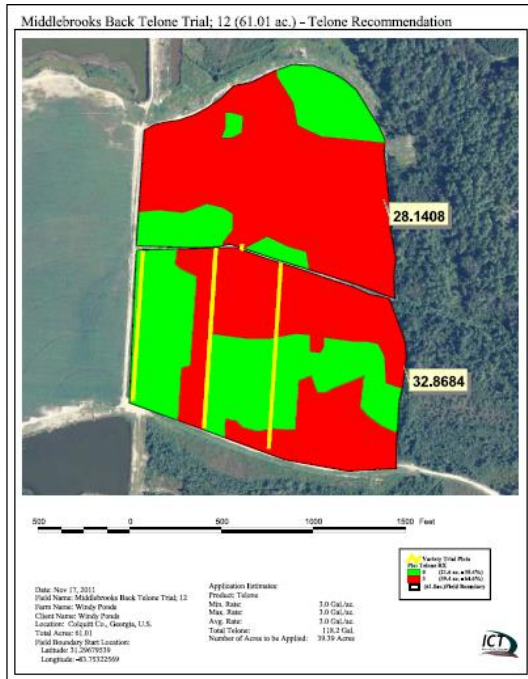


# Epidemiology and Susceptibility of Varieties GEORGIA in 2016



Dr. Bob Kemerait  
Department of Plant Pathology  
**The University of Georgia**



# Bacterial Blight in Georgia

- 2000-2014 this disease was seen only incidentally and, to the best of my knowledge, was never associated with a complaint.
- Southern root-knot nematodes are of significant concern for cotton producers.
  - Increasing interest in resistant varieties.
- Beginning in approximately July 2015, frequent troubleshooting calls regarding bacterial blight.
  - Disease largely confined to DP 1458NR B2RF
  - No obvious reason why the disease occurred this year
  - Initial message, “not seedborne and 1458 is not more susceptible”.
  - In worst fields, lint losses estimated from 100-200 lb/A



# A STRONG EL NIÑO'S IMPACT ON WINTER

NORTHERN  
BRANCH

OFTEN  
MILDER

STORMY

WET

SOUTHERN  
BRANCH

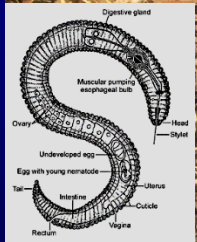


# Considerations for El Niño

- Impact of El Niño in the Southeastern USA.
- Rainfall this winter should be wetter and, possibly, cooler (warmer??) than normal.
- Impact of warmer temperatures on nematodes.
- Wet soils at spring planting??
  - Delayed planting.
  - Problems with fumigation.
  - Diseases (Rhizoctonia seedling disease)







Nematodes continue to feed on living roots, 21-day life cycle.

Nematodes reported to continue feeding until soil 65F

Nematodes reported to stop development soil below 50F





# Symptoms of *M. incognita* on cotton





# What do we do about Fusarium Wilt?





# Managing nematodes is a headache....

- **SEED**

- Make sure it is root-knot..... And yield.....

- **SEED TREATMENTS**

- Convenient, but often not enough



- **NEMATICIDES**

- **Vydate CLV:** looks good in Mississippi.....

- **Telone II:** by FAR our best nematicide, but can be a bit like Goldilocks... “too wet... too dry”

- **Temik 15G:** Gone with the Wind, “Frankly my dear..”

- **Velum Total:** Promising.....

# Resistance versus Tolerance

- Partial resistance to **Southern Root-Knot Nematodes**
- PHY 427 WRF (2 genes)
- **PHY 487 WRF (2 genes)**
- PHY 367 WRF (1 gene)
- ST 5458 BRF (1 gene)
- **ST 4946 GLB2 (1 gene)**
- DPL 1454 NR B2RF (2 genes)
- **DPL 1558 NR B2RF (2 genes)**





# Resistance versus Tolerance

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- PHY 367 WRF (1 gene)
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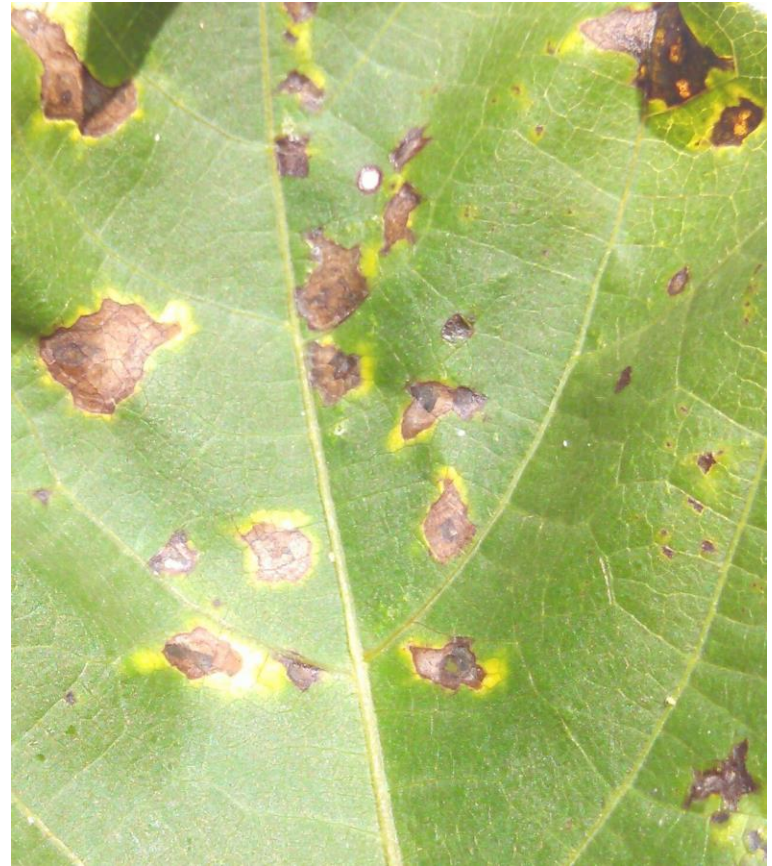


# Colquitt County ANR Agent





# 2015 and DPL 1454 NR B2Rf Angular Leaf Spot - Bacterial Blight



# Foliar Symptoms from Bacterial Blight Field





# What is the value of a leaf?

## What is the cost of premature defoliation?

- Leaves critical for growth, development of cotton.
- “Subtending leaves” provide significant nutrition for boll development.
- Young leaves (<23 days) feed themselves.
- Leaves, age 23-60 days, feed the bolls.
- Older leaves no longer active, “sink”
- Continued supply of young leaves needed to finish the crop, maximize yield.

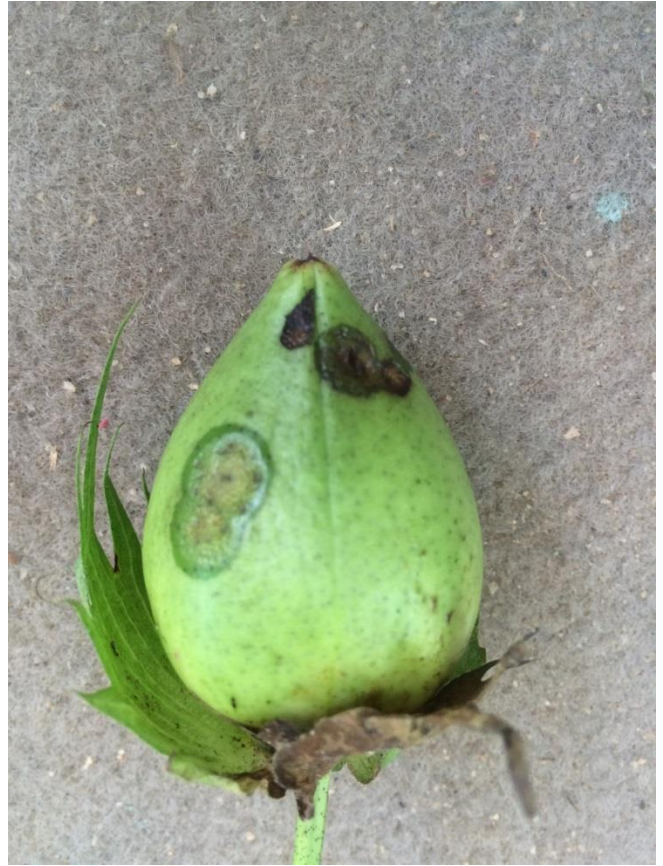
# Advanced Symptoms 1454





# Boll Symptoms

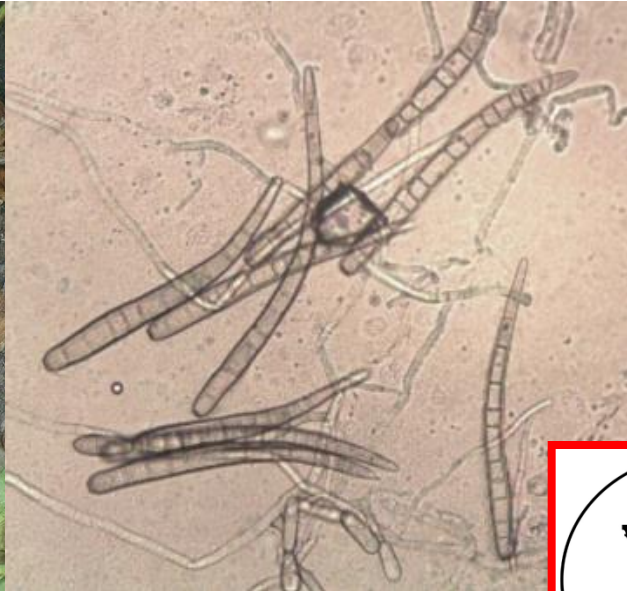








# COTTON, TARGET SPOT, and on and on...

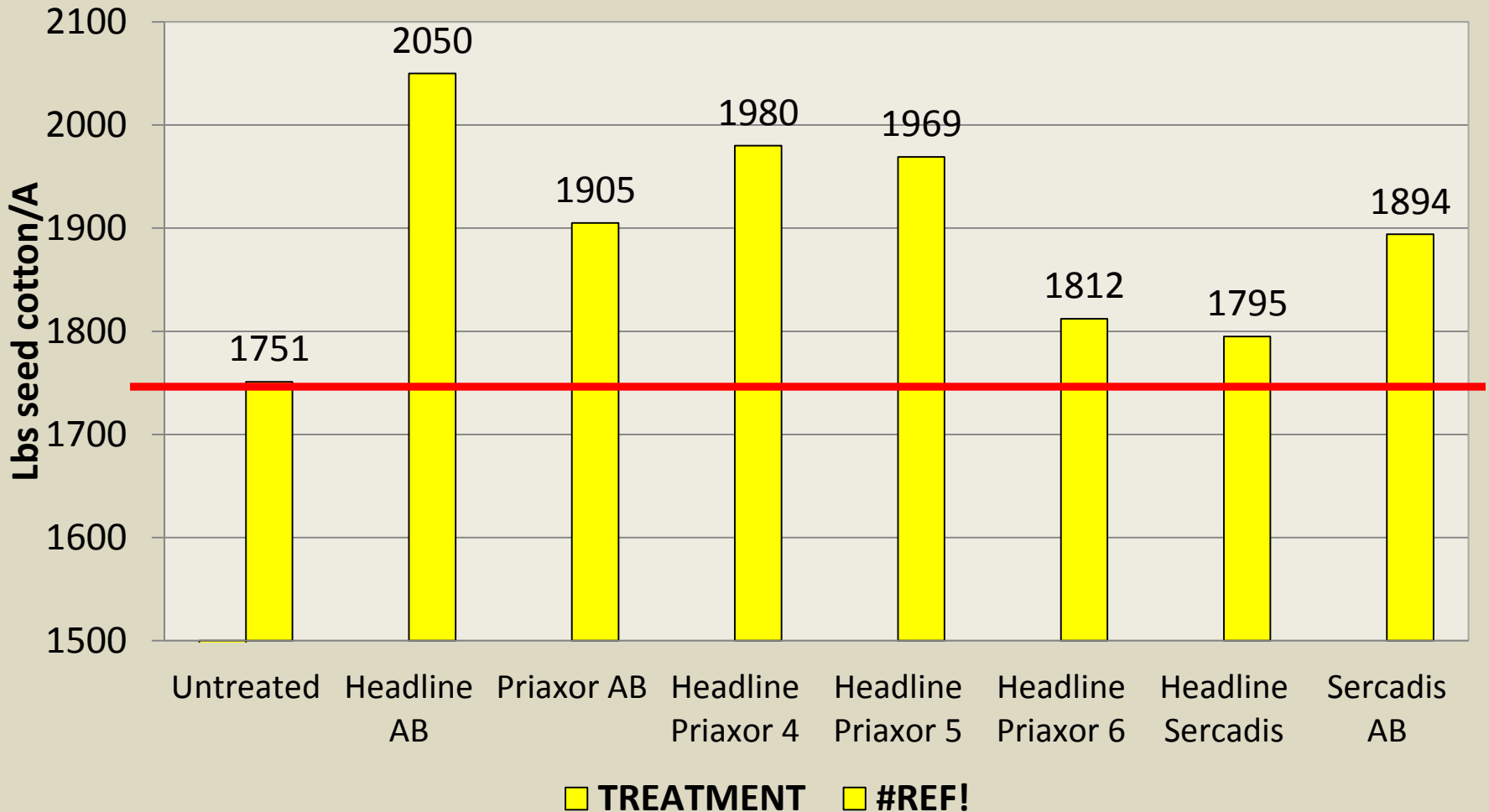




# 2015 BASF Fungicide Study

Target Spot

Yield (lbs seed cotton/A)



# The "fall out"

- Bacterial blight was a SIGNIFICANT problem in Georgia's cotton in 2015.
- Unclear why. No clear environmental link.
- Largely restricted to DP 1454NR B2RF. Could not have been predicted (in my opinion).
- This variety will not be planted in Georgia in 2016.
- Yield losses estimated 100-200 lb/A.
- Crop consultants were most vocal.



# QUESTIONS?

