



# Cotton Insect Pest Management Update

Phillip Roberts, Entomologist – Cotton  
Georgia Cotton Commission Annual Meeting  
UGA Cotton Production workshop  
January 26, 2022



**UNIVERSITY OF GEORGIA**  
**EXTENSION**



**GEORGIA  
COTTON  
COMMISSION**



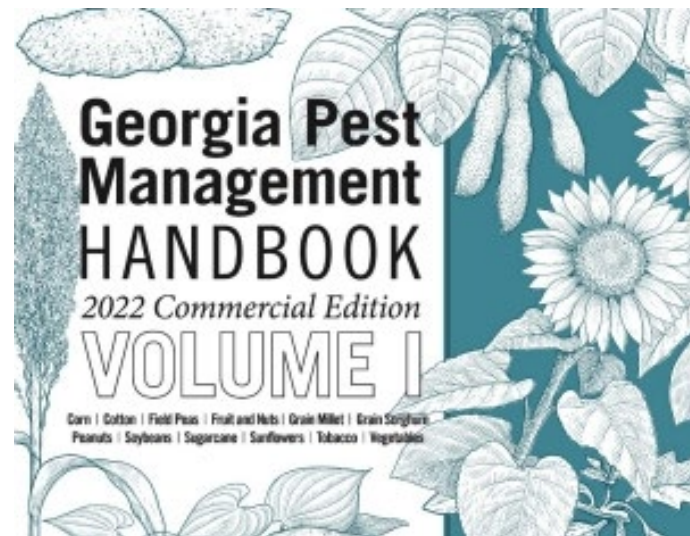
# Scouts/Consultants

- Offers great value to growers.
- **IPM:** all available control tactics.
  - Cultural Practices
  - Beneficial Insects
  - Insecticides
- Must know insect pest populations and species makeup to make Good Decisions.
  - Economic Thresholds
  - Insecticide Selection
  - Timing of Applications
  - Evaluation of Sprays
  - Detection of Potential Problems
    - Insects/Weeds/Fertility/
    - PGRs/Diseases/etc.

**2022 Scout Schools**

**Tifton: June 6<sup>th</sup>**

**Midville: June 14<sup>th</sup>**



Dr. Mike Toews, 2007

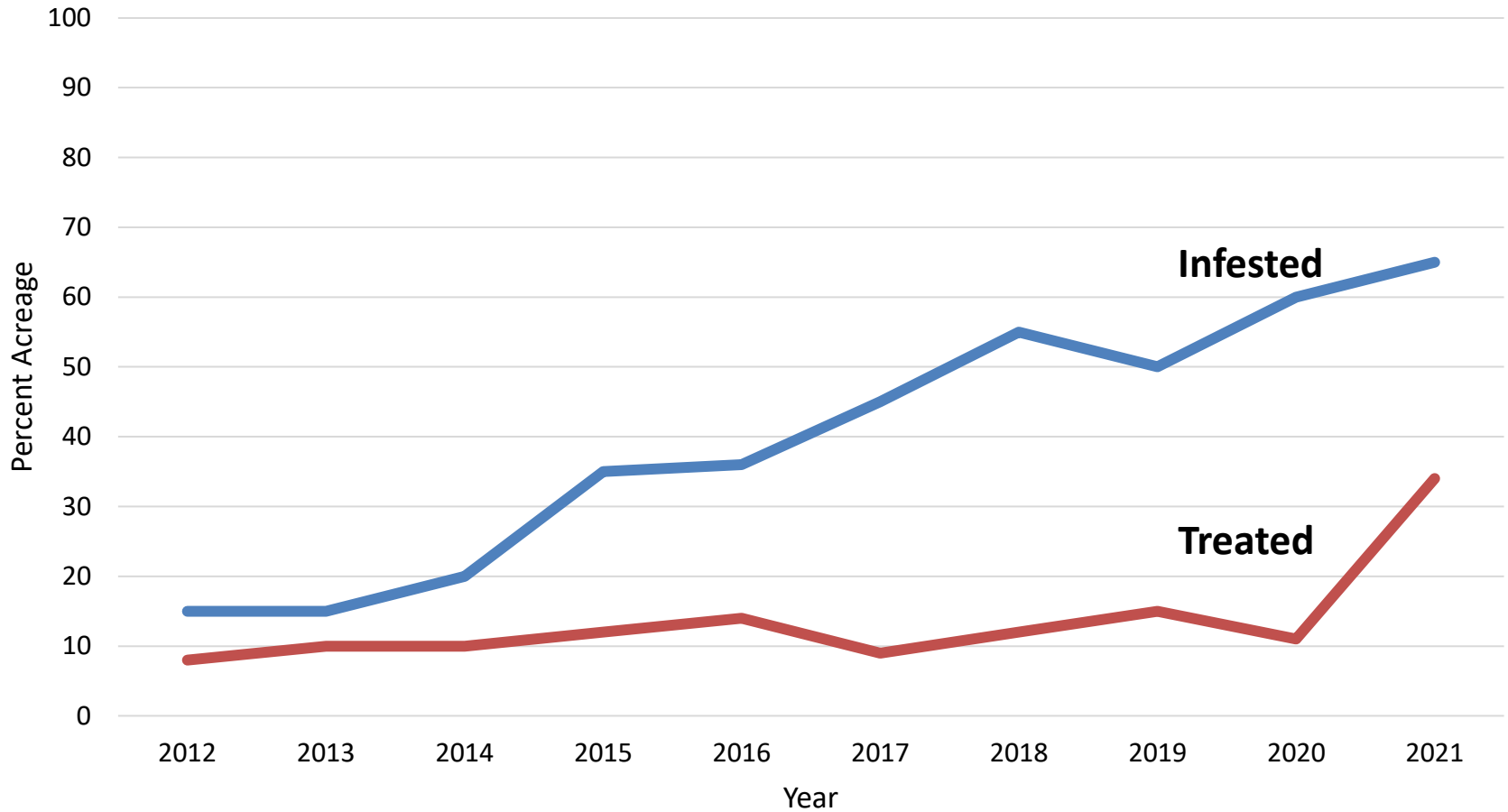
# Tarnished Plant Bug



Plant bugs are an occasional problem in Georgia. Scout and use thresholds.



# Tarnished Plant Bug infested Acres



# Tarnished Plant Bug





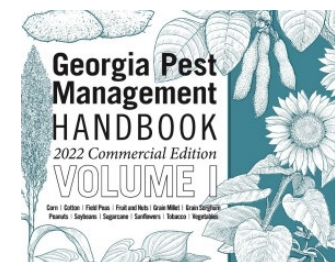
# Tarnished Plant Bug



PEST	INSECTICIDE	MOA	FORMULATION PER ACRE	LBS. ACTIVE PER ACRE	REI/PHI (Hours or Days)	REMARKS
Plant Bugs and Fleahoppers	<i>acephate</i> Orthene 97 <i>Acephate 97</i>	1B	0.25–0.50 lb 0.25–0.50 lb	0.24–0.49	24 H/ 21 D	Apply insecticide when plants are retaining less than 80% of pinhead squares and numerous plant bugs are observed. Sweep nets and drop cloths may also be used to monitor plant bugs. Sweep nets (15" in diameter) are an effective tool for monitoring adult plant bug populations. Drop cloths are more effective for monitoring immatures.  Thresholds: First 2 weeks of squaring: <ul style="list-style-type: none"> <li>Sweep Net: 8 plant bugs/100 sweeps</li> <li>Drop Cloth: 1 plant bug/6 row feet</li> </ul> Third week of squaring through bloom: <ul style="list-style-type: none"> <li>Sweep Net: 15 plant bugs/100 sweeps</li> <li>Drop Cloth: 3 plant bugs/6 row feet</li> </ul> Diamond is an insect-growth regulator and will not control adults.
	<i>dicrotophos</i> Bidrin 8 Dicromax 8	1B	4–8 oz 4–8 oz	0.25–0.5	3 D/ 30 D	
	<i>imidacloprid</i> Admire Pro 4.6	4A	0.9–1.7 oz	0.032–0.061	12 H/ 14 D	
	<i>novaluron</i> Diamond 0.83EC	15	9–12 oz	0.058–0.077	12 H/ 30 D	
	<i>oxamyl</i> Vydate C-LV 3.77	1A	8.5–17 oz	0.25–0.50	48 H/ 14 D	
	<i>sulfoxaflor</i> Transform 50 WG	4C	1.5–2.25 oz	0.047–0.071	24 H/ 14 D	
	<i>thiamethoxam</i> Centric 40 WG	4A	2 oz	0.05	12 H/ 21 D	

UGA Extension Special Bulletin 28 ■ Georgia Pest Management Handbook—2022 Commercial Edition (vol. 1)

**GOAL:**  
80 percent fruit retention when entering bloom.  
Maximum yield potential.



# Clouded Plant Bug

- Count clouded plant bugs 1.5 times for use with the tarnished plant bug threshold.
- Example:

$$\begin{array}{r} \text{CPB} = 1.2 \text{ per 6 row feet} \\ \quad \times 1.5 \\ \hline \quad = 1.8 \end{array}$$

Add corrected CPB and TPB counts.





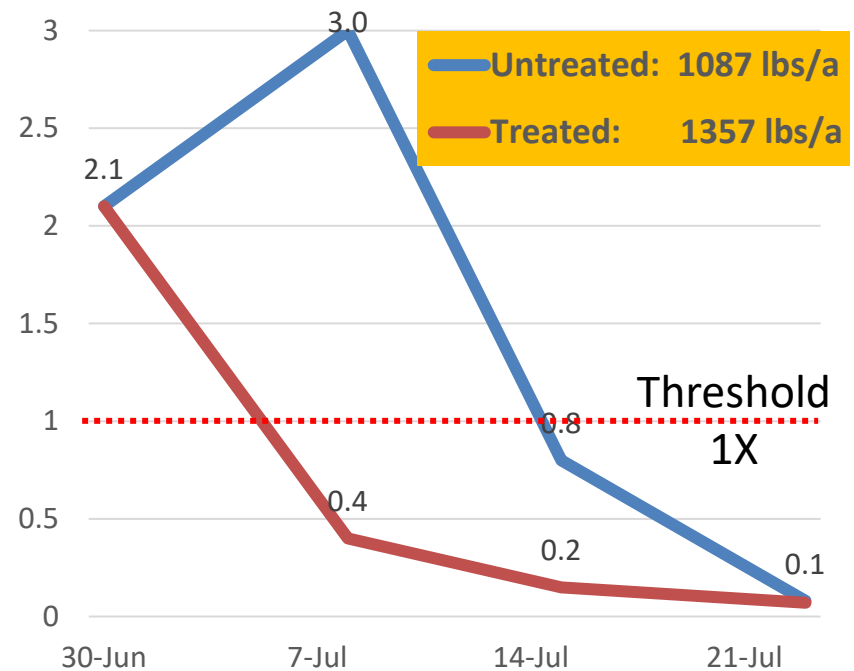
# Tarnished and Clouded Plant Bug Trial 2021

## pr2113

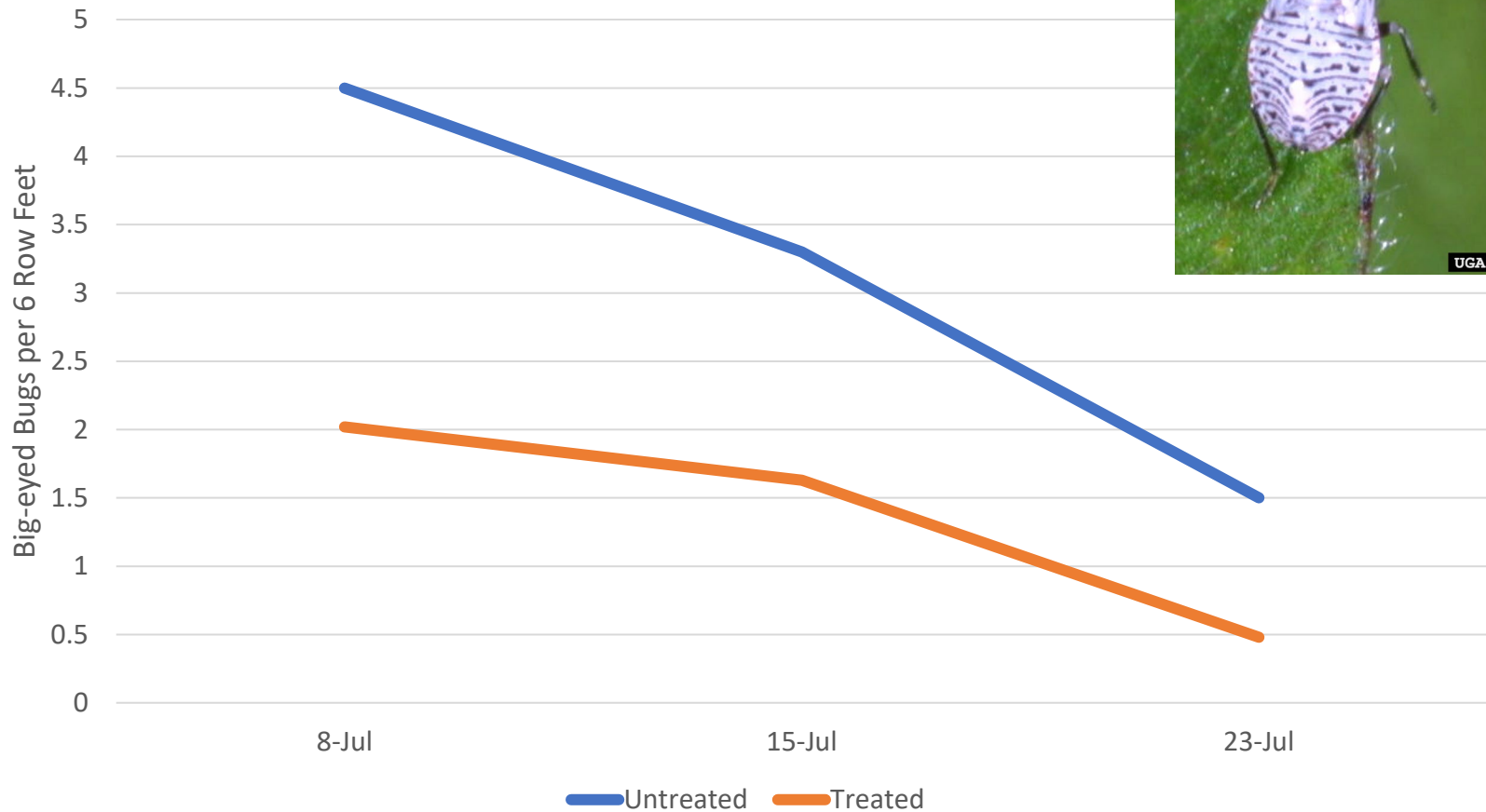
### Untreated Counts

Date	Tarnished Plant Bug	Clouded Plant Bug	CPB x 1.5	Total TPB+CPB
Number per 100 Sweeps				
June 30	32	0	X 0=0	32
Number per 6 Row Feet (drop cloth)				
July 8	7.0	1.3	X 1.5=2.0	9.0
July 15	1.9	0.8	X 1.5=1.2	2.7
July 23	0.3	0	X 0=0	0.3
** Clouded plant bugs should be counted as 1.5 tarnished plant bugs.				

### Threshold X

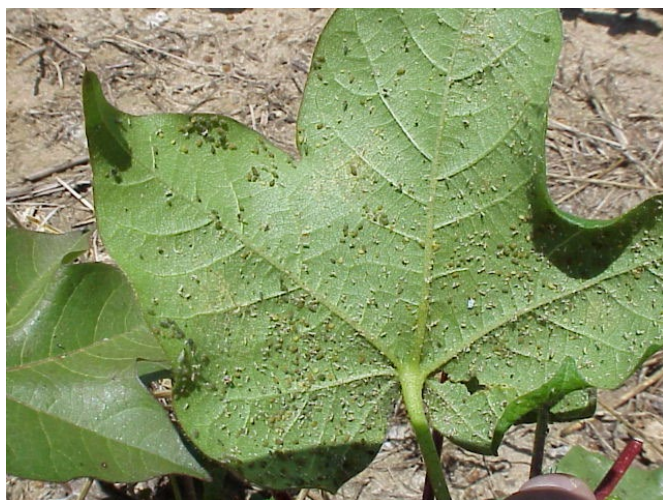


# Bigeyed Bug Nymphs



Treated July 1 and July 15 (Diamond+Orthene, Diamond+bifenthrin, Diamond, bifenthrin, Bidrin, Argyle)  
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**What about aphids?**



# Squaring Cotton

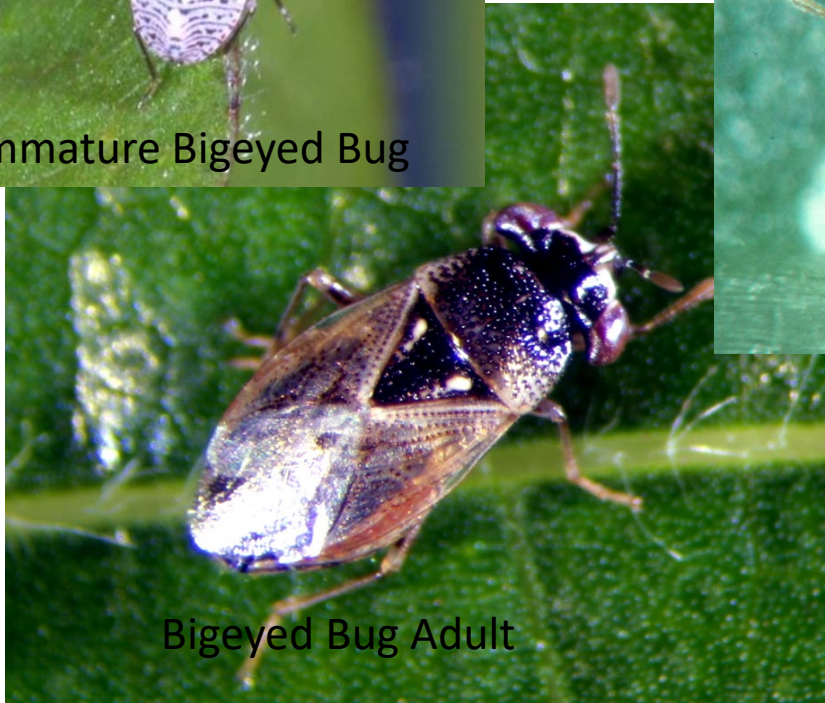
## Beneficial Insect Establishment



Immature Bigeyed Bug



Minute Pirate Bug



Bigeyed Bug Adult



Scymnus Ladybeetle Larvae, Aphid Mummy



# And WHY are Beneficials Important



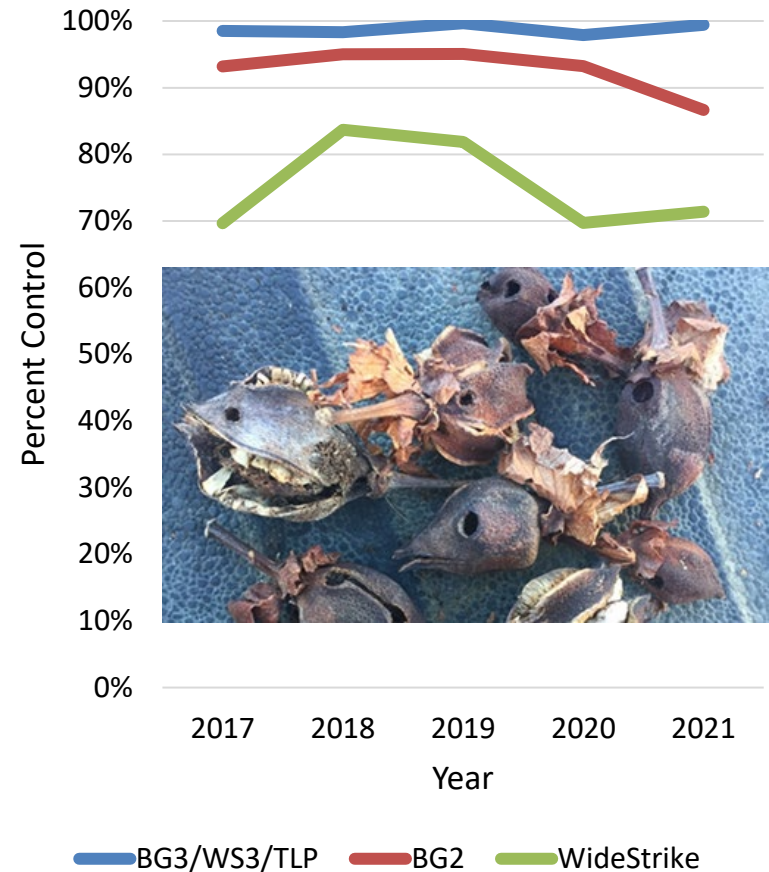
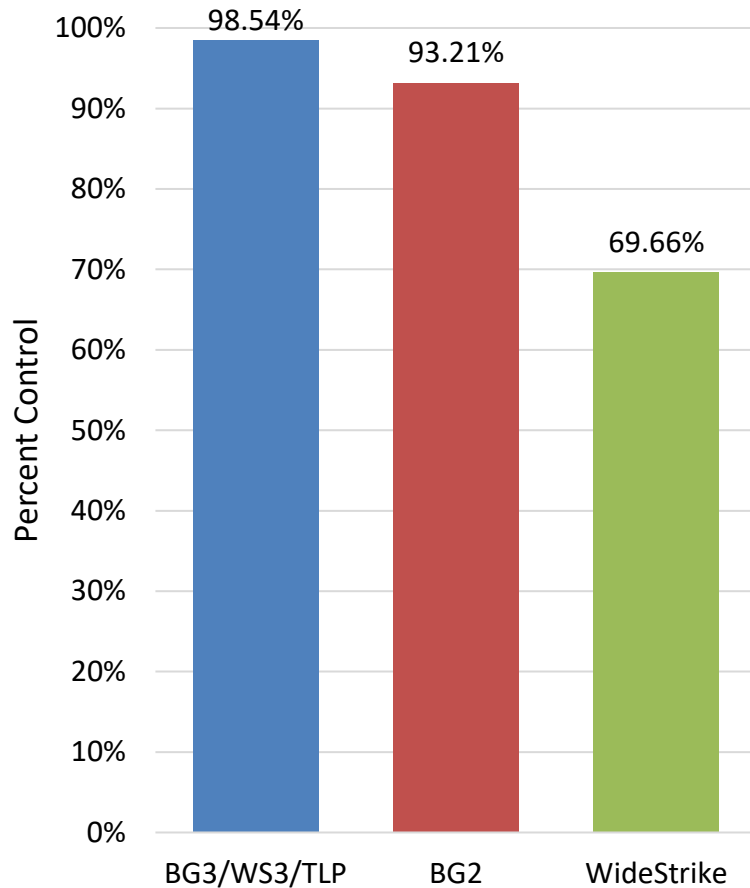
# Corn Earworm Concerns



- Bt Cottons
  - Especially 2-gene now.
  - 3-gene in the future.
- Pyrethroid Susceptibility
- Low CEW infestations in recent years.



# Georgia (Midville/Plains/Tifton) Mean: 2017-2021





# ThryvOn



- New Bt trait under development by Bayer
  - No activity on caterpillar pests
  - No apparent activity on stink bugs
  - Tarnished Plant Bug
    - Not immune, but reduces needed sprays
    - Slows development, some mortality of small nymphs
  - Thrips
    - Very effective, avoidance
- Stewarded: seed not approved for export

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# Manage RISK: Silverleaf Whitefly

<b>Cotton</b>	<b>Low ← SLWF RISK → High</b>			
<b>Winter Weather</b>	<b>Very Cold</b>		<b>Mild</b>	
<b>Variety Selection</b>	<b>Smooth</b>	Semi-Smooth	Light Hairy	<b>Hairy</b>
<b>Planting Date</b>	<b>April</b>	early May	late May	<b>June</b>
<b>Location: (proximity to SLWF infested crops)</b>	<b>Isolated</b>		<b>Near</b>	
<b>Beneficial Insects</b>	<b>High</b>	Moderate		<b>None</b>
<b>Weather (in-season)</b>	<b>Rainy</b>		<b>Hot and Dry</b>	
<b>IPM</b>	<b>Scouting Threshold</b>		<b>Not Timely</b>	
<b>Irrigation</b>	<b>Irrigated</b>		<b>Drought Stress</b>	





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