

# Management of Asian Soybean Rust

A Grower's Perspective from Georgia



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# Soybeans in Georgia

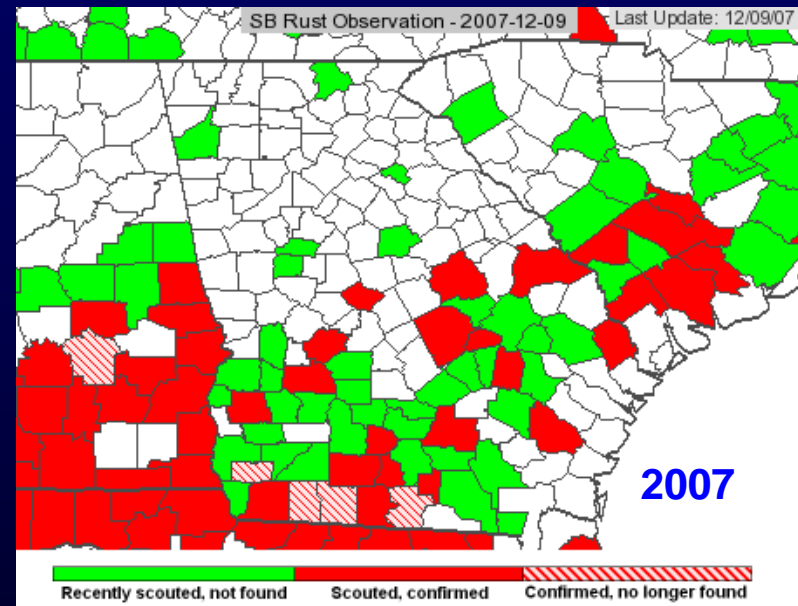
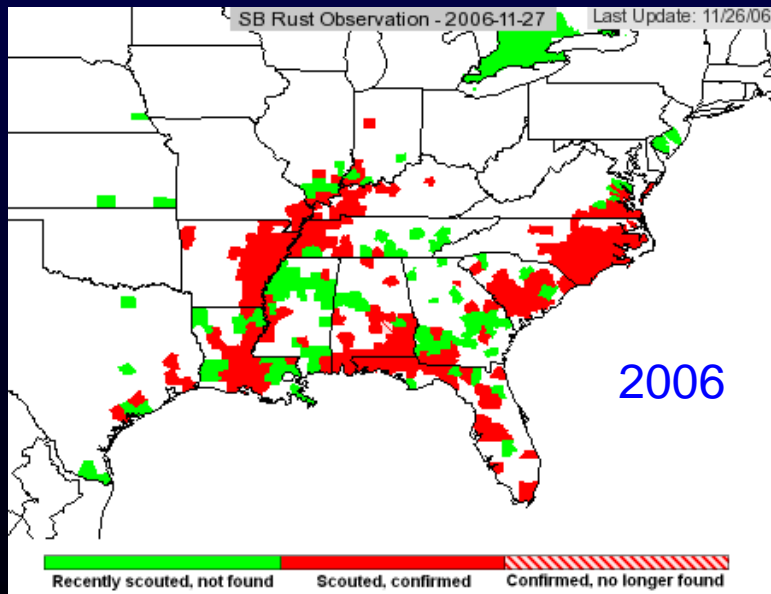
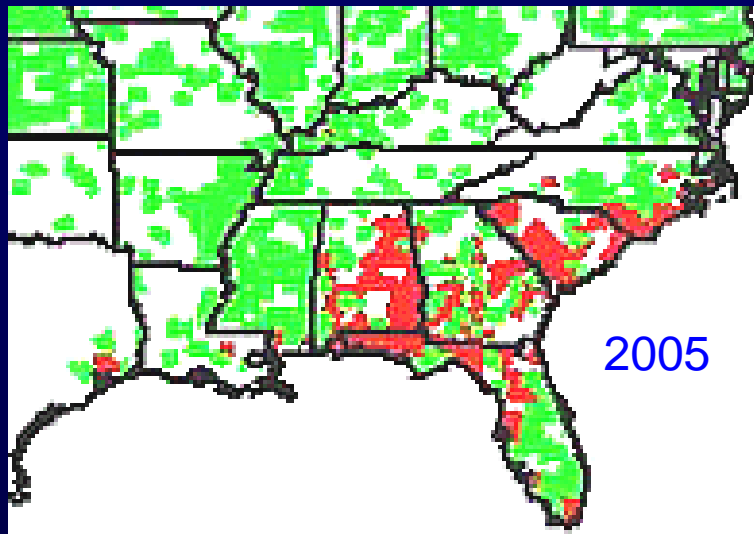
- Planted on fewer acres than peanuts or cotton
  - MG VI-VII determinate, Round-up ready
  - 36" rows; most planted in May and harvested in October
- 2007 acreage
  - Soybean- 285,000
  - Cotton- 1.04 million
  - Peanut- 530,000
  - Corn- 520,000
- Yield potential
  - 2007 average yield 30 bu/A
  - Best: irrigated yields: 70+ bu/A
- Disease management prior to rust:
  - Growers were worried more about nematodes and insects (e.g. stinkbugs) than diseases



# Growing Soybeans on the Sellers' Farm

- The Sellers family has been growing soybeans since 1978.
- Acreage:
  - At our production peak: 350 acres
  - Current soybean production coupled with production of corn and centipede sod.
- Production variables:
  - Varieties: MG VI and VII Roundup-Ready varieties.
  - Non-irrigated production.
  - Expected yields: 35-40 bu/A

# Asian Soybean Rust Affects Georgia Yearly



Source: USDA website [www.sbrusa.net](http://www.sbrusa.net)

# Georgia's growers have questions about Asian soybean rust:

- Does rust really need to be controlled with fungicides?
- Does the yield increase offset the cost of application?
- How are the fungicides used most effectively?



ATTAPULGUS, 2005

# Fungicides for Growers in Georgia

- Chlorothalonil
- Quadris (azoxystrobin)
- Headline (pyraclostrobin)
- Folicur and others (tebuconazole) **expired Sec 18**
- Tilt/Bumper/PropiMax (propiconazole)
- Domark (tetraconazole)
- Laredo (myclobutanil)
- Headline SBR (**Headline** + Folicur) **no longer available**
- Quilt (**Quadris** + Tilt)
- Stratego (Tilt + **Trifloxystrobin**)
- Alto (cyproconazole)
- TOPGUARD (flutriafol)
- Caramba (metconazole)
- Punch (flusilazole)



Terrell County, GA commercial fields

Photos: W. Duffie

# Deciding What to Spray.....

1. Chlorothalonil
2. Stobilurin fungicides:
  - a. Considered protectant fungicides
  - b. Protective window considered ~ 3 weeks
3. Triazole fungicides:
  - a. Considered “curative” fungicides
  - b. Of course, also “protectant”
  - c. Protective window considered ~2 weeks
4. Length of protective window considered a guideline, but we do not follow strictly.
5. Effectiveness and cost are important considerations.

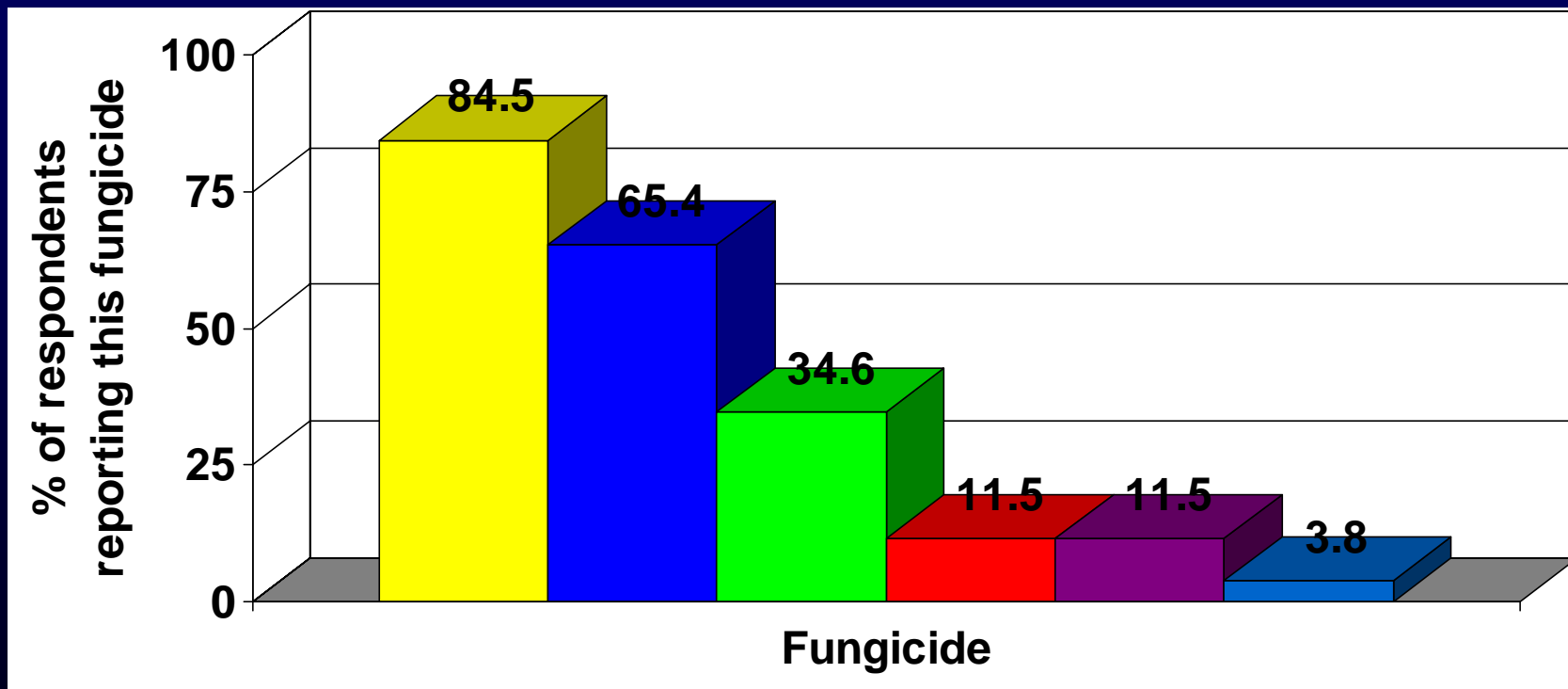


# Estimated Fungicide Costs for ASR

Fungicide	Cost per fl oz	Cost/A + application cost	Needed bu/A increase (\$6.00/bu)
Echo Chlorothalonil	\$0.29	\$7.85	1.3
Bravo WeatherStik	\$0.33	\$8.64	1.4
Quadris (azoxystrobin)	\$2.07	\$14.83	2.5
Headline (pyraclostrobin)	\$1.88	\$13.62	2.3
Folicur (tebuconazole)	\$1.88	\$9.5	1.6
Domark (tetraconazole)	\$2.33	\$11.32-\$13.65	1.9-2.3
Headline SBR (Headline + Folicur)		\$16.81	2.8
Quilt (Quadris + Tilt)	\$0.94	\$15.12	2.5

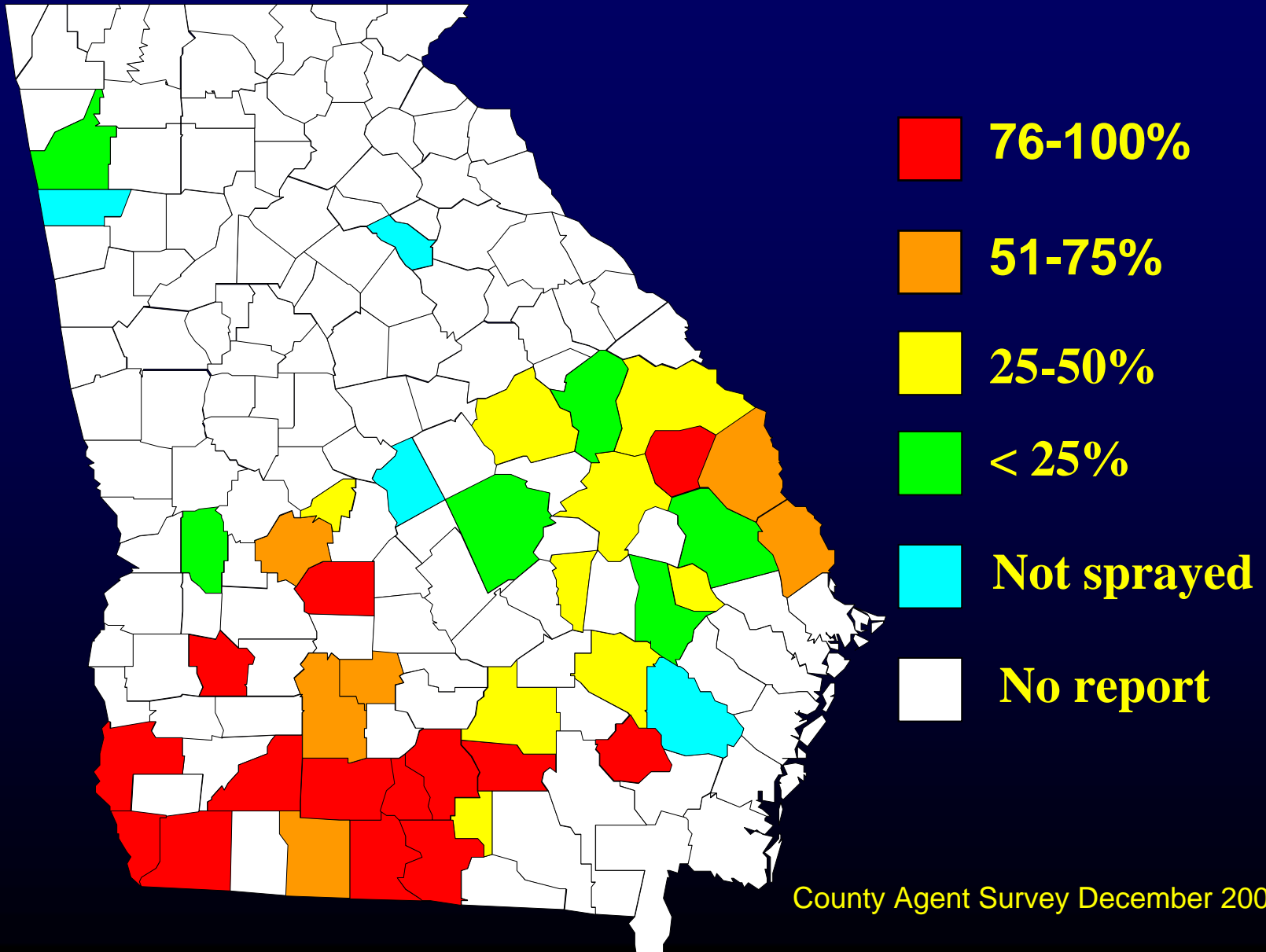
# Perceived popularity of fungicides for soybean rust in Georgia

Reported for survey question “What were the **3** most common fungicides used in your county in 2007?”



■ Folicur and generic tebuconazole ■ Headline  
■ Stratego ■ Quadris  
■ chlorothalonil ■ PropiMax

# Estimated % of Soybean Acreage Treated with Fungicide for Asian Soybean Rust 2007



# Impact of Greening Effect from Strobilurin Fungicides

- Perceived as troubling for some growers.
- For Sellers' Farm, greening effect may extend the harvest period a bit.
- Delays most important with approach of bad weather.



Single Application of Folicur



Double Application of Headline

Harvest, Ponder Farm, Tifton  
20 October 2005

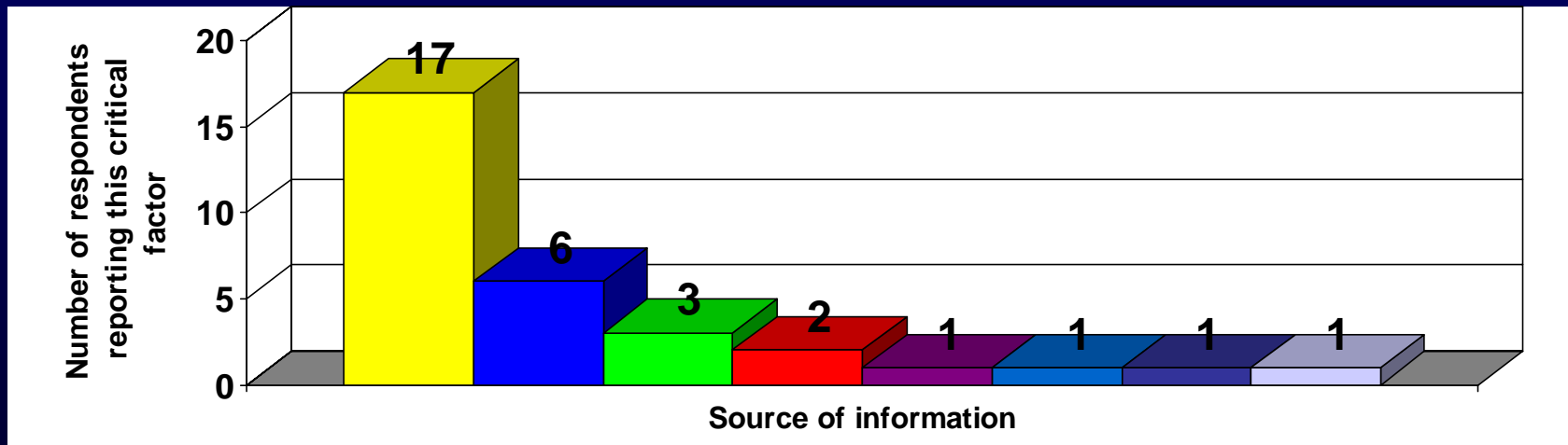
# Deciding When to Spray.....

1. Using chlorothalonil?
  - Make first application at V5-V6; follow at R3 with strong curative fungicide.
2. Other fungicides:
  - Make first spray at R1-R3; make second spray 2-3 weeks later if needed.
3. Or:
  - Make first application after disease detected in “region” but **NOT** before late vegetative growth stages.
4. Or: Wait for disease in local area, hit hard with strong curative fungicide at that time.
5. Protection complete once crop reaches R6 stage??



# Critical information in Georgia for decision to apply fungicide(s) for control of soybean rust

Reported for survey question "What source of information was most important to growers in deciding to spray in 2007?"



- Recommendations from Cooperative Extension
- Preventative Sprays
- Growth stage of crop
- Price of beans
- Information from Trade publications
- Crop consultants
- Application of Dimilin/boron
- Weather

# Were growers who sprayed for rust satisfied with that decision at end of season?

- 16 responses from county agents in total
- 12 of 16 were satisfied
- 3 of 16 responses were uncertain or ambivalent
- 1 of 16 responses was negative

## Lessons I have learned over past 3 years

1. Appearance and spread of Asian soybean rust is very unpredictable.
2. We really don't know how severe it will be when it finally does hit.
3. Importance of following spread of rust in the south through Cooperative Extension and USDA Sentinel Plots.
4. I have been able to control rust effectively with equipment I already owned; I have changed spray tips (split fan).

# The future of soybeans in Georgia now that rust is present:

1. Soybean rust will not have a long-term negative affect on soybean production in Georgia.
2. Soybean rust must be managed every year, but the disease will not affect our acreage.
3. Acreage in Georgia will be affected most by the price of soybeans.
4. Soybean producers in Georgia will use a variety of fungicides with EMPHASIS on fungicides used on both peanuts AND soybeans.

# Information I wish that I had now..

1. Information on RESISTANT varieties!
2. Better models to predict best timing for fungicide applications to:
  - Maximize control of disease
  - Maximize yields
  - Minimize costs

# What has been the most helpful tools for you as a grower in battling soybean rust?

1. Diligence of researchers in their efforts to study soybean rust in Brazil long before it appeared in USA.
2. Amount of “leg work” done and research funds (e.g. United Soybean Board) invested BEFORE rust arrived.
3. Value of USDA Sentinel plot network.
4. Early release of Section 18 Emergency Use fungicide labels for soybean production.
5. Close cooperation between growers and University of Georgia Cooperative Extension in our state.

# Tough Question from Growers

- “After three years of living with soybean rust in Georgia, does this disease REALLY matter to soybean producers in our state?”

