Peanut Weed Control for New Agents

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Peanut Weed Control Tactics

- Cultural Practices
  - Planting Date
  - Row spacing
- Tillage
- Cover Crops
- Herbicides
- Cultivation
- Mowing
- Hand-Weeding
Sicklepod Control (%) in Conventional Tillage Peanut as Influenced by Row Pattern

The Peanut Weed Control Toolbox

21 Active ingredients

- **PPI/PRE**
  - Sonalan
  - Prowl/Pendimax
  - Dual Magnum/Generics
  - Outlook/Propel
  - Pursuit
  - Spartan Charge
  - Solicam
  - Strongarm
  - Valor

- **POST**
  - Aim (Harvest Aid)
  - Gramoxone
  - Inteon/Firestorm/Parazone
  - Basagran
  - Ultra Blazer
  - Cadre/Impose
  - Classic
  - Cobra
  - ET
  - Fusilade
  - Poast/Poast Plus
  - Pursuit
  - Select/Arrow/Trigger
  - Storm
  - 2,4-DB
The foundation of weed management in peanuts is the yellow/DNA herbicides!

- Sonalan, Prowl, Pendimax, Prowl H₂O
- inexpensive
  - (< $8/A)
- Texas panicum
- Florida pusley
- must be incorporated by tillage or irrigation
- Flip a coin or personal preference
NET WEIGHT 5 POUNDS
FOR CONTROL OF CERTAIN WEEDS IN PEANUTS AND SOYBEANS

Active Ingredient
*Flumoxazin............ 51%
Other Ingredients........ 49%
Total.................... 100%

*2-(1-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-8-yl)-4,5,6,7-tetrahydro-1H-3H-pyrido|1,2-a|pyrimidin-3(4H)-one
VALOR Herbicide is a water dispersible granule containing 51% active ingredient.
EPA Reg. No. 59639-99  EPA Est. 11773-IA-01
Refer to Hang Tag for Use Directions
Form 1399-A

KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE NEXT PAGE FOR ADDITIONAL PRECAUTIONARY STATEMENTS

For Broadleaf Weed Control in Peanuts
Active Ingredients:
diclofop-M-N-(2,6-dichlorophenyl)-
5-ethoxy-7-fluoro[1,2,4]triazolo-
1,5-dipyrimidine-2-sulfonamide... 84%
Inert Ingredients.................. 16%
Total.................................. 100%

Contains 0.84 pounds of active ingredient per pound of product.
U.S. Patent No. 5,163,999

Keep Out of Reach of Children
CAUTION PRECAUCION
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Refer to back panel of bag for additional precautionary information including Personal Protective Equipment (PPE) and User Safety Recommendations.

Herbicide
Net Wt. [5 x (2 x 0.45 oz)] water soluble packets

Trademark of Dow AgroSciences LLC
Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.
<table>
<thead>
<tr>
<th></th>
<th><strong>Strongarm 84WG (0.45 oz/A)</strong></th>
<th><strong>Valor SX 51WG (3 oz/A)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>price/A</td>
<td>$16.75</td>
<td>$11.06</td>
</tr>
<tr>
<td>crop injury potential</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>sprayer cleanup</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>rotational crops</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Florida beggarweed</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>annual morningglory</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>sicklepod</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>bristly starbur</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>ALS-resistant pigweed</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>eclipsa</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>common cocklebur</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>tropic croton</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>tropical spiderwort</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>wild poinsettia</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>hophornbeam copperleaf</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>nutsedge spp.</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>
Valor Injury in Peanut

Planted: May 5
Treated: May 15 (TAS)
Irrigated: May 16 (6.62")
Photo: May 19
Valor
Great Weed Control vs. Crop Injury
Valor in Peanuts - The Bottom Line

• Plant at least 1.5” deep and apply within 2 days of planting

• Injury will occur if heavy rainfall occurs from cracking until ~2 WAC

• peanut yield should not be reduced if stand is not lost

• hose and nozzle clean-out very important!!!!
  – dedicated sprayer for Valor only?

• except this or do not use it!!!
### Strongarm Rotation Restrictions

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

<table>
<thead>
<tr>
<th>Crop</th>
<th>Rotation Interval (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>soybeans, peanuts</td>
<td>no restriction</td>
</tr>
<tr>
<td>wheat, barley</td>
<td>4</td>
</tr>
<tr>
<td>oats, rye</td>
<td>6</td>
</tr>
<tr>
<td>snap beans</td>
<td>9</td>
</tr>
<tr>
<td>cotton (2, 5)</td>
<td>10 (5)</td>
</tr>
<tr>
<td>corn (3), rice, tobacco, sorghum</td>
<td>18</td>
</tr>
<tr>
<td>sugar beets, sunflowers and other crops not listed</td>
<td>30 (4)</td>
</tr>
</tbody>
</table>

**Specific Crop Rotation Information:**
1. Minimum number of months that must pass before planting other crops after application of Strongarm at up to 0.45 oz per acre in peanuts.
2. Strongarm 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.
3. The crop rotation interval for corn hybrids identified as "IR" is 10 months.
4. Rotation to sugar beets, sunflowers, and all other crops not listed requires a 30-month rotation interval and a successful field bioassay.
5. In North Carolina, the crop rotation interval for cotton is 18 months in the counties of Camden, Currituck, Pasquotank and Perquimans. In all other counties in North Carolina, the crop rotation interval for cotton is 10 months.
Paraquat in Peanut

- less than $4.00/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
- Tips
  - 15 GPA
  - flat-fan nozzles
  - slower tractor speeds
- Gramoxone Inteon (2 lb/gal) or Firestorm (3 lb/gal) or Parazone (3lb/gal)
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
Why do we use Storm or Basagran with paraquat?

- Improves control of smallflower mg and tropic croton
- Reduces peanut injury but does not really influence yield (cosmetic)
- Reduces control of sicklepod, beggarweed, Texas panicum
Cadre: The glyphosate of peanuts?

- Yellow and purple nutsedge
- Sicklepod, pigweeds, morningglory, cocklebur
- Does not control common ragweed, tropic croton, eclipta, spurge, and hophornbeam copperleaf
- Is it worth the rotational crop risk??
- ALS-resistance??

Cadre @ 4 oz/A = $10.94

Impose @ 4 oz/A = $8.59
Cadre “Yellow Flash” – 3 DAT
**ROTATIONAL CROPS**

The following rotational crops may be planted after applying CADRE DG in peanuts:

1. Any interval after CADRE DG application:
   - Peanuts

2. Four months after CADRE DG application:
   - Bahiagrass
   - Rye
   - Wheat

3. Nine months after CADRE DG application:
   - Field Corn
   - Snapbeans
   - Southern Peas
   - Soybeans
   - Tobacco

4. Eighteen months after a CADRE DG application:
   - Barley
   - Cotton*
   - Grain Sorghum
   - Oats
   - Sweet Corn
   - Onions**

5. Twenty-six months after a CADRE DG application:
   - All crops not otherwise listed.

6. Forty months after CADRE DG application:
   - Canola
   - Potatoes
   - Red Table Beets
   - Sugar Beets
Cadre/Cotton
If growers cannot or will not use Cadre......

- weed control costs will probably be higher
- purple nutsedge will not be controlled
- Dual Magnum ($10-14/A) but not as effective. Generic metolachlors are cheaper but may not last as long ($5-6/A).

- Strongarm or Valor

- Other POST herbicides (Basagran, Blazer, Cobra, Storm) are effective but have some weaknesses and no residual
“Cadre-Free” Weed Control Programs

• **Program 1**
  – *Prowl or Sonolan* – PPI/PRE
  – *Valor (3 oz/A) + Strongarm (0.23 oz/A)* – PRE
  – *Cobra + Dual Magnum* – POST

• **Program 2**
  – *Prowl or Sonolan* – PPI/PRE
  – *Gramoxone + Storm + Dual Magnum* – EPOST
  – *Cobra + Dual Magnum* – POST

• **2,4-DB as needed in both programs for sicklepod supression**
2,4-DB

- Around for a long time
- Annual mg, cocklebur, sicklepod
- Usually applied with paraquat or with fungicides
- Also frequently tank-mixed with Cadre, Cobra, or Ultra Blazer
- Very inexpensive (<$3.00/A)
- 1.75 or 2.0 lb/gal formulations
2,4-DB Injury
## How much 2,4-DB?

<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(^a)</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(^b))</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(^b))</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>

\(^a\)WAP = weeks after planting; \(^b\)DAP = days after planting
What about Dual Magnum?

- Weed-free trials conducted in 2010-2012
- 22/23 comparisons (96%)
  - no negative yield effects
  - PPI, PRE, EPOST, POST, Cadre + Dual
Dual Magnum vs. Generics

Research Summary

- UGA Weed Science Research (11 data sets)
  - 44 individual rating dates (average of 3-4 replications/date)
  - Palmer amaranth and tropical spiderwort data
  - Dual Magnum better than Generics (16/44 = 36.3%)
  - Generics better than Dual Magnum (1/44 = 2.3%)
  - Dual Magnum = Generics (27/44 = 61.4%)
Postemergence Grass Control

Fusilade® DX

SELECTMAX®
HERBICIDE
WITH INSIDE TECHNOLOGY™

Poast® herbicide
FL-07, GA Greener, GA-07W = No problems

GA-06G and Tifguard = 7-11% yield losses
Cultivation
(no weeds are steel-resistant!!!)

- Time
- Diesel fuel prices
- Strip-tillage
- Twin rows
- White mold
Mowing

- Weed/peanut height differential
- Digging and harvest aid
- Flail mower better than rotary mower
- Diesel fuel prices
- Time???
Non-Selective Applicators
Herbicide/Fungicide Tank-Mixes

• Possible combinations are endless  
  – > 24,000

• Avoid 3-way mixes if possible

• Regional Publication
  – AGW-653
  – NCSU

Tank Mixing Chemicals Applied to Peanut Crops: Are the Chemicals Compatible?

Managing pests is critical in optimizing peanut yield and quality. Applying combinations of systemic chemicals is an efficient practice with known benefits. Producers may reduce the cost of pest management by limiting trips across the field. Fewer passes across a field are not only more convenient, but also reduces yield damage and has the potential to increase control of particular pests and broaden the spectrum of pests controlled.

But tank mixing of systemic chemicals has difficulties and disadvantages. Chemicals may be physically or biologically incompatible. Adjuvant and spray volume recommendations may differ. Certain combinations may actually reduce pest control or increase plant damage due to phytotoxicity.

To choose an effective tank mixture, begin with the product label. The label is the law. Product labels provide federal regulations concerning tank mixing, always follow the more restrictive label.

While tankers may legally tank mix systemic chemicals as long as no product label mentions tank mixing, certain tank mixtures can cause peanut crops to suffer. Product labels do warn about some potential problems. So they do not usually address other issues. And manufacturers do not guarantee product performance when their chemicals are used in ways other than described on the label.

Peanut producers are most likely to apply combinations of herbicides, fungicides, insecticides, plant growth regulators, and/or fertilizer. To make these combinations work, a producer needs to be able to predict reasonable interactions. This publication identifies effective tank mixes based on product labels (Tables 1–5) and problems that have occurred with tank mixes applied in research trials conducted by universities in the peanut belt of the United States (Table 6–7).

Growth also needs to be able to take environmental conditions into consideration and adjust the spray program according to weather conditions and changing pest populations. For more in-depth information on these topics, see Peanut Information, AG-314, or the North Carolina Agricultural Chemicals Manual, AG-1.

Using Tables 1 Through 7 to Determine Compatibility

1. Read about the chemicals you are considering mixing. Postemergence herbicides are in Table 4, fungicides are in Table 2, preemergence herbicides are in Table 3, and postemergence fertilizer or plant growth regulators are in Table 6. Always follow recommendations on the product label. The label is the law.

2. If the combination is permitted, use the field studies to verify any potential problems:
   • To see if weed control will be compromised if herbicides are mixed with fungicides, see Table 5.
   • To see if weed control will be compromised if herbicides, insecticides, fertilizer, and/or plant growth regulators are mixed, see Table 7.
   • To see if weed control will be compromised in two, three, or four-way combinations of selected systemic chemicals, see Table 7.

3. If a combination looks promising, check for ways to overcome any potential problems:
   • Application rates may need to be adjusted.
   • An adjuvant may need to be added or changed.
   • The spray volume may need to be changed. For example, contact the product manufacturer and your local Cooperative Extension agent.

4. Always follow the basic rules for systemic tank application:
   • Apply under optimum weather conditions.
   • Mix and apply the appropriate stage of growth.
Cadre @ 1.44 ozs/A
Headline @ 9 ozs/A
Dual Magnum @ 1.33 pts/A
AMS @ 1 lb/A
COC @ 1 qt/A
Headline + Cadre + Strongarm + 2,4-DB + Dyne-Amic
Cadre (4 oz/A) + 2,4-DB (24 oz/A) + Stratego (7 oz/A) + Peg Power (16 oz/A) + Hook (0.25% v/v)
Palmer Amaranth Control

*Integrated Program Approach*

- **Tillage**
- **Rye Cover Crop**
- **Irrigation**
- **Twin Rows**
- **Herbicides**
- **Hand-Weeding**
Peanut Weed Control - 2013

Prowl/Valor/Strongarm/Cadre/Dual Magnum

NTC

Prowl H₂O @ 34 oz/A (PRE)
Valor @ 3 oz/A (PRE)
Strongarm @ 0.23 oz/A (PRE)
Cadre @ 4 oz/A (POST)
Dual Magnum @ 16 oz/A (POST)
Peanut Weed Control - 2013
Prowl/Gramoxone/Storm/Cadre/Dual Magnum

NTC

Prowl H₂O @ 34 oz/A (PRE)
Gramoxone @ 12 oz/A (EPOST)
Storm @ 16 oz/A (EPOST)
Dual Magnum @ 16 oz/A (EPOST)
Cadre @ 4 oz/A (POST)
Dual Magnum @ 16 oz/A (POST)
What do the top growers do?

2012 Georgia Peanut Achievement Club Winners

- 10 growers
- 6204 lbs/A average yield
- 10/10 - irrigated
- 8/10 – bottom plow
- 10/10 – twin rows
- Herbicides
  - 9/10 – Sonalan
  - 10/10 – Valor
  - 3/10 – Dual
  - 9/10 – Cadre
  - 2/10 – 2,4-DB
  - 1/10 – Prowl
  - 2/10 - Strongarm
Questions/Comments?

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www.gaweed.com