



# ***WHEAT DISEASE MANAGEMENT IN LOUISIANA***

**October 10, 2008**



# ***DISEASES***

- **LEAF RUST**
- **STRIPE RUST**
- **STEM RUST**
- **LF & GLM BLOTCH**
- **SCAB**



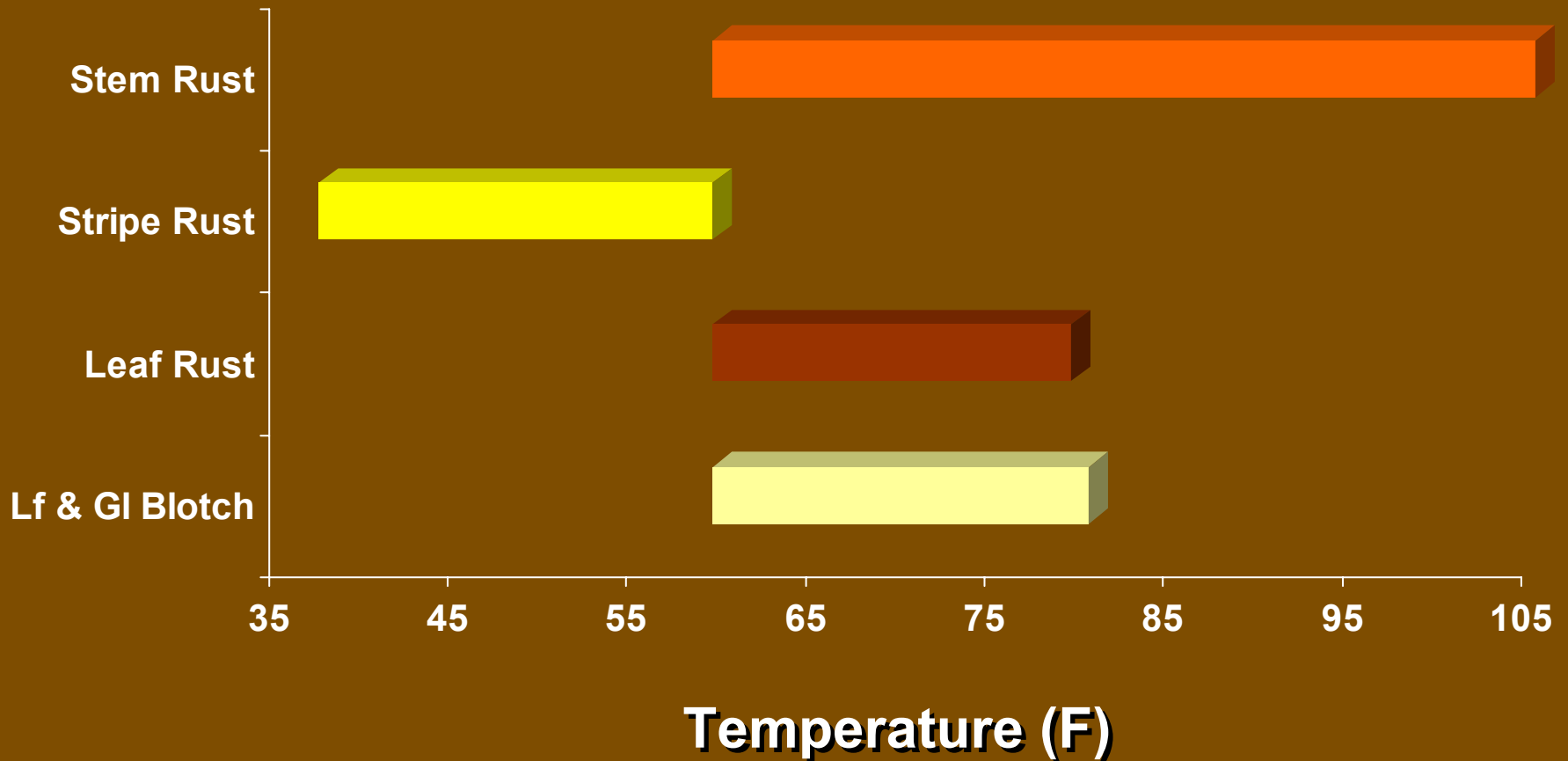


# ***DISEASES***

- **BACTERIAL CHAFF**
- **BARLEY YELLOW DWARF**
- **SMUT**
- **POWDERY MILDEW**
- **DOWNY MILDEW**



# Disease Development





**Leaf Rust**



**Stripe Rust**



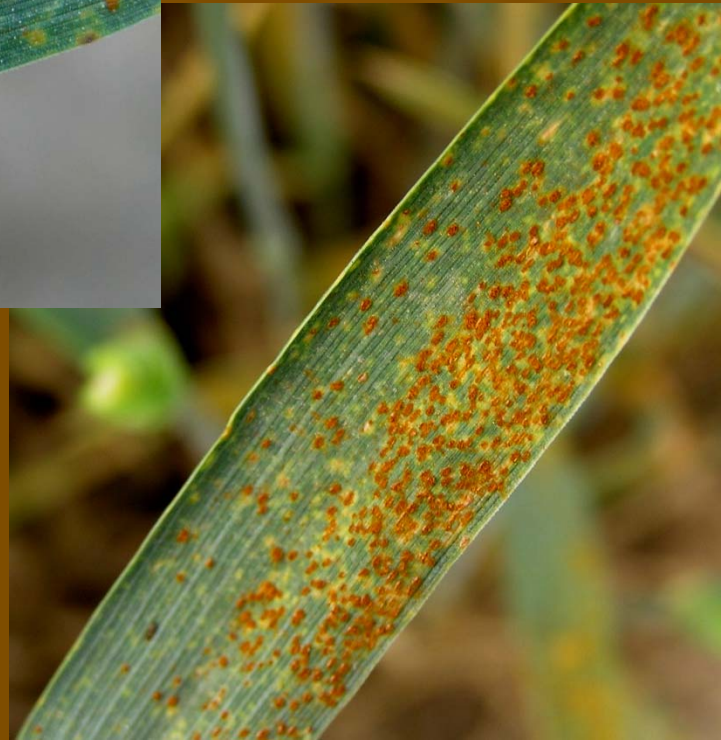
**Stem Rust**





# Leaf Rust

- ✓ 60-80 F
- ✓ 6-8 Hr Lf We



# Stripe Rust

✓ 40-60 F

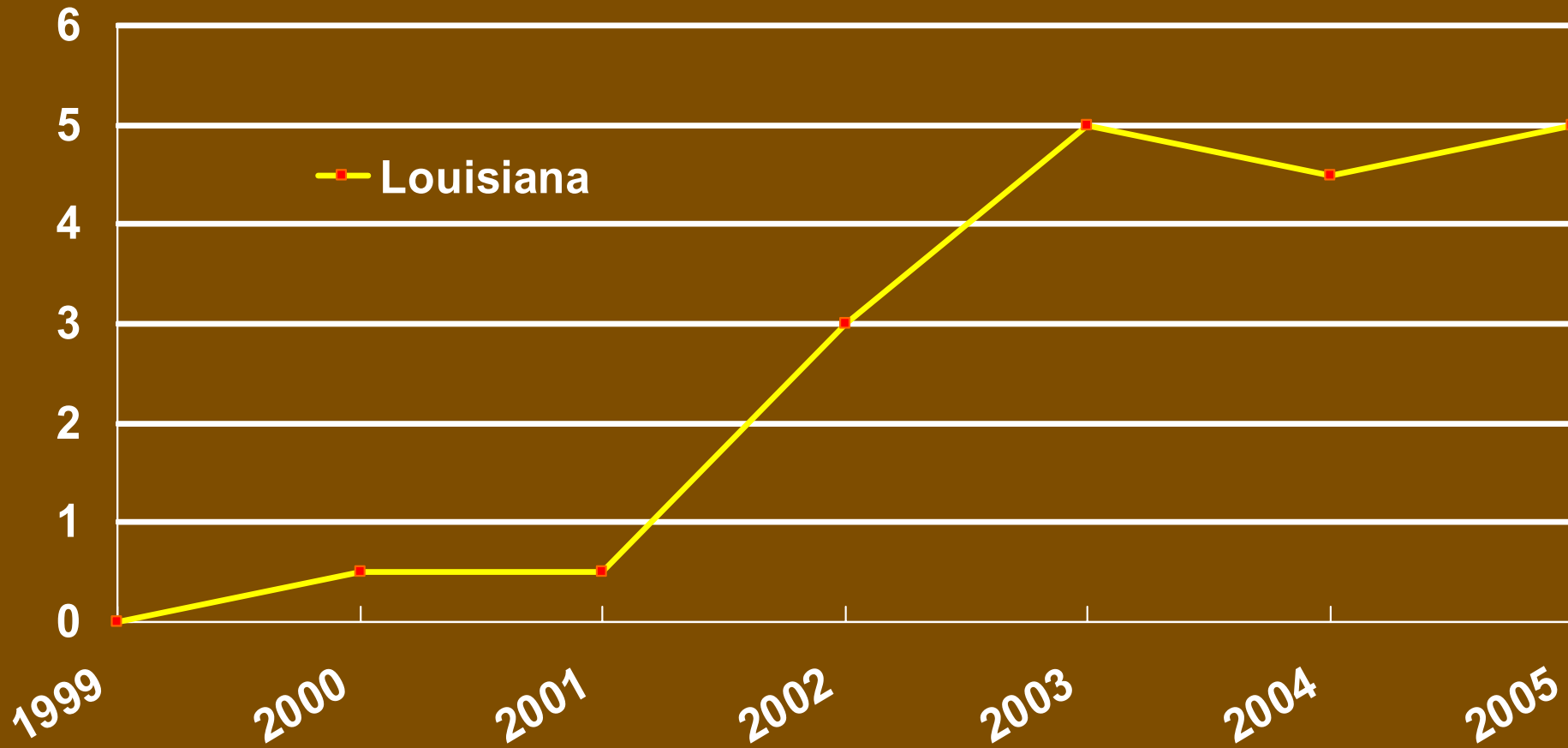
✓ 6-8 Hr Lf W





# Yield Loss Estimates

## Stripe Rust



# Stem Rust

- ✓ 60-104 F
- ✓ 6-8 Hr Lf Wet



***Physiological  
Flecking***



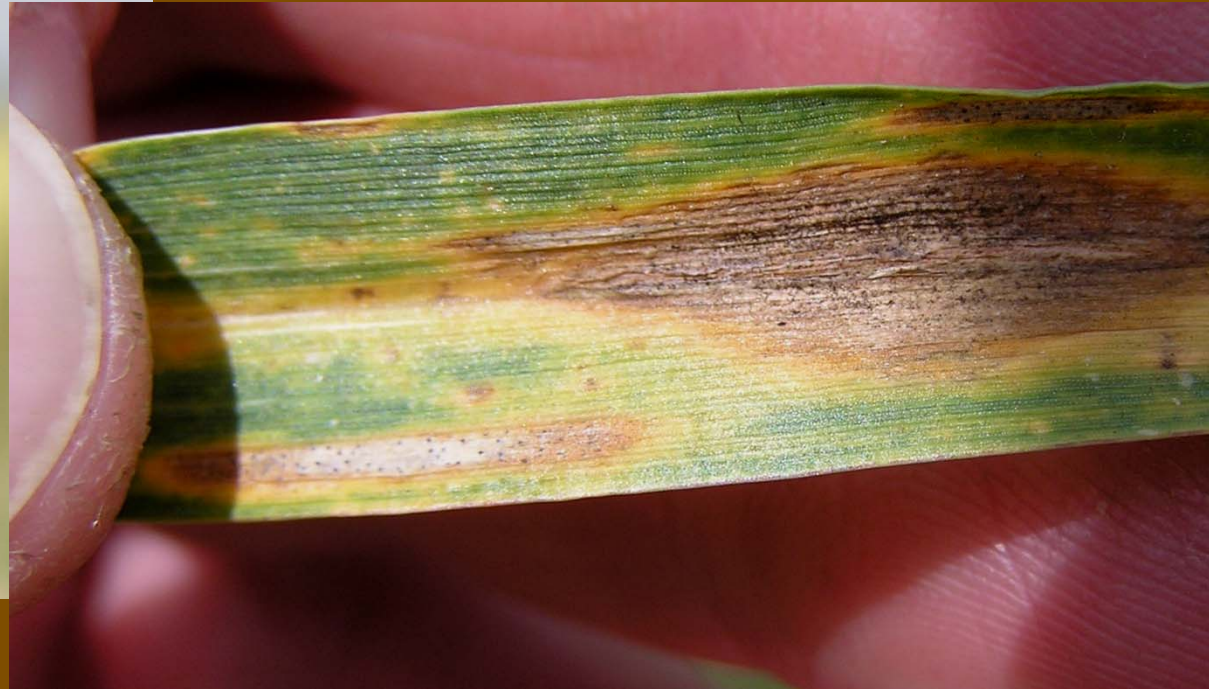
***YES***

***NO***

# Leaf & Glume Blotch

✓ 60-80 F

✓ 6-8 Hr Lf Wet





# Powdery

# Mildew

- ✓ 34-86 F
- ✓ 59-71 F (Best)
- ✓ 80% to 100% RH





# Downy Mildew

- ✓ *50-77 F*
- ✓ *4 Hr Water*



# Scab

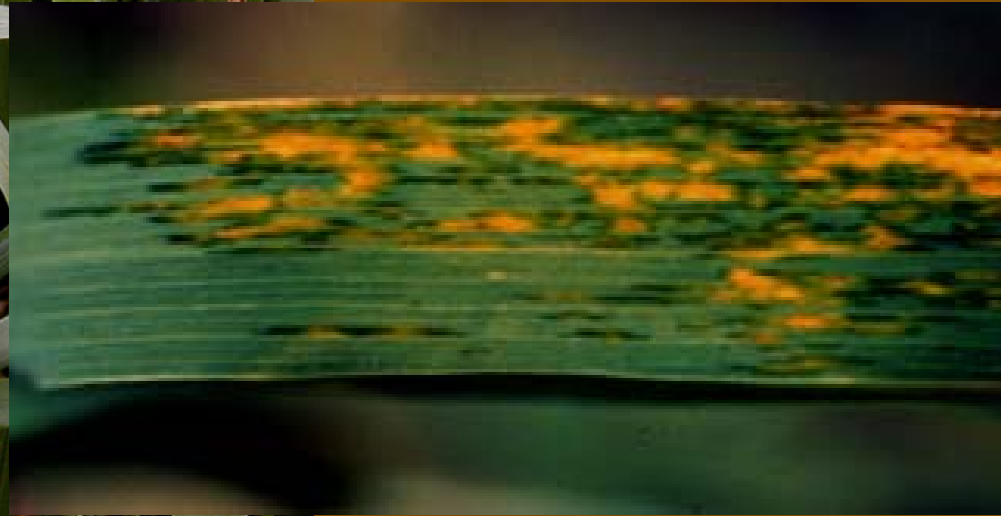


# Smut





# Black Chaff

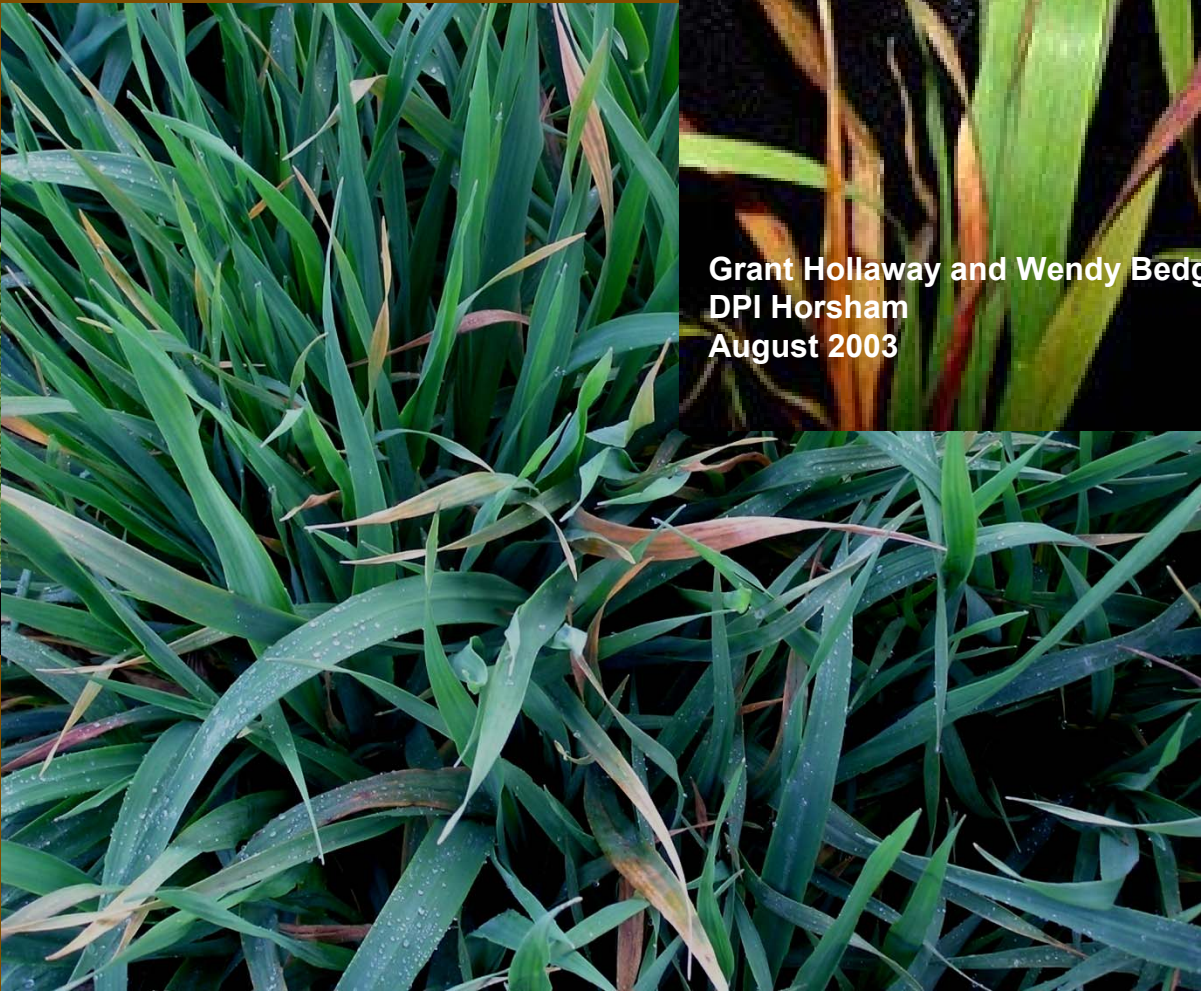


# Black Chaff



# Barley

## Yellow Dwarf



Grant Hollaway and Wendy Bedg  
DPI Horsham  
August 2003

# Barley

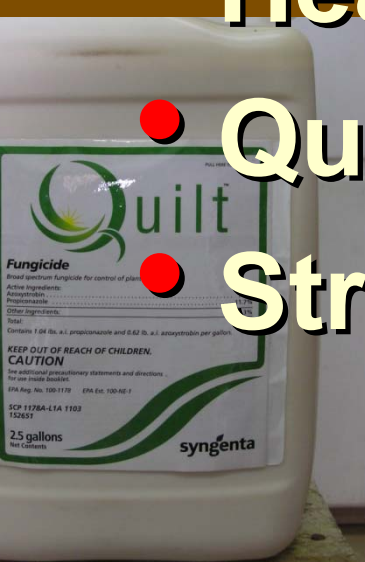
## Yellow Dwarf

## Oats



# FUNGICIDES

- Tilt 3.6EC / Propimax (Triazole)
- Quadris 2.08SC (Strobilurin)
- Headline 2.08EC (Strobilurin)
- Quilt (Tilt + Quadris)
- Stratego (Tilt + Gem/Flint)



# ***Cooperators***

**Steve Harrison**

**Clayton Hollier**

**Rick Mascagni**

**Steve Moore**

**Glen Daniels**

**Patrick Colyer**

**Don Groth**

# Variety Testing



**Disease  
Assessments**

- **Macon Ridge**
- **Northeast**
- **Dean Lee**

# ***LSU AGCENTER WEBSITES***



## **Recommended Wheat and Oat Varieties**

**[http://www.lsuagcenter.com/en/crops\\_livestock/crops/WheatOats/  
Variety+Trials++Recommendedations/](http://www.lsuagcenter.com/en/crops_livestock/crops/WheatOats/Variety+Trials++Recommendedations/)**

**LSU AgCenter Wheat & Oats /  
Research & Extension**

**[http://www.lsuagcenter.com/en/crops\\_livestock/crops/WheatOats/](http://www.lsuagcenter.com/en/crops_livestock/crops/WheatOats/)**



# Application Considerations



- ✓ Coverage
- ✓ Setup
- ✓ Fungicide
- ✓ Timing

A wide-angle photograph of a lush green field, likely a grassland or pasture, stretching to a distant horizon. The sky is filled with soft, white clouds. The text is overlaid on the center of the image.

# ***Application***

***Coverage is VERY IMPORTANT***



***5 GPA***

***10 GPA***

***15 GPA***



***XR Flap***  
***Fan***



***AI***



***Hollow***  
***Cone***

# ***Air Applications***



- ***Volume: At least 4 (5) gallons/acre***
- ***Height: 12 feet above canopy***
- ***Other: Research and experience needed on achieving good leaf coverage with aerial applications***

***University of Arkansas / 1<sup>st</sup> Detector Training***

# ***Ground Applications***

***Volume: 10-20 gallons/acre***

***Pressure: Depends on nozzle-usually 50 psi or higher***

***Nozzles: Twin Flat Fan, Flat Fan, Cone***

***Droplets: Medium-fine (less than 220 microns in size)***

***Coverage: 400 droplets/square inch***

***Height: Boom 12 inches above canopy***

***University of Arkansas / 1<sup>st</sup> Detector Training***



# ***Disease Management***



***A BAD APPLICATION WITH A  
GOOD FUNGICIDE***

**=**

***Undesirable Results***

# Smut





# ***Seed Treatment Evaluations 2008 Winnsboro***

Treatment (fl oz/cwt)	Stand	% Leaf Rust		Yld (bu/A)
		4-Apr	14-Apr	
Non-treated	5.7	24.0	75.0	47.8
Dividend Extreme (2.0)	4.8	24.5	72.5	48.5
Maxil MD-Extra (5.0)	7.5	24.0	71.9	50.0
Charter (3.1)	6.7	8.6	69.4	50.7
SD (0.05)	1.9	NS	NS	NS



**Leaf Rust**

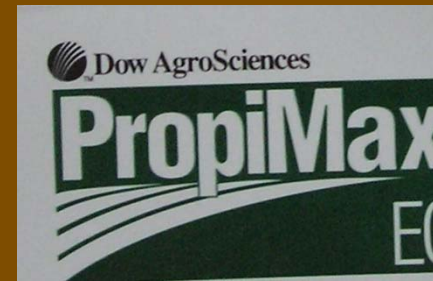
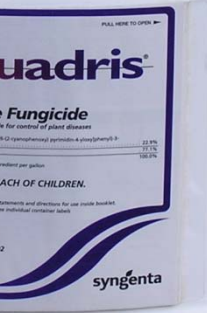


**Stripe Rust**



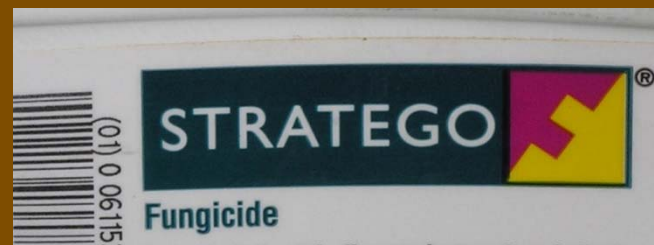
**Stem Rust**





# FUNGICIDES

- Tilt 3.6EC / Propimax (Triazole)
- Quadris 2.08SC (Strobilurin)
- Headline 2.08EC (Strobilurin)
- Quilt (Tilt + Quadris)
- Stratego (Tilt + Gem/Flint)
- **Experimentals!!!!!!**



# ***Fungicide Evaluations***

## ***2005 Ben Hur / Pioneer 26R38***

Treatment (Rate/A)	GS	Stripe Rust		Yield (bu/A)
		Apr-20	Apr-27	
Non-treated	--	75.0	96.9	27.5
Quadris 2.08SC (6.2 fl oz)	F8	46.9	93.8	38.6
Quadris 2.08SC (6.2 fl oz)	F10.2	68.1	84.0	29.3
Headline 2.08EC (6.2 fl oz)	F8	48.8	96.9	38.1
Headline 2.08EC (6.2 fl oz)	F10.2	71.3	80.9	32.1
Pilt 3.6EC (4.0 fl oz)	F8	28.1	95.6	37.2
Quilt (14.0 fl oz)	F8	14.4	98.1	47.2
Stratego (8.0 fl oz)	F8	21.9	98.8	38.3
LSD (0.10)		10.9	9.0	8.4

# ***2007 Fungicide Evaluations McCormick***

<b>Treatment (fl oz/A)</b>	<b>GS</b>	<b>Leaf Rust</b>		<b>Yield (bu/A)</b>
		<b>20-Apr</b>	<b>27-Apr</b>	
<b>Non-treated</b>	<b>--</b>	<b>12.0</b>	<b>67.5</b>	<b>53.4</b>
<b>Headline (6.14) + Caramba (8.2)</b>	<b>F9</b>	<b>0.3</b>	<b>3.3</b>	<b>76.3</b>
<b>Quilt (13.8)</b>	<b>F9</b>	<b>0.1</b>	<b>1.1</b>	<b>71.9</b>
<b>LSD (0.05)</b>		<b>4.0</b>	<b>14.3</b>	<b>8.8</b>

# ***Fungicide Evaluations 2008 Winnsboro / McCormick***

<b>Treatment (fl oz/a)</b>	<b>GS @ Appl</b>	<b>Leaf Rust 17-Apr 1-May</b>	<b>Test Weight</b>	<b>Yld (bu/a)</b>		
<b>Non-Treated</b>		<b>--</b>	<b>25.0</b>	<b>90.0</b>	<b>58.1</b>	<b>41.6</b>
<b>Propimax (4.0)</b>		<b>F8</b>	<b>7.4</b>	<b>61.9</b>	<b>60.0</b>	<b>50.7</b>
<b>Quadris (6.2)</b>		<b>F8</b>	<b>4.6</b>	<b>30.1</b>	<b>60.5</b>	<b>54.2</b>
<b>Quadris (6.2)</b>		<b>F10.2</b>	<b>17.5</b>	<b>31.4</b>	<b>60.5</b>	<b>52.2</b>
<b>Headline (6.2)</b>		<b>F8</b>	<b>3.6</b>	<b>41.9</b>	<b>60.5</b>	<b>54.7</b>
<b>Headline (6.2)</b>		<b>F10.2</b>	<b>15.8</b>	<b>36.9</b>	<b>60.2</b>	<b>54.8</b>
<b>Quilt (14.0)</b>		<b>F8</b>	<b>0.9</b>	<b>11.3</b>	<b>60.6</b>	<b>57.6</b>
<b>Stratego (10.0)</b>		<b>F8</b>	<b>3.5</b>	<b>54.4</b>	<b>57.6</b>	<b>52.3</b>
<b>LSD (0.10)</b>			<b>7.6</b>	<b>12.2</b>	<b>2.3</b>	<b>2.9</b>

**F6=24-Feb, F9=13-Mar, F10.2=28-Mar**

# ***Fungicide Evaluations***

## ***2008 Winnsboro / McCormick***

<b>Treatment (fl oz/a)</b>	<b>GS @ Appl</b>	<b>Leaf Rust 17-Apr</b>	<b>Leaf Rust 1-May</b>	<b>Test Weight</b>	<b>Yld (bu/a)</b>	<b>Yld (bu/a)</b>
<b>Non-Treated</b>		<b>--</b>	<b>25.0</b>	<b>90.0</b>	<b>58.1</b>	<b>41.1</b>
<b>Propimax (4.0)</b>		<b>F8</b>	<b>7.4</b>	<b>61.9</b>	<b>60.0</b>	<b>50.1</b>
<b>Quadris (6.2)</b>		<b>F8</b>	<b>4.6</b>	<b>30.1</b>	<b>60.5</b>	<b>54.1</b>
<b>Headline (6.2)</b>		<b>F8</b>	<b>3.6</b>	<b>41.9</b>	<b>60.5</b>	<b>54.1</b>
<b>Propimax (4.0) fb Quadris (6.2)</b>		<b>F4 / F8</b>	<b>2.3</b>	<b>33.3</b>	<b>59.8</b>	<b>57.1</b>
<b>Propimax (4.0) fb Headline (6.2)</b>		<b>F4 / F8</b>	<b>2.3</b>	<b>43.1</b>	<b>59.0</b>	<b>60.1</b>
<b>Propiconazole (0.10)</b>			<b>7.6</b>	<b>12.2</b>	<b>2.3</b>	<b>2.1</b>

**F6=24-Feb, F9=13-Mar, F10.2=28-Mar**

# ***2007 Dean Lee***

## ***Terral LA841***

<b>Treatment (fl oz/a)</b>	<b>GS Appl</b>	<b>Test Weight</b>	<b>Yield (bu/a)</b>
<b>Nontreated</b>	<b>--</b>	<b>60.6</b>	<b>80.4</b>
<b>Propimax (4.0)</b>	<b>F8</b>	<b>60.2</b>	<b>74.1</b>
<b>Quadris (6.2)</b>	<b>F10.2</b>	<b>60.6</b>	<b>82.4</b>
<b>Headline (6.2)</b>	<b>F10.2</b>	<b>60.2</b>	<b>77.6</b>
<b>Quilt (14.0)</b>	<b>F8</b>	<b>60.4</b>	<b>79.8</b>
<b>Stratego (10.0)</b>	<b>F8</b>	<b>60.0</b>	<b>77.3</b>



# ***Fungicide Evaluations***

## ***2008 Winnsboro / AGS 2000***

<b>Treatment (Rate/A)</b>	<b>GS</b>	<b>Test Weight</b>	<b>Yld (bu/A)</b>
<b>Non-Treated</b>	<b>--</b>	<b>60.6</b>	<b>108.1</b>
<b>Propimax (4.0)</b>	<b>F8</b>	<b>61.1</b>	<b>111.4</b>
<b>Quadris (6.2)</b>	<b>F10.2</b>	<b>61.0</b>	<b>113.5</b>
<b>Headline (6.2)</b>	<b>F10.2</b>	<b>61.0</b>	<b>114.6</b>
<b>Quilt (14.0)</b>	<b>F8</b>	<b>61.0</b>	<b>112.1</b>
<b>Stratego (10.0)</b>	<b>F8</b>	<b>60.8</b>	<b>110.2</b>
<b>Propimax (4.0) fb Quadris (6.2)</b>	<b>F4 / F8</b>	<b>60.7</b>	<b>110.0</b>
<b>Propimax (4.0) fb Headline (6.2)</b>	<b>F4 / F8</b>	<b>60.9</b>	<b>107.6</b>
<b>Headline (6.2) fb Quilt (10.0)</b>	<b>F8 / F10.2</b>	<b>58.1</b>	<b>112.9</b>
<b>Headline (6.2)</b>	<b>F8</b>	<b>60.0</b>	<b>113.0</b>
<b>Quadris (6.2)</b>	<b>F8</b>	<b>58.9</b>	<b>111.3</b>
<b>Quilt (14.0)</b>	<b>Biweekly</b>	<b>58.4</b>	<b>107.4</b>
<b>LSD (0.10)</b>		<b>3.6</b>	<b>7.0</b>

**F6=24-Feb, F9=13-Mar, F10.2=28-Mar**

**Unleaded**

**92**  $\frac{9}{10}$

**Power  
Plus**

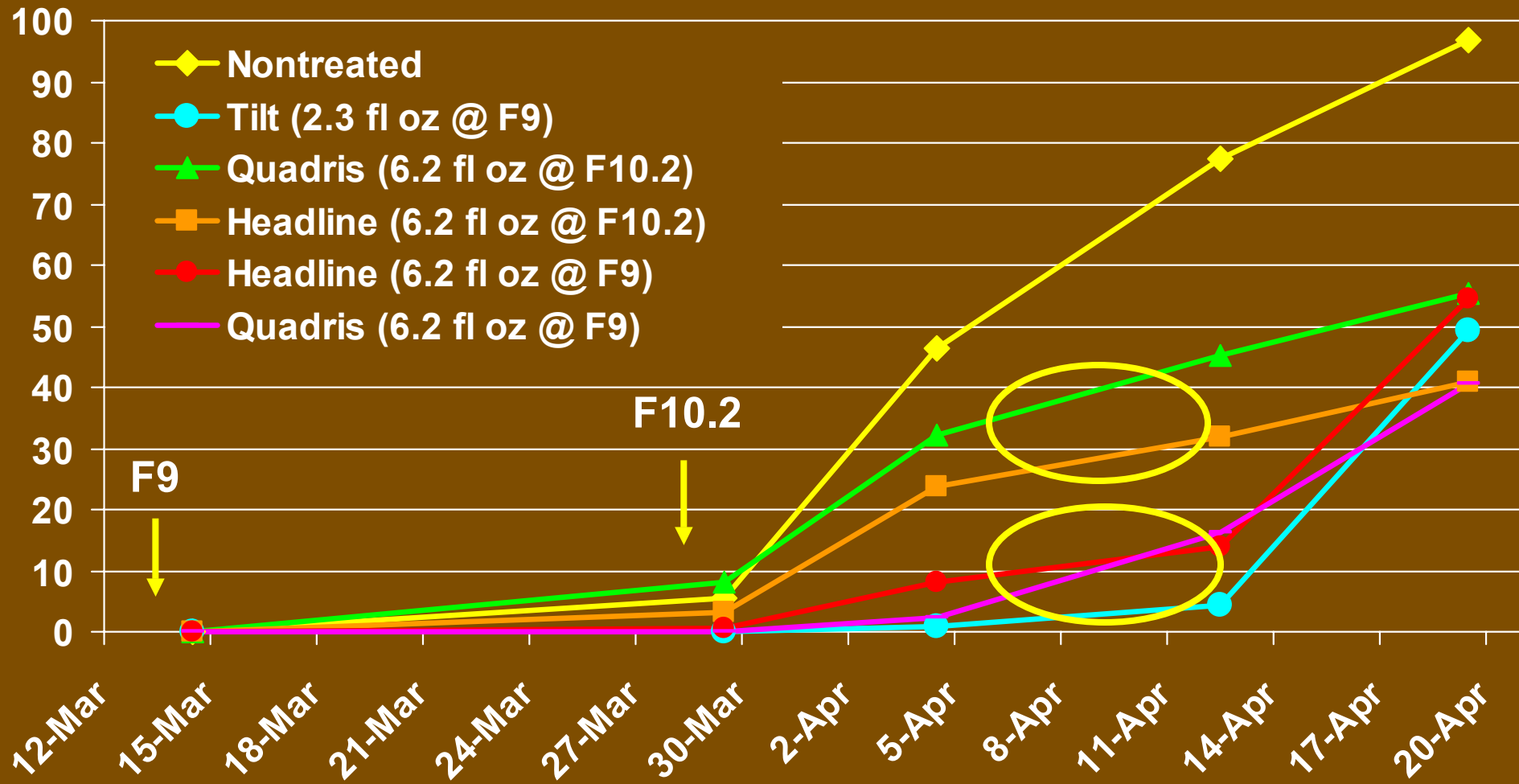
**1.01**  $\frac{9}{10}$

**Power  
Premium**

**1.11**  $\frac{9}{10}$

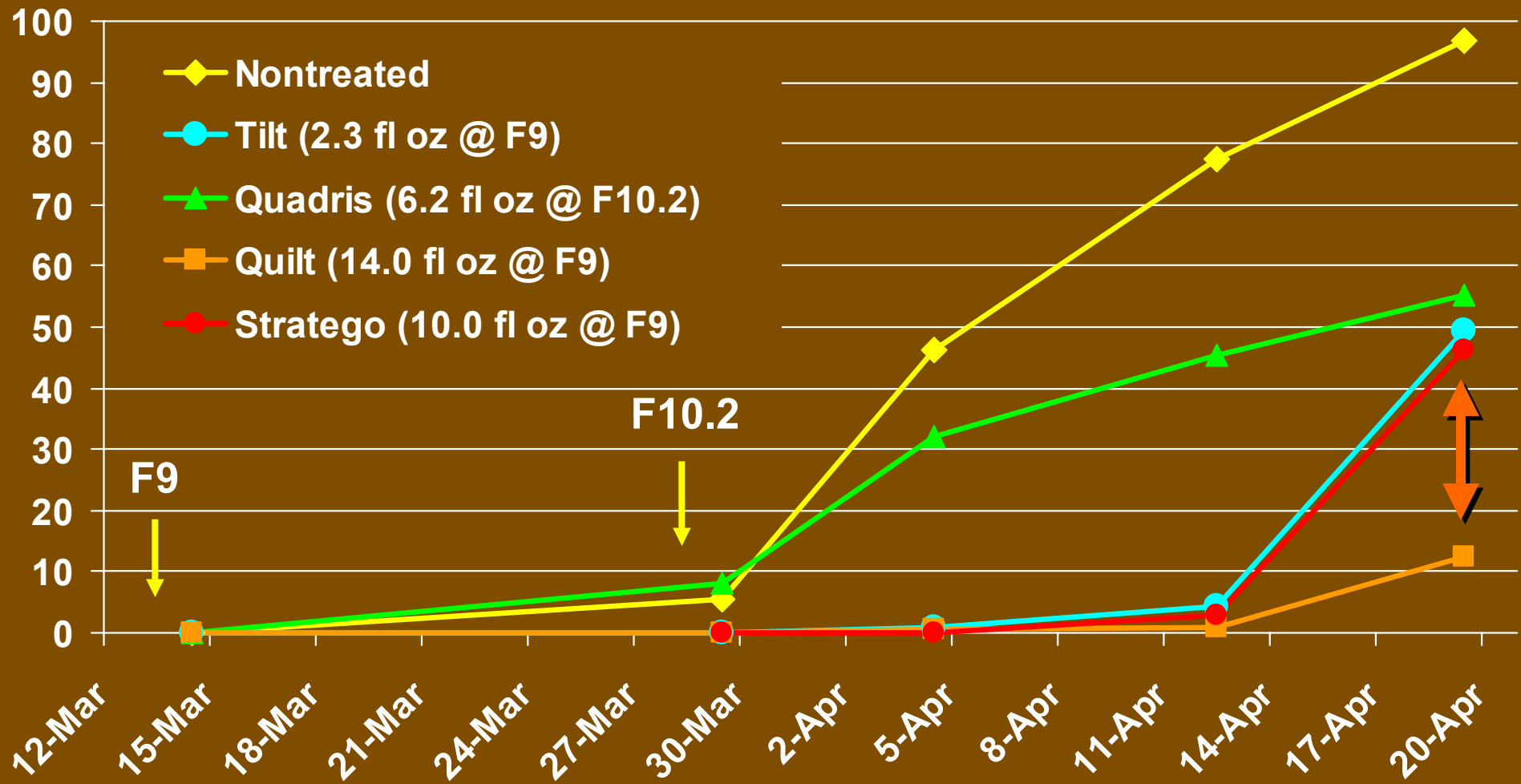
# *Fungicide Evaluations*

## *2006 Winnsboro / Pioneer 26R38*



# *Fungicide Evaluations*

## *2006 Winnsboro / Pioneer 26R38*





***Thank You***

***Louisiana Soybean and Grains  
Research and Promotion Board***

***Associates/Students***

***Scientists & Agents***

