Peanut Response to Forestry Herbicides

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Overview

- Introduction of Pines and Peanuts
- Herbicides and Trial Layout
- Results
- Conclusion

Georgia Pines

- 11,076,600 ac in pine production
  - 4,145,200 ac in natural
  - 6,931,400 ac in planted
- 67% in loblolly/shortleaf
- 33% in longleaf/slash
- Lumber, pulp, telephone poles, straw, toiletries, cleaning products

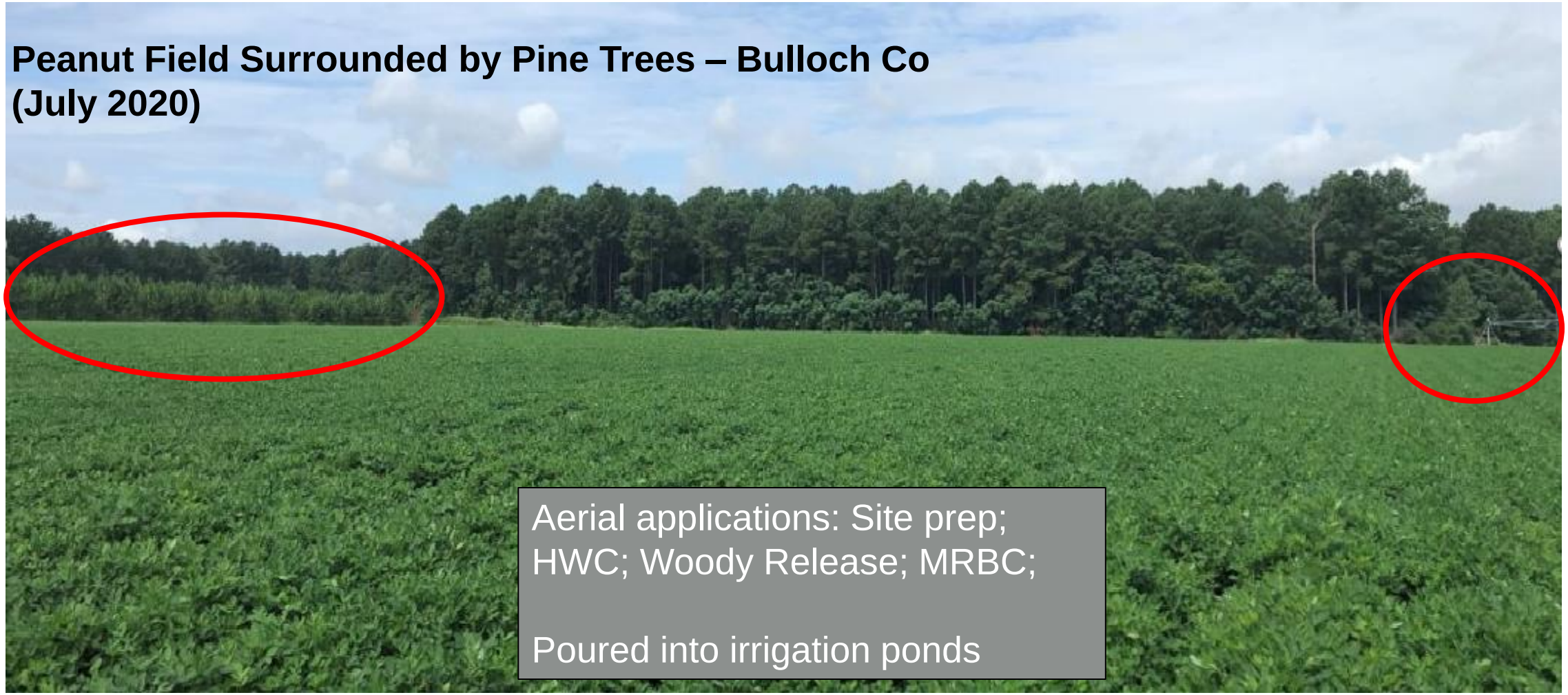
- Source: Brandeis, Thomas J.; McCollum, Joe; Hartsell, Andy; Brandeis, Consuelo; Rose, Anita K.; Oswalt, Sonja N.; Vogt, James T. (JT); Marcano-Vega, Humfredo. 2016. Georgia's Forests, 2014. Resource Bulletin SRS-209. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 78 p.

Peanuts

- 810,000 ac planted
- 800,000 harvested
- Averaged 4,500 lbs/A
- 3.6 billion lbs of peanuts in GA
- Sources: NASS 2020; https://quickstats.nass.usda.gov/results/18D9DF74-F8EE-3E43-BF25-4B2E6F24E512

LOTS OF INTERFACE BETWEEN PINE TREES AND PEANUT FIELDS

Extension Calls.. Accidents Happen



Garlon 3A

DOW – Triclopyr / Group 4

Rates: 1X = 32 oz/A; 1/10thX = 3.2 oz/A; 1/100thX = 0.32 oz/A; UTC

Data Collected: Stand counts; Visual plant stunting; Epinasty %; Plant heights; Plant widths; Chlorosis %; Yield

Arsenal PowerLine

BASF – Imazapyr / Group 2

Rates: 1X = 24 oz/A; 1/10thX = 2.4 oz/A; 1/100thX = 0.24 oz/A; UTC

Data Collected: Stand counts; Visual plant stunting; Chlorosis %; Plant heights; Plant widths; Yield

Peanut Response to PRE Applied Garlon 3AS

NTC

32 oz/A

PE-03-20
May 14
17 DAP

Peanut Response to Garlon 3A Applied @ 30 DAP – 2 DAT

0.32 oz/A
1/100thX

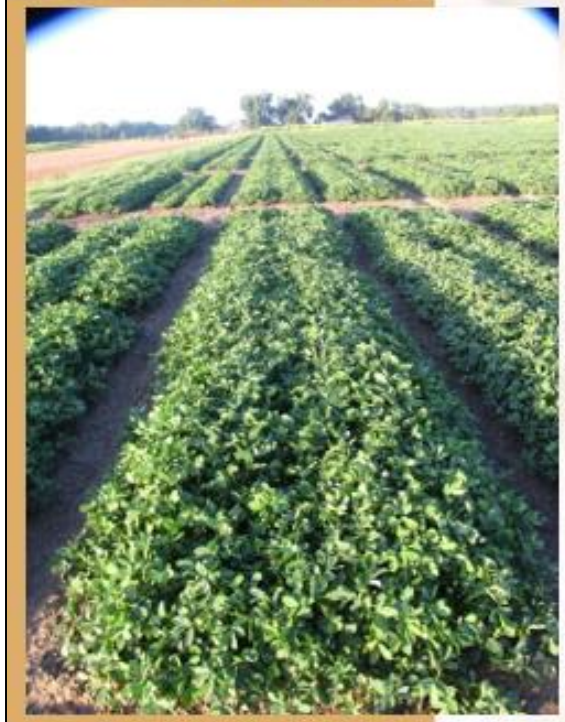
3.2 oz/A
1/10thX

32 oz/A
1X

Peanut Response to Garlon 3A Applied 28 DAP

0 | 0.32 oz/A | 3.2 oz/A | 32 oz/A

Peanut Response to Garlon 3A Applied 28 DAP

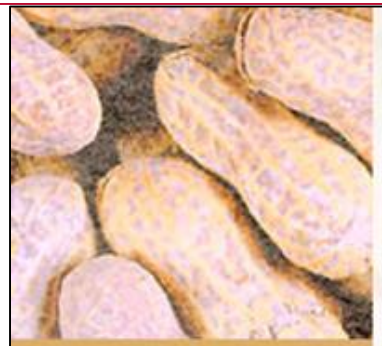


0

0.32 oz/A

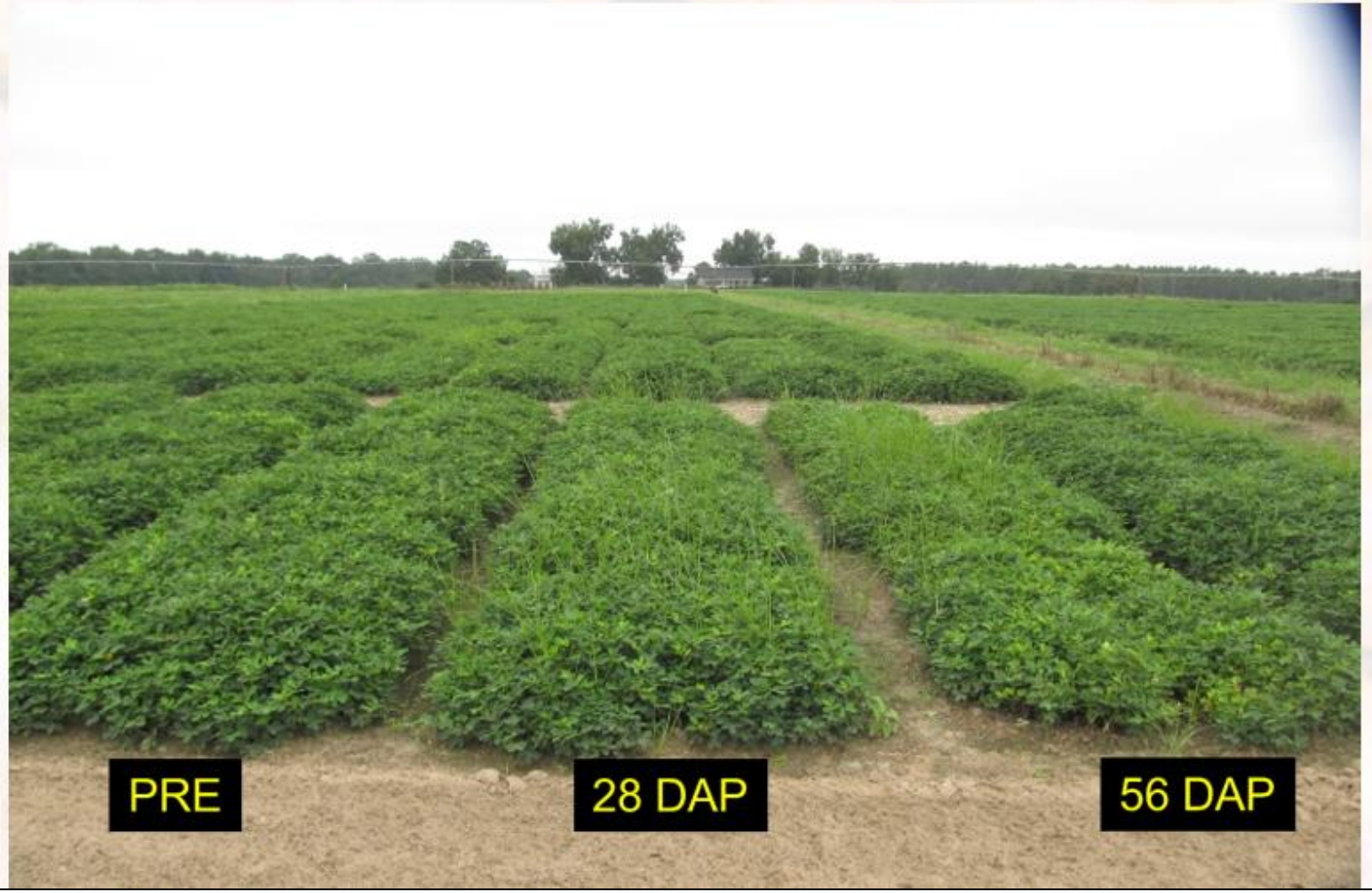
3.2 oz/A

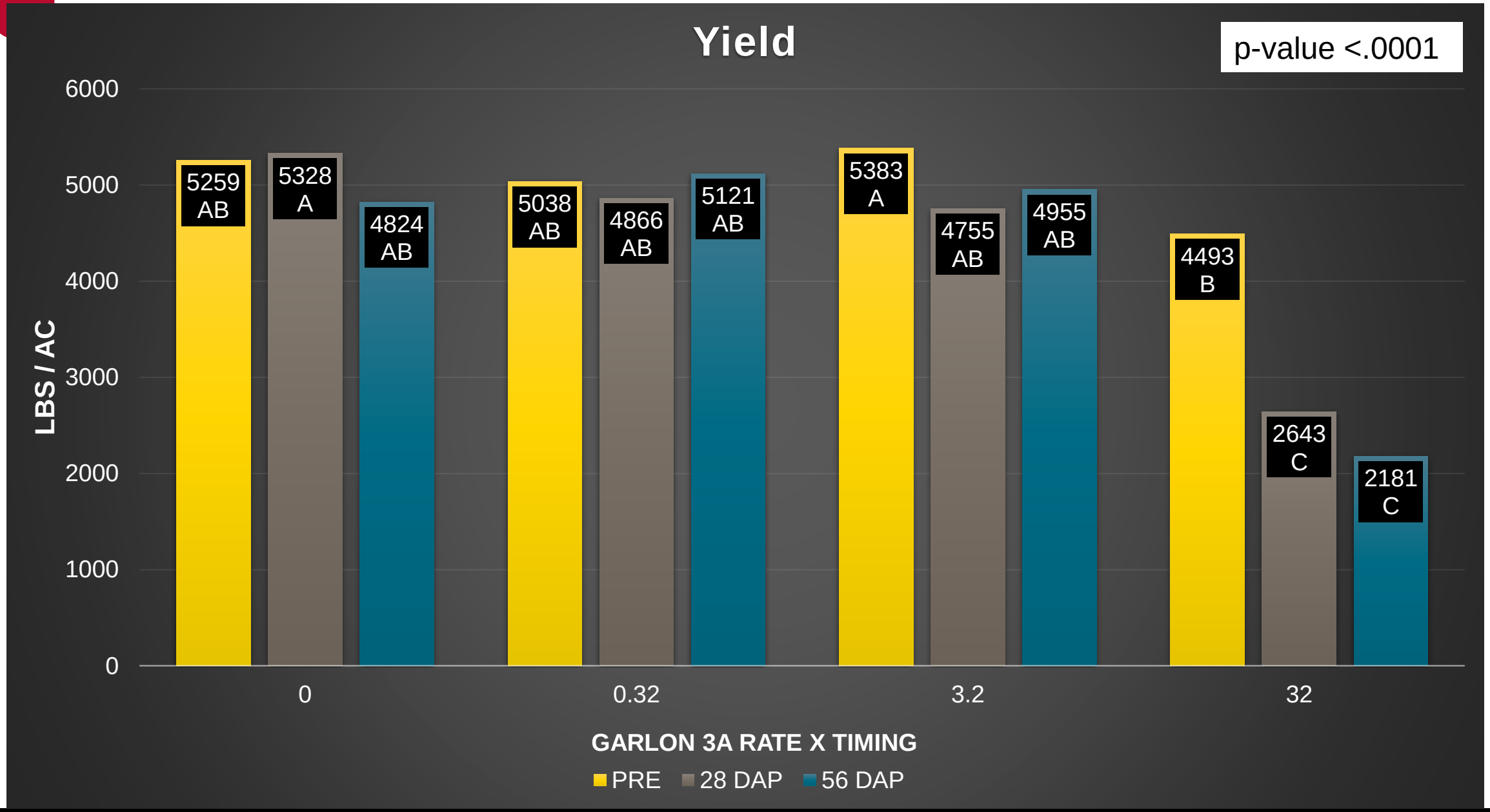
32 oz/A



Peanut Response to Garlon 3A @ 32 oz/A – Applied 56 DAP

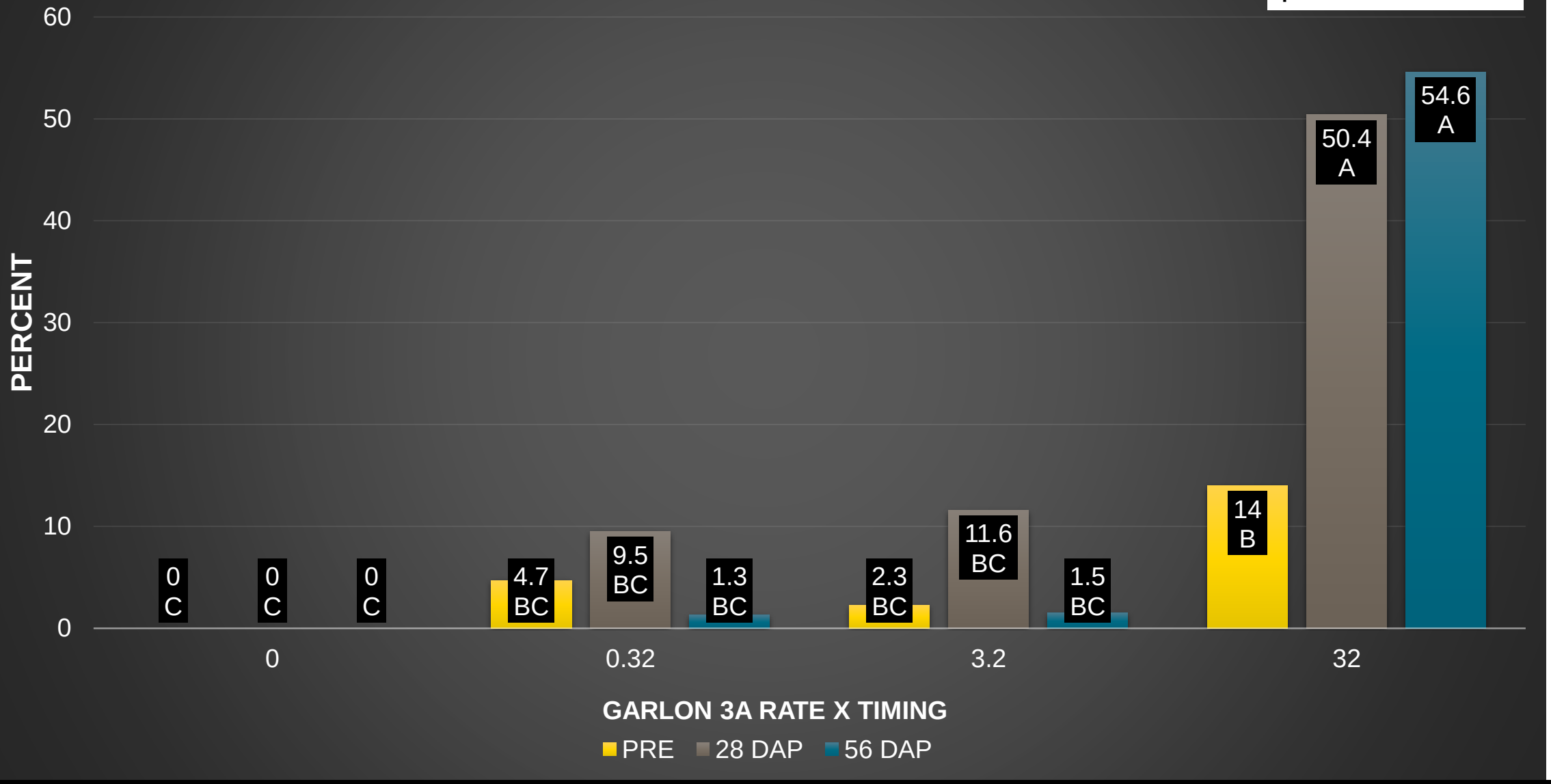
Peanut Response to Garlon 3A Applied @ 32 oz/A




Yield
p-value <.0001
6000
5000
4000
3000
2000
1000
0
LBS / AC
5259 AB
5328 A
4824 AB
5038 AB
4866 AB
5121 AB
5383 A
4755 AB
4955 AB
4493 B
2643 C
2181 C
0
0.32
3.2
32
GARLON 3A RATE X TIMING
PRE
28 DAP
56 DAP

Yield Loss

p-value <.0001



Garlon 3A - Summary

- In summary, this is one year of data in one location, under over-head irrigation.
- Yields could vary widely based on soil type and irrigation capabilities.
- Yields were not significantly reduced when peanuts were exposed to a rate of 1/10th or less.
- We will continue to evaluate this data set and research to better understand the effects of Garlon 3A on peanut at various growth stages and at different rates.

Peanut Response PRE Applied Arsenal PowerlIne 2AS

NTC

24 oz/A

PE-03-20
May 14
17 DAP

Peanut Response to Arsenal Powerline 2AS Applied PRE – 29 DAT

0.24 oz/A
1/100thX

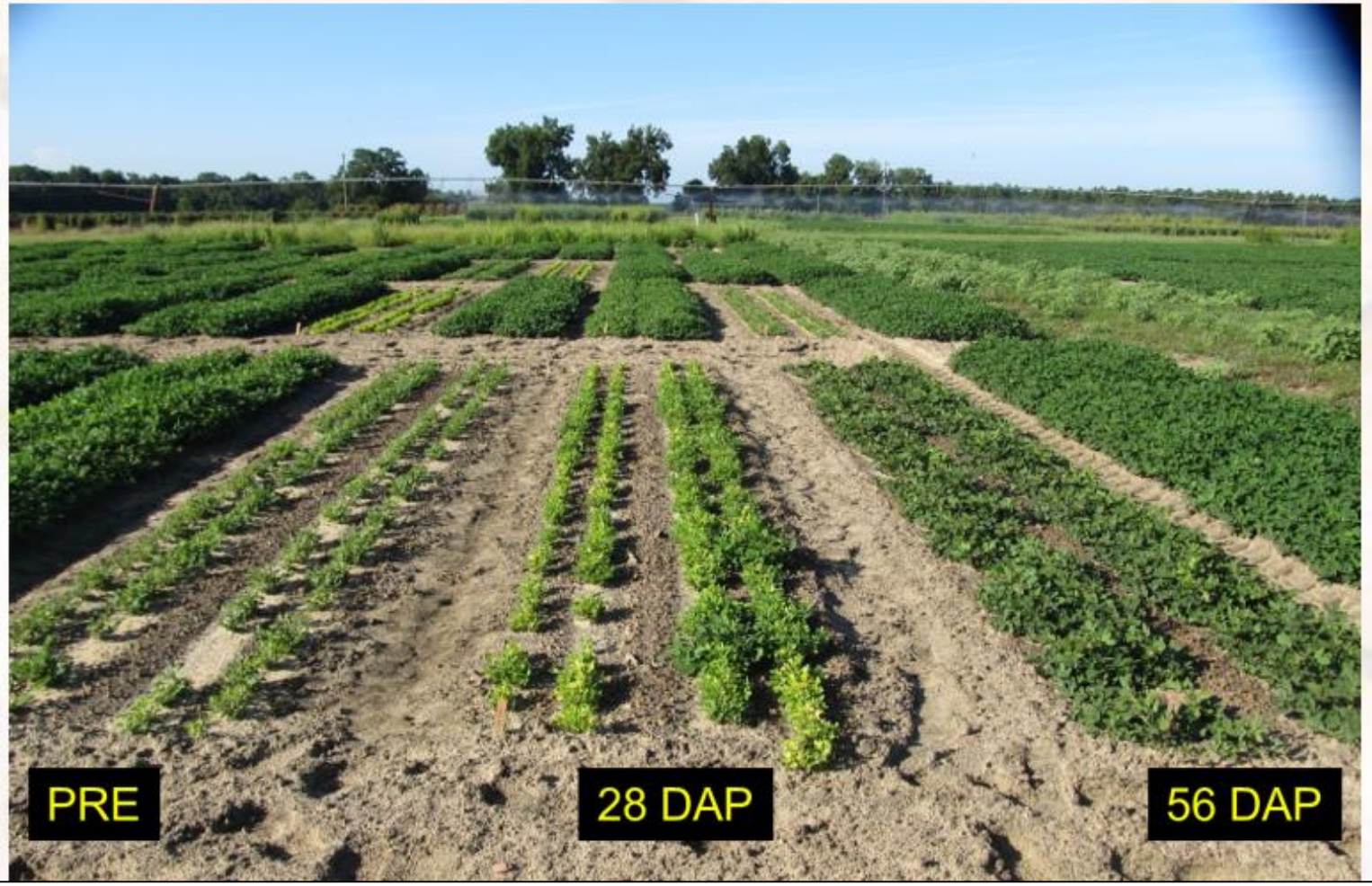
2.4 oz/A
1/10thX

24 oz/A
1X

Peanut Response to Arsenal Powerline 2AS - Applied 28 DAP

0 | 0.24 oz/A | 2.4 oz/A | 24 oz/A

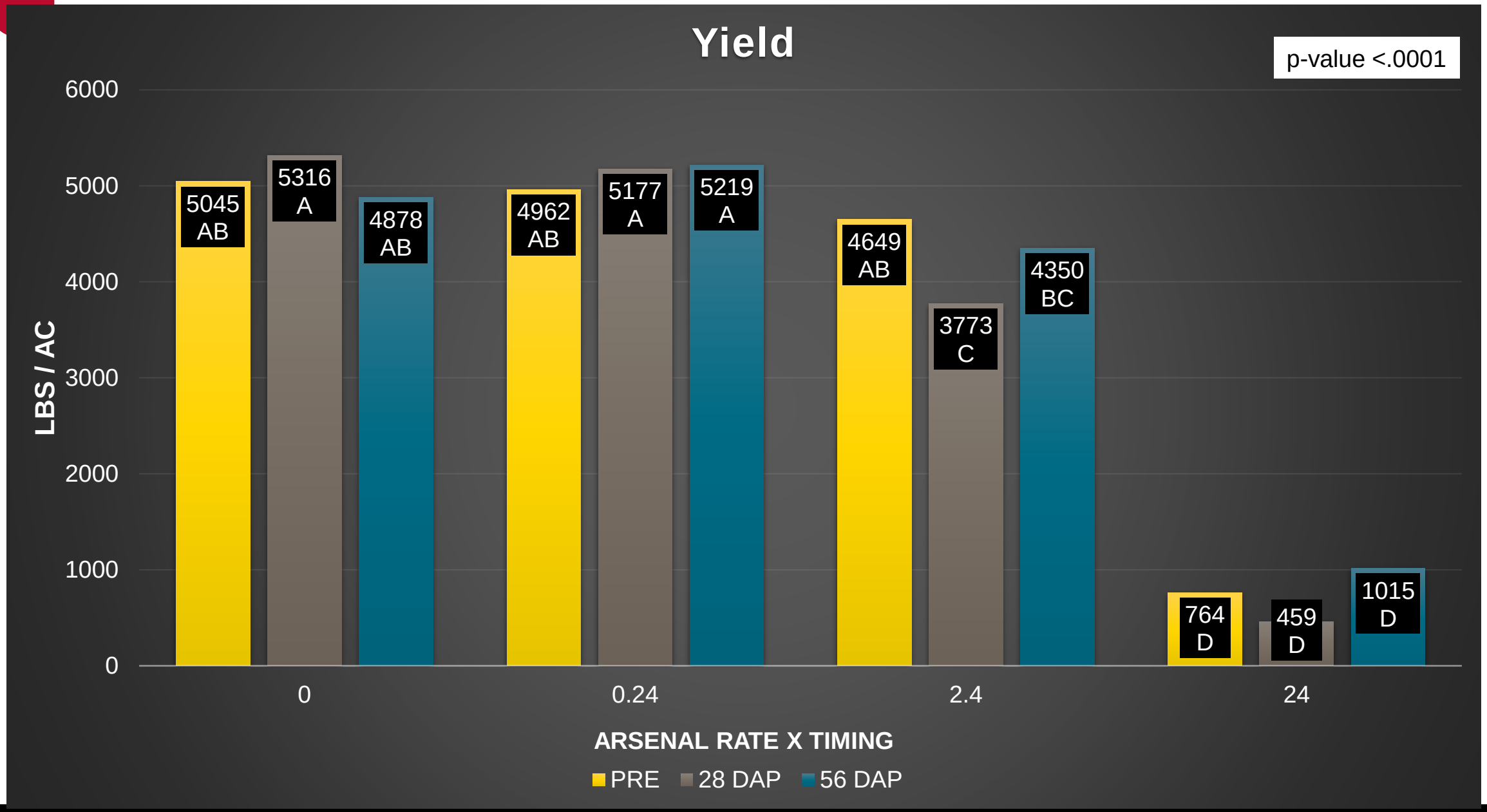
Peanut Response to Arsenal 2AS @ 24 oz/A

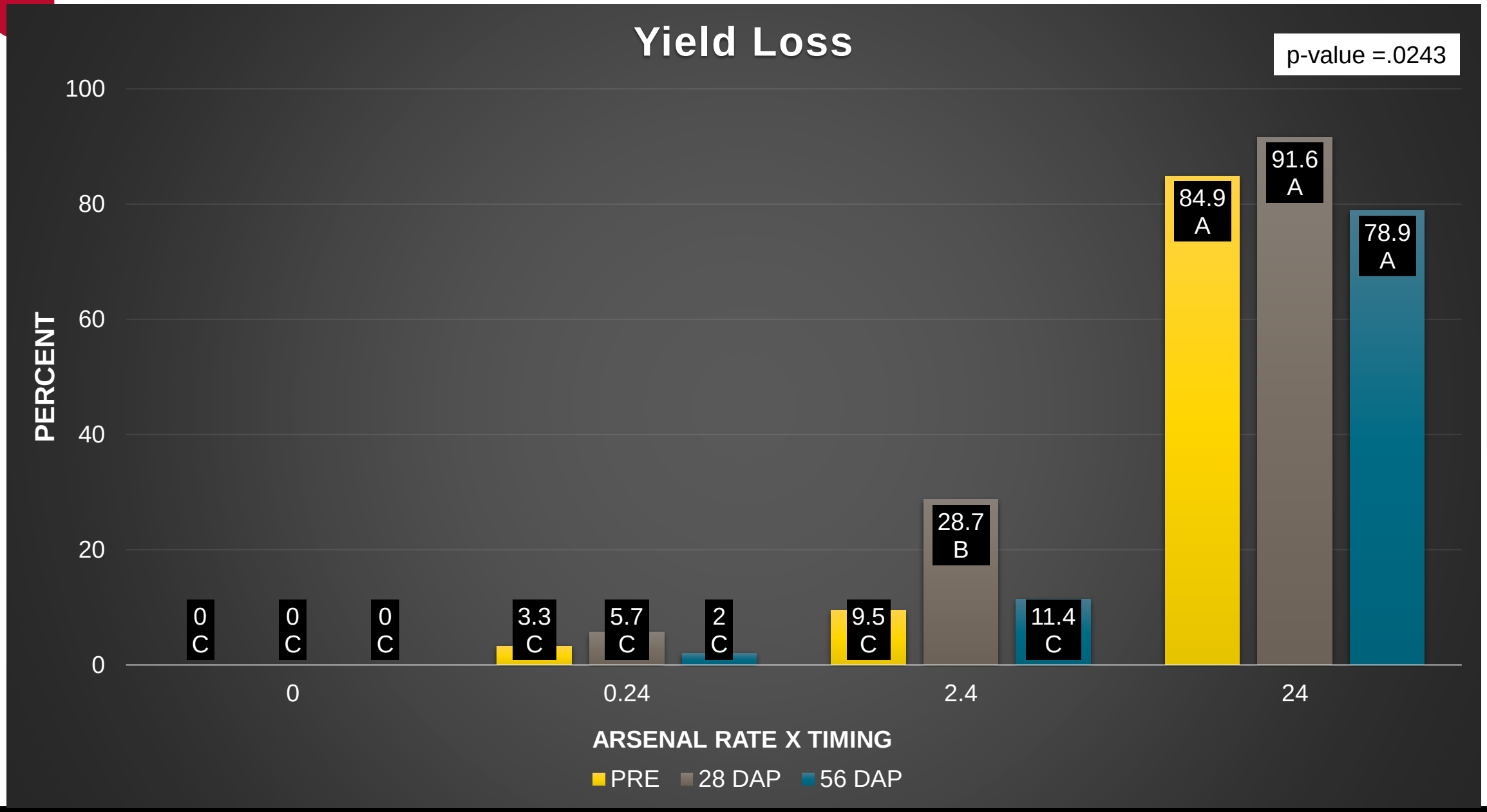


Peanut Response to Arsenal 2AS @ 24 oz/A

Peanut Response to Arsenal 2AS @ 24 oz/A Applied 56 DAP

Peanut Response to Arsenal 2AS @ 24 oz/A


Yield
p-value <.0001
6000
5000
4000
3000
2000
1000
0
LBS / AC
5045 AB
5316 A
4878 AB
4962 AB
5177 A
5219 A
4649 AB
3773 C
4350 BC
764 D
459 D
1015 D
0
0.24
2.4
24
ARSENAL RATE X TIMING
PRE
28 DAP
56 DAP


Yield Loss
p-value =.0243
100
80
60
40
20
0
PERCENT
0 C
0 C
0 C
3.3 C
5.7 C
2 C
9.5 C
28.7 B
11.4 C
84.9 A
91.6 A
78.9 A
0
0.24
2.4
24
ARSENAL RATE X TIMING
PRE
28 DAP
56 DAP

Arsenal PowerLine Summary

- In summary, this is one year of data in one location, under over-head irrigation.
- Yields could vary widely based on soil type and irrigation capabilities.
- Yields were not significantly reduced when peanuts were exposed to a rate of 1/100th or less.
- It seems across these two trials that when peanuts are sprayed at 28 DAP, peanuts were most severely impacted.
- We will continue to evaluate this data set and research to better understand the effects of Arsenal Powerline on peanut at various growth stages and at different rates.

Thank You! Questions?