



Peanut Weed Control Update - 2019

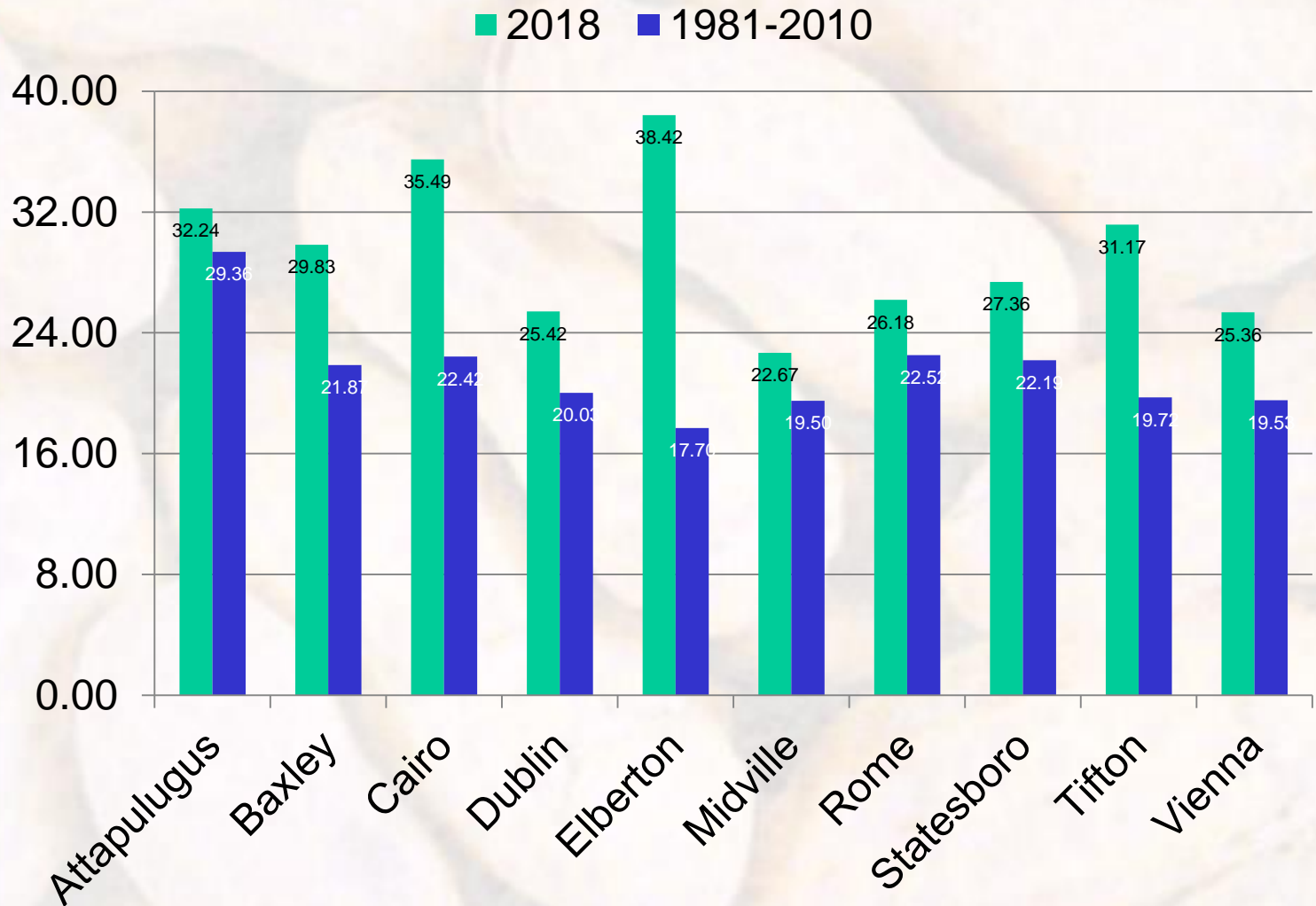
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**UNIVERSITY OF
GEORGIA**
College of Agricultural &
Environmental Sciences

Georgia Rainfall Totals (inches)

April 1 – September 1





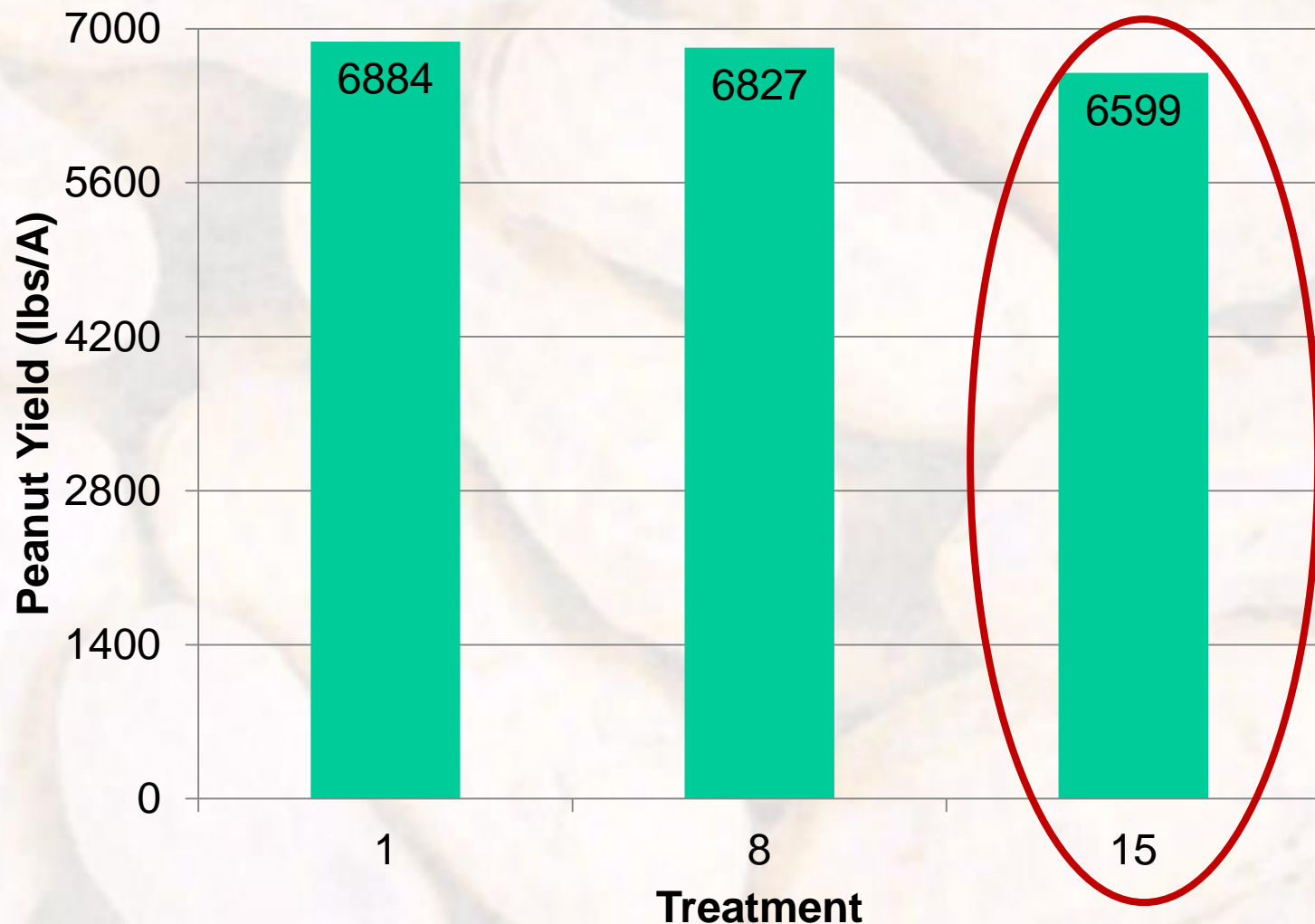
Is this glyphosate?



5900+ lbs/A



Which treatment do you prefer?

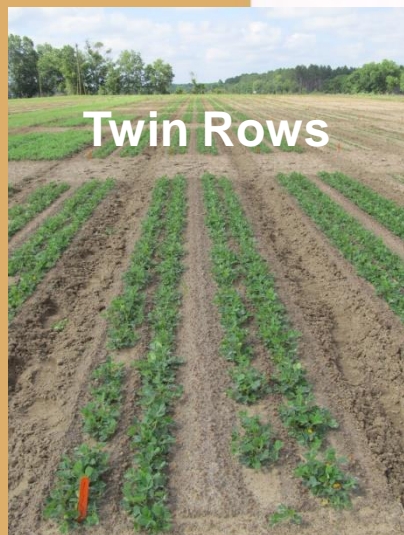


PE-13-18
LSD ($P = 0.10$) = 481
THSD ($P = 0.10$) = 974



Peanut Weed Control

Integrated Program Approach





The Peanut Herbicide Toolbox

23 Active ingredients

- PPI/PRE

Sonalan

Prowl/Pendimax

Dual Magnum/Generics

Outlook/Propel

Pursuit

Spartan Charge

Solicam

Strongarm

Valor

Zidua

- POST

Aim (Harvest Aid)

Gramoxone

Inteon/Firestorm/Parazone

Basagran

Ultra Blazer

Cadre/Impose

Classic

Cobra

ET (harvest aid)

Fusilade

Poast/Poast Plus

Pursuit

Select/Arrow/Trigger

Storm

2,4-DB



Peanut Weed Control – 2018

Valor/Cadre Program



NTC

Prowl H₂O 3.8Sc @ 32 oz/A (PRE)
Valor SX 51WG @ 3.0 oz/A (PRE)
Strongarm 84WG @ 0.45 oz/A (PRE)
Cadre 2AS @ 4 oz/A (38 DAP)
Dual Magnum 7.62EC @ 16 oz/A (38 DAP)



PE-15-18
July 17
71 DAP



Peanut Weed Control – 2018

Gramoxone/Cadre Program



PE-15-18
July 17
71 DAP

NTC



What do the top Georgia peanut growers do?

2017 Georgia Peanut Achievement Club Winners

- 15 growers
- **6249 lb/A average yield**
 - GA State Avg. = 4380 lb/A
- 100% - irrigated
- 67% - bottom plow
- 86% - twin rows
- **Herbicides**
 - **53% - Sonalan**
 - **93% - Valor**
 - 20%- Dual
 - **73% - Cadre**
 - **53% - 2,4-DB**
 - 47% - Prowl
 - 40% - Strongarm
- 9.1 MPH and 12.2 GPA (avg.)



Weed Wiper Randolph County – August 20, 2018



Treated 8/8/18



Other Topics of Interest



- Future
 - *Anthem Flex*
(pyroxasulfone + carfentrazone)
 - *Brake* (fluridone)
- Valor Formulations
- Valor/Dual Magnum Combos in High Moisture
- Auxin Nozzles
- Dicamba
- Tropical spiderwort /Benghal Dayflower



Anthem Flex in Peanut

- FMC
- Anthem Flex 4SE
 - carfentrazone (0.267 lb/gal)
 - pyroxasulfone (3.733 lbs/gal)
- Testing since 2012
- **POST only!**
- Increase in crop injury mostly due to carfentrazone
- 3 oz/A + NIS
 - 0.0063 lb ai/A – carfentrazone
 - Aim 2EC @ 0.4 oz/A
 - 0.0875 lbs ai/A – pyroxasulfone
 - Zidua 85WG @ 1.65 oz/A

Weed Control in Peanut with Anthem Flex - 2018



NTC



Prowl H₂O @ 32 oz/A – PRE

Gramoxone @ 12 oz/A - 16 DAP
Storm @ 16 oz/A - 16 DAP
Dual Magnum @ 16 oz/A - 16 DAP

Cadre @ 4 oz/A - 38 DAP
Dual Magnum @ 16 oz/A - 38 DAP



Prowl H₂O @ 32 oz/A – PRE

Gramoxone @ 12 oz/A - 16 DAP
Storm @ 16 oz/A - 16 DAP
Anthem Flex @ 3 oz/A - 16 DAP
Induce @ 0.25% v/v

Cadre @ 4 oz/A - 38 DAP
Anthem Flex @ 3 oz/A - 38 DAP
Induce @ 0.25% v/v

PE-15-18
July 17
71 DAP

Gramoxone + Storm + Anthem Flex



PE-02-15
May 19
1 DAT



Brake (fluridone) vs. Valor - 2018

Brake[®]
Herbicide



NTC



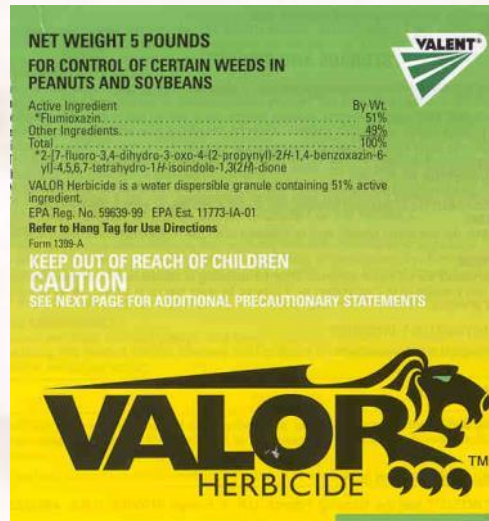
Prowl H₂O @ 32 oz/A (PRE)
Valor SX @ 3 oz/A (PRE)
Cadre @ 4 oz/A (POST)
Dual Magnum @ 16 oz/A (POST)
2,4-DB @ 16 oz/A (POST)



Prowl H₂O @ 32 oz/A (PRE)
Brake 1.2L @ 16 oz/A (PRE)
Cadre @ 4 oz/A (POST)
Dual Magnum @ 16 oz/A (POST)
2,4-DB @ 16 oz/A (POST)



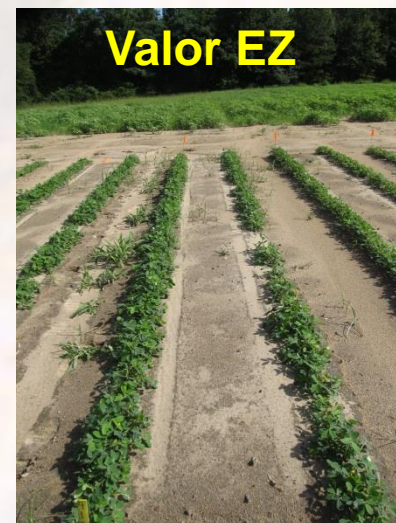
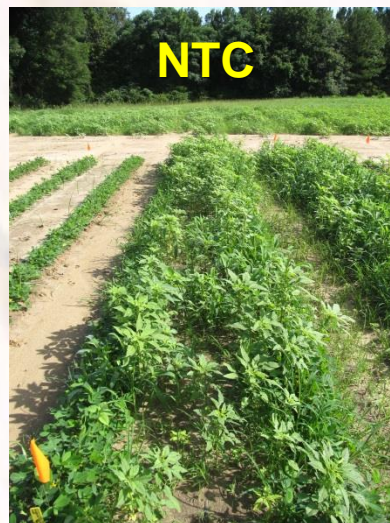
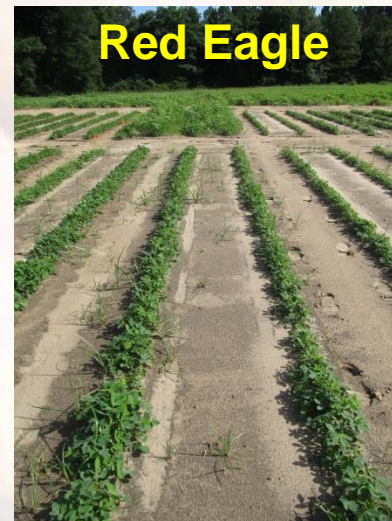
Flumioxazin Formulations





Valor Formulation Test - 2018

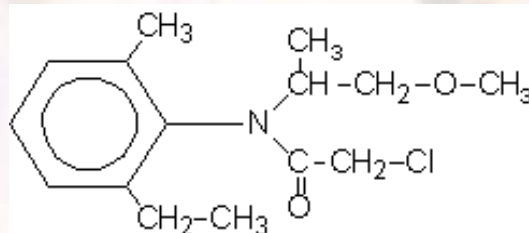
(3 oz/A + Prowl H₂O @ 32 oz/A)



PE-06-18
June 18
42 DAP
13.55" (R + I)

Brief History of Metolachlor

- Synthesized by Ciba-Geigy in 1972
 - *50/50% mixture of R + S isomers*
- Registered for corn in 1977
- Registered for peanut in 1980 (February)
- S-metolachlor registered for use in 1997 (Novartis)
 - *12/88% mix of R + S isomers*
 - *Patent expiration*
 - *EPA Reduced Risk Pesticide Program*
- Novartis stopped selling “old” metolachlor in 1999, phased out completely by 2001.
 - *Novartis + AstraZeneca became Syngenta in 2000*
- Generic companies started producing “old” metolachlor in 2003 (i.e. 50/50 mix of R + S isomer).





Early Metolachlor/Peanut Research Results

<i>Author (s)</i>	<i>Year</i>	<i>Journal</i>	<i>Results</i>
Cardina and Swann	1988	Peanut Sci. 15:57-60	Emergence and growth delayed from PPI applications when rainfall or irrigation followed application. No effect on yield at labeled rates. 3X rate reduced yield (11-15%)
Wehtje et al.	1988	Peanut Sci. 15:53-56	Across all years, a 2-fold safety factor existed between maximum labeled rate and injury rate.
Johnson et al.	1993	Peanut Sci. 20:17-20	Split applications of metolachlor (PPI + VE) had no effect on yield.
Johnson et al.	1994	Peanut Sci. 21:126-129	PPI, VE, and PPI + VE applications had no effect on yield.

What about high moisture conditions and tank-mixes with Valor?



Valor/Dual High Moisture Test - 2018



11.315" OF TOTAL IRRIGATION/RAINFALL IN FIRST 30 DAYS
AFTER APPLICATION



Peanut Response to Valor + Dual Magnum - 2018

11.315" OF TOTAL
IRRIGATION/RAIN
FALL IN FIRST 30
DAYS AFTER
APPLICATION



NTC



Valor @ 3 oz/A + Dual Magnum @ 16 oz/A
PRE

J-Rooting



PE-09-18
May 21
21 DAP



Valor/Dual Magnum High Moisture Results - 2018

- No interactions between Valor and Dual Magnum
- No effect on J-rooting
- Valor and Dual reduced early season peanut biomass (stunting)
- Valor @ 3 or 6 oz/A had no effect on yield
- Dual Magnum reduced peanut yields under these high moisture conditions.
 - 16 oz/A = 4.2% loss
 - 21 oz/A = 5.4% loss
 - 42 oz/A = 10.8% loss

11.315" OF TOTAL
IRRIGATION/RAIN
FALL IN FIRST 30
DAYS AFTER
APPLICATION

VMD for common nozzle types



11002DG
 $VMD_{50} = 322$ (M)



AIXR 11002
 $VMD_{50} = 402$ (C)



TTI 02
 $VMD_{50} = 524$ (XC)

3.5 MPH - Walking
20" nozzle spacing
20" boom height
35-40 PSI
15 GPA



Objective:



- Compare the field performance of auxin nozzles to flat fan nozzles in commercial peanut fields.





Methodology

- 3 commercial peanut fields
- Plot size
 - Sprayer width X field length
- 3-4 replications
- 2 nozzle types
- All agri-chemicals
- ANOVA
- Tukey's HSD
($P=0.10$)





Bulloch County Nozzle Test - 2018



03/23/2017
JD 4630
15 GPA
25 PSI
12.6 MPH
90' boom length
15" nozzle spacing
32"-34" boom height

Miller County Nozzle - 2018



JD4030
110 ft boom
20" nozzle
10 MPH
25 PSI
10 GPA



Pierce County Nozzle Test - 2018



03/22/2017
JD 4730
16 GPA
21-23 PSI
11.6 MPH
100' boom length
15" nozzle spacing
28" boom height



2018 Nozzle Tests

Pesticides/Fertilizers Applied

County	Herbicide	Fungicide	Insecticide	Other
Bulloch	Valor Strongarm Acumen Gramoxone Storm Dual Magnum 2,4-DB	Alto Bravo Elatus Folicur	Bifenthrin Dimilin	Boron PegPower
Miller	Cadre Dual Magnum 2,4-DB	Bravo Elatus Folicur Priaxor Propulse	Acephate Beseige	FullBor Micropak PegPower
Pierce	Valor Dual Magnum Cadre 2,4-DB	Chlorothalonil Convoy Tebuzole	Dimilin	Boron



Yield Data



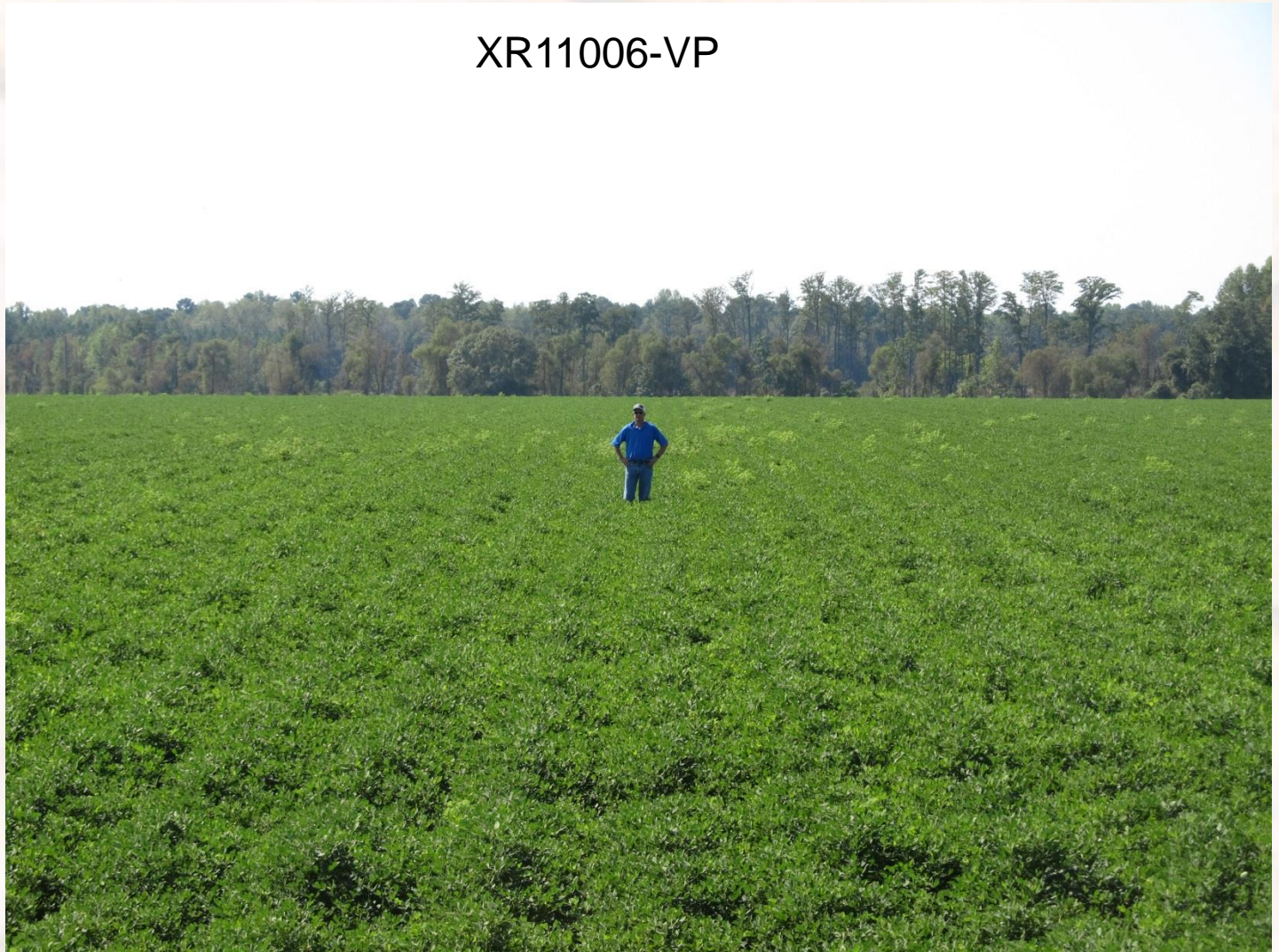
Miller Co.
October 3

6 rows (18') X 1000' (0.413 acres/rep) – Bulloch/Miller
6 rows (18') X Field Length (0.680-0.735 acres/rep) - Pierce

Pierce County Nozzle Test

September 19, 2018

XR11006-VP



Pierce County Nozzle Test September 19, 2018

TTI-11006VP-C



Nozzle Tests - Summary



- No differences in weed, insect, disease control observed except for 3-CAH in Miller Co.
- No differences in peanut yield
- Growers liked auxin nozzles and plan to expand use in 2019



Nozzle Tests Thoughts

- TTI60 will likely not be registered for dicamba
- Growers who historically have less than ideal pest control should not take a chance on coverage
- Timing is important!



Off-Target Dicamba/Peanuts





Dicamba/Peanuts – I (Epinasty)



Dicamba/Peanuts – II (leaf strapping)





Dicamba/Peanuts – III (leaf roll)





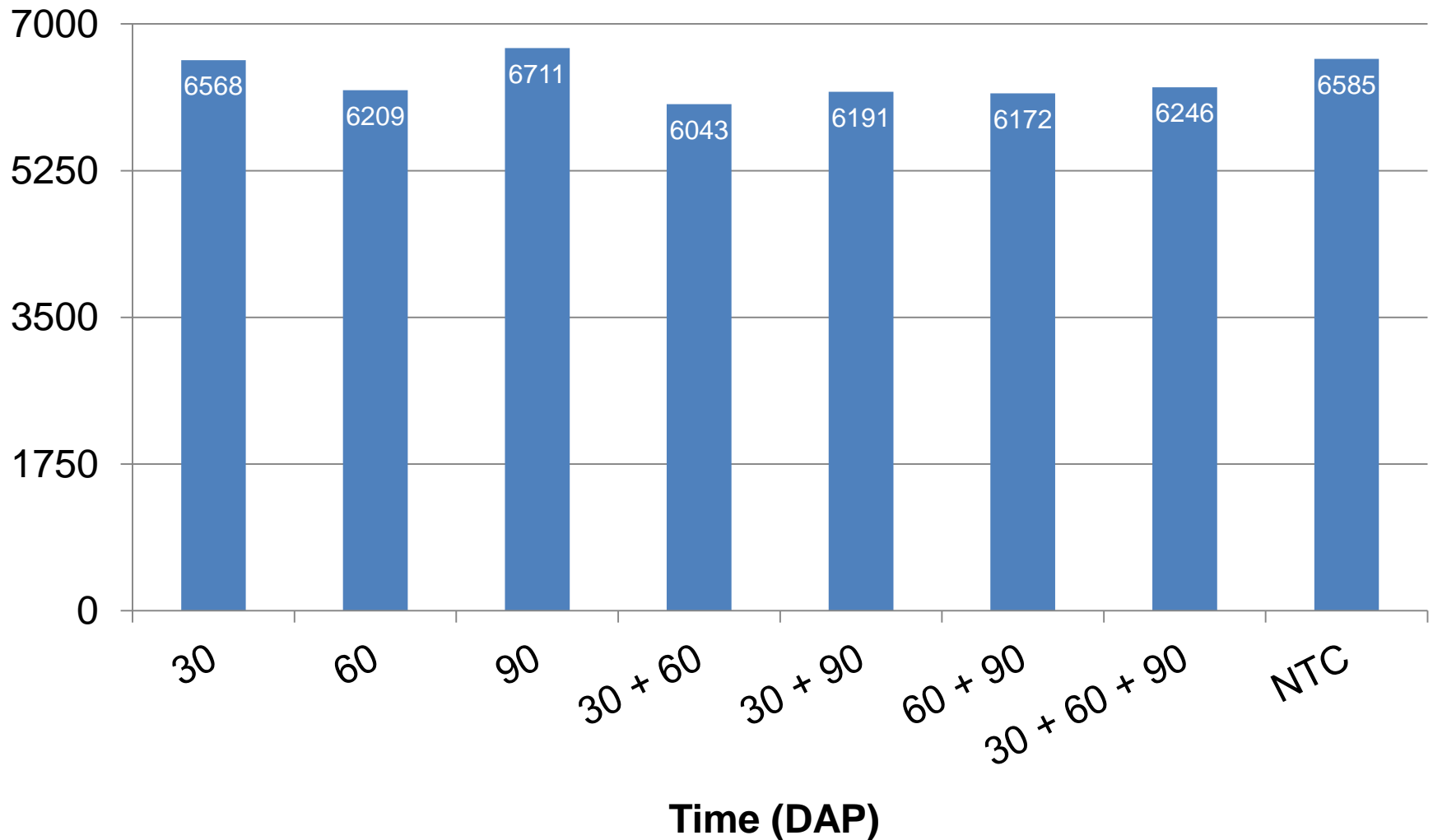
Peanut Response to Xtendimax + Glyphosate (1/50th X) - 2018

Applied 30 + 60 + 90 DAP



PE-03-18
August 16
108 DAP

Peanut yield (lbs/A) as influenced by dicamba + glyphosate applied at 1/50th X rates.



THSD ($P=0.10$) = NS
CV = 4.8



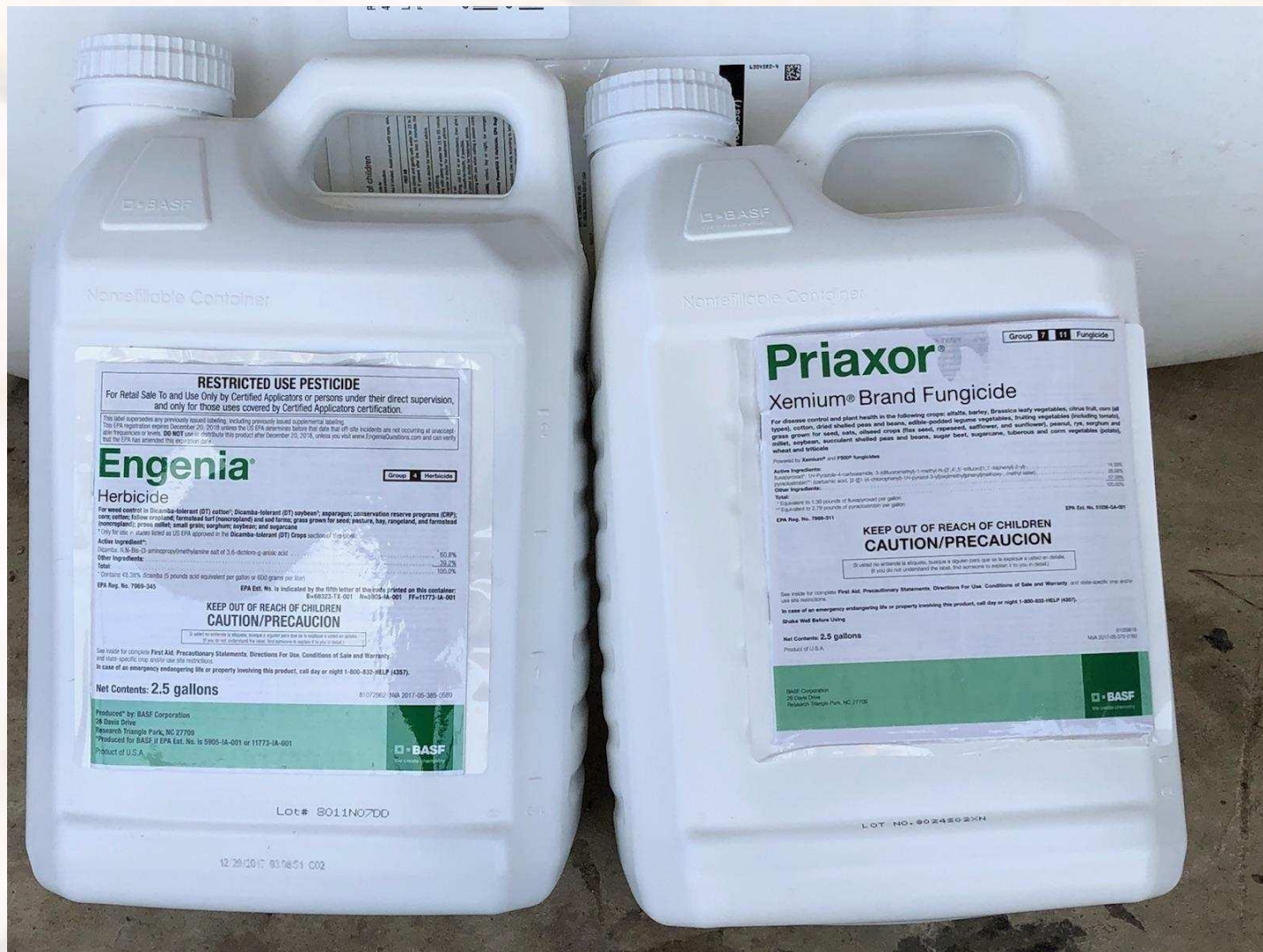
Peanuts/Dicamba Summary

- No tolerance is currently established
- Peanut injury dependent upon rate and time of event
- Drift rates or volatility rates ($1/50\text{thX}$ and lower) will cause symptomology but should not reduce yields
- Pay attention!





Pay Attention to Detail!





Tropical Spiderwort (a.k.a. Benghal Dayflower) Control in Peanut

- Tillage (moldboard plow)
- Twin Rows (+8%)
- **2 applications of Dual Magnum**
 - *PRE or EPOST or POST?*
- Gramoxone, Cadre, Strongarm, Basagran
 - POST



Questions/Comments

