

# 2023 Row Crop Disease Update

**“Bob, do you have anything new for me, or are you just going to waste my time?”**



# Corn and Soybeans

## Disease & Nematode Management for 2023



Robert C. Kemerait, Jr. PhD  
Professor and Extension Specialist  
Department of Plant Pathology, UGA CAES

**Twitter**

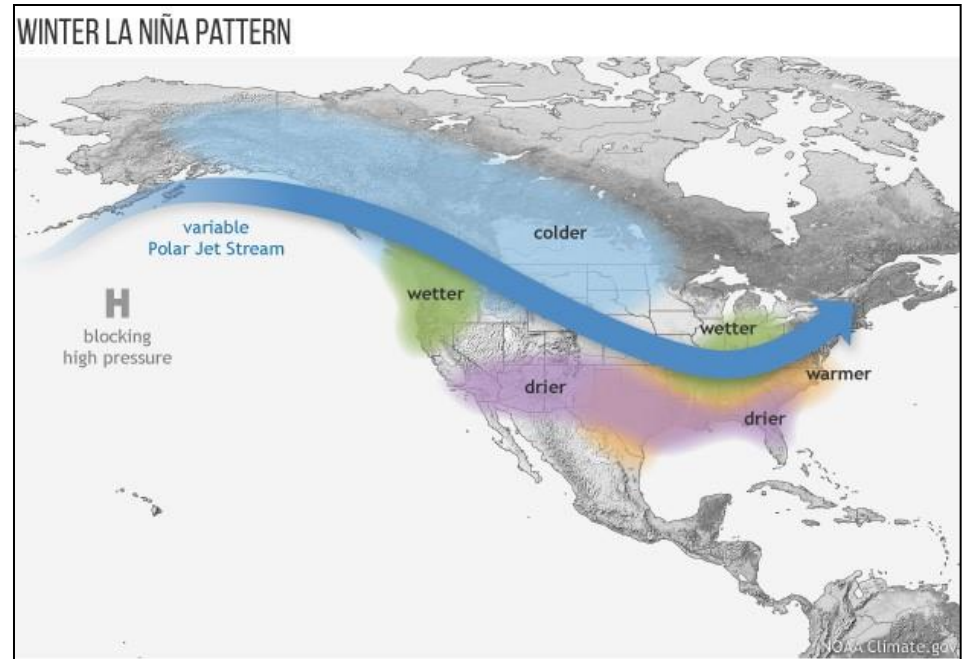
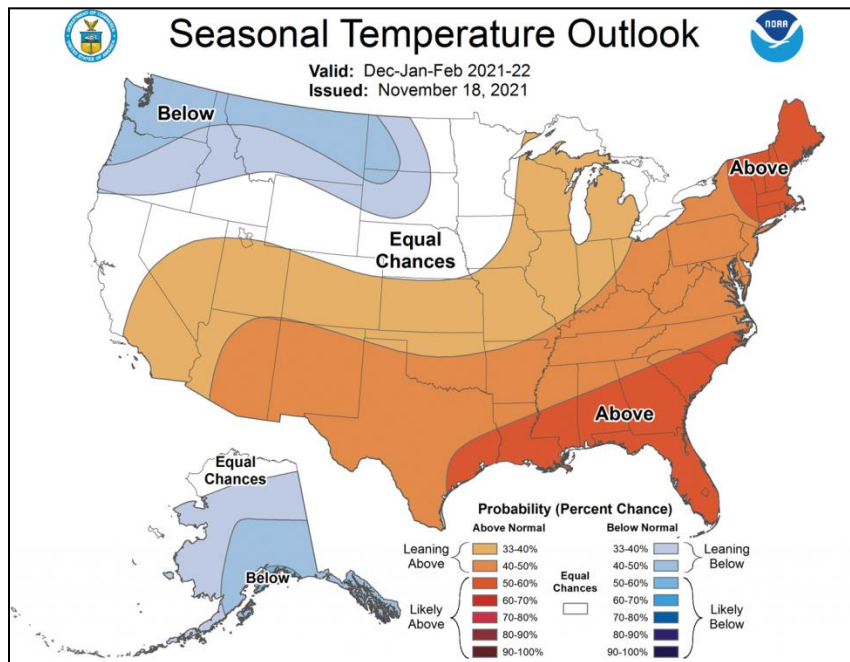
**“bob kemerait”**

**2 February 2023**





# Winter 2021-2022 La Niña



# Southern Georgia

## 14 January 2022



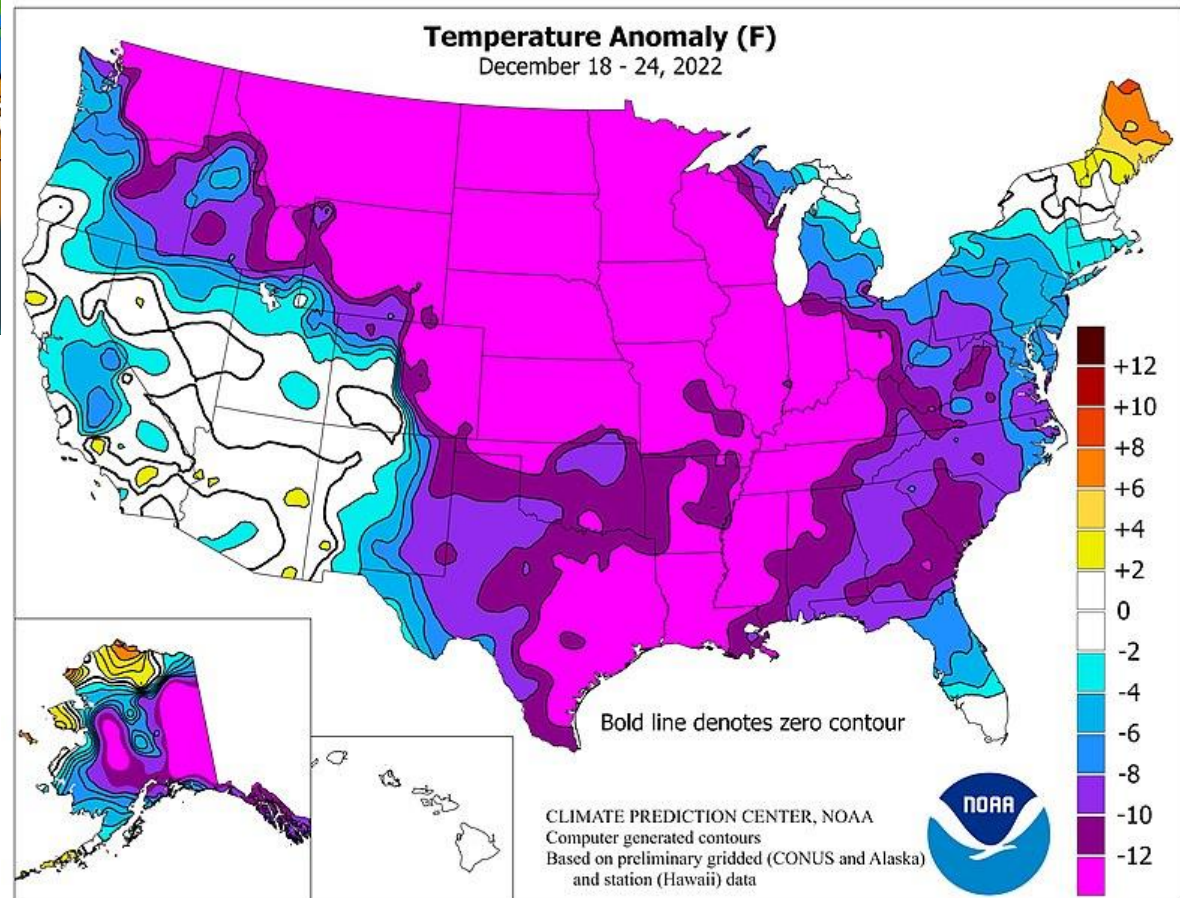
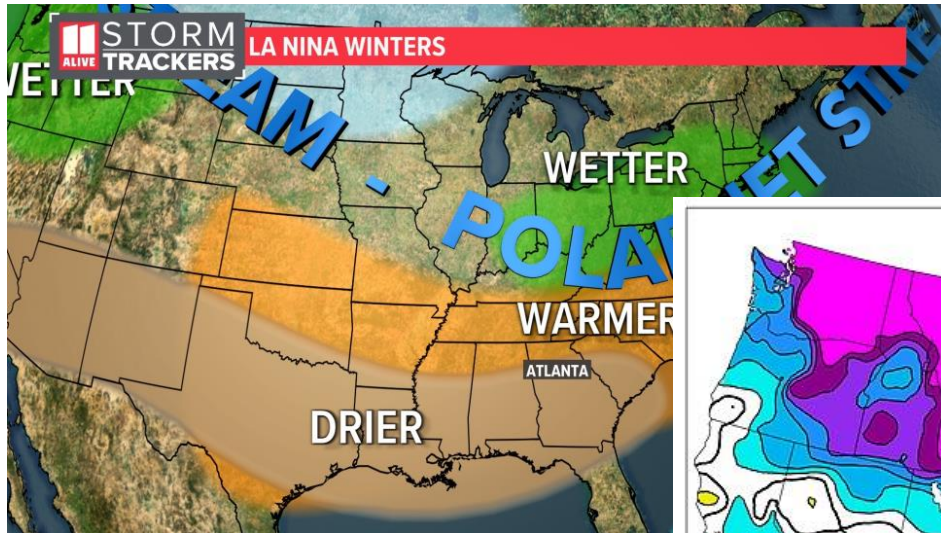


# Southern Georgia

## 24 January 2022



# But what about 2022-2023?



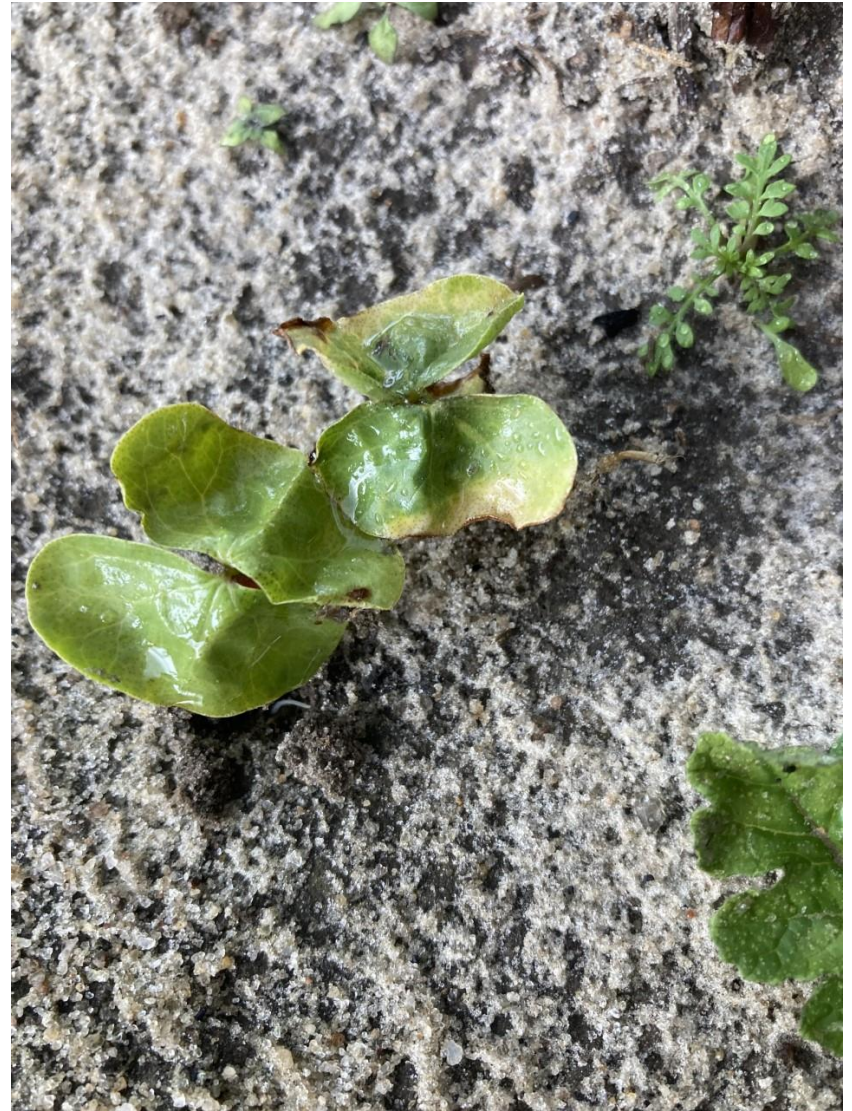


# Winter in Tifton





# 2 February 2023





# 18 January 2023



4:53 [notification icons]

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## Nematode Assay Report

**Waters Agricultural Laboratories, Inc**  
257 Newton Hwy | Camilla, GA 31730- | Phone (229) 336-7216

*"Improving Growth...  
With Science"*

Processed: 1/18/2023			Relative Abundance of Nematodes per 100cc of Soil																		
OFFENBERG AG CONSULTING [14525]			Root-Knot Adult (Meloidogone)	Root-Knot Juvenile (Meloidogyne)	Lesion (Pratylenchus)	Stunt (Tylenchorhynchus)	Spiral (Helicotylenchus)	Stubby-Root (Trichodorus)	Dagger (Xiphinema)	Ring (Criconemoides)	Cyst-Adult (Heterodera)	Cyst-Juvenile (Heterodera)	Lance (Hoplaimus)	Sting (Belonolaimus)	Reniform (Rotylenchulus Reniformis)	Citrus (Tylenchulus)	Burrowing (Radopholus)	Sheath (Hemicyclophora)	Sheathoid (Hemicriconemoides)	Awl (Dolichodorus)	Comment #
85 ANTOCH CHURCH RD HAWKINSVILLE, GA 31036 UNITED STATES																					
Grower: BRUCE WEST FarmID: BRUCE WEST FieldID: PIVOT 5 NORTH																					
Sample ID	Lab ID	Crop																			
1	4444	COTTON	0	0	11	6	55	3	0	0	0	2	12	0	4536	0	0	0	0	0	1
2	4445	COTTON	0	1116	0	0	7	0	0	0	0	0	6	0	1854	0	0	0	0	0	1

# Grady County, 20 January 2023



## Extension Nematology Laboratory

University of Georgia

2350 College Station Rd.

Athens, GA 30602

Phone: 706-542-9144

Email: [gjbagdai@uga.edu](mailto:gjbagdai@uga.edu); [kfm68504@uga.edu](mailto:kfm68504@uga.edu)

### NEMATODE ASSAY REPORT - PRELIMINARY RESULTS Specimen # 2022-N-2192

SUBMITTED BY Cale Cloud GA <a href="mailto:jackson.cloud@uga.edu">jackson.cloud@uga.edu</a> ; <a href="mailto:uge4131@uga.edu">uge4131@uga.edu</a>		PLANT Fallow ( )		METHOD SUBMITTED	
		VARIETY		CLASS	
		INTERNAL LAB NO. MamaC		REPLY FROM LAB January 25, 2023	
PHONE	COUNTY GRADY, GA	SAMPLE MATERIAL	AGE	RECEIVED BY LAB January 25, 2023	
CONDITION UPON ARRIVAL		SPECIALIST(s) Intiaz Chowdhury	NAME OF STUDY	COLLECTED January 20, 2023	
GENERAL OBSERVATIONS Past crop was corn. Future crop is tomato.					
CLIENT INFORMATION Cliff Jones 744 Jones Rd Whigham, GA 39897 <a href="mailto:cjones22222@yahoo.com">cjones22222@yahoo.com</a>		REFERRAL INFORMATION			

### Assay Results

<b><u>NEMATODE TYPE</u></b>	<b><u>Soil</u></b> <b><u>(NO./ per 100 cc)</u></b>
Root-knot ( <i>Meloidogyne</i> )	15
Lesion ( <i>Pratylenchus</i> )	13
Ring ( <i>Mesocriconema</i> , etc.)	5
Spiral ( <i>Helicotylenchus</i> )	2



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EXTENSION



# Considerations for La Niña

- Impact of La Niña in the Southeastern USA.
- Winter should be warmer and drier than normal.
- Impact of warmer temperatures on nematodes.
- Impact of warmer temperatures on rust diseases.
- Warmer and drier soils at spring planting??
  - Delayed planting? Desire to plant earlier?
  - Problems with fumigation.
  - Diseases (*Aspergillus* crown rot)





# What you need to know NOW...

- Climate/La Niña 2022-2023 “Three-peat”
- **Where you only get one chance.....**
  - **Aspergillus crown rot and seedling diseases**
  - **Tomato spotted wilt**
  - **Nematodes**
- Leaf spot control in 2023.
- White mold control
- Peanut Rx



# Corn Disease & Nematode Update



**Robert C. Kemerait, Jr. PhD**  
**Professor and Extension Specialist**  
**Department of Plant Pathology**  
**University of Georgia CAES**

**Twitter “bob kemerait”**





# Corn Nematodes



Corn from north Georgia, 2020



# Damage from **root-knot** and **stubby-root** nematodes in Georgia





# Nematicides for Field Corn

- **Telone II**
  - 3 gal/A
  - Proper soil conditions
  - ~10 days pre-plant
- **Counter 20G**
  - 5 lb/A
  - Herbicide considerations
- **Avicta Complete Corn**
  - Seed treatment



# Additional Nematicide Options

- Propulse (fluopyram + prothioconazole)
  - Liquid in-furrow application
  - Rate: 4.0-8.0 fl oz/A
  - Trial work continues
- Velum (fluopyram)
  - Liquid in-furrow application
  - Rate: 3.0 fl oz/A
  - Trial work continues





# Averland FC from Vive

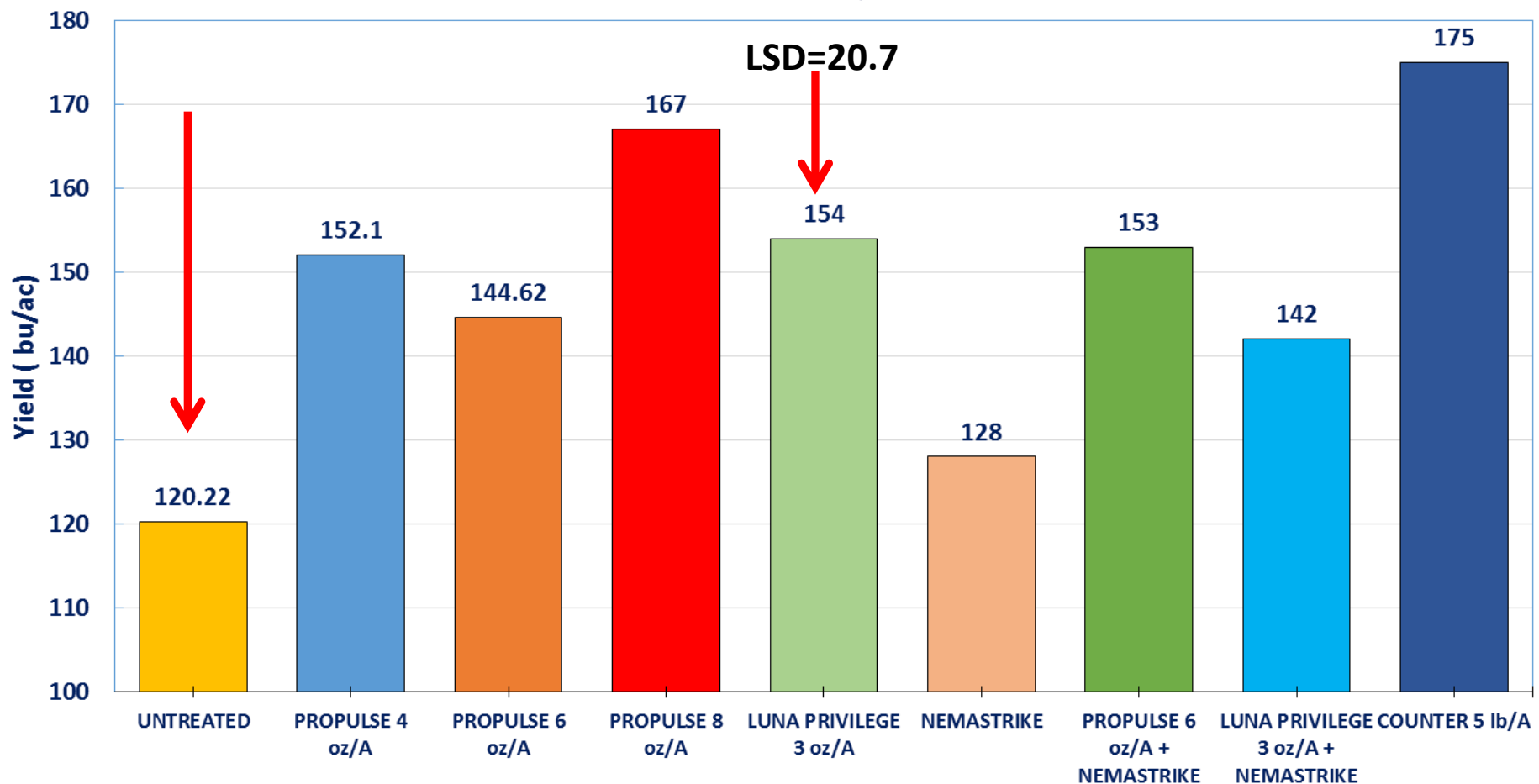
- Abamectin formulation for in-furrow use on corn (6 fl oz/A)
- Testing continues on corn
- “Claim to fame”:
  - Nematicide
  - Can be mixed with in-furrow fertilizer at plant
  - It was compatible with:
    - Riser (2.5 gal/A)
    - **Octane (1 gal/A)**
    - **Corn Mix (1 qt/A)**



# Yield (Sting Site) (bu/A)



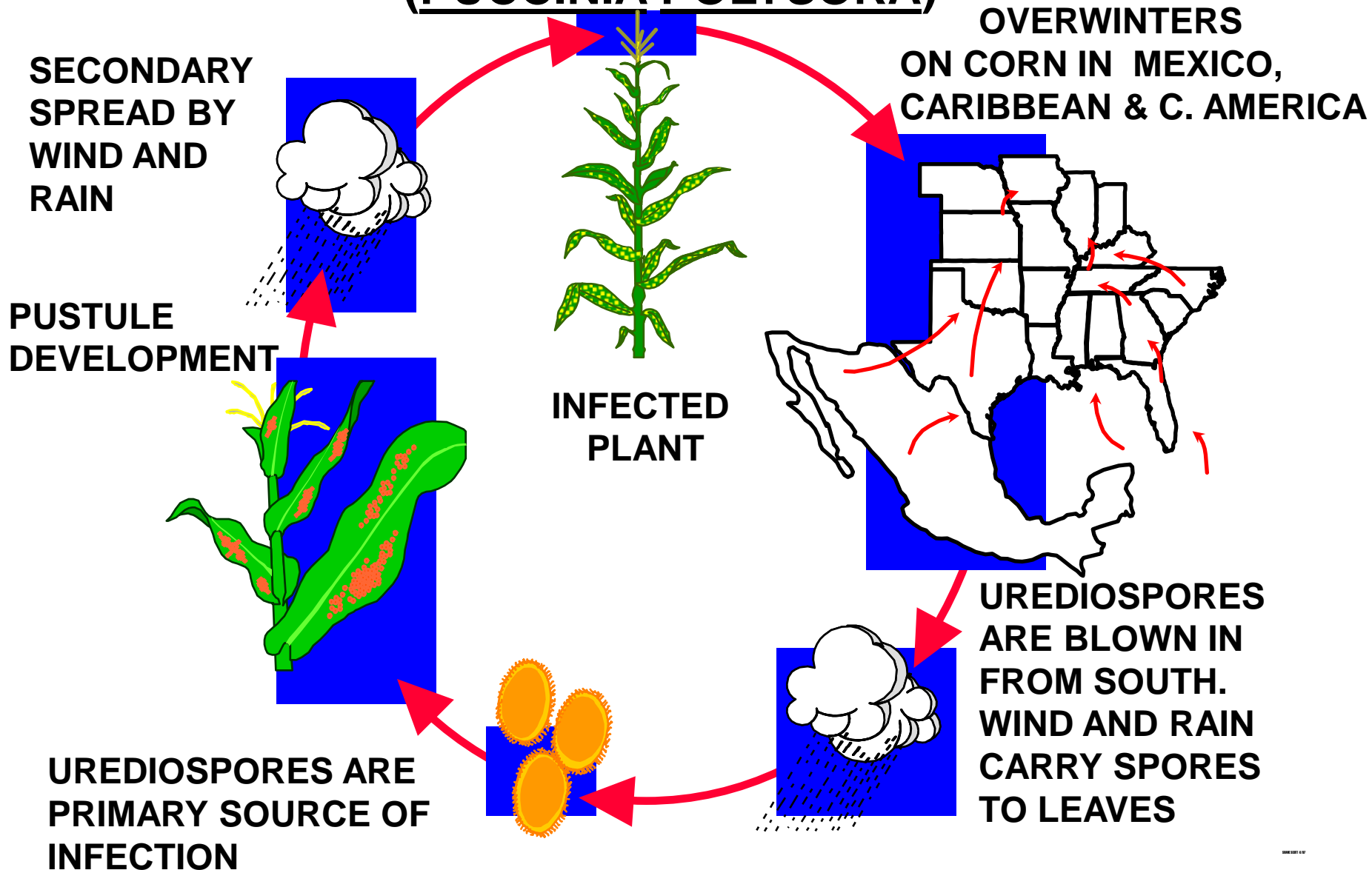
## 2019 Corn Nematicide Study, Sting Nematode Site





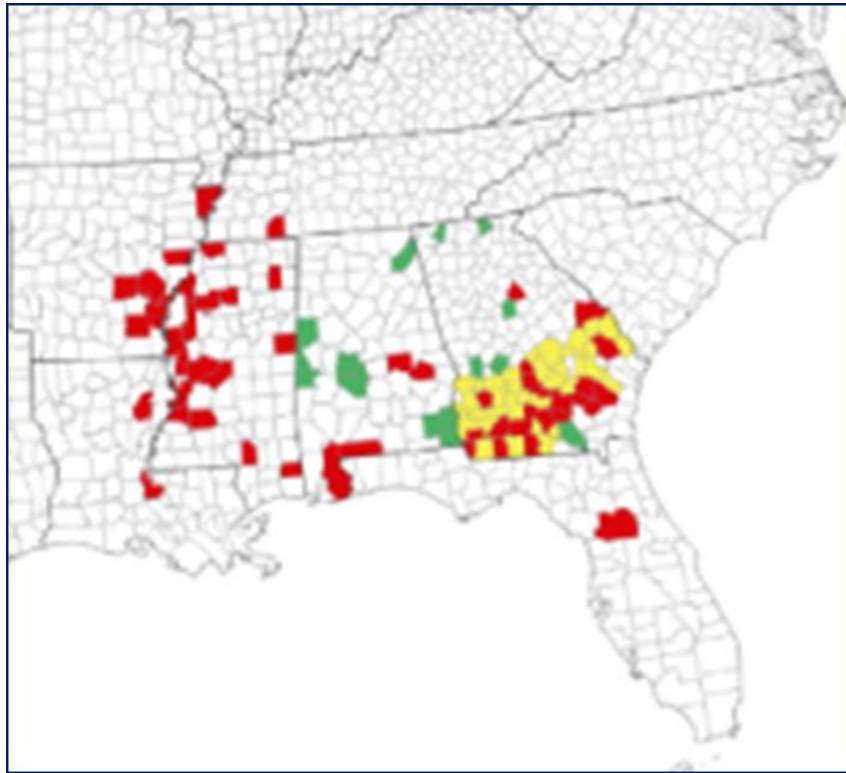
# SOUTHERN RUST DISEASE CYCLE

(PUCCINIA POLYSORA)



# Southern Corn Rust

**4 August 2022**



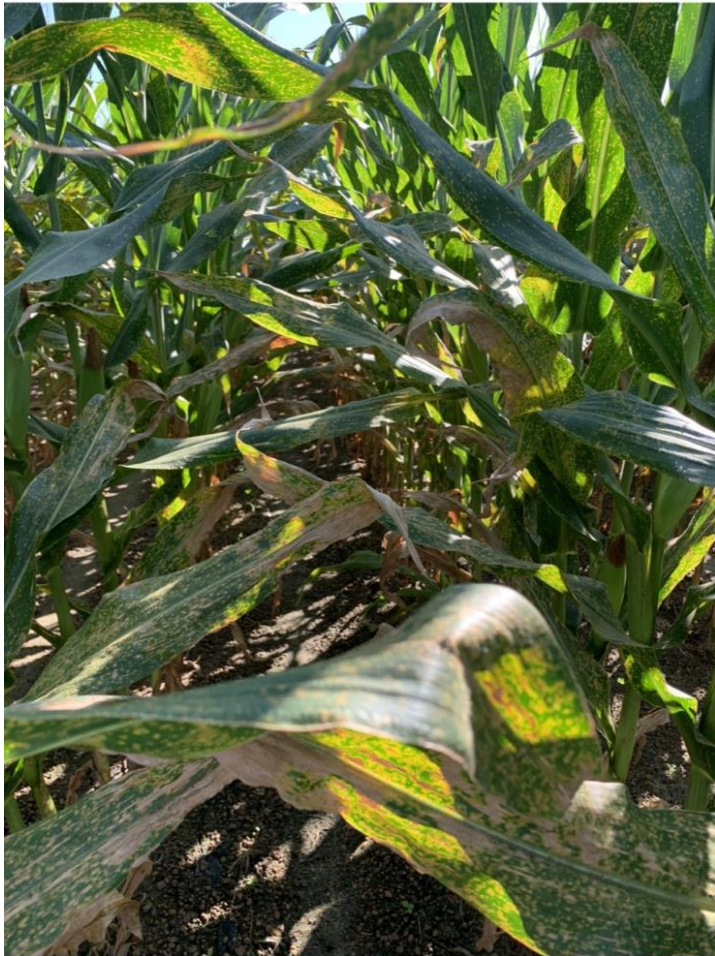
**3 September 2022**



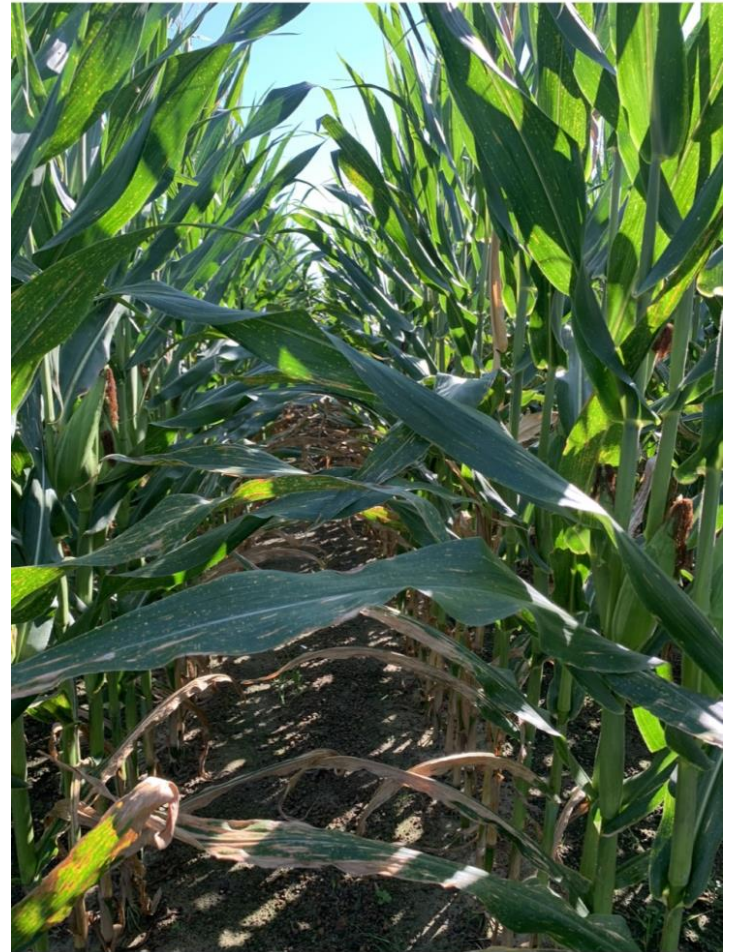


# Tift County, September 2022

**Pioneer Variety**



**Dekalb Variety**





# Tift County, September 2022

**Pioneer Variety**



**Dekalb Variety**





# Late Planted Corn, Irwin and Thomas Counties



**Abiotic Symptom**



**Tar Spot**





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DK 687

Pio 32W86

Pio 31G98

Untreated



Two fungicide  
applications



2003 Terrell County, Southern Rust



**Less affected**



**Severely affected**





# Newer Fungicides for Corn in 2023

- **Miravis Neo (Syngenta)**

- MIRAVIS + azoxystrobin + propiconazole



 **Miravis<sup>®</sup>Neo**

- **Lucento (FMC)**

- Bixafin + flutriafol

  
**LUCENTO<sup>™</sup>**  
FUNGICIDE

- **Veltyma (BASF)** (7-10 fl oz/A)

- MEFENTRIFLUCONAZOLE + PYRACLOSTROBIN

**Veltyma<sup>™</sup>**  
Fungicide

# Newer Fungicides for Corn in 2023

- **XYWAY LFR (FMC)**

- Flutriafol
- 2 X 2 application at plant
- NOT In-furrow, at-plant
- 5.8-11.8 fl oz/A



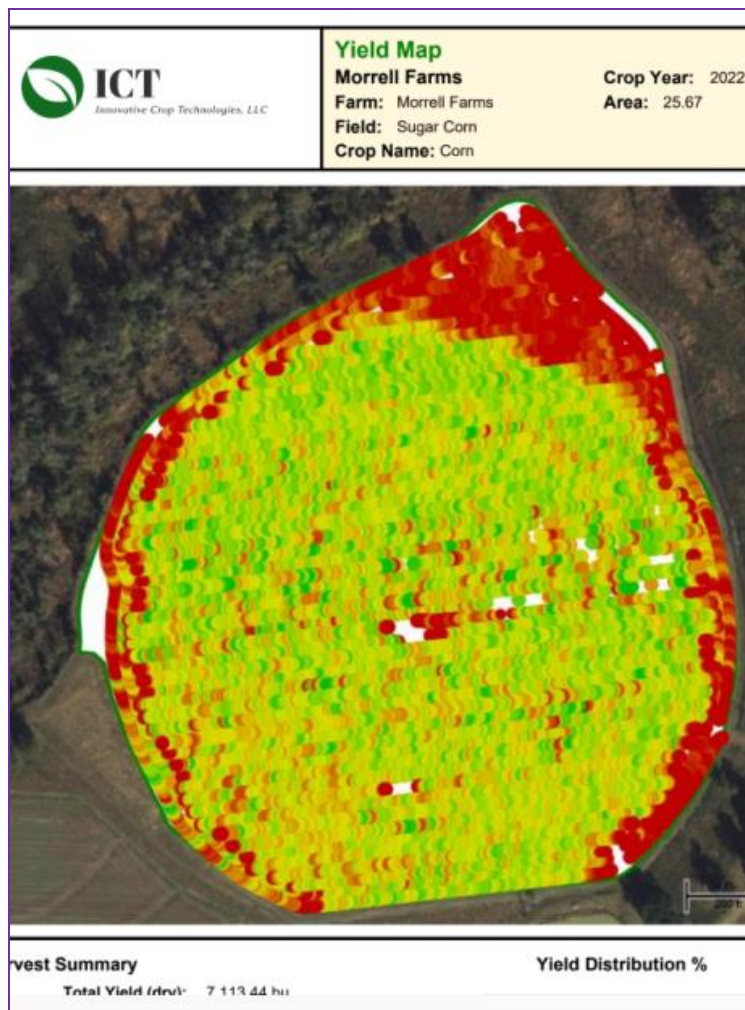
- **DELARO Complete**

- Prothioconazole + trifloxystrobin + fluopyram
- 4.0-6.0 fl oz/A for V4-V7
- 8.0-12.0 fl oz/A for VT and beyond



# Grower Testimonial from 2022

## XyWay LFR



Meant to share that with you when I got it but I forgot. This is the field with the Xyway plot. The north half had Xyway, the south half didn't. Even though the actual plot showed no difference, the yield map looks like there was a little difference. Plan to try it again next year.

Not a huge difference, but noticable.





# Risk Assessment to Determine Likely Response to Foliar Fungicides in Corn

## Factors that Increase Risk

- Susceptible hybrid (primarily GLS)
- Continuous corn
- No-till
- Late planting
- High plant population and/or yield potential
- Irrigation
- Disease activity at tasseling
- Disease-favorable weather forecasted
- Field history of disease and lodging



# The Bottom Line for Corn 2023

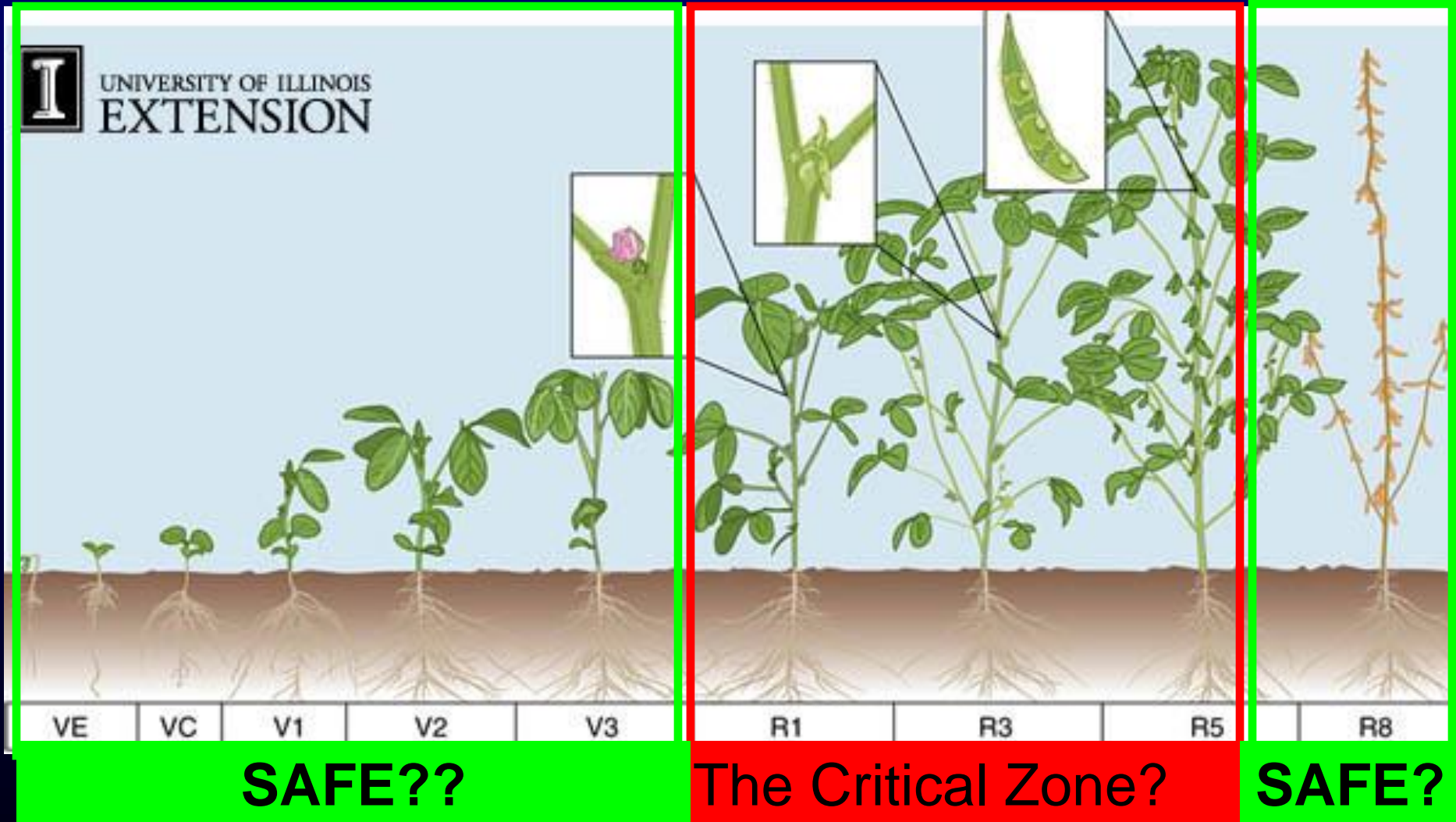


Gilmer County 2020

- **Nematodes: significant problem in corn and soybeans**
  - Root-knot (especially “southern”), stubby-root, sting on corn.
  - Consider all nematicide options.
  - You get one chance to fight nematodes.
- **Southern rust, blights, grey leaf spot, soybean rust, Cercospora leaf blight, anthracnose, frog-eye?**
  - For corn leaf blights, VARIETY matters greatly!
  - Earlier planting dates tend to reduce risk of leaf diseases.
  - **Timing fungicides ahead of disease is critical.**
  - Selection of fungicide also important., especially mixed-modes of action
  - Chemigation is an option for corn growers if done carefully.



# Growth Stages of the Soybean Plant





# Tool Box for "High-Yield Soybeans"

## Production Opportunities that Impact Disease

- Crop rotation
- Variety Selection
- Planting Date
- Irrigation
- Scouting and Sentinel Plots
- Chemical Control
- Disease and Nematode Identification





**Nematode Management in Georgia**  
**Why risk planting a non-resistant variety?**



# Nematicides for Soybeans

- Plant varieties with resistance to root-knot nematodes when you can.



- If you have nematodes:
  - Seed treatments
  - Syngenta '**AVICTA Complete Bean**'.
  - Bayer Crop Science **ILevo**



- **AgLogic 15G**
  - Imported by AgLogic, Chapel Hill, NC from China.
  - Same active ingredient as Temik (Aldicarb)

# Charcoal Rot





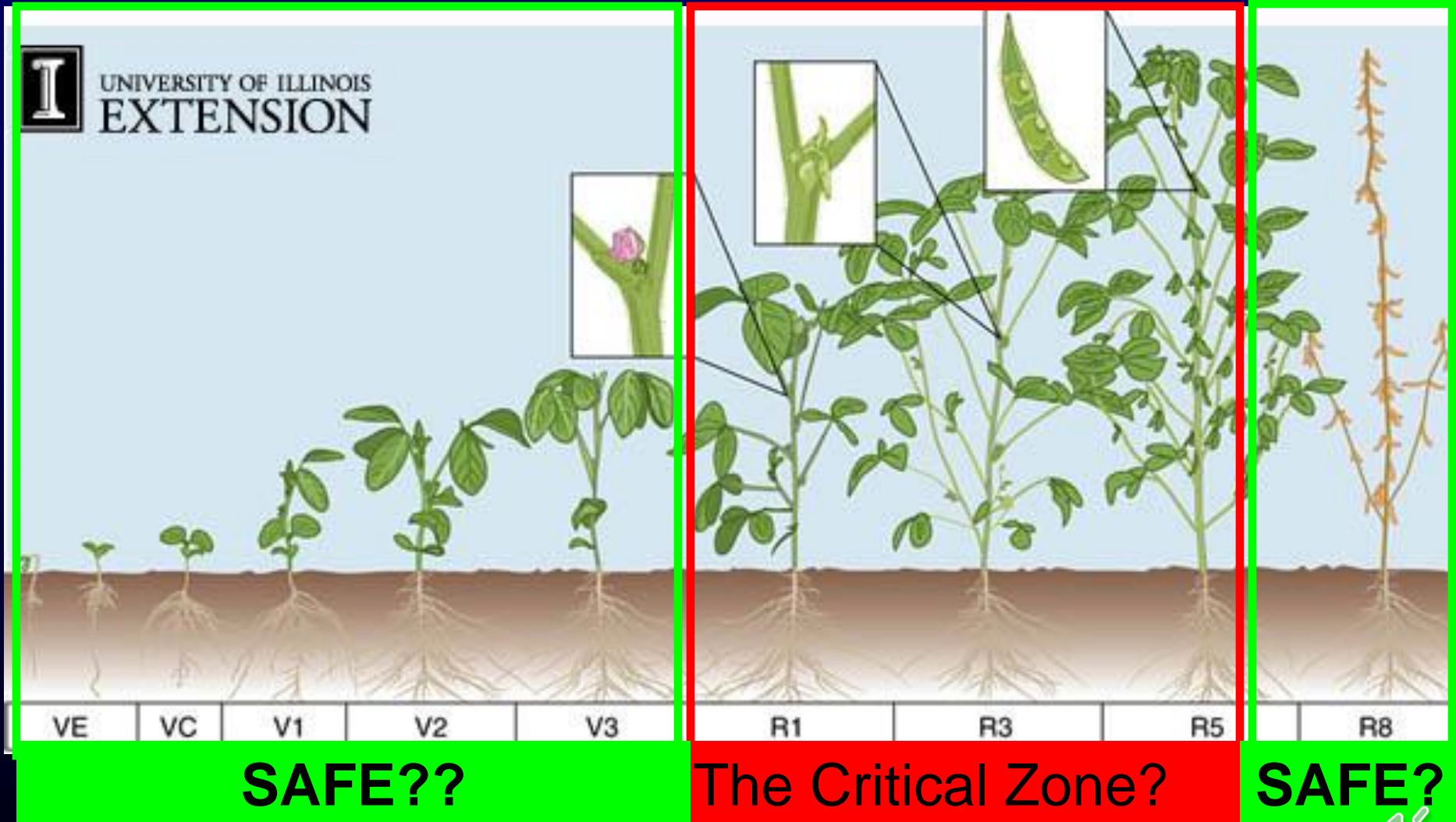
# Higher Yields by Deploying Fungicides

- Soybean Rust
- Frogeye Leaf Spot
- **Cercospora Leaf Blight**
- Anthracnose
- Phomopsis Pod and Stem Blight
- Southern Stem Blight





# Growth Stages of the Soybean Plant



# Asian Soybean Rust 2023





Soybeans...  
sum it up in a single picture...















# 1. *Cercospora* Leaf Blight

## 2. Foliar symptoms from Dimilin

- *Cercospora* leaf blight will cause purpling of upper foliage and petioles late in season; also purple seed stain.
- Dimilin insecticide can cause leaves to become darker green, leathery, and cupped.



*Cercospora* leaf blight

# Bigger Problems than Rust

Phomopsis pod and stem blight; Anthracnose

- These diseases caused tremendous yield losses in some fields.
  - E.g. Terrell, Sumter and Macon Counties
- Inoculum (spores) can survive in crop debris.
- Check varieties for resistance.
- Phomopsis can exist in stems without visible signs of fungus but may cause significant wilt.
- Timely **EFFECTIVE** fungicides may help manage these diseases.





# Anthracnose and Phomopsis Pod and Stem Blight

## Sumter County 2020





# QUESTIONS

