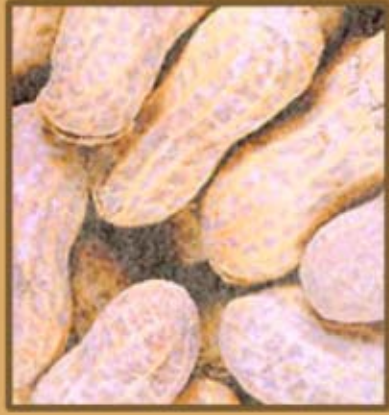




Managing Palmer Amaranth in Peanut

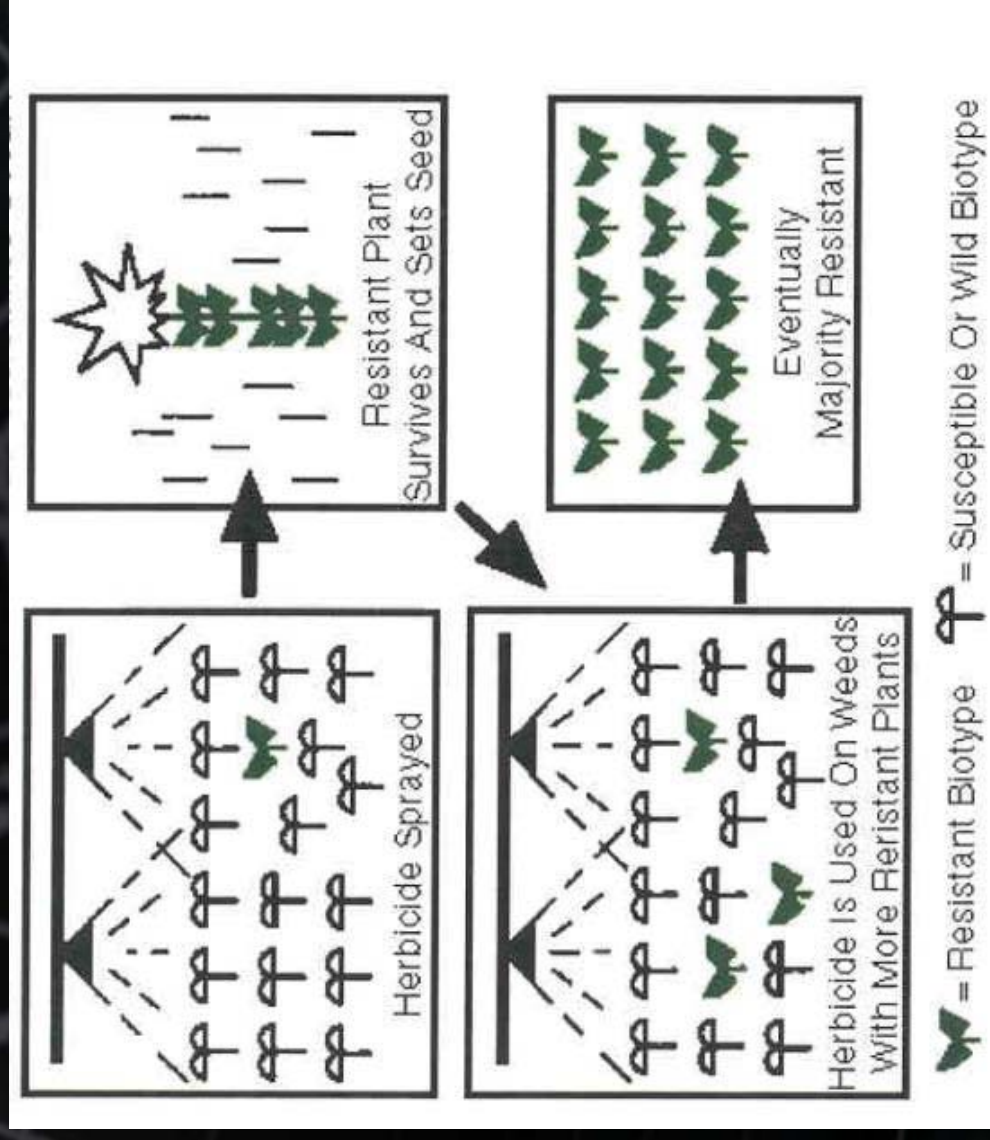
Eric P. Prostko
Extension Weed Specialist
Department of Crop & Soil Sciences
The University of Georgia

Palmer Amaranth in Georgia



Herbicide Resistant Weeds

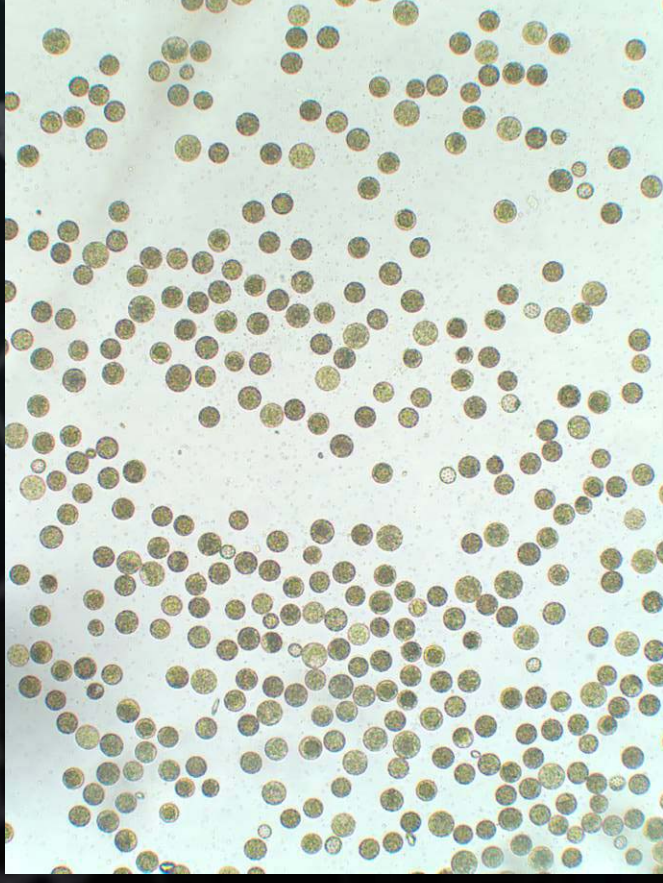
Selection Pressure



Herbicide Resistant Weeds

Pollen Drift

- Off-site movement (wind, gravity, insects, man, animal) of resistance trait through pollen
- Pollen from resistant male fertilizes susceptible female to produce resistant progeny (seed)
- UGA researchers have documented GR-trait movement of at least 960' (Palmer amaranth).

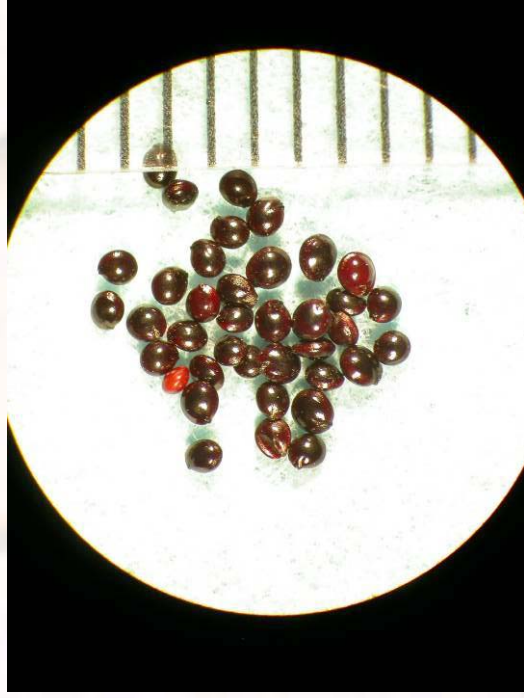


Palmer Amaranth Pollen
Source: Dr. Lynn Sosnoskie

Palmer Amaranth Seed



- 1 plant can produce an average of 450,000 seed
- 1 Palmer amaranth plant per meter (3.2 ft) of crop row can result in the production of
 - *162,000,000 seed/acre*
- How long can the seed survive in the soil?
 - *65-75% after 9 months*
- Where does most of the germination occur?
 - *0-2"*



Palmer Amaranth Control in Peanuts

- Deep tillage or extreme cover crops
- Start Clean!!!!
- Use a residual!!!
 - *Are you willing to use Valor?*
 - *Dryland or Irrigated?*
- Spray when plants are small (<3")
- Rope-wick Applications
 - *last resort*



No Deep Tillage



Deep Turn



No Herbicide Treatment



Weed-free Seedbed???



Palmer Amaranth Control in Peanuts

Macon County, GA – 2007 (38 DAT)



NTC



Valor SX 51WG @ 3 oz/A

Palmer Amaranth Control in Peanuts Macon County, GA – 2007 (38 DAT)



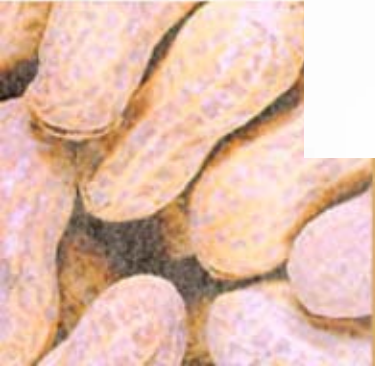
NTC



Dual Magnum 7.62EC
@ 1 pt/A

GR-Pigweed Control in Peanuts – 2008

Macon County – 91 DAP



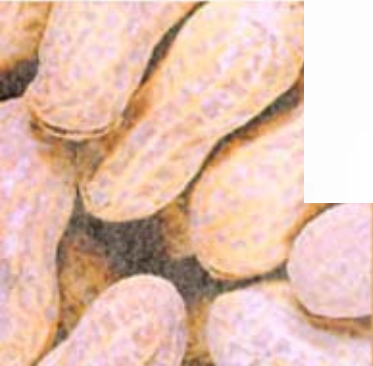
NTC



Prowl H₂O @ 2.1 pt/A (PRE)
Valor SX 51WG @ 3 oz/A (PRE)
Cadre 2AS @ 4 oz/A (41 DAP)+
Peptoil @ 1% v/v (41 DAP)

GR-Pigweed Control in Peanuts – 2008

Macon County – 91 DAP



NTC



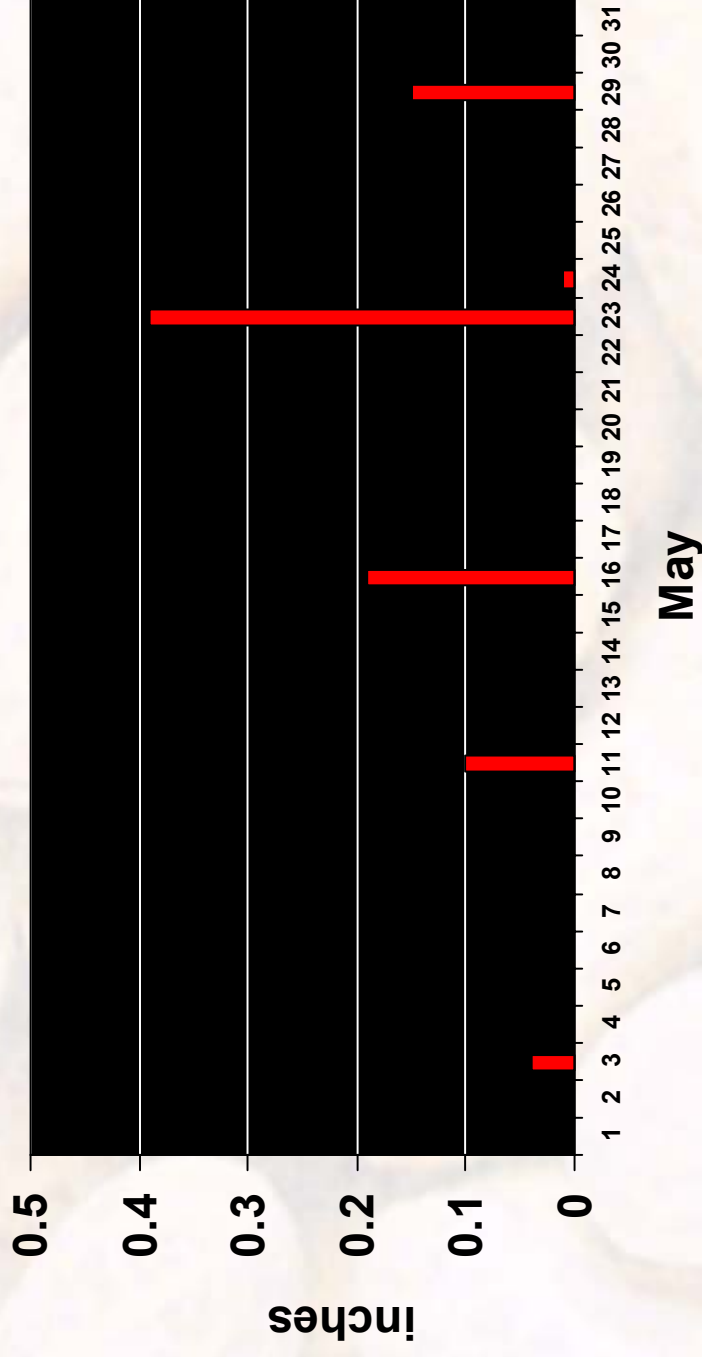
Prowl H₂O @ 2.1 pt/A (PRE)
Gramoxone Inteon @ 12 oz/A (21 DAP) +
Storm @ 1 pt/A + LI-700 @ 0.25% v/v (21 DAP)
Cadre @ 4 ozA (41 DAP) +
Peptoil @ 1% v/v (41 DAP)



If residual herbicides are not activated on a timely basis with a reliable water source, pigweed control will be very difficult, maybe even impossible!



Rainfall Distribution in Albany, GA May 2008 (0.88" total)



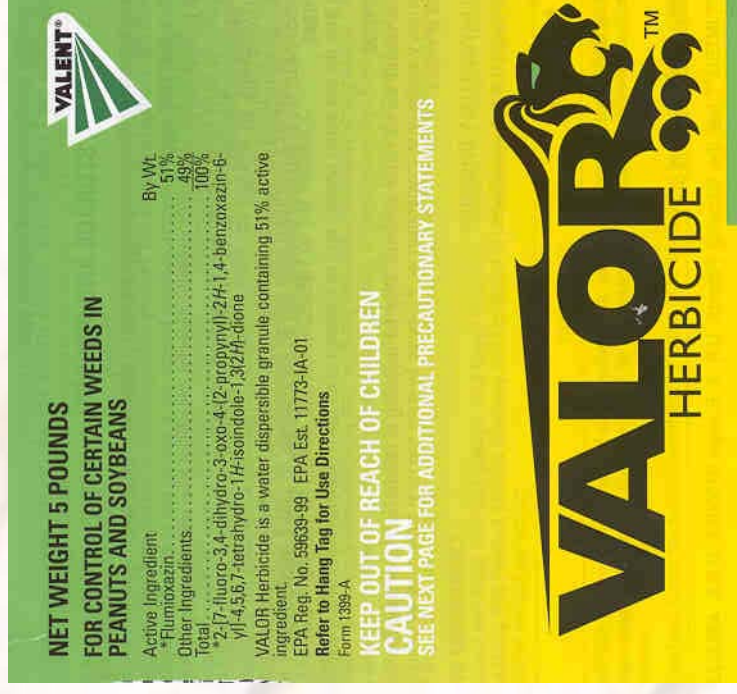
Dryland Systems

- Growers need to think about mechanical herbicide incorporation
- Will help but not a guarantee
- Success will depend upon.....
 - *operator*
 - *Implement*
 - *Soil conditions*
- Dual Magnum
 - *PPI (1 pt/A)*
 - *POST (1 pt/A)*



Can you mechanically incorporate Valor?

- Only labeled for PRE applications
- May lose 25-50% of weed control when mechanically incorporated (PPI)
- Valent not liable for reduced performance if applied PPI



What about the generic

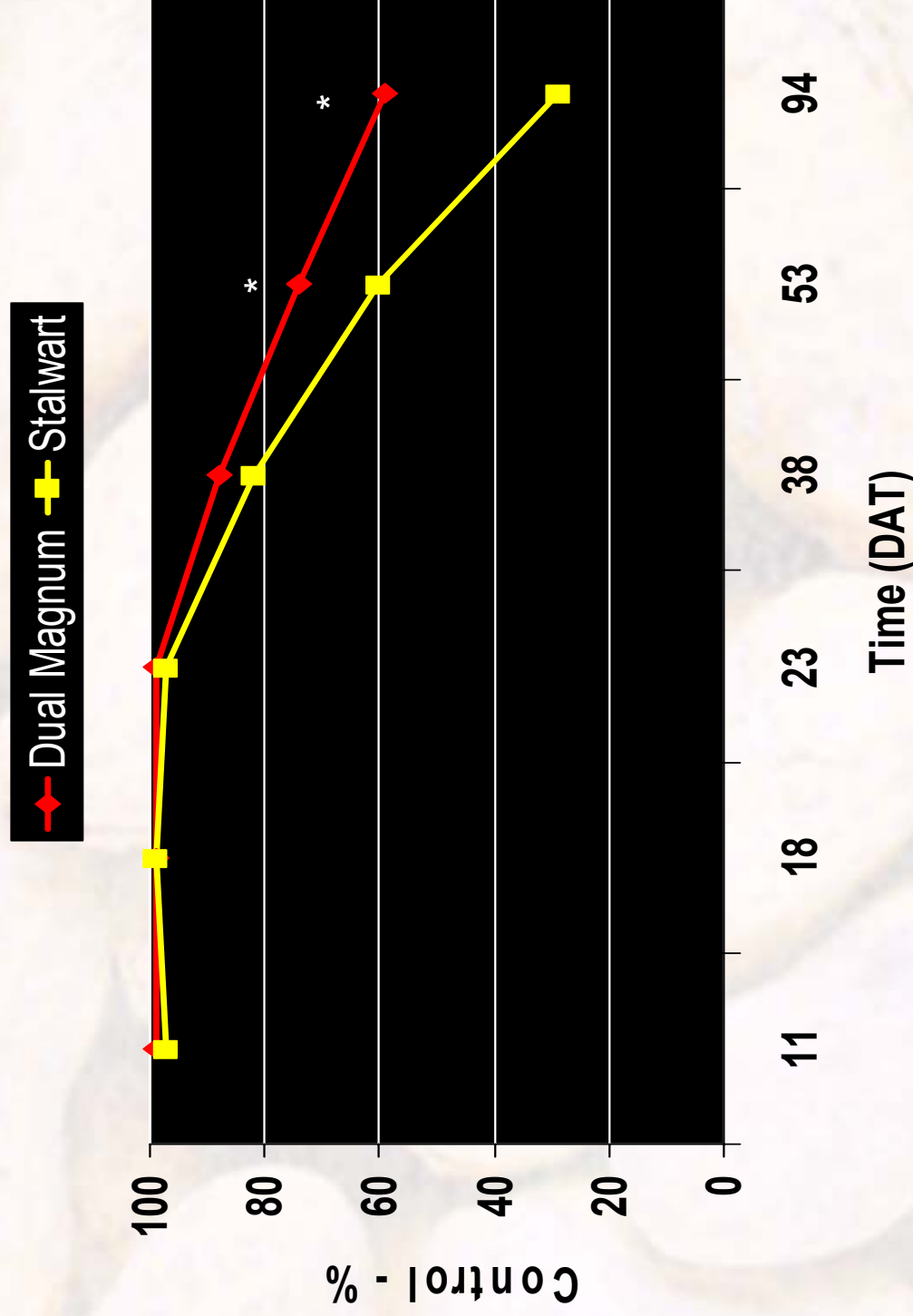
formulations of metolachlor?

- Me-Too-Lachlor, Parallel PCS, Stalwart
- Frequently, but not always, they do not last as long as Dual Magnum





Palmer Amaranth Control in Peanut with Dual Magnum and Stalwart



PE-03-07

Both applied at 1 pt/A

*Significantly different at 53 DAT and 94 DAT ($P = 0.10$)



Will these herbicides control large pigweeds?



60/96

CLARKE

JUN 20 2006

Palmer Amaranth Control with Ultra Blazer and 2,4-DB - 2008



NTC



Ultra Blazer @ 1.5 pt/A
LI-700 @ 0.25% v/v

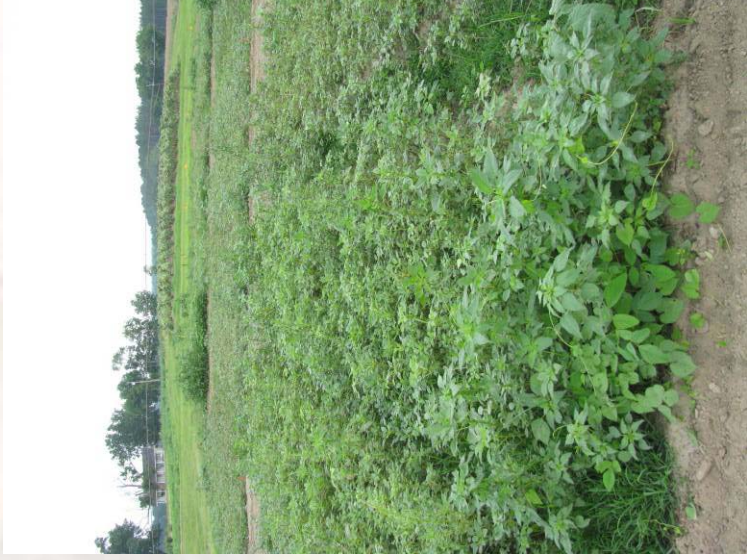


Ultra Blazer @ 1.5 pt/A
2,4-DB @ 18 oz/A
LI-700 @ 0.25% v/v

Palmer Amaranth Control with Cobra and 2,4-DB - 2008



NTC



Cobra @ 12.5 oz/A
Peptoil @ 1% v/v



Cobra @ 12.5 oz/A
2,4-DB @ 18 oz/A
Peptoil @ 1% v/v

2,4-DB fb Cobra or Ultra Blazer???? (has only been successful 1/4 times)



Untreated

POST: June 5 (17" tall pigweed)

POST2: June 9

Photos taken 24 days after POST application



**Cobra 2EC @ 12.5 oz/A
Agriol @ 1% v/v
POST**



**2,4-DB 1.75SL @ 1.1 pt/A +
Agriol @ 1% v/v (POST)
fb
Cobra 2EC @ 12.5 oz/A
Agriol @ 1% v/v
POST2**

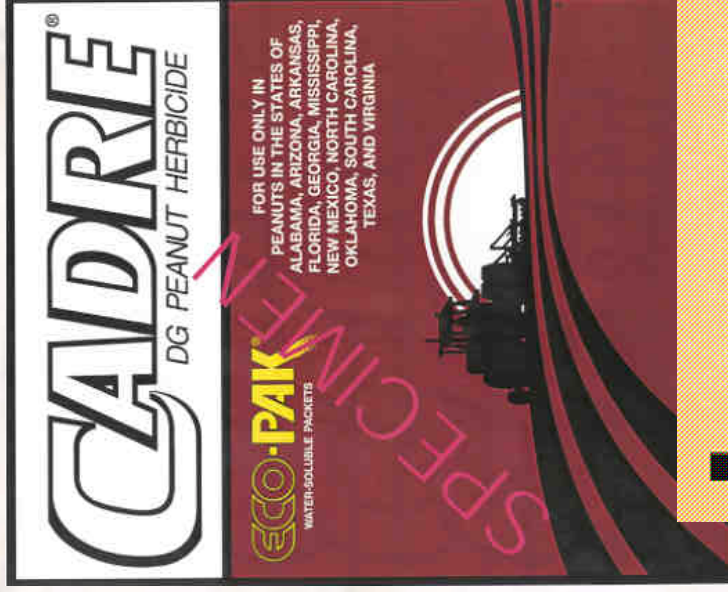
Rope-wick Applicators

- Only thing labeled (sort of) is glyphosate
 - *Label says row middles*
- At this time of year, yields not influenced
- Benefits
 - *Harvestability*
 - *Fungicide spray deposition*
 - *Seed bank*
 - *REVENGE!!!!*



Where do Cadre/Impose fit in now?

- Very effective on pigweed if not resistant
- Controls many other weeds
- Only option for purple nutsedge





GR-Pigweed Control in Peanuts without Cadre – 2008



NTC



Prowl H₂O @ 2.1 pt/A (PRE)
Ultra Blazer @ 1 pt/A (21 DAP) +
LI-700 @ 0.25% v/v (21 DAP)
Cobra 2EC @ 12.5 oz/A (41 DAP) +
Peptoil @ 1% v/v (41 DAP)

We are overusing the PPO inhibiting herbicides!!!!!!!

- Resistance has already been reported in other areas!!!
- Common waterhemp
 - 2001 (Kansas)
 - 2002 (Illinois)
 - 2003 (Missouri)
- Common ragweed
 - 2005 (Delaware)
- Wild poinsettia
 - 2004 (Brazil)



Don't forget!!! There are no steel
resistant weeds!!!



