



Trouble Shooting Tips and Common Field Problems

Eric P. Prostko, Ph.D.
Professor and Extension Weed Specialist
Department of Crop & Soil Sciences



UNIVERSITY OF
GEORGIA
College of Agricultural &
Environmental Sciences

My Approach

- Obvious or not?
- Patterns
- Crop history
- Things you can easily prove or rule out
 - *pH*
 - *fertility*
 - *nematodes*



This is obvious (paraquat drift)!



This is obvious (auxin injury)!



This is not obvious!

(stubby root nematode)



Nematode Distribution in Georgia

Sting - July

Lesion - March

Stubby - February

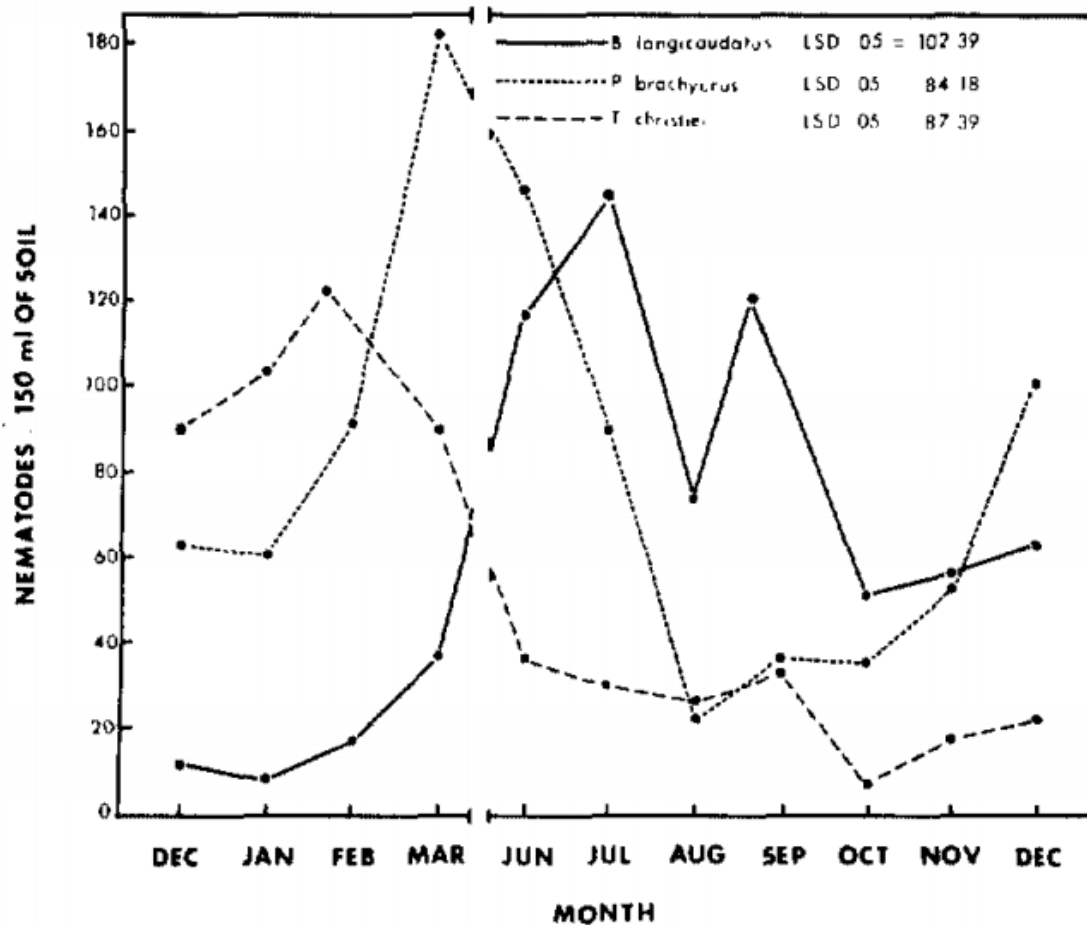


FIG. 2. Average number of nematodes recovered from the upper 105 cm of soil during different months.

Why pick on herbicides?

- Herbicides applied on all crops
- Companies have money
- Could not be anything I did or didn't do!
- I grid sampled and results were fine!



Herbicide Injury???



Herbicide Injury or Nematodes???



796-Rootknot nematodes/sample
50+ is a problem

Herbicide Injury??



Herbicide Injury or Fertilizer Injury?

Phosphite Fertilizer



Roundup Drift?



Roundup Drift or LCB??



Valor Injury?



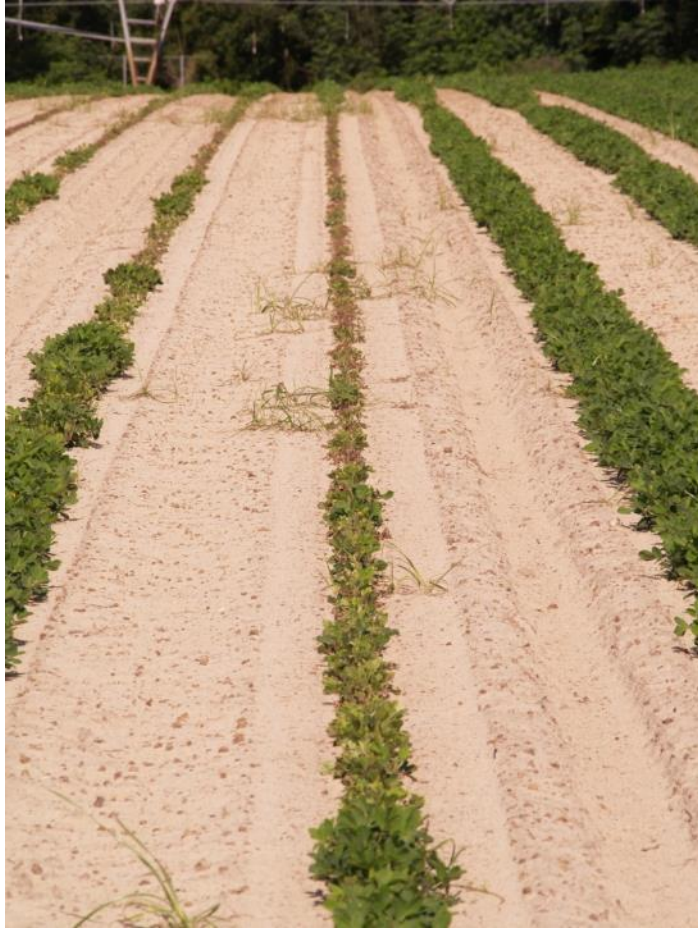
Valor Injury or Soil pH/Zn?



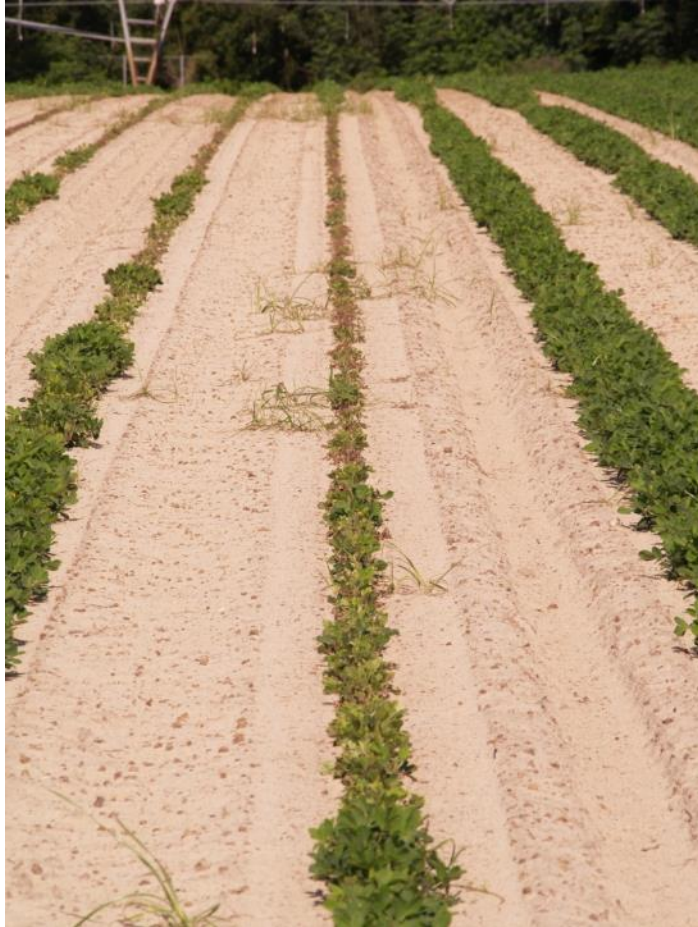
July 2007
pH = 5.04
Zn = 14-17 lbs/a



Valor Injury?



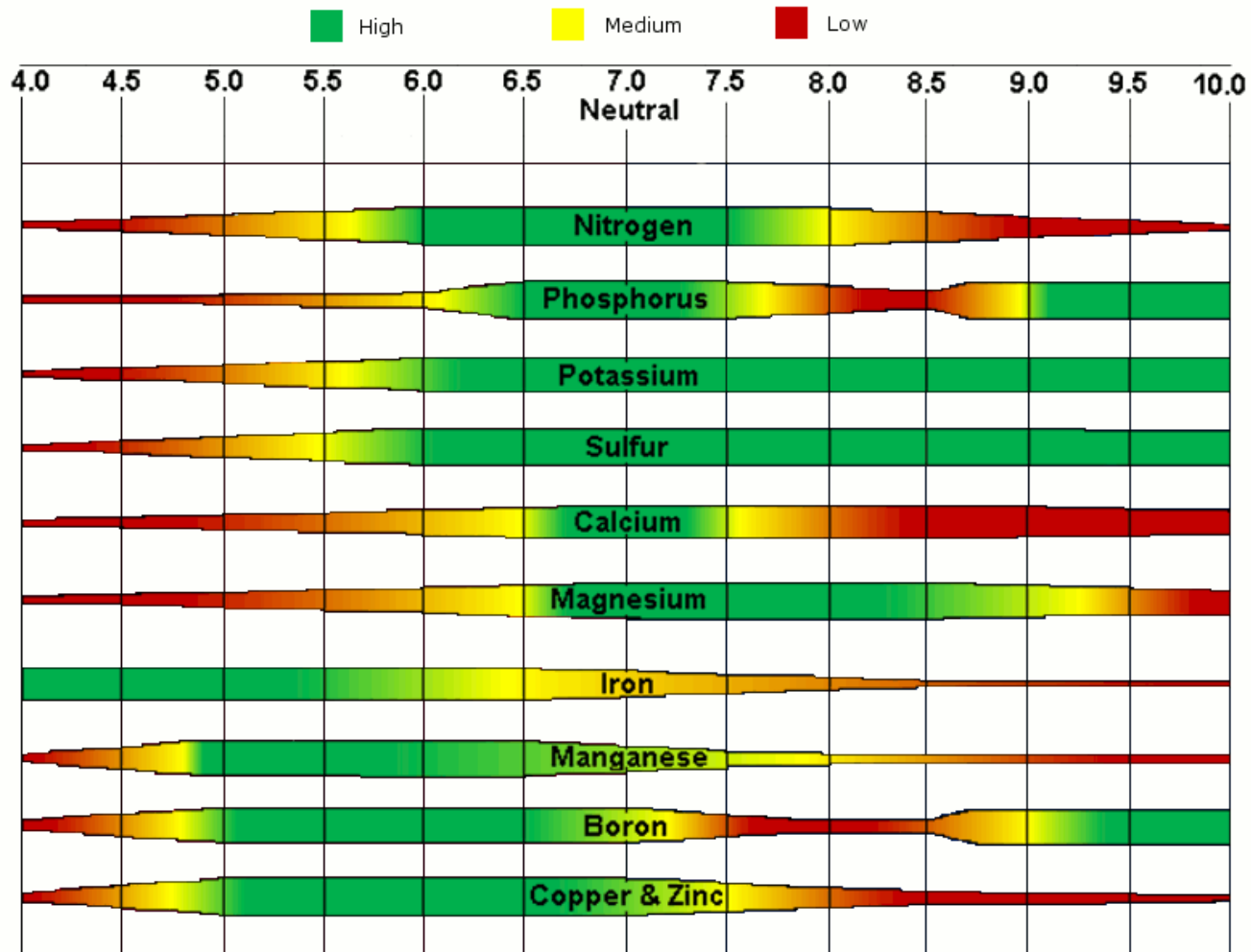
Herbicide Injury or Soil pH/Zn?



June 2010
pH = 4.8
Zn = 14 lbs/A

Soil pH is the key!

Plant nutrient uptake in relation to Soil pH



Herbicide Injury?



Herbicide Injury or Soil Fertility



Old Pasture, no fertilizer was applied, medium soil test K (40 lbs/A) but K deficient (was 0.34% should be 1.7-3.0%) leaf sample

Herbicide Drift?



Herbicide Drift or Potassium?



Soybeans are a **BIG** user of potash (1.14 lbs K_2O removed/bushel)

Herbicide Injury??



Herbicide Injury or Disease?

Anthrachnose



Herbicide Injury?



Herbicide Injury or Nutritional?

Yellow Flash



Soil Analysis

pH = 6.6

Mg = 138 lbs/A (high)

Mn = 18 lbs/A (S)

Zn = 4 lbs/A (S)



Plant Analysis

N = 4.94% (4.25-5.00)

Mg = 0.44% (0.25-0.80)

Mn = 54 ppm (15-200)

S = 0.25% (0.20-0.60)

Likely Cause of Glyphosate Yellow Flash

- Degradation of glyphosate to AMPA
- AMPA reduces chlorophyll content in soybean



AMPA = aminomethylphosphonic Acid

Herbicide Injury?



Herbicide or Nutritional?

Boron Toxicity (2019)



350 ppm B in leaf tissue (20-60 ppm = sufficient; 100+ ppm = toxic)

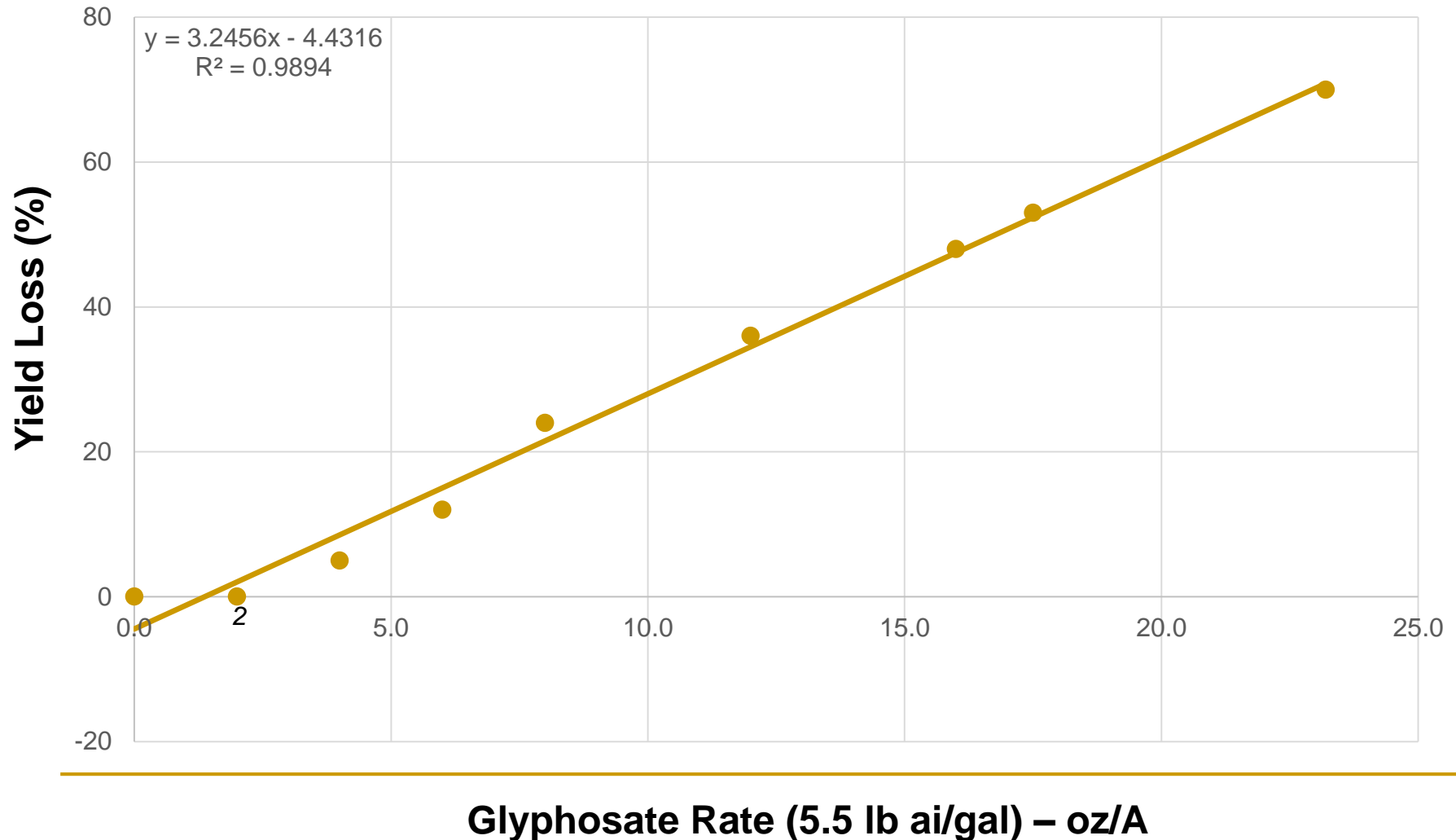


Glyphosate Mishaps Again in 2019



June 28
BS

Peanut Yield Loss Caused By Glyphosate Applied 75-105 DAP in Georgia.





Is this glyphosate?
No, it's diuron!

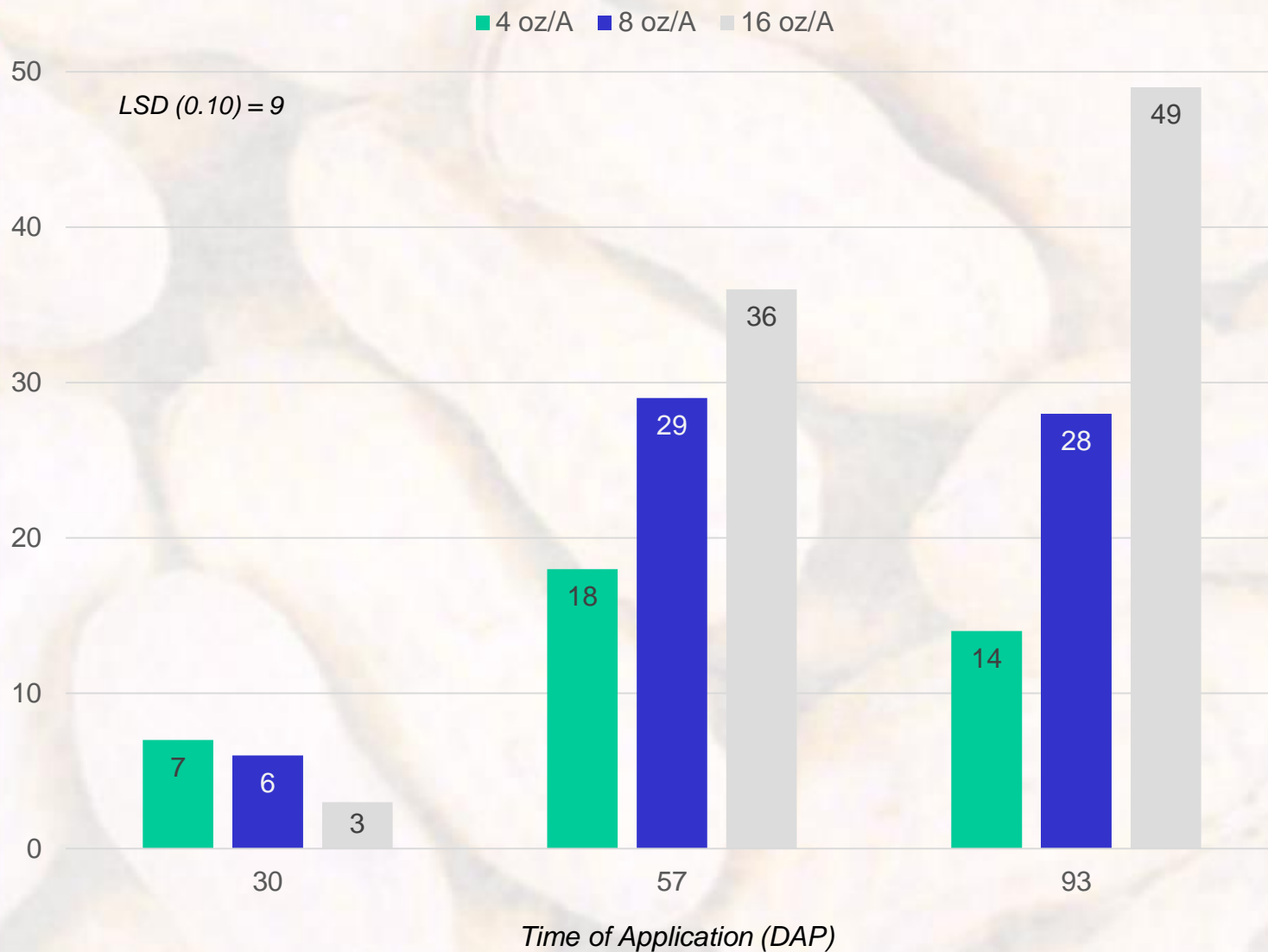


5900+ lbs/A

Planting Date: April 20
Sprayed: June 7
Picture: June 20
Tift Co. 2018



Peanut (GA-06G) Yield Loss (%) From Diuron 4L



Sometimes you strike out!



Candler County, 2010

Before You Call or Send Pictures

- At the very least ...
 - ❑ *Last year's crop*
 - ❑ *Last year's pesticides*
 - ❑ *This year's crop and variety*
 - ❑ *This year's pesticides applied*
 - ❑ *Last pesticide in sprayer*
- Your awesome if you have...
 - ❑ *Soil Test Results*
 - ❑ *Nematode Results*



A good approach to field problems?



- *“Eliminate the impossible. Whatever remains, however improbable, must be the truth.”*
- Sherlock Holmes (i.e. Sir Arthur Conan Doyle)
- “The Sign of the Four”

Questions?

