

-WTACI 2021-  
COTTON DISEASE  
COMPLEX: FUSARIUM  
AND ROOT KNOT  
NEMATODE

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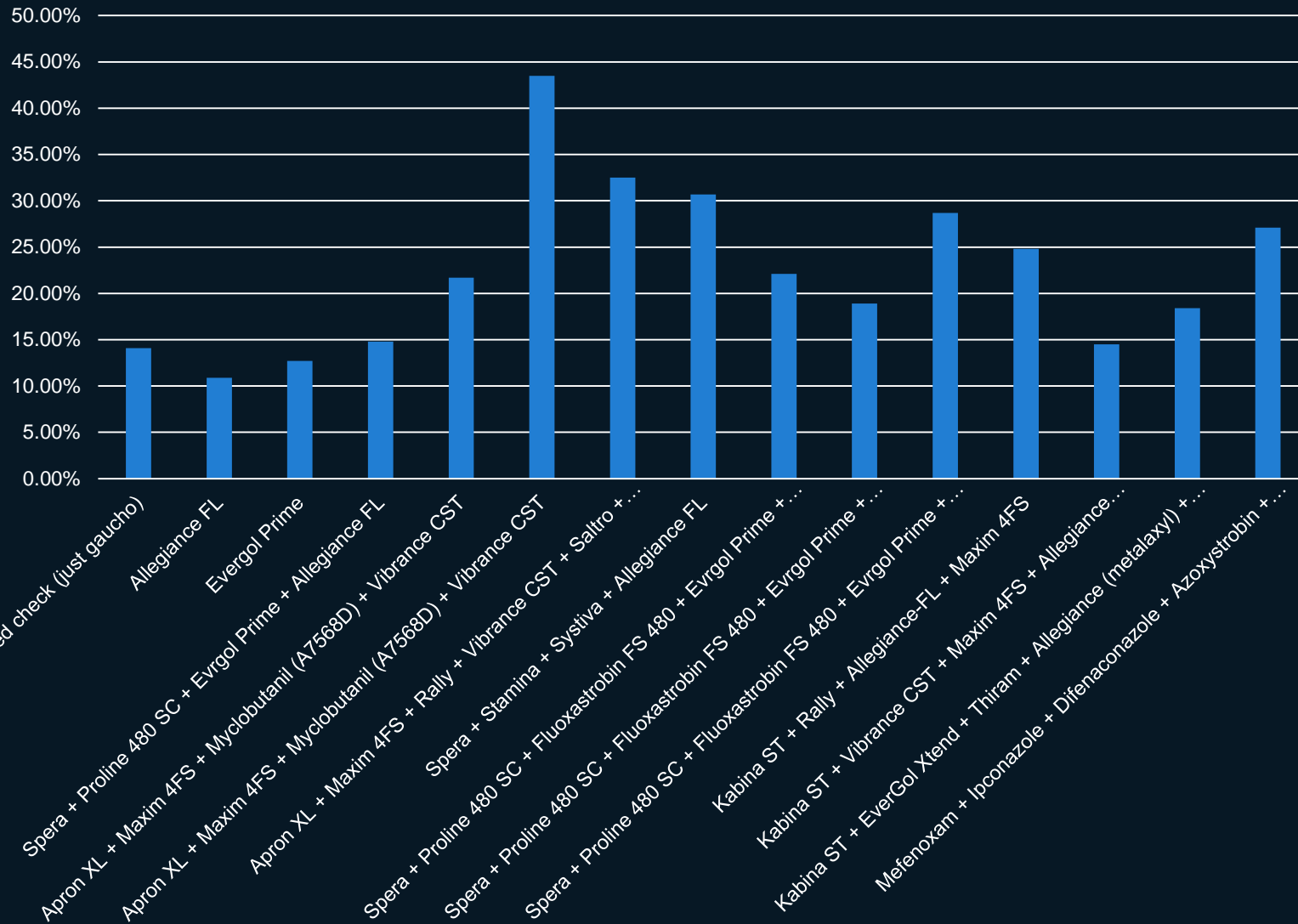
Texas A&M AgriLife Extension  
Service, Lubbock, TX, USA

# Seedling disease complex — *Rhizoctonia*, *Pythium*, *Fusarium*

- Early season disease
  - 7 - 28 days after planting
- Seedling damping off
- Seed treatment
  - In-furrow fungicide



# Seedling disease complex – *Rhizoctonia*, *Pythium*, *Fusarium*

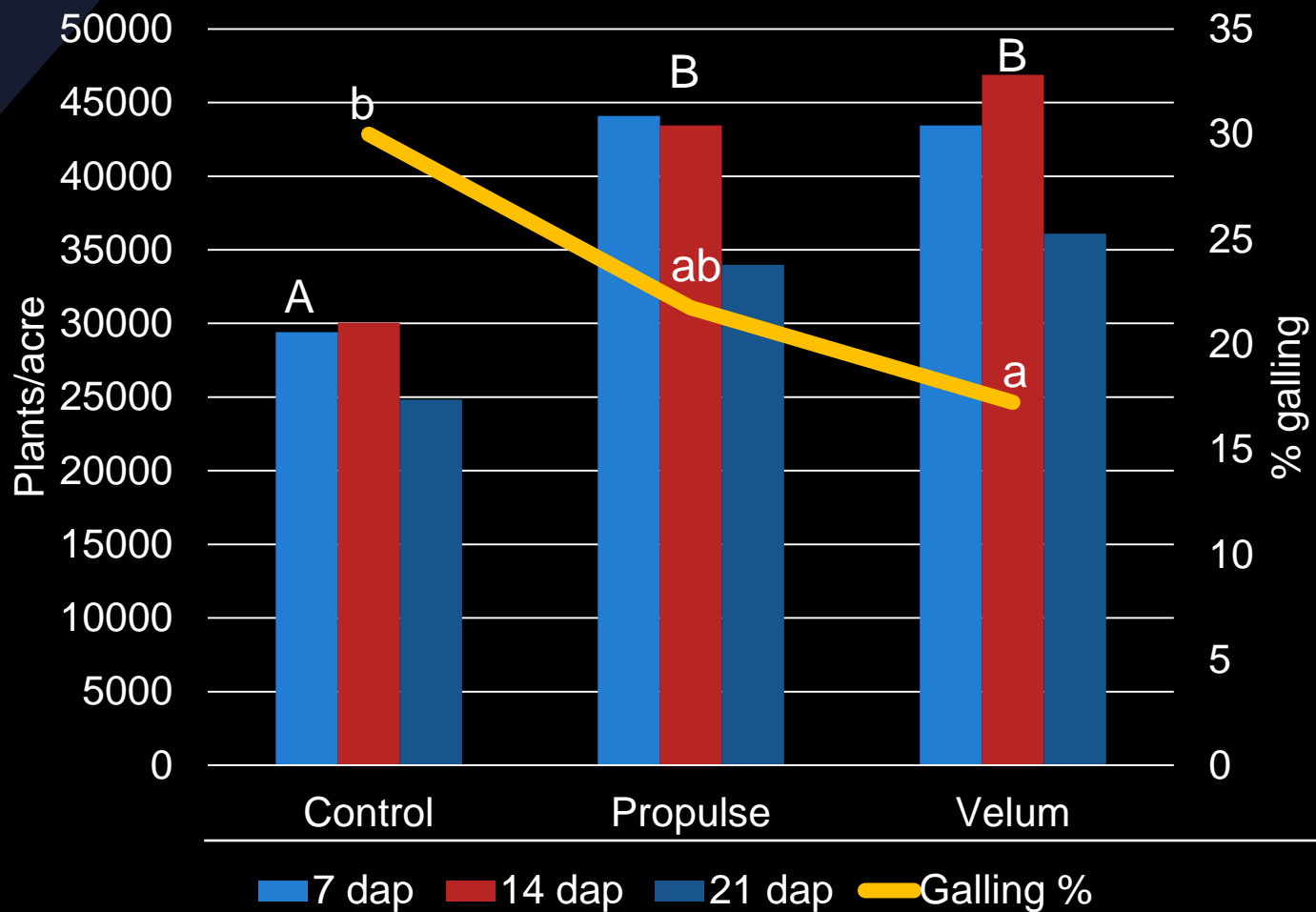


# Root Knot nematode

- Stunting
- Irregular growth pattern
- Patches – hotspots
- Roots with galls
- Symptoms are more severe in moderate to low irrigation levels
- Allow secondary disease complex
  - *Fusarium wilt FOV1 and FOV2*
- Variety selection and nematicide



# Nematicide evaluation

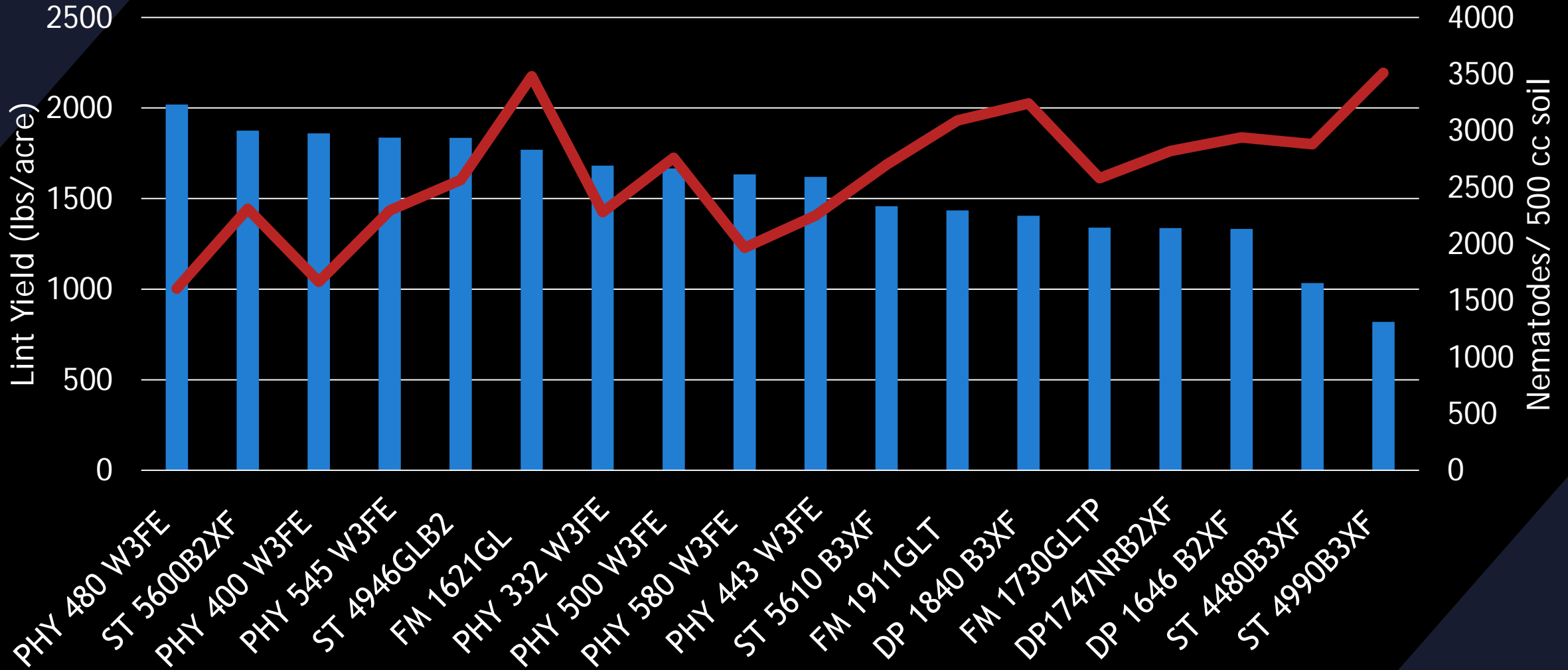




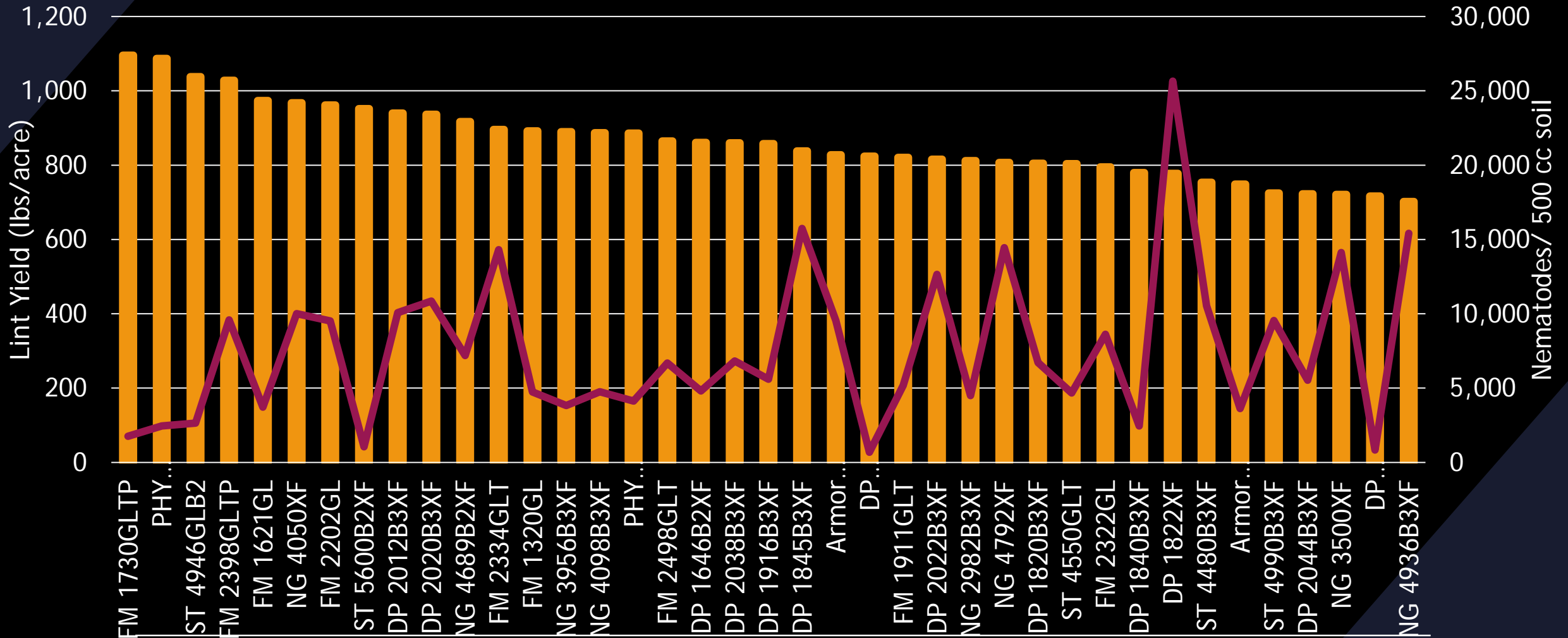
RKN+FOV



# Hall County



# Cochran County







# FOV4- *Fusarium oxysporum* f. sp. *vasinfectum* Race 4

- Fungal disease
  - Seedling damping off
  - Leave chlorosis
  - Wilting
  - Vascular necrosis
- Seed transmittable
- Reported in El Paso in 2017



# FOV 4 Quantification – Methods

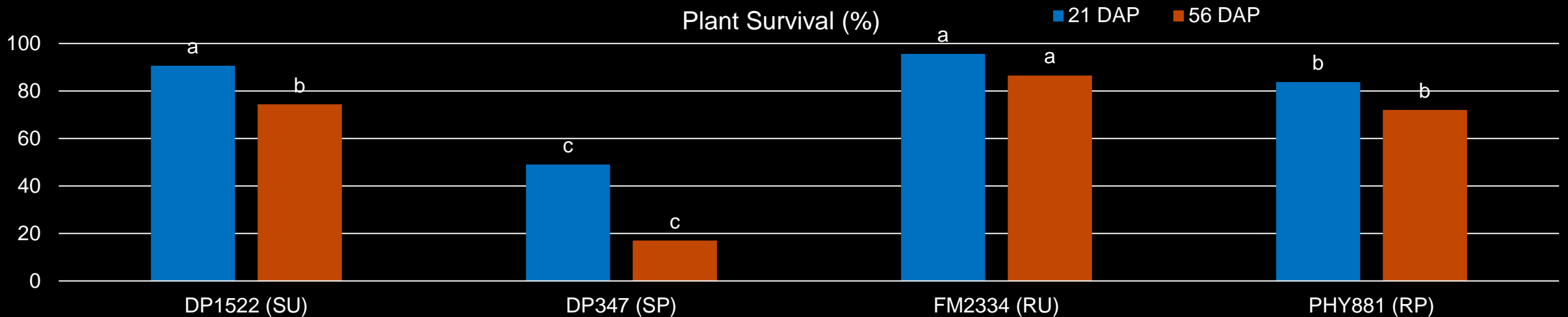
- 4 varieties
  - *Pima*
    - DP357 (SP)
    - PHY881 (RP)
  - *Upland*
    - DP1522 (SU)
    - FM2334 (TU)
- Soil samples
  - 0 DAP
  - 56 DAP
  - 144 DAP





# Results

Genotype	Survival (%)		Vascular Necrosis		FOV4 Qty (pg DNA/g soil)			Yield
	21 DAP	56 DAP	Root	Stem	0 DAP	56 DAP	144 DAP	Lbs/acre
<b>DP1522 (SU)</b>	90.65 <sup>a</sup>	74.38 <sup>b</sup>	1.71 <sup>b</sup>	0.80 <sup>a</sup>	1.23 <sup>NS</sup>	9.73 <sup>ab</sup>	4.66 <sup>NS</sup>	1446
<b>DP357 (SP)</b>	49.04 <sup>c</sup>	17.07 <sup>c</sup>	2.53 <sup>a</sup>	0.78 <sup>a</sup>	1.74	39.59 <sup>a</sup>	5.05	295
<b>FM2334 (RU)</b>	95.62 <sup>a</sup>	86.54 <sup>a</sup>	1.11 <sup>bc</sup>	0.29 <sup>b</sup>	1.28	2.59 <sup>b</sup>	2.77	1735
<b>PHY881 (RP)</b>	83.75 <sup>b</sup>	72.07 <sup>b</sup>	0.60 <sup>c</sup>	0.09 <sup>b</sup>	1.01	1.50 <sup>b</sup>	3.05	1739



# What to do?



Do not share farm equipment from infected areas



Wash farm equipment and truck with biocide



Use rubber boots or disposable plastic cover



Wash shoes thoroughly with disinfectant



Do not buy seed from a known area

# *Fusarium solani* and *F. brachygibbosum*

- Similar Fusarium wilt-like symptoms
- *F. solani* more prevalent in rotation with peanuts and sesame.

-  *F. solani*
-  FOV1
-  FOV2
-  FOV4
-  *F. brachygibbosum*



# Sclerotinia blight in Gaines county





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# Want to collaborate?



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