



# ***Soybean Disease Management***



***Concordia Parish  
Soybean & Feed Grain Program***



**LSU**  
**AgCenter**  
Research & Extension

# SOYBEAN DISEASE IN 2006

- Hot, Dry Year
- Disease Pressure Low
- Could Reduce Initial Pressure for 2007





# Developing An Effective Management Program

- Disease Identification
- Genetic Resistance
- Fungicides
- Cultural Practices



# ***Cercospora Blight*** ***Purple Seed Stain***

***Foliar Symptoms***



***Pod Symptom***



# **Cercospora leaf blight**

## **Purple seed stain**

- **Carried on seed coat**
- **Lives over in plant debris**
- **Late season problem**
- **Stress related**
- **Temperatures (75-80 F)**











***Salt Injury***



**ASIAN SOYBEAN RUST**

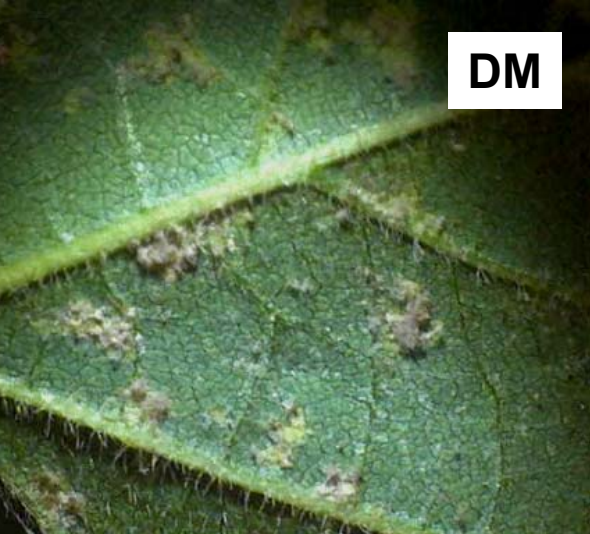


**CERCOSPORA BLIGHT**

A close-up photograph of several green leaves. The leaves are covered in numerous small, yellowish-green spots, which are characteristic of Downy Mildew. Some leaves also have small holes, suggesting insect damage. The background is dark, making the green leaves stand out.

# Downy Mildew

**Develops under high humidity and temperatures between 50-77°F**



DM



ASR

Kevin Black, © GROWM.



# Downy Mildew



DM



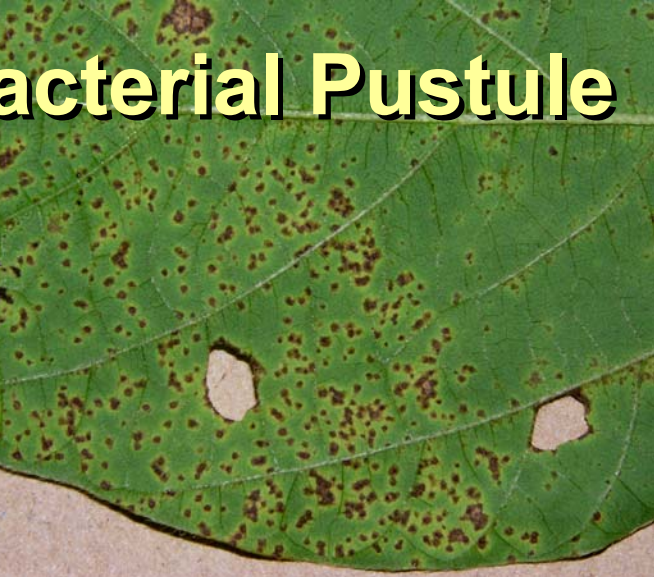
DM



# Bacterial Pustule

Favored by wet weather  
and  
higher temperatures (86-91°F)

**Bacterial Pustule**



**Soybean Rust**

# Frog Eye



**Develops under warm, wet weather**

# Frog Eye







***Aerial Blight***

# ***Pod and Stem Diseases***

***Favored by Warm Wet Weather***



***Pod and Stem Blight***



# ***Anthracnose***



# POD AND STEM DISEASE



- **Stem Canker**
  - *D. phaseolorum var. meridionalis*



- **Red Crown Rot**
  - *Cylindrocladium parasiticum*





# VARIETY EVALUATIONS



**RESISTANCE**



**CHOOSE  
VARIETIES  
TESTED IN YOUR  
AREA OF THE STATE**



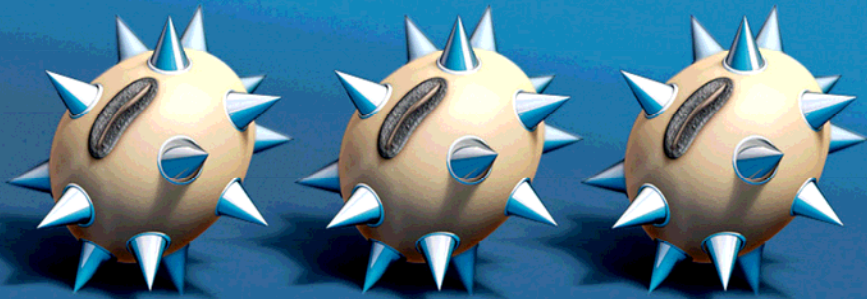
# 2005 Variety Evaluations

<b>Variety</b>	<b>Jeff Davis CB (1-9)</b>	<b>Macon Ridge CB (1-9)</b>
<b>Delta King 5161</b>	<b>2</b>	<b>8.3</b>
<b>Dyna-Gro 33B52</b>	<b>7</b>	<b>8.3</b>
<b>Asgrow 5903</b>	<b>4</b>	<b>7.8</b>
<b>Terral 56R12</b>	<b>3</b>	<b>8.5</b>

Allen Hogan, County Agent



# Fungicide Seed Treatments



# ***2003-2006 Seed Treatment Evaluations***

- **Apron Maxx**
- **Delta Coat**
- **Prevail**
- **System 3**
- **Vitavax Apron**
- **SoyGuard**
- **Stillette**
- **Protector**
- **Allegiance**
- **Apron**
- **Experimentals**

# **LOUISIANA**

## **2003-2006 Seed Treatment Summary**

**Some seed treatments had a slight improvement on emergence (*Pythium/Phytophthora*)**

**Minimal or no impact on final stand establishment**

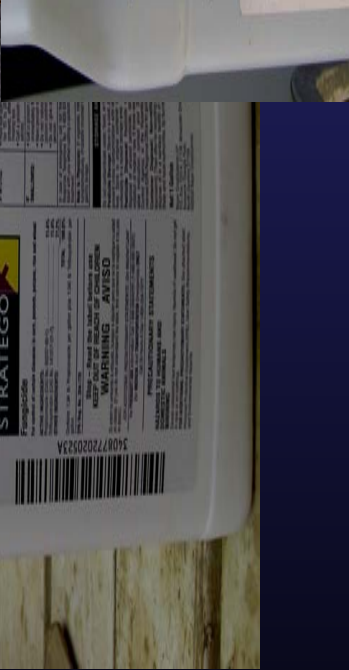
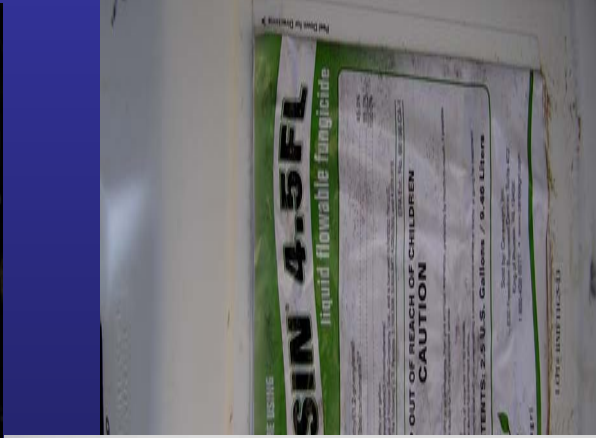
**Some experimental treatments reduced plant height**

**Seed treatments did not improve yield in Louisiana**

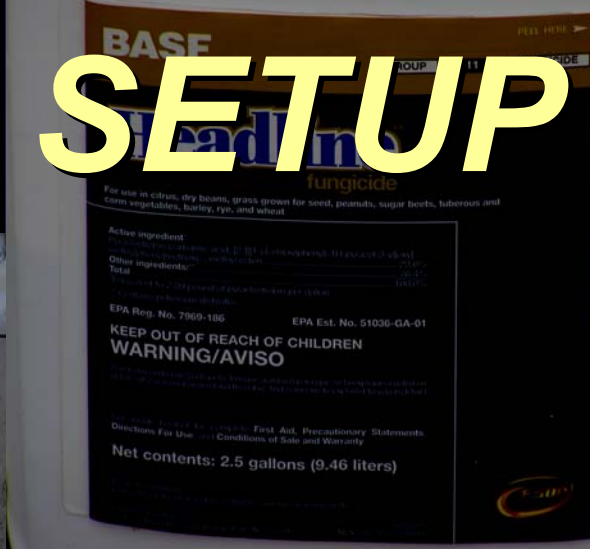
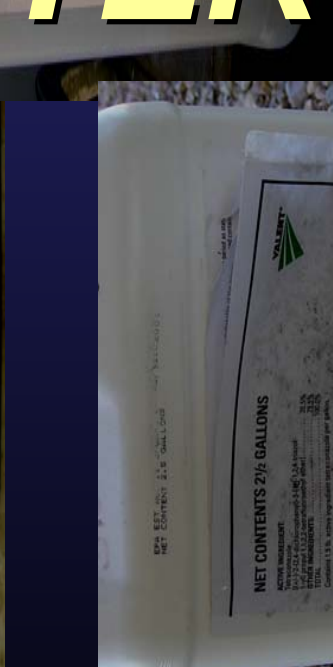
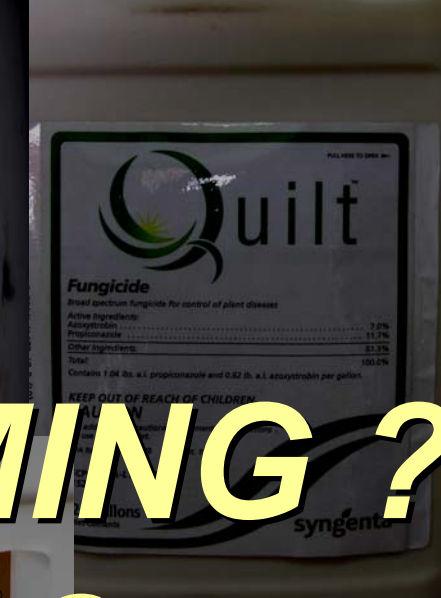
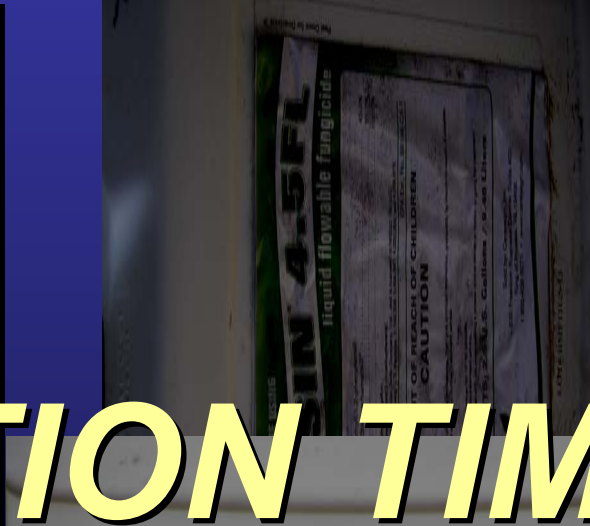
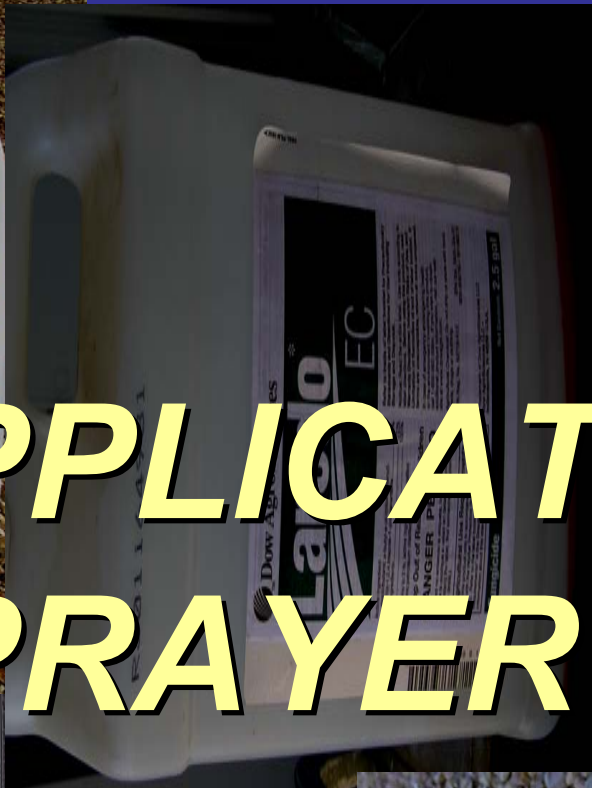
**Most beneficial when conditions are not favorable for soybean germination and establishment**

- Poorly-drained soils**
- Cool weather**
- Poor seed quality**





# APPLICATION TIMING? SPRAYER SETUP?



# 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**

# 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**

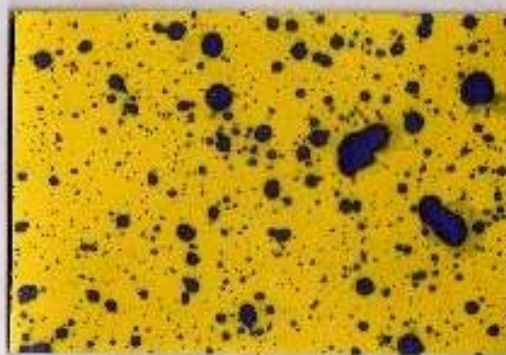


**5 GPA**

**10 GPA**

**15 GPA**

Dr. Sandy Stew



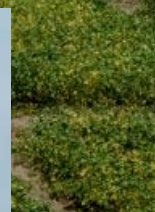
**XR Fla  
Fan**

**AI**

**Hollow  
Cone**



# Fungicide Evaluations



# Fungicide Evaluations

## 2005 Northeast / SureGrow 4989

Treatment ( fl oz/A)	GS @ Appl	Cer Blight		Oct-4 PD(1-9)	Tt Wt (lb)	Yi (bu)
		Sep-9	Sep-14			
untreated	--	6.1	7.1	2.2	52.9	51
Quadris (6.2)	R1	6.0	7.4	2.0	50.5	49
Headline (6.2)	R1	5.5	6.8	2.0	50.9	53
Topsin (15.0)	R1	7.4	8.5	2.0	53.2	49
Prothioconazole (4.0)	R3					
Prothioconazole + Quadris (6.2)	R5	4.8	5.9	2.0	52.7	54
Prothioconazole (4.0)	R3					
Prothioconazole + Headline (6.2)	R5	4.9	6.0	2.0	53.4	55
Quadris (4.0) + Topsin (10.0)	R3R5	4.6	6.0	2.0	51.3	56
Prothioconazole (14.0)	R3R5	3.5	4.9	2.0	49.3	55
SD (0.05)		0.7	0.9	0.1	3.9	4

# Group IV Fungicide Test

Treatment (fl oz/A)	GS @ Appl	14-Aug CB 1-9	20-Aug % Defol	31-Aug % PD	Test wt	Yield bu
untreated	--	4.8	70.0	37.5	54.9	55
Quadris (6.2)	R3	4.3	63.8	27.5	55.1	60
Quadris (6.2)	R5	4.3	56.3	6.0	54.5	64
Quadris (6.2)	R3R5	4.3	52.5	5.0	55.6	65
Headline (6.14)	R3	4.3	56.3	10.5	55.2	62
Headline (6.14)	R3R5	3.5	47.5	1.5	55.4	65
Headline (9.2)	R3R5	3.8	45.0	3.5	55.0	61
LS (P=0.05)		1.4	16.9	12.6	1.5	13

# 2004 Concordia Parish

DP 5915 8-Apr / 30 Sep

Treatment (Rate/A)	Appl	13-Sep	1-Sep	% Def	Test wt	Yield bu/
		CB 1-9	FE 1-9			
untreated	--	7.0	3.0	100	56	35
Headline (6.2 fl oz)	R4	4.0	2.3	50	54	42
Quadris (6.2 fl oz)	R4	5.2	2.8	75	56	40
Quadris (3.0 fl oz) + Topsin-M (0.5 lb)	R4	5.0	2.8	75	55	40
M 85 (0.6 lb)	R4	5.8	3.2	80	57	36
opsin-M (0.75 lb)	R4	5.0	2.5	95	56	38

# ***2001-2005 Quadris Summary***

***Macon Ridge / Northeast Res Sta / Concordia***

<b>Applic. Timing</b>	<b>Number Tests</b>	<b>% Tests w/ Increase<sup>1</sup></b>	<b>Ave Increase Bu/A</b>
<b>R3</b>	<b>16</b>	<b>62.5</b>	<b>3.4</b>
<b>R5</b>	<b>17</b>	<b>76.0</b>	<b>3.6</b>
<b>R3R5</b>	<b>15</b>	<b>93.0</b>	<b>4.4</b>

**<sup>1</sup> Percent of Tests where Quadris Treated Beans Yielded more than the nontreated.**

# ***Thank You!!!!***

- Producers***
- Co-workers***



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



