



Peanut Weed Control Update - 2020

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Peanut Weed Control

Integrated Program Approach



Tillage



Rye Cover Crop



Irrigation



Twin Rows



Herbicides



Hand-Weeding



Twin vs. Single Rows

- Better control of TSWV
- Better control of some weeds
 - ~10%
- Yield/Grade????





The Peanut Herbicide Toolbox

23 Active ingredients, 9 MOA's

- PPI/PRE

Sonalan

Prowl/Pendimax

Dual Magnum/Generics

Outlook/Propel

Pursuit

Spartan Charge

Solicam

Strongarm

Valor

Zidua

- POST

Aim (Harvest Aid)

Gramoxone/Firestorm/Parazone

Basagran

Ultra Blazer

Cadre/Impose

Classic

Cobra

ET (harvest aid)

Fusilade

Poast/Poast Plus

Pursuit

Select/Arrow/Trigger

Storm

2,4-DB



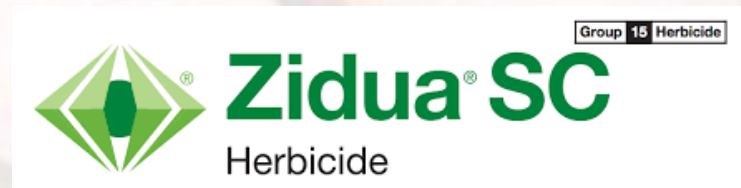
The foundation of weed management in peanuts in GA are the yellow/DNA herbicides!

- Sonalan, Prowl, Pendimax, Prowl H₂O
- inexpensive
 - (< \$9/A)
- Texas panicum
- Florida pusley
- must be incorporated by tillage or irrigation
- Flip a coin or personal preference or strip-till



Others

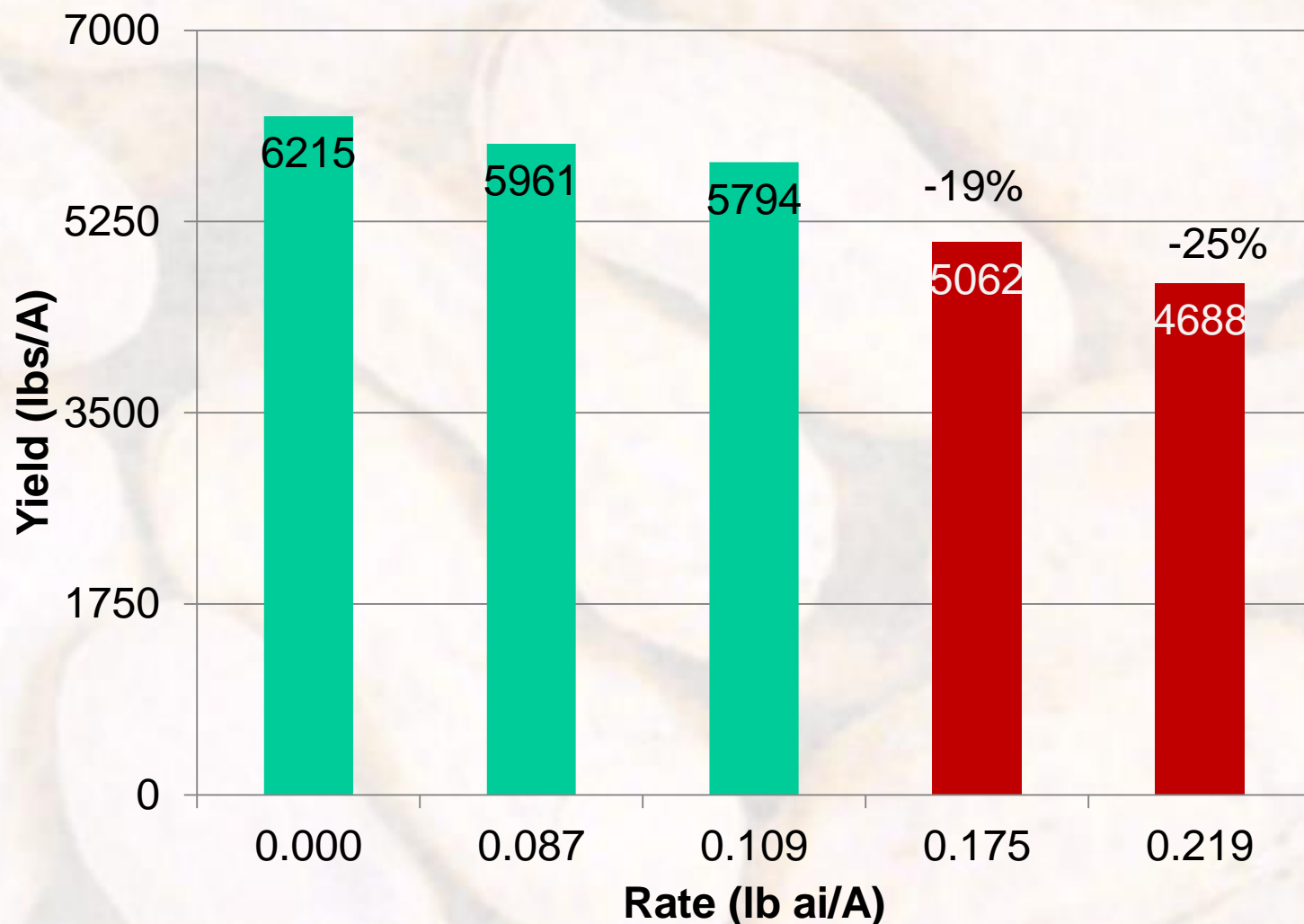
(chloroacetamides, isoxazolines)



Flip a coin or personal preference?



Irrigated Peanut Yield Response to PRE Applied Pyroxasulfone

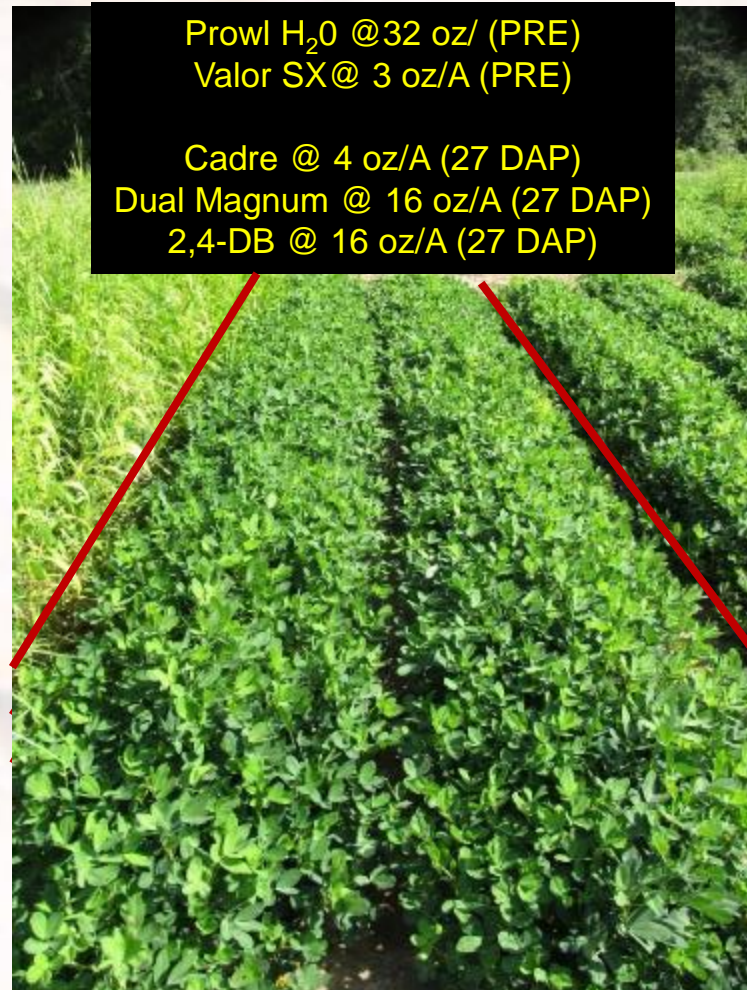




Peanut Weed Control - 2019



NTC



Prowl H₂O @ 32 oz/ (PRE)

Valor SX @ 3 oz/A (PRE)

Cadre @ 4 oz/A (27 DAP)

Dual Magnum @ 16 oz/A (27 DAP)

2,4-DB @ 16 oz/A (27 DAP)

PE-14-19
July 17
71 DAP

~\$35/A
(5 MOA)

Valor

Great Weed Control vs. Crop Injury



Valor SX 51WG @ 3 oz/A = \$8.34/A

Valor Injury - 2019



NTC



3 oz/A

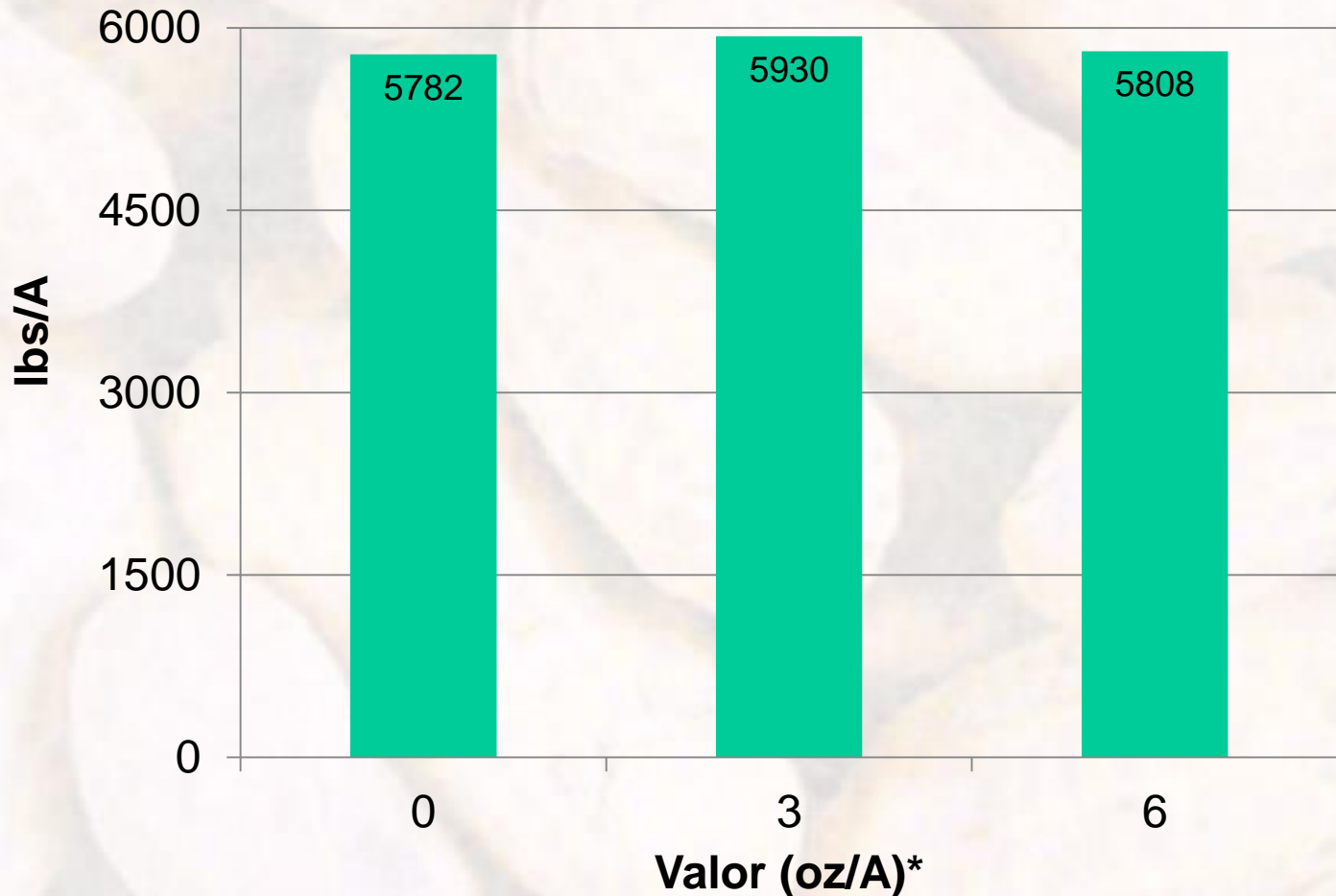


6 oz/A

PE-07-19
May 14
13 DAP



Valor Effects on Peanut Yield High Moisture Conditions - 2019



**averaged over 4 Dual Magnum rates*

P = 0.7798
CV = 10.6

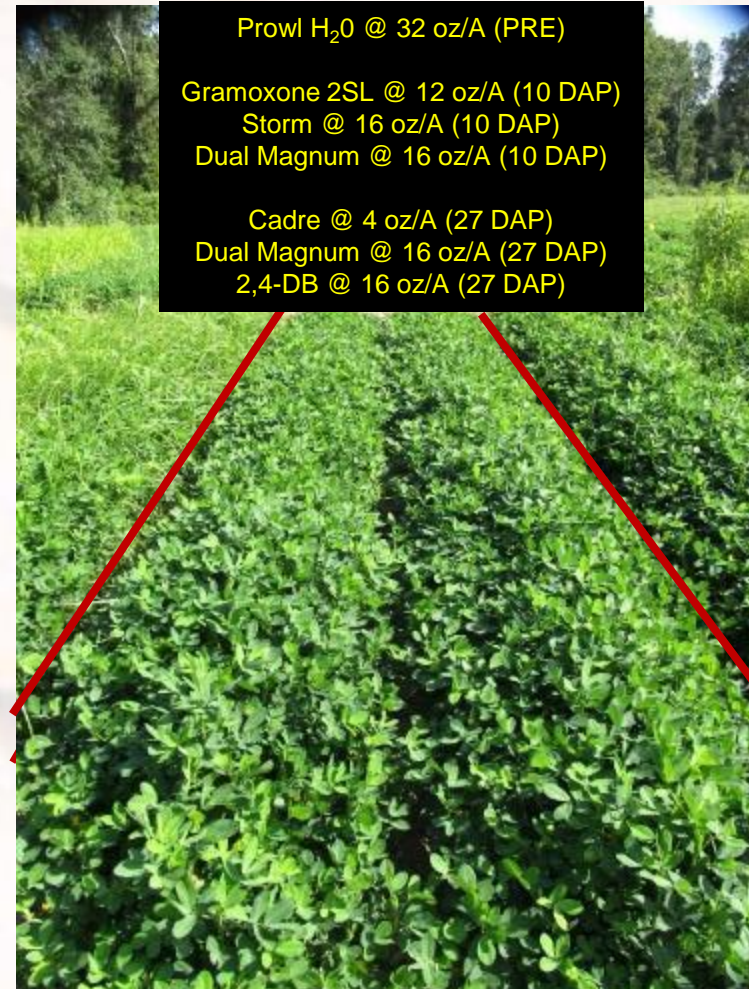
PE-07-19
- Weed-free
- 8.3" rainfall/irrigation
first 30 DAP



Peanut Weed Control - 2019



NTC



Prowl H₂O @ 32 oz/A (PRE)

Gramoxone 2SL @ 12 oz/A (10 DAP)

Storm @ 16 oz/A (10 DAP)

Dual Magnum @ 16 oz/A (10 DAP)

Cadre @ 4 oz/A (27 DAP)

Dual Magnum @ 16 oz/A (27 DAP)

2,4-DB @ 16 oz/A (27 DAP)

~\$45/A
(7 MOA)

PE-14-19
July 17
71 DAP



Strongarm/Peanut



- PPI/PRE/POST
- very closely related to FirstRate (soybean)
- 0.45 oz/A
– \$19.50 in 2019
- annual MG, eclipta, copperleaf, starbur, c. cocklebur, c. ragweed
- rotation restrictions



Strongarm Crop Rotations

Crop Rotation Intervals

Numbers in parentheses (-) refer to Specific Crop Rotation Information.

Crop	Rotation Interval ¹ (Months)
soybeans, peanuts	no restriction
wheat, barley	4
oats, rye	6
snap beans	9
Cotton ^{2,5}	10 ⁵
Corn ³ , rice, tobacco, sorghum	18
sugar beets, sunflowers and other crops not listed	30 ⁴

Specific Crop Rotation Information:

¹Minimum number of months that must pass before planting other crops after application of Strongarm at up to 0.45 oz per acre in peanuts.

²Strongarm applied at greater than 0.45 oz per acre, as may occur with boom overlap or at field ends where spray equipment has slowed, may cause injury to rotational cotton the following season. Soils with a shallow hardpan (less than 10 inches) and/or loam soils may be more prone to carryover. Additionally, cotton grown under early season stress resulting from conditions such as excessively cool, wet, dry or crusted soils, may be particularly susceptible to rotational injury.

³The crop rotation interval for corn hybrids identified as "IR" is 10 months.





Paraquat in Peanut

- CHEAP!
 - 12 oz/A of 2SL = \$1.69/A
- if not using Valor or Strongarm
- apply early
 - ***alone = before 14 DAC***
 - ***tank-mixes = before 28 DAC***
- tank-mixes with Basagran, Storm, 2,4-D, Dual, Warrant, Zidua, Outlook
- Tips
 - ***15 GPA***
 - ***flat-fan nozzles***
 - ***slower tractor speeds***
- ***2 or 3 lb ai/A formulations so watch your use rates!***

 Gramoxone[®]SL

Firestorm[®]



PARAZONE[®]
3SL Herbicide



Why do we use Storm or Basagran with paraquat?

- Improves control of smallflower mg and tropic croton

StormTM
Herbicide

AgriSOLUTIONSTM
Basagran[®]
HERBICIDE



- Reduces peanut injury but does not really influence yield (cosmetic)
- Reduces control of sicklepod, beggarweed, Texas panicum

Treatments applied 6 DAC; Photo at 3 DAT
GA-02C



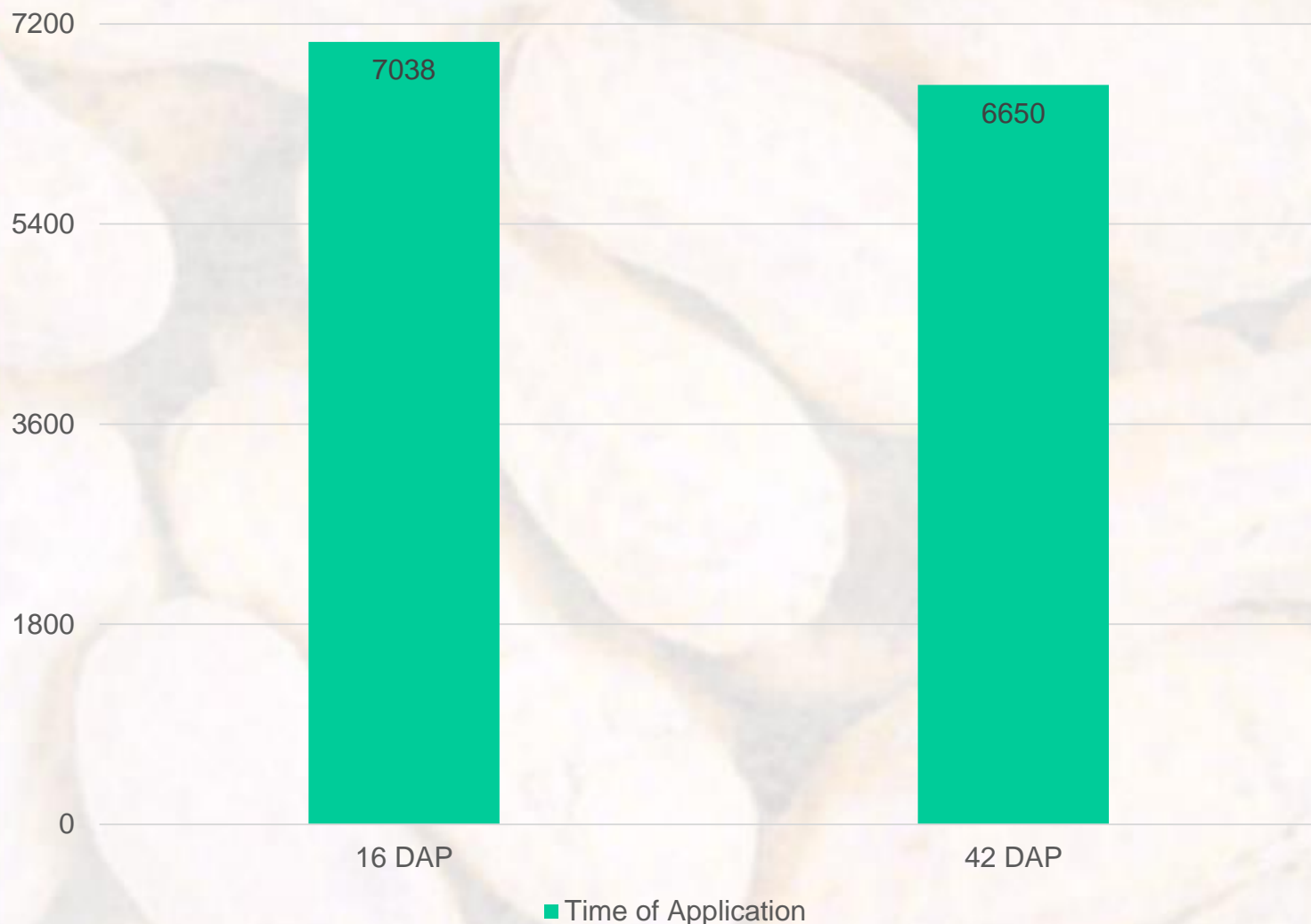
**GI @ 8 oz/A +
NIS @ 0.25% v/v**

**GI @ 12 oz/A + Basagran @ 8 oz/A +
NIS @ 0.25% v/v**



Peanut Yield (GA-16HO) As Influenced by Gramoxone Timing

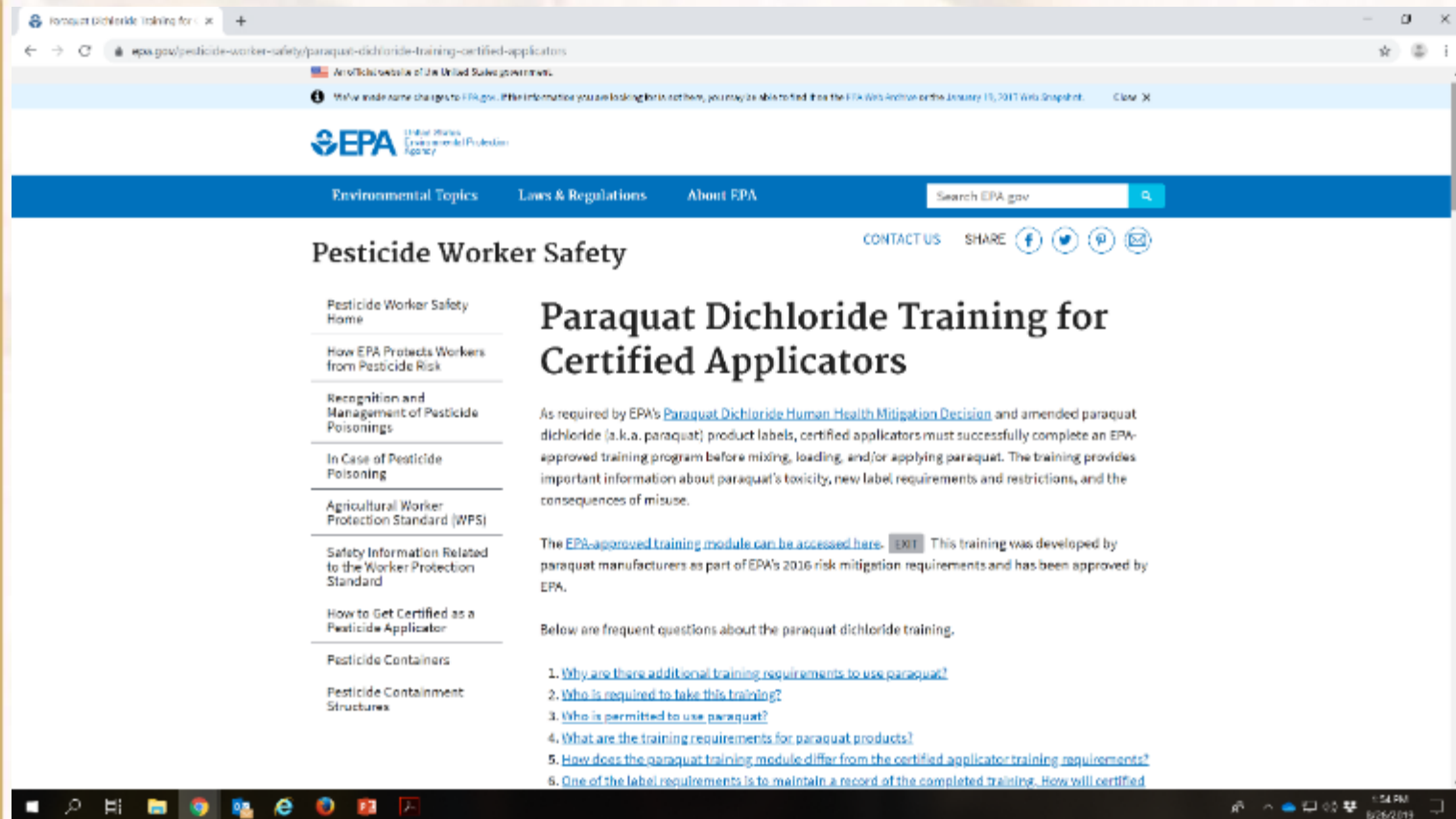
(Averaged over 9 Gramoxone treatments)



THSD (0.10) = 246
CV = 6.5

PE-07-18
weed-free
irrigated

New Paraquat Training Requirements



The screenshot shows a web browser window displaying the EPA website. The address bar shows the URL: <https://epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators>. The page title is "Paraquat Dichloride Training for Certified Applicators". The main content area includes a sidebar with links to various pesticide worker safety topics, a main heading "Paraquat Dichloride Training for Certified Applicators", and a paragraph explaining the training requirements. A list of five questions is provided at the bottom.

Paraquat Dichloride Training for Certified Applicators

As required by EPA's [Paraquat Dichloride Human Health Mitigation Decision](#) and amended paraquat dichloride (a.k.a. paraquat) product labels, certified applicators must successfully complete an EPA-approved training program before mixing, loading, and/or applying paraquat. The training provides important information about paraquat's toxicity, new label requirements and restrictions, and the consequences of misuse.

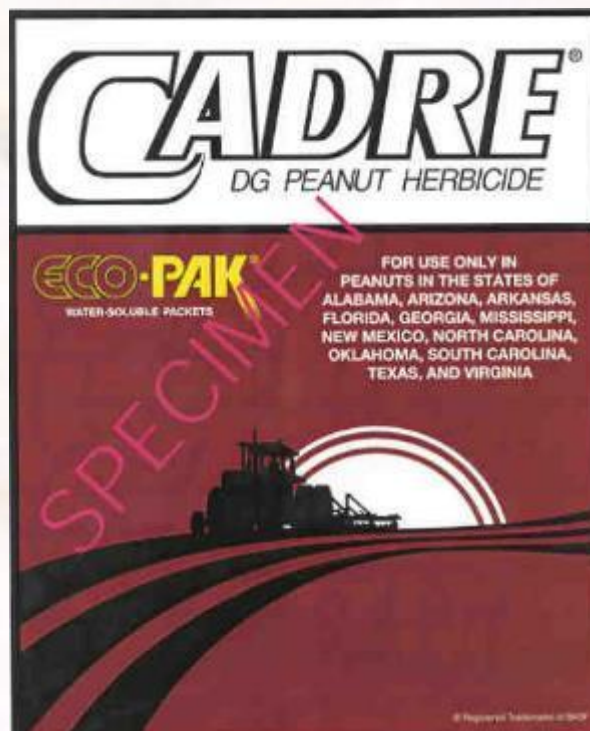
The [EPA-approved training module can be accessed here](#). EX-11 This training was developed by paraquat manufacturers as part of EPA's 2016 risk mitigation requirements and has been approved by EPA.

Below are frequent questions about the paraquat dichloride training.

1. [Why are there additional training requirements to use paraquat?](#)
2. [Who is required to take this training?](#)
3. [Who is permitted to use paraquat?](#)
4. [What are the training requirements for paraquat products?](#)
5. [How does the paraquat training module differ from the certified applicator training requirements?](#)
6. [One of the label requirements is to maintain a record of the completed training. How will certified](#)



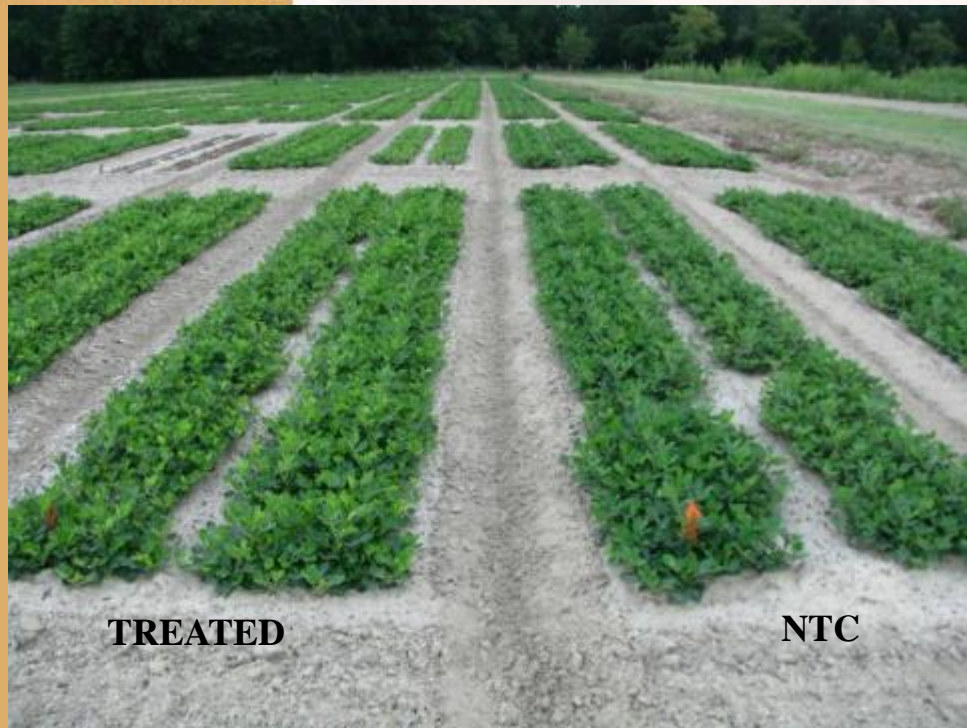
Cadre: The glyphosate of peanuts?



- Yellow/purple nutsedge
- sicklepod, pigweeds, morningglory, cocklebur
- **Does not** control common ragweed, tropic croton, eclipta, spurges, purslane, and hophornbeam copperleaf
- Is it worth the rotational crop risk??
- ALS-resistance???
- **HUGE** drop in price since 1996?
 - \$6.49/A in 2019



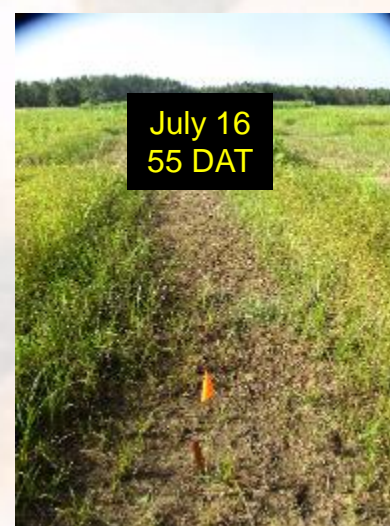
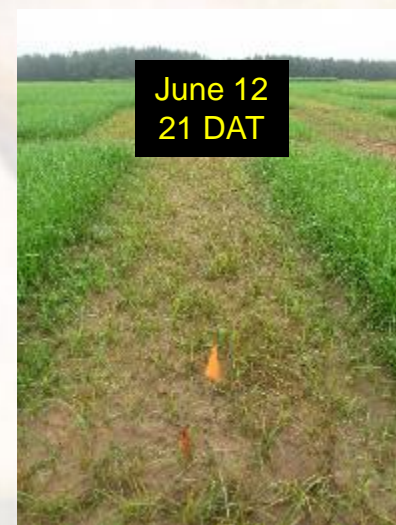
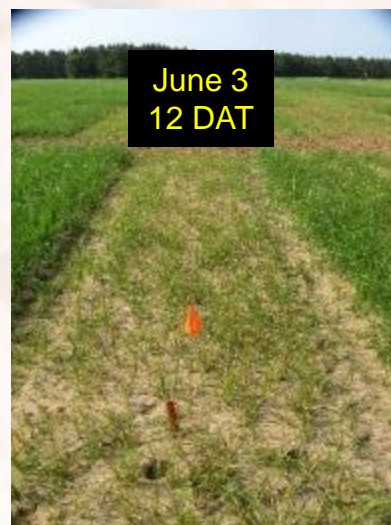
Cadre “Yellow Flash” – 3 DAT



June 25, 2010
GA-06G



Yellow Nutsedge Control with Cadre @ 4 oz/A + Agridex @ 1% v/v - 2019



Cadre/Cotton





Cadre/Impose Rotational Restrictions

ROTATIONAL CROPS

The following rotational crops may be planted after applying **Cadre** in peanuts:

1. Any interval after **Cadre** application:
Peanuts
2. Four months after **Cadre** application:
Bahagrass
Rye
Wheat
3. Nine months after **Cadre** application:
Field corn
Snap beans
Southern peas
Soybeans
Tobacco
4. Eighteen months after **Cadre** application:
Barley
Cotton*
Grain sorghum
Oats
Onions**
Sweet corn
5. Twenty-six months after **Cadre** application:
All crops not otherwise listed
6. Forty months after **Cadre** application:
Canola
Potatoes
Red table beets
Sugarbeets

Cadre Carryover in Cotton

Brooks County, GA - 2000



738 lbs/A
(lint yield)

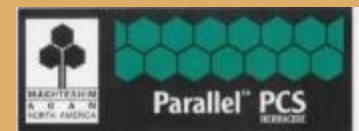
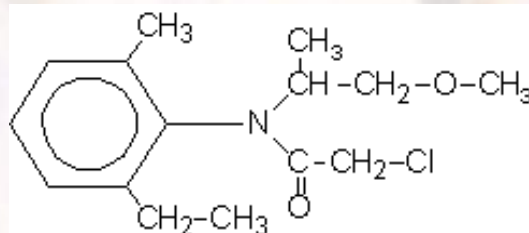


1369 lbs/A

****46% yield loss**

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).





Valor/Dual High Moisture Tests – 2017-2019



11.315" OF TOTAL IRRIGATION/RAINFALL IN FIRST 30 DAYS
AFTER APPLICATION (2018)



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

PE-09-18
July 24
83 DAT



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 weed-free and 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



Valor/Dual Magnum High Moisture Results - 2019

- No interactions between Valor and Dual Magnum
- Valor had no effect on J-rooting. Dual Magnum @ 42 oz/A increased J-rooting by 25%
- Valor and Dual reduced early season peanut biomass (stunting)
- Valor @ 3 or 6 oz/A had no effect on yield
- Dual Magnum only reduced peanut yields @ 42 oz/A under these weed-free and high moisture conditions.
 - 16 and 21 oz/A = No yield loss
 - 42 oz/A = 6.5% loss



Peanut J-Rooting

No Valor or Dual



PE-07-19
May 23
21 DAP



Late-Season MG problems

Harvest Aid (Aim or ET)





What do the top Georgia peanut growers do?

2018 Georgia Peanut Achievement Club Winners

- 15 growers
- **6118 lb/A average yield**
 - GA State Avg. = 4450 lb/A
- 100% - irrigated
- 73% - bottom plow
- 93% - twin rows
- **Herbicides**
 - 60% - Sonalan
 - 80% - Valor
 - 27% - Dual
 - 80% - Cadre
 - 53% - 2,4-DB
 - 33% - Prowl
 - 40% - Strongarm



Off-Target Dicamba/Peanuts



Dicamba/Peanuts – I (Stem Epinasty)



Dicamba/Peanuts – II (leaf strapping)





Dicamba/Peanuts – III (leaf roll)





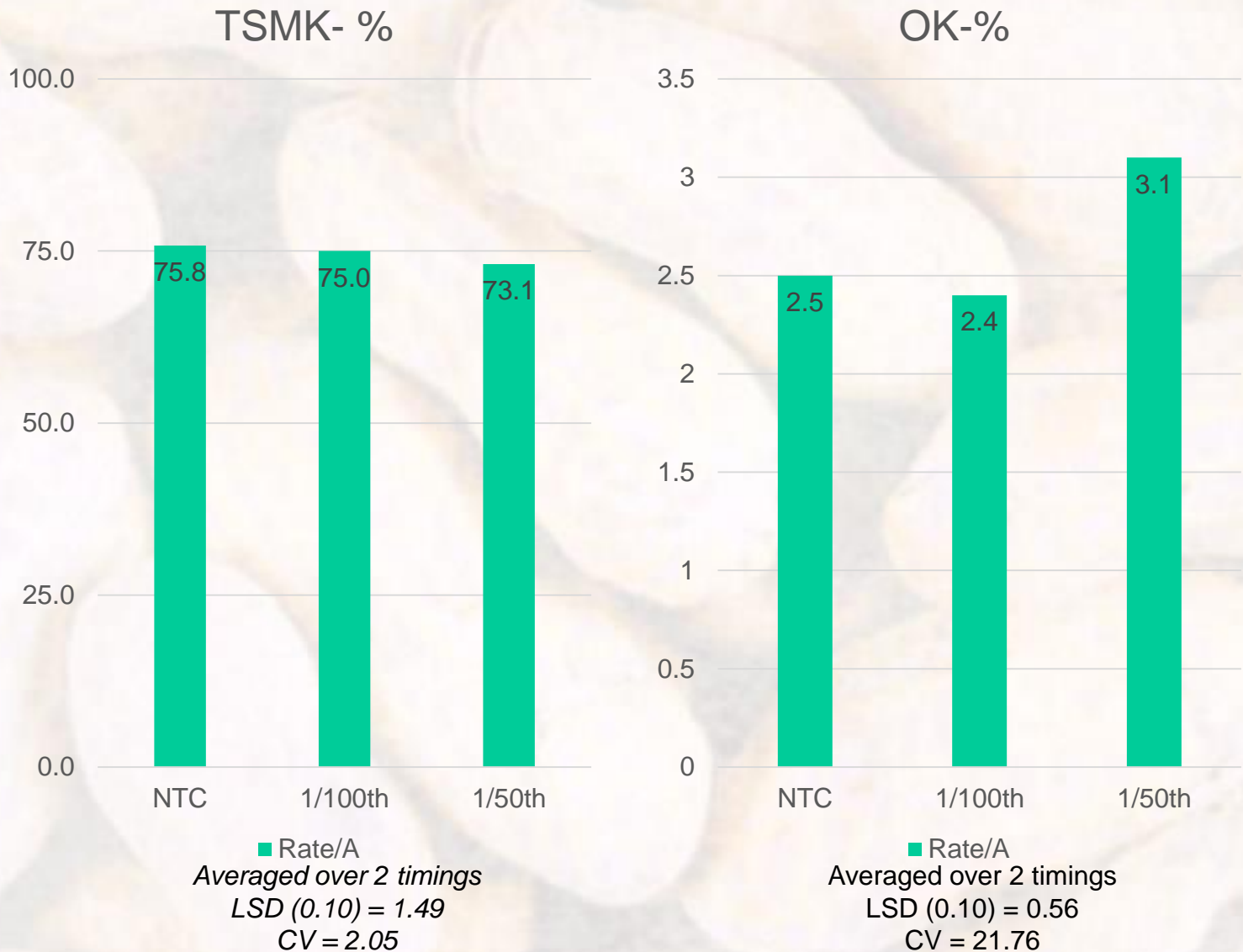
Peanuts/Dicamba Summary

- No tolerance is currently established
- Peanut injury dependent upon rate and time of event
- Drift rates or volatility rates (1/50thX and lower) will cause symptomology but should not reduce yields
 - *grade/abnormal pods?*
- Pay attention!



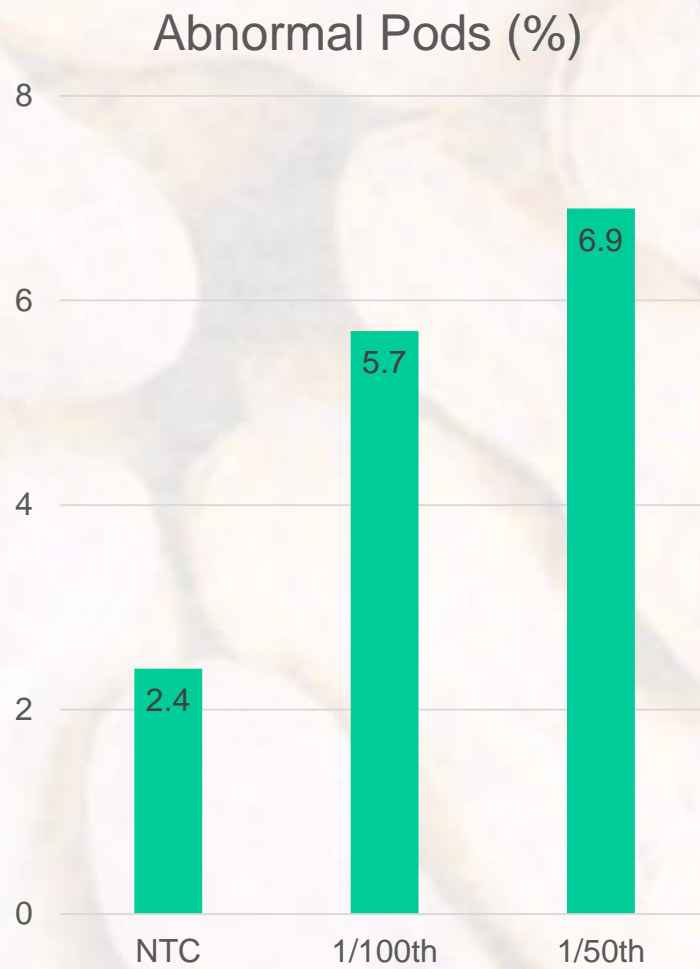


Roundup P-Max + Xtendimax Effects on Peanut Grade - 2019





Roundup P-Max + Xtendimax Effects on Peanut Pods - 2019



1/50th

PE-06-19
LSD (0.10) = 1.6
CV = 33.65



Non-Selective Applicators (*Last Resort*)



Our First Attempt in a Real Field

Tift County, August 2010 (3 DAT)



Potential Problems

- 1) No gauge wheel
- 2) Hydraulic lift problem
- 3) No check valve on pump
- 4) Roller Speed
- 5) Tall peanut variety (GA-02C)
- 6) Dumb A** Scientist

Part science and part art!



Weed Wiper

Randolph County – August 20, 2018



Treated 8/8/18



Tank-Mixtures

The Impossible Dream

- 12 POST herbicides
- 20 fungicides
- 16 insecticides
- B or Mn
- NIS or COC
- 7 am, 12 pm, 5 pm, 10 pm
- ~62,000 possible combinations
- 4 reps = 248,000 plots
- I do ~2640 plots/year
- Thus, it would take me 94 years if I dropped everything else





The Tank-Mixes Blues!



Reflex
Zidua
B-Moly
Glyphosate
Brandt Smart Trio
(N + S + B + Mn + Zn)

***Always pre-slurry dry formulations
in water before adding to tank!!!**



Headline + Cadre + Strongarm + 2,4-DB + Dyne-Amic

Peanut weed control is not impossible!

- *Do your homework!*
- *Start clean, twin rows, residuals, timely POST's*



Questions/Comments

