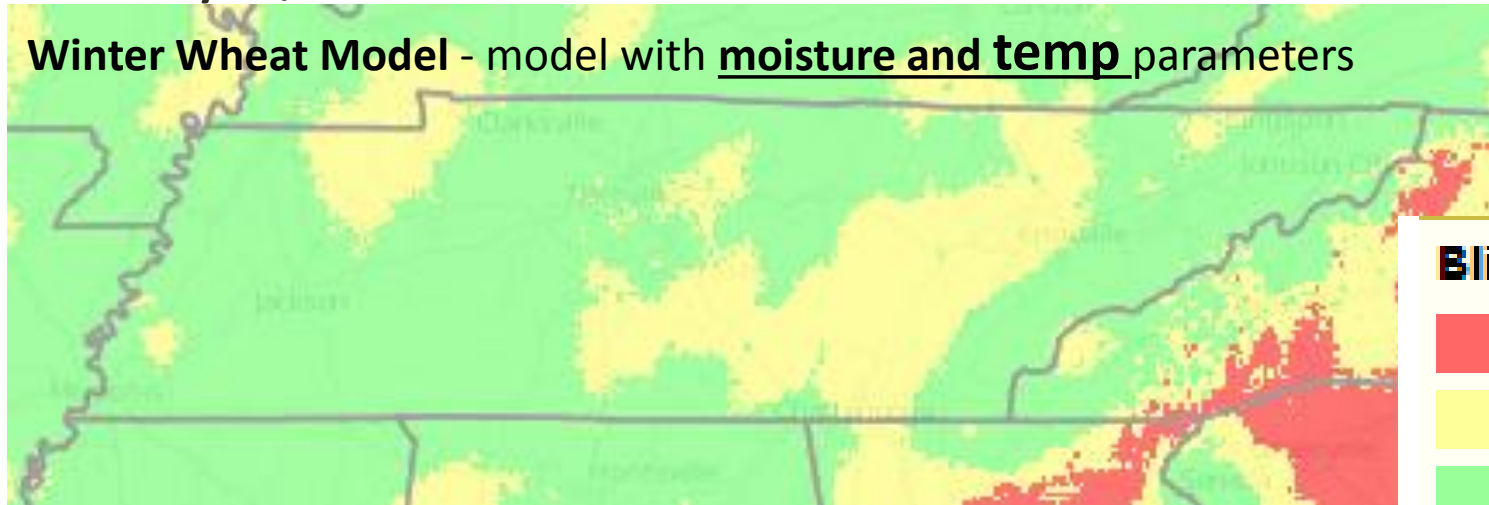
**Date**

Penn State | THE OHIO STATE UNIVERSITY EXTENSION | KSTATE Kansas State University | USWBSI

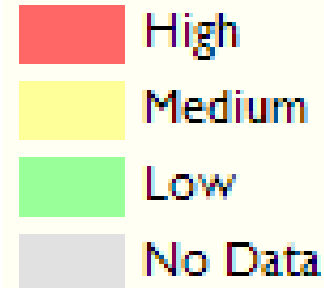
# FHB Forecasting Model

- May 4, 2013

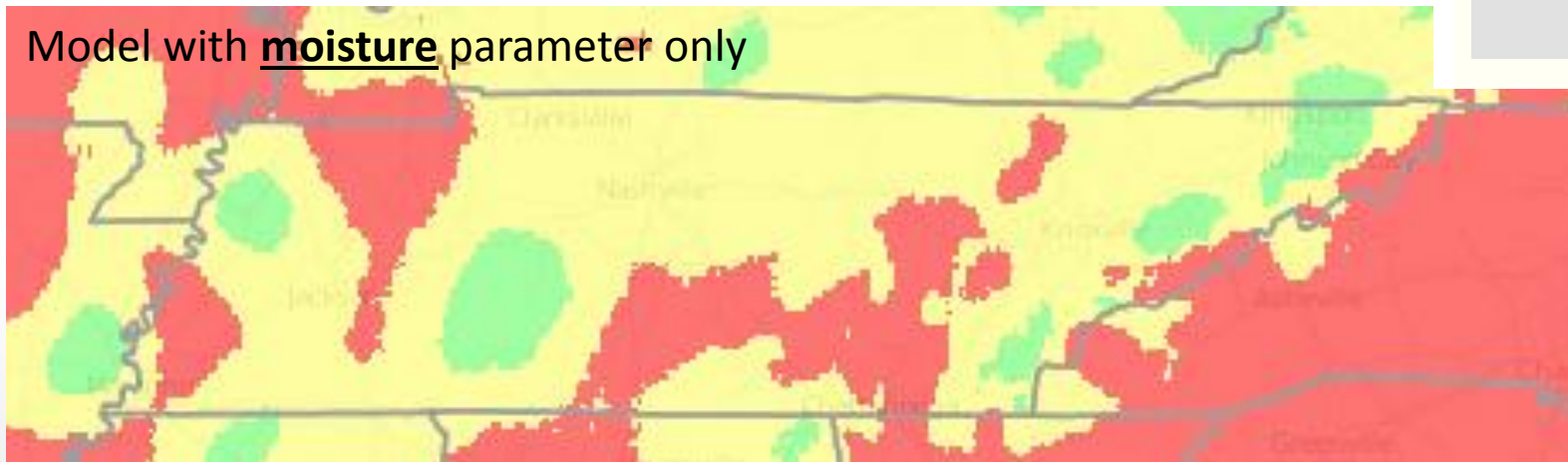
**Winter Wheat Model** - model with moisture and temp parameters



## Blight Risk



Model with moisture parameter only



<http://www.wheatscab.psu.edu/>



# Fusarium Head Blight in 2015?

- Watch the weather
- Use FHB Forecasting website (<http://www.wheatscab.psu.edu/>)
- Avoid QoI/Strobilurin fungicides around flowering



# Wheat Diseases

- Know your variety's disease resistance/susceptibility level
- Scout for and identify diseases
- Consider foliar fungicides
  - Disease is present
  - Application timing
  - Price of application
  - Price of wheat
- More resources at [UTcrops.com](http://UTcrops.com)





# UTcrops.com (Wheat → Insects & Diseases)

## Efficacy of fungicides for wheat disease control based on appropriate application timing

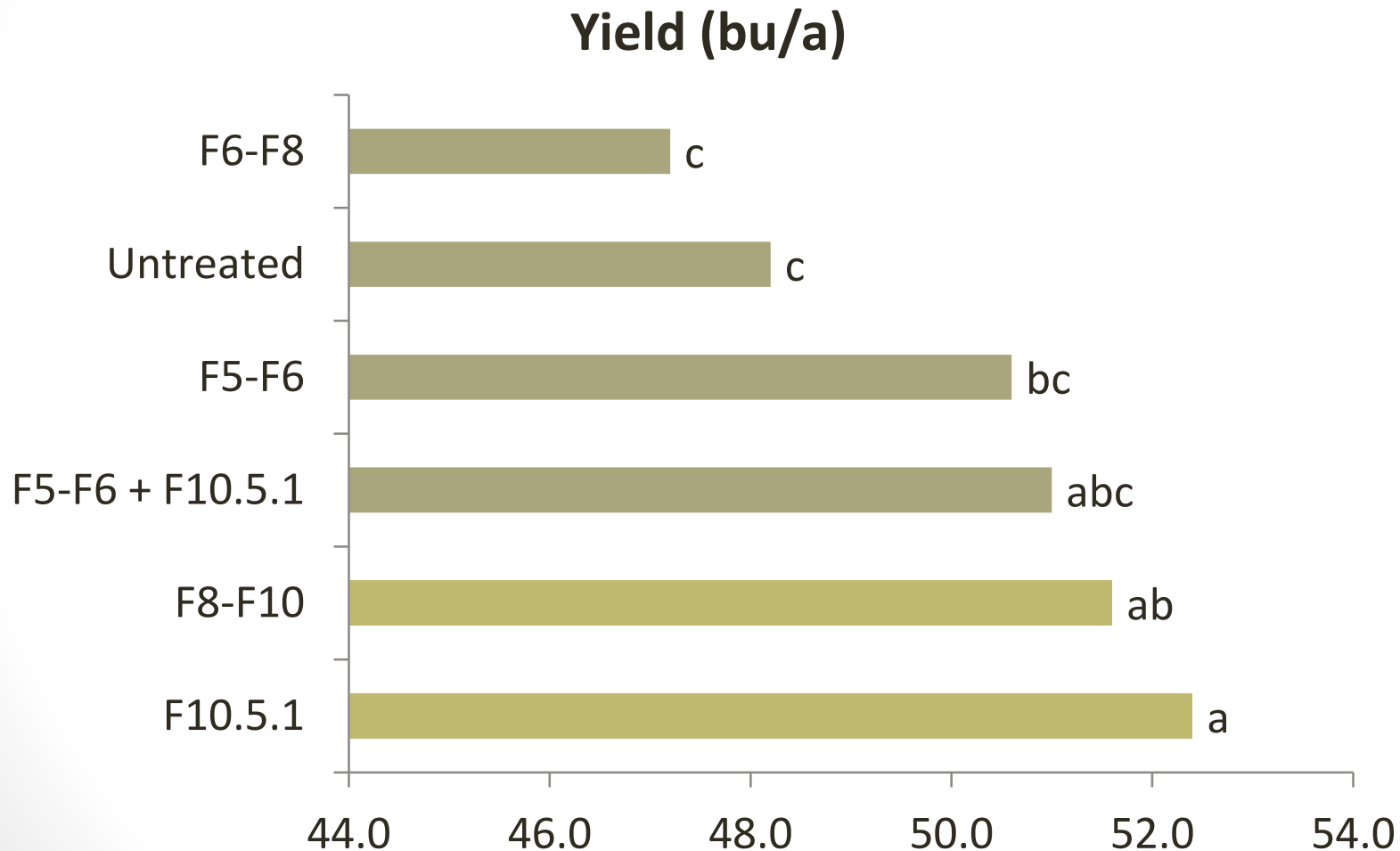
Fungicide(s)				Powdery mildew	Stagonospora leaf/glume blotch	Septoria leaf blotch	Tan spot	Stripe rust	Leaf rust
Class	Active ingredient	Product	Rate/A (fl. oz)						
Strobilurin	Picoxystrobin 22.5%	Aproach SC	6.0 - 12	G <sup>1</sup>	--	VG	VG	E <sup>2</sup>	VG
	Fluoxastrobin 40.3%	Evito 480 SC	2.0 - 4.0	G	--	--	VG	--	VG
	Pyraclostrobin 23.6%	Headline SC	6.0 - 9.0	G	VG	VG	E	E <sup>2</sup>	E
Triazole	Metconazole 8.6%	Caramba 0.75 SL	10.0 - 17.0	VG	VG	--	VG	E	E
	Propiconazole 41.8%	Tilt 3.6 EC <sup>3</sup>	4.0	VG	VG	VG	VG	VG	VG
	Prothioconazole 41%	Proline 480 SC	5.0 - 5.7	--	VG	VG	VG	--	VG
	Tebuconazole 38.7%	Folicur 3.6 F <sup>3</sup>	4.0	G	VG	VG	VG	E	E
	Prothioconazole 19% Tebuconazole 19%	Prosaro 421 SC	6.5 - 8.2	G	VG	VG	VG	E	E
Mixed modes of action <sup>4</sup>	Metconazole 7.4% Pyraclostrobin 12%	TwinLine 1.75 EC	7.0 - 9.0	G	VG	VG	E	E	E
	Fluxapyroxad 14.3% Pyraclostrobin 28.6%	Priaxor	4.0 - 8.0	G	VG	VG	E	VG	VG
	Propiconazole 11.7% Azoxystrobin 7.0%	Quilt 200 SC <sup>3</sup>	10.5 - 14.0	VG	VG	VG	VG	E	E
	Propiconazole 11.7% Azoxystrobin 13.5%	Quilt Xcel 2.2 SE	10.5 - 14.0	VG	VG	VG	VG	E	E
	Prothioconazole 10.8% Trifloxystrobin 32.3%	Stratego YLD	4.0	G	VG	VG	VG	VG	VG
	Cyproconazole 7.17% Picoxystrobin 17.94%	Aproach Prima SC	3.4-6.8	G	--	VG	VG	E	VG

<sup>1</sup>Efficacy categories: NL=Not Labeled; NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent; -- = Insufficient data to make statement about efficacy

<sup>2</sup>Efficacy may be significantly reduced if sole strobilurin products are applied after stripe rust infection has occurred

# 2013 Wheat Fungicide Trials

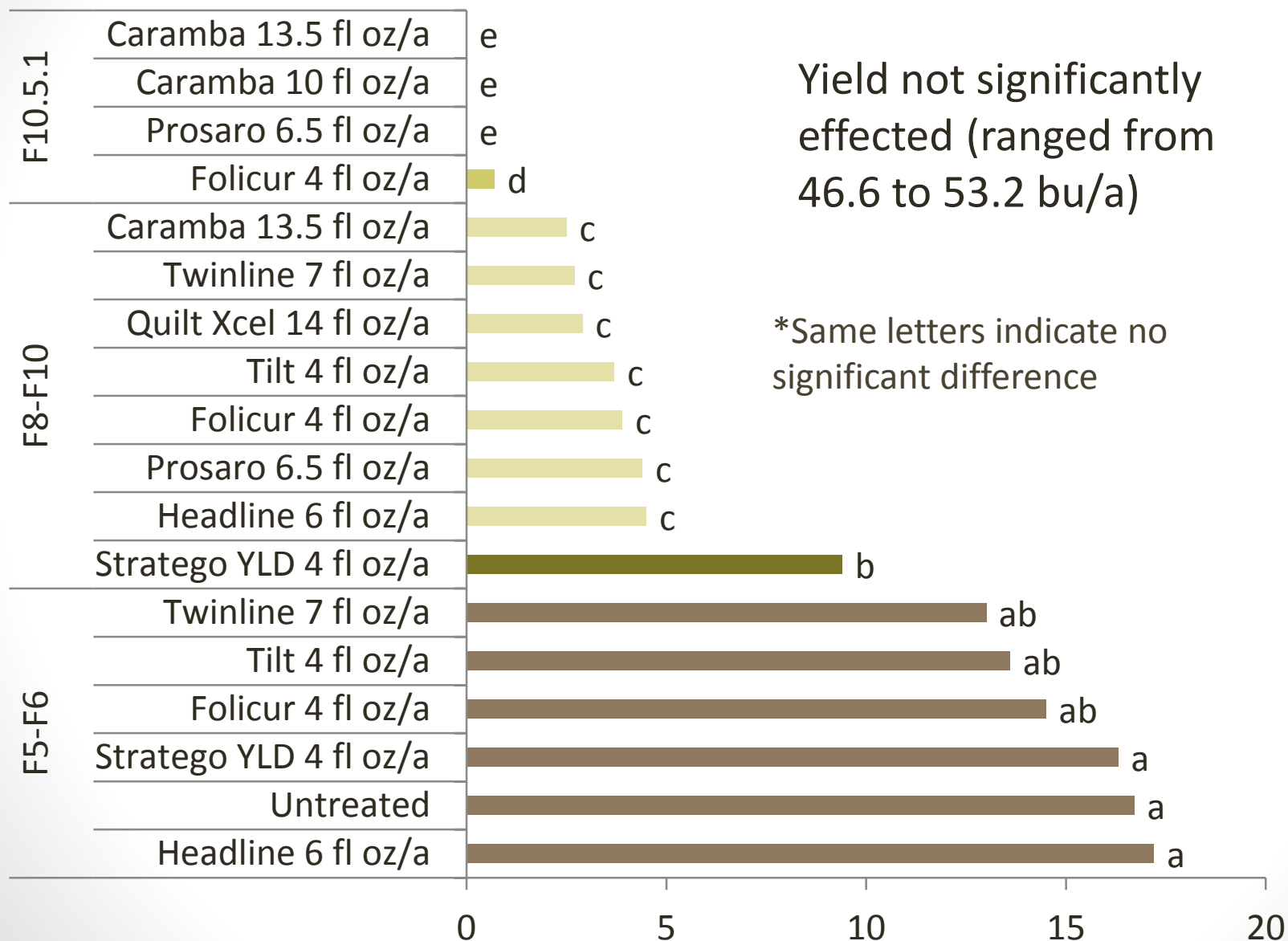
## Average across fungicides at 2 locations



\*Same letters indicate no significant difference

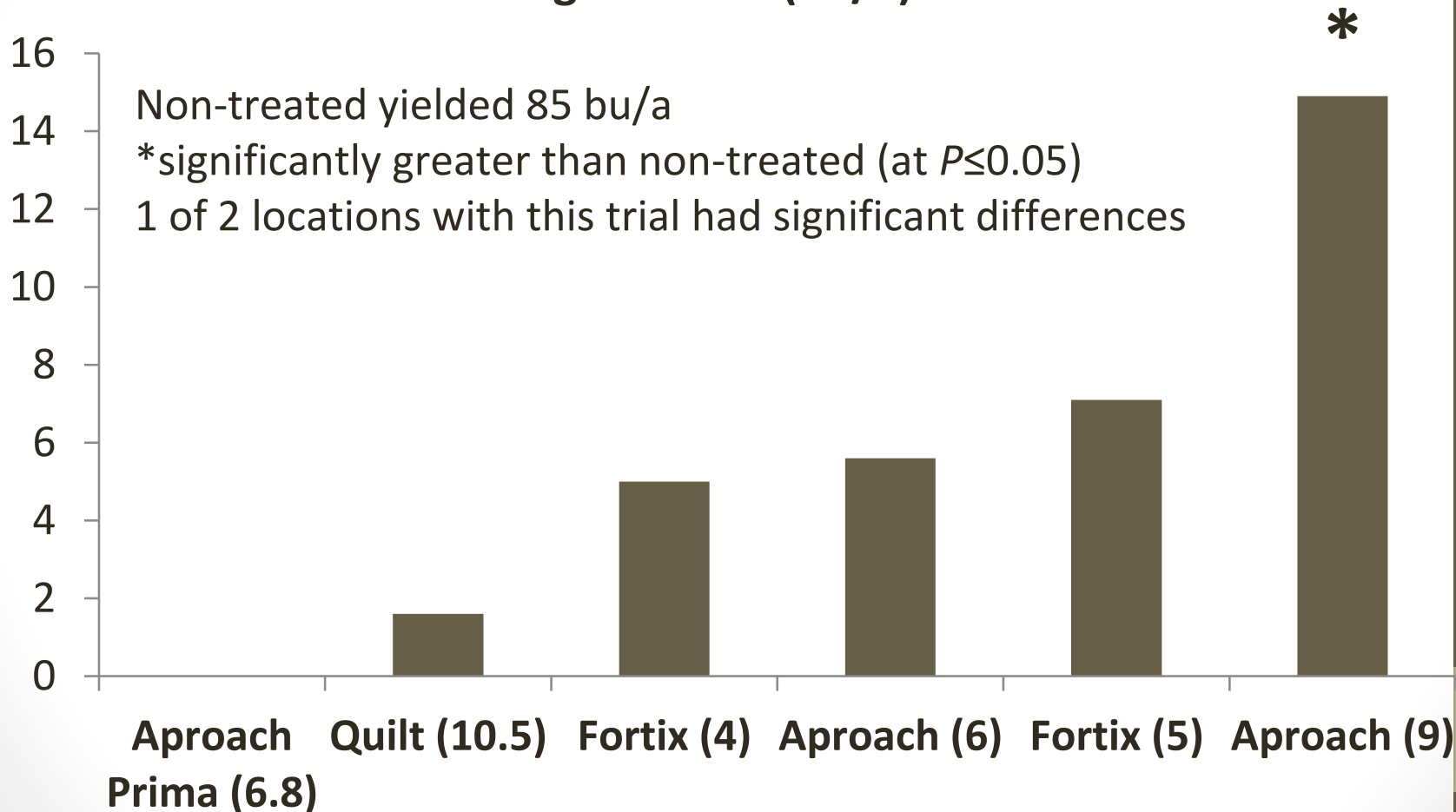


# 2013 Trial – Leaf Rust %



# Flag Leaf Applications

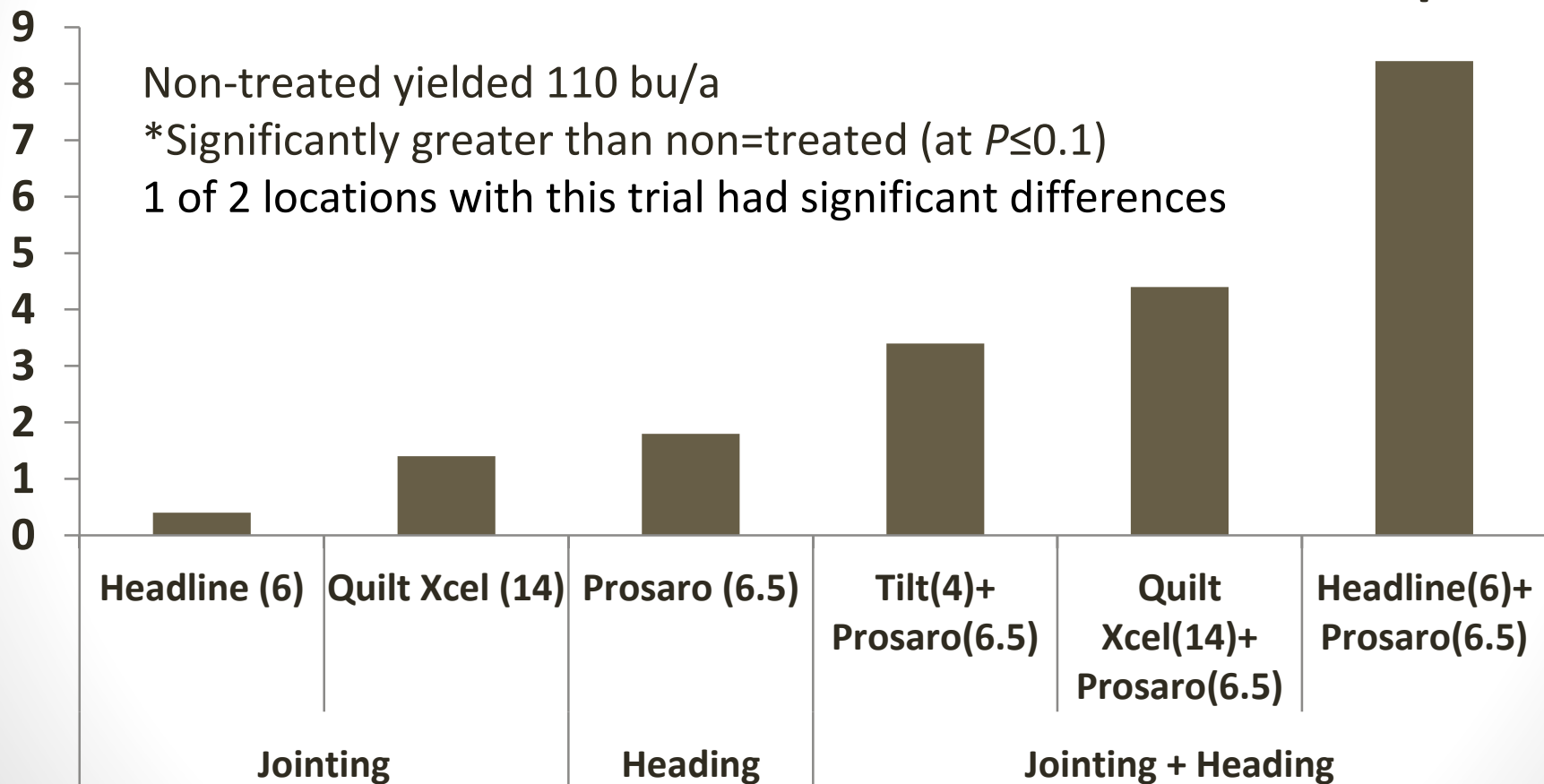
## Change in Yield (bu/a) 2014





# Jointing/Heading Applications

## Change in Yield (bu/a) 2014



# QUESTIONS/COMMENTS

Thanks for your attention!

Heather Kelly

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731-425-4713