Peanut Weed Control

**General Thoughts**

- Done by 40-45 DAP

- Do you really need Gramoxone in Valor treated fields under irrigation?

- Warrant or Dual + Valor at planting for pigweed?

- Herbicide resistance or Farmer resistance?
  - Too big – too dry - too fast – too high
Herbicide Sensitive Peanut Growth Stages

R5

R6
Current Peanut Weed Science Research at UGA

- Variety Tolerance

- New Herbicides
  - Pyroxasulfone
    - Zidua, Anthem Flex
  - Fluridone
    - Brake

- Nozzle Types

- Time of Day

- Fine Tuning Existing Programs

- Tank-Mixtures
Peanut Weed Control – 2015
(Valor-Based Programs)

PE-13-15
August 12
100 DAP

NTC

Prowl H₂O @ 32 oz/A (PRE)
Valor @ 3.0 oz/A (PRE)
Strongarm @ 0.225 oz/A (PRE)

Cadre @ 4 oz/A – 36 DAP
Dual Magnum @ 16 oz/A – 36 DAP
2,4-DB @ 18 oz/A – 36 DAP

Prowl H₂O @ 32 oz/A (PRE)
Valor @ 3.0 oz/A (PRE)
Strongarm @ 0.225 oz/A (PRE)

Cadre @ 4 oz/A – 36 DAP
Warrant @ 48 oz/A – 36 DAP
2,4-DB @ 18 oz/A – 36 DAP
Peanut Weed Control – 2015
(Paraquat-Based Programs)

PE-13-15
August 12
100 DAP

NTC

Prowl H₂O @ 32 oz/A – PRE
Gramoxone @ 12 oz/A – 17 DAP
Storm @ 16 oz/A – 17 DAP
Dual Magnum @ 16 oz/A – 17 DAP
Cadre @ 4 oz/A – 36 DAP
Dual Magnum @ 16 oz/A – 36 DAP
2,4-DB @ 18 oz/A – 36 DAP
NIS @ 0.25% v/v – 36 DAP

Prowl H₂O @ 32 oz/A – PRE
Gramoxone @ 12 oz/A – 17 DAP
Storm @ 16 oz/A – 17 DAP
Warrant @ 48 oz/A – 17 DAP
NIS @ 0.25% v/v – 17 DAP

Prowl H₂O @ 32 oz/A – PRE
Gramoxone @ 12 oz/A – 17 DAP
Storm @ 16 oz/A – 17 DAP
Warrant @ 48 oz/A – 17 DAP
NIS @ 0.25% v/v – 36 DAP
Cadre (CD), Cobra (CB), 2,4-DB, Dual Magnum (DM), and Warrant (W) Effects on Peanut Yield - III

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Peanut Yield (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTC</td>
<td>4908</td>
</tr>
<tr>
<td>CD + DM + DB</td>
<td>5429</td>
</tr>
<tr>
<td>CB + DM + DB</td>
<td>5023</td>
</tr>
<tr>
<td>CD + W + DB</td>
<td>5323</td>
</tr>
<tr>
<td>CB + W + DB</td>
<td>5165</td>
</tr>
</tbody>
</table>

*P = 0.4691*

Averaged over 2 timings (31 and 45 DAP)

Weed-free
Sicklepod Control in 2015

+ Cadre

- Cadre
This is what a 3” tall sicklepod looks like!
AZ1(L) and DC4(R) Response to Cadre @ 4 oz/A + COC @ 1% v/v – 21DAT
New Peanut Variety Yield Response to POST Herbicides - 2015

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Timing</th>
<th>GA-12Y (lb/A)</th>
<th>GA-13M (lb/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTC</td>
<td>--</td>
<td>6203</td>
<td>6484</td>
</tr>
<tr>
<td>Gramoxone + Storm + Dual Magnum</td>
<td>14 DAP</td>
<td>6471</td>
<td>6143</td>
</tr>
<tr>
<td>Cadre + Dual Magnum</td>
<td>37 DAP</td>
<td>6574</td>
<td>6155</td>
</tr>
<tr>
<td>Gramoxone + Storm + Dual Magnum</td>
<td>14 DAP</td>
<td>6514</td>
<td>6378</td>
</tr>
<tr>
<td>Gramoxone + Storm + Warrant + NIS</td>
<td>14 DAP</td>
<td>6544</td>
<td>6369</td>
</tr>
<tr>
<td>Cadre + Warrant + NIS</td>
<td>37 DAP</td>
<td>6538</td>
<td>6559</td>
</tr>
<tr>
<td>Gramoxone + Storm + Warrant + NIS</td>
<td>14 DAP</td>
<td>6284</td>
<td>6369</td>
</tr>
<tr>
<td>Cadre + Zidua + NIS</td>
<td>37 DAP</td>
<td>6544</td>
<td>6149</td>
</tr>
<tr>
<td>Gramoxone + Storm + Zidua + NIS</td>
<td>14 DAP</td>
<td>6293</td>
<td>6008</td>
</tr>
</tbody>
</table>

**P-value**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>0.1104</th>
<th>0.2189</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV</td>
<td></td>
<td>3.4</td>
<td>4.71</td>
</tr>
</tbody>
</table>
11002DG
VMD$_{50}$ = 322 (C)

AIXR 11002
VMD$_{50}$ = 402 (VC)

TTI 02
VMD$_{50}$ = 524 (EC)

3.5 MPH - Walking
20” nozzle spacing
20” boom height
35-40 PSI
15 GPA
Nozzle Type Effects on Peanut Weed Control - I

Prowl H₂O @ 32 oz/A (PRE)
Gramoxone @ 12 oz/A +
Storm @ 16 oz/A +
Dual Magnum @ 16 oz/A
(15 DAP)
Cadre @ 4 oz/A +
Dual Magnum @ 16 oz/A +
2,4-DB @ 16 oz/A
(42 DAP)

15 GPA
3.0 MPH
20” Boom Height
Nozzle Type Effects on Peanut Weed Control - II

Prowl H₂O @ 32 oz/A (PRE)
Gramoxone @ 12 oz/A +
Storm @ 16 oz/A +
Dual Magnum @ 16 oz/A
(23 DAP)

Cadre @ 4 oz/A +
Dual Magnum @ 16 oz/A +
2,4-DB @ 16 oz/A
(36 DAP)

15 GPA
3.0 MPH
20” Boom Height

PE-05B-15
August 3
91 DAP
Nozzle Type Effects on Peanut Weed Control - III

Prowl H₂O @ 32 oz/A (PRE)
Gramoxone @ 12 oz/A +
Storm @ 16 oz/A +
Dual Magnum @ 16 oz/A
(15 DAP)
Cobra @ 12.5 oz/A +
Dual Magnum @ 16 oz/A +
2,4-DB @ 16 oz/A
(42 DAP)

15 GPA
3.0 MPH
20” Boom Height

PE-05A-15
July 29
90 DAP
Nozzle Type Effects on Peanut Weed Control - IV

Prowl H₂O @ 32 oz/A (PRE)
Gramoxone @ 12 oz/A +
Storm @ 16 oz/A +
Dual Magnum @ 16 oz/A
(23 DAP)
Cobra @ 12.5 oz/A +
Dual Magnum @ 16 oz/A +
2,4-DB @ 16 oz/A
(36 DAP)

15 GPA
3.0 MPH
20” Boom Height
Time of Day Research

- Afternoon showers are a problem
- Hard to see
- No real benefit
- Nyctinasty
  - Leaves close at night
  - sicklepod
Time of Day Effects on Gramoxone (12 oz/A) + Storm (16 oz/A) + Dual Magnum (16 oz/A)
Time of Day Effects on Gramoxone (12 oz/A) + Storm (16 oz/A) + Dual Magnum (16 oz/A)

NTC

10 PM

- Not significantly different at any location
Pay Attention!!!!!  
2,4-DB and 2,4-D are not the same thing!!!!
# How much 2,4-DB? (as of June 29, 2015)

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer</th>
<th>Rate/A (oz)</th>
<th>Time of Application</th>
<th>Total # Applications/Year</th>
<th>PHI (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-DB 175</td>
<td>Winfield/AgriSolutions</td>
<td>14.4-17.6</td>
<td>2-12 WAP&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>2,4-DB 175</td>
<td>ACETO</td>
<td>16.0-28.0</td>
<td>No later than late bloom (90-100 DAP&lt;sup&gt;b&lt;/sup&gt;)</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>2,4-DB 200</td>
<td>Winfield/AgriSolutions</td>
<td>12.8-16.0</td>
<td>2-12 WAP</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>2,4-DB 200</td>
<td>ACETO</td>
<td>14.4-25.6</td>
<td>No later than late bloom (90-100 DAP&lt;sup&gt;b&lt;/sup&gt;)</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>AgriStar Butyrac 175</td>
<td>Albaugh/AgriStar</td>
<td>14.4-17.6</td>
<td>2-12 WAP</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>AgriStar Butyrac 200</td>
<td>Albaugh/AgriStar</td>
<td>12.8-16.0</td>
<td>2-12 WAP</td>
<td>2</td>
<td>45</td>
</tr>
</tbody>
</table>

<sup>a</sup>WAP = weeks after planting; <sup>b</sup>DAP = days after planting
2,4-DB and Peanut Tolerance

- 2015
- GA-06G
- Weed-free
- 24 oz/A of 2,4-DB 1.75SL + COC @ 1% v/v, applied throughout the season, had no effect on peanut yield or pod size
2,4-DB Effects on Peanut Yield (GA-06G) – 2015

2,4-DB 1.75 SL
24 oz/A
1% COC
Weed-free

P = 0.7391
CV = 8.49
2,4-DB Effects on Peanut Pod Size (GA-06G) – 2015

2,4-DB 1.75 SL
24 oz/A
1% COC
Weed-free

208 214 214 220 201 211 193 196 202 219 194 211

Timing (DAP)

Grams/100 pods

NTC 31 63 93 123 31 + 63 31 + 93 31 + 123 63 + 93 63 + 123 93 + 123 31 + 63 + 93

P = 0.3120
CV = 8.23
Grazon P+D 2.54SL
1/10X rate (2.4 oz/A) – Applied 63 DAP
Grazon P+D 2.54SL Effects on Peanut Yield (lb/A)

**Rate (oz/A)**
- 2.4 oz/A: 4831 lb/A
- 0.24 oz/A: 5087 lb/A
- 0.08 oz/A: 4242 lb/A
- 0 oz/A: 4893 lb/A

**Timing (DAP)**
- 0 DAP: 4890 lb/A
- 31 DAP: 4758 lb/A
- 63 DAP: 4475 lb/A
- 93 DAP: 4930 lb/A

P = 0.4355 for Rate (oz/A)
P = 0.4771 for Timing (DAP)
What do the top Georgia peanut growers do?

2014 Georgia Peanut Achievement Club Winners

- 10 growers
- 6312 lb/A average yield
  - GA State Avg. = 4135 lb/A
- 10/10 - irrigated
- 8/10 - bottom plow
- 10/10 - twin rows
- Rotations
  - peanuts every 3rd or 4th year
- Herbicides
  - 8/10 - Sonalan
  - 9/10 - Valor
  - 3/10 - Dual
  - 8/10 - Cadre
  - 6/10 - 2,4-DB
  - 2/10 - Prowl
  - 3/10 - Strongarm
Questions?
eprostko@uga.edu
www.gaweed.com