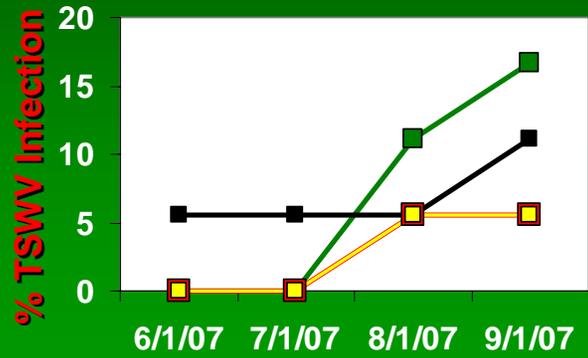
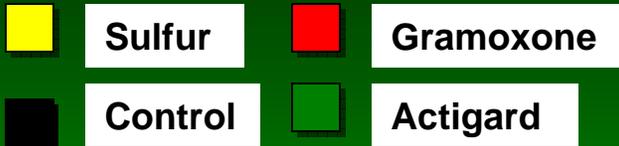
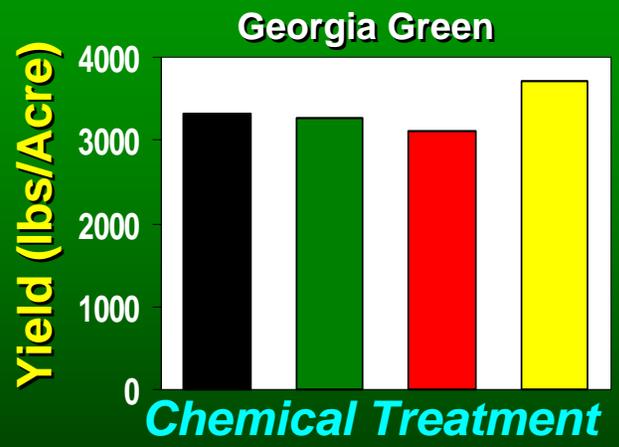


**Tool #3: Alternative chemicals – thrips control or gene activation.**



Sulfur may help control thrips, as well as activate some genetic defenses in the plant against infection.



Preliminary evidence shows some benefit to sulfur treatment for reducing TSWV.

**Possible Tool #4: Timing of TSWV infection.**



Ongoing research at NPRL is investigating whether **timing** of TSWV infection can influence the impact of the virus. Evidence suggests that infection in mid-season may have the greatest impact on yield. Therefore, if thrips could be controlled in mid-season as well as at planting, impact of the virus may be lessened.

For more information, contact Diane Rowland or Wilson Faircloth, USDA-ARS, National Peanut Research Laboratory, Dawson, GA

229-995-7400

# Tomato Spotted Wilt Virus Research



TSWV research at the National Peanut Research Laboratory, Dawson, GA



# Why is TSWV research important?

◆ Annual loss of \$100 million to all agricultural commodities, \$40 + million dollars in Georgia alone

◆ **THE most economically devastating disease to peanut production.**

Causes plant stunting, loss of function, yield loss

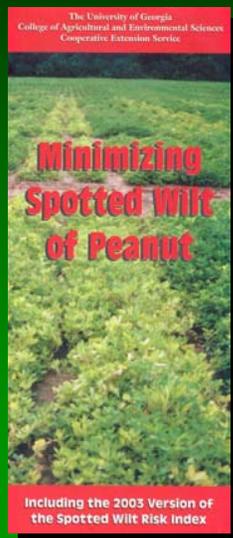


**Vectored by thrips...**



But thrips control does not eliminate outbreaks - a lot about the biology of infection and how plants control infection remains *unknown*.

# What can be done to fight the disease?



Best tool available:  
University of GA  
TSWV risk index.

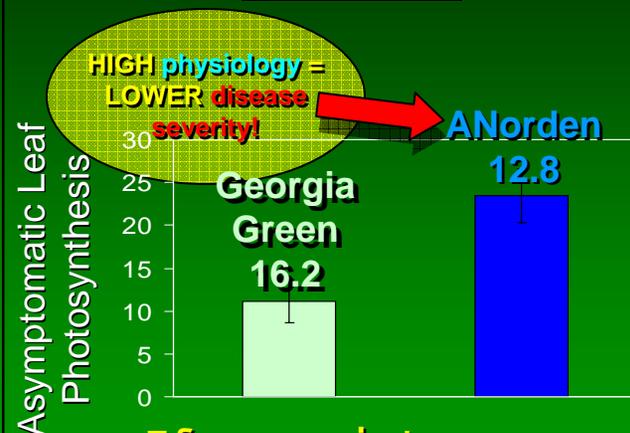
Follow the management recommendations to decrease risk of TSWV infection.

## What else?

**NPRL research is now focusing on the biology of the disease to provide other weapons to battle TSWV:**

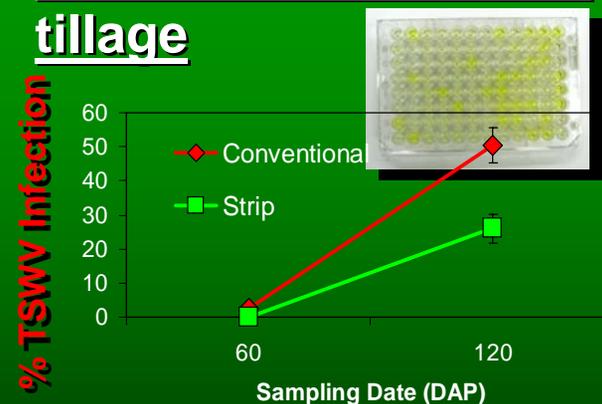
- Identify and breed cultivars that tolerate the disease by maintaining physiology even when infected.
- Use conservation tillage.
- Identify alternative chemicals that manage thrips populations and TSWV infection.
- Timing of infection may play a significant role in whether plant can tolerate or is devastated by the disease.

## Tool #1: Find varieties that can tolerate TSWV infection



If a variety can maintain high physiology even when infected, severity of disease is decreased.

## Tool #2: Conservation tillage



**Conservation tillage significantly lowers TSWV infection and its negative impacts on yield.**