

Peanut & Cotton Weed Control

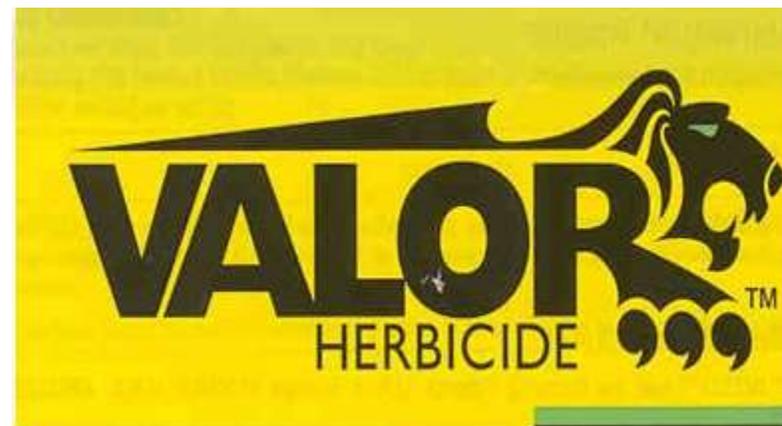
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March 2, 2023



Residual or Soil-Applied Herbicides

- Helps to reduce selection pressure on POST herbicides - delay emerging herbicide resistant weeds
- Weed control for about 6 to 10 weeks
- Can be applied:
 - With burndown herbicides
 - Preplant incorporation (PPI)
 - Preemergence (PRE) or at planting application (before crop emerges)
 - In crop season with POST herbicides



Residual Herbicides for Peanut

Mode of action	Herbicide group #	Labeled rate/Acre	Application timing
ALS Inhibitors	2	- Strongarm (0.45 oz)	- PPI, PRE, EPOST
Seedling Inhibitors – Root Site	3	- Prowl (1.8 to 2.4 pt) - Sonalan (1.5 to 2.5 pt)	- PPI or PRE
PPO Inhibitors	14	- Valor (2 to 3 oz)	- PRE
Seedling Inhibitors – Shoot Site	15	- Dual Magnum (1 to 1.33 pt) - Outlook (12 to 18 fl oz) - Zidua (1.5 to 2.1 fl oz)	- PRE or EPOST - PPI or PRE - EPOST
Bleacher	12	- Brake (12 to 16 fl oz) (Currently not registered for peanut in Florida)	- PRE

Residual Herbicides for Weed Control

Weed Categories

Effective Herbicides

Small seeded grasses (goosegrass, crowfoot grass, large crabgrass, barnyardgrass, etc)

- Yellow herbicides (Prowl, Sonalan, Treflan); Dual, Outlook; Brake; Strongarm; Valor

Large seeded grasses (Texas panicum, broadleaf signalgrass, etc)

- Strongarm; Valor

Small seeded broadleaf weeds (pigweed, common lambsquarters, purslane, etc)

- Yellow herbicides (Prowl, Sonalan, Treflan); Dual; Outlook; Brake; Valor; Strongarm

Large seeded broadleaf weeds (Coffeeweed, tropic croton, spiderwort, morningglories, etc)

- Strongarm; Valor; Dual (for spiderwort)

Factors Limiting Residual Herbicide Efficacy

- Uniform coverage is essential
- Weather factor is critical
 - Rainfall/irrigation needed to incorporate and activate herbicide into soil
 - The rainfall stimulates weed germination
 - Cool and wet weather can also result in crop injury
- Dry period after herbicide application is often a concern



Optimum Rainfall and Activation Timing

Herbicide	Rainfall consideration
Prowl, Sonalan	0.5 to 1 inch within 2 days after application
Valor	At least 0.25 inch
Strongarm	0.5 inch or more is required for initial activation
Dual Magnum	0.5 inches on coarse soils, 1 inch on fine textured within 2 days after application
Warrant	0.25 to 0.75 inches within 7 days after application
Zidua	0.5 inches before weed emergence
Brake	>0.5 inches after application

Optimum Rainfall Condition

Optimal herbicide performance

- Perfect world: 0.5 to 1 inch rain/irrigation within 2-3 days after application
- Generally, 0.5 to 1 inch of precipitation within the first week is good
- Additionally, about 2 inches rain/irrigation spread over the next 2-4 weeks



Dry Weather Consideration

- If no rain in sight then consider applying a higher rate of the rate range
 - If no rain for about 7 to 10 days after application then expect some loss of activity
- For dryland farms, better to soil incorporate herbicide at 1 to 2 inches
- If weeds emerged before rainfall/herbicide activation
 - Fewer and smaller weeds – shallow cultivation in row middles
 - Weeds are dense and 3 inch or tall - apply cracking treatment or EPOST herbicides sooner
 - Tank-mix residual product is important

Consideration for Cracking Treatment

- Thorough field scouting is critical before deciding to apply cracking treatment
- If PRE herbicide got good activation – field looks clean then no need for cracking treatment
- If the field is weedy and application is needed:

Herbicide Product tank-mix	Rate
Paraquat (2 lb formulations)+ Storm/Basagran+ Dual/Outlook/Zidua/ Anthem Flex	12 fl oz+ 16/8 fl oz+ 16/12.8/2.5/3 fl oz
Paraquat (3 lb formulations)+ Storm/Basagran+ Dual/Outlook/Zidua/ Anthem Flex	8 fl oz+ 16/8 fl oz+ 16/12.8/2.5/3 fl oz

Rainfall Effect on POST Herbicide

- POST herbicide – meet the rainfast period
- Washed off from the leaf surface
- Herbicide uptake will be reduced

Herbicide	Rainfast period
Basagran	4 hr
Ultra Blazer	4 hr
Storm	4 hr
Cadre	3 hr
Cobra	1 hr
Classic	1 hr
Gramoxone	1 hr
Poast/Assure II/Select Max	1 hr
2,4-D B	

Problematic Weed Control in Peanut



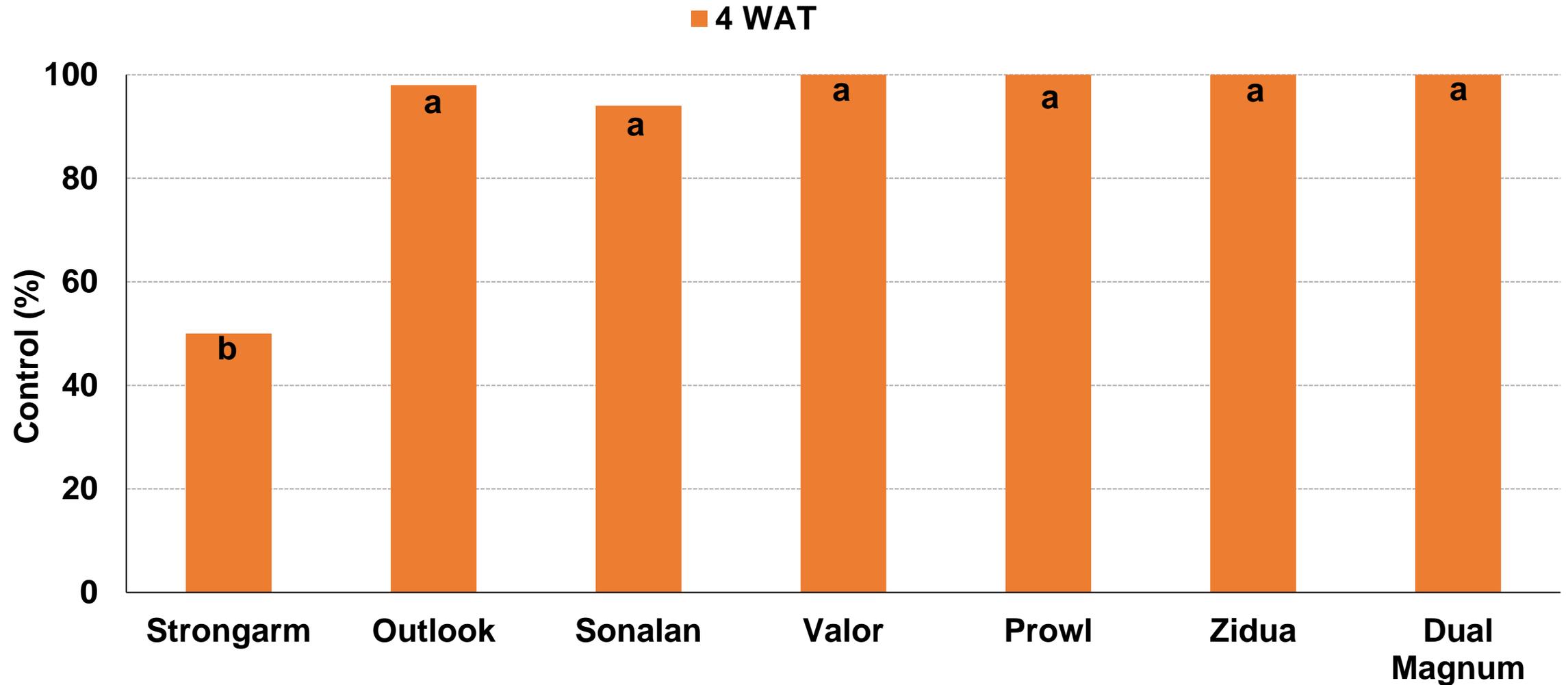
Palmer Control Trial at Marianna

■ Herbicide treatments

PRE herbicide (at planting)	Early-POST (4 WAP)
Strongarm - 0.45 oz	Gramoxone – 16 fl oz + *Warrant – 48 fl oz + Basagran – 12 fl oz
Outlook – 16 fl oz	
Sonalan – 2 pt	
Valor – 3 oz	
Prowl – 2 pt	
Zidua – 3 fl oz	
Dual Magnum – 1.33 pt	

***Warrant – currently pending registration in Florida**

Palmer amaranth Control with PRE Herbicides





Nontreated check



Strongarm

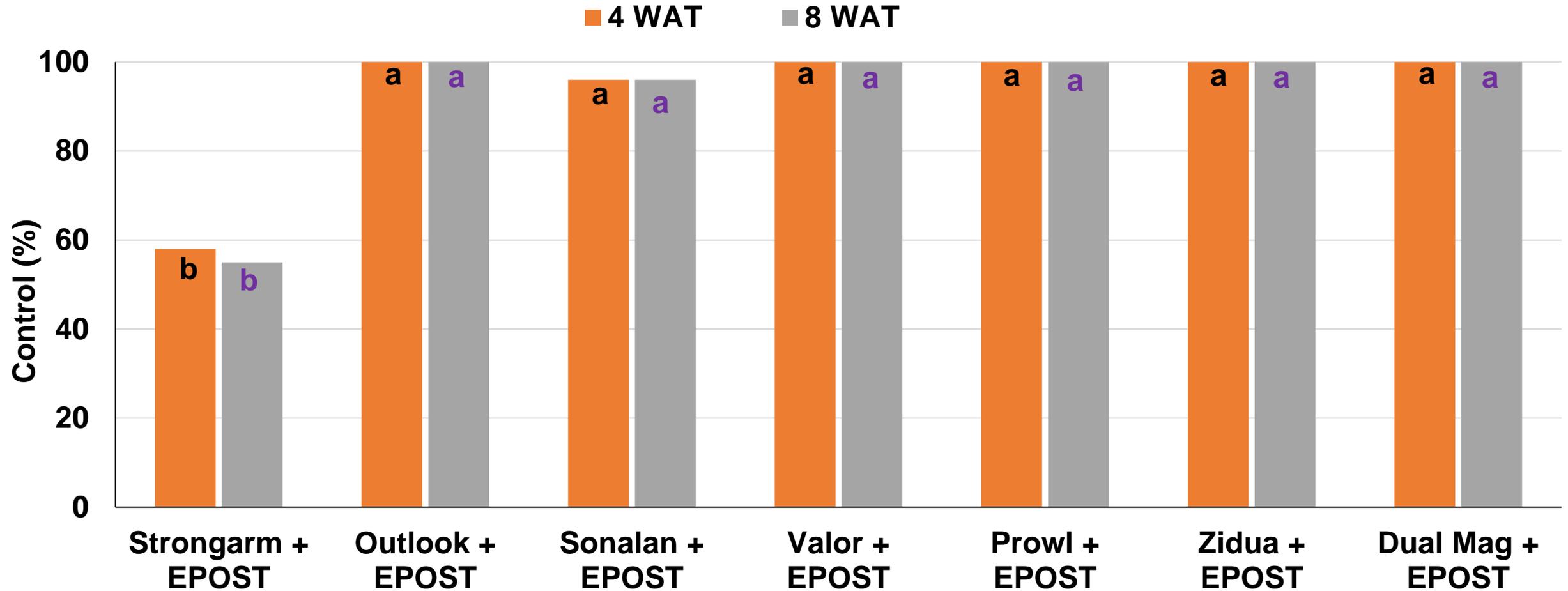


Valor



Prowl

Palmer Control after Cracking/EPOST

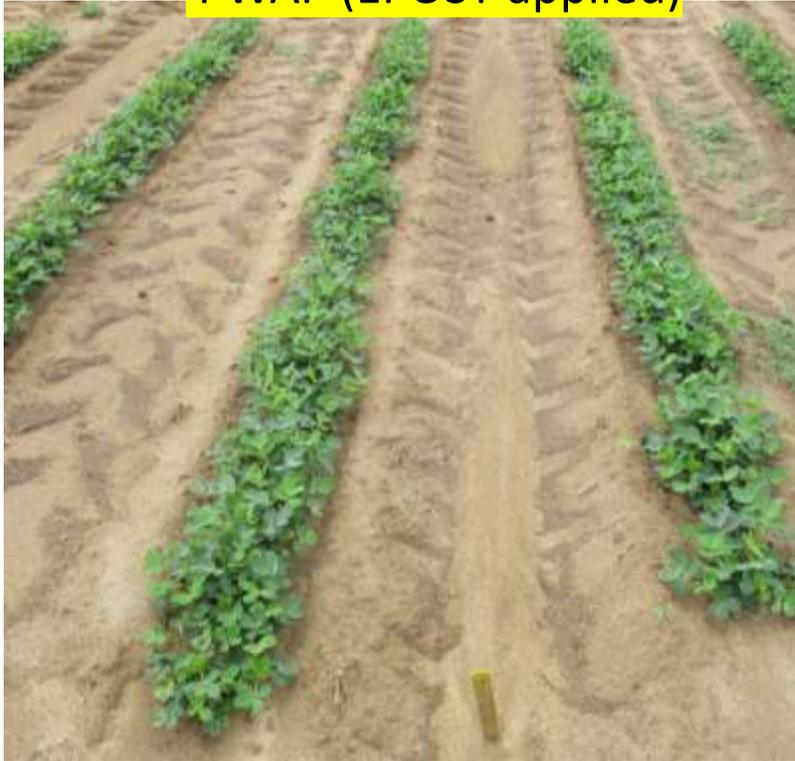


▪ EPOST= Gramoxone + Warrant + Basagran

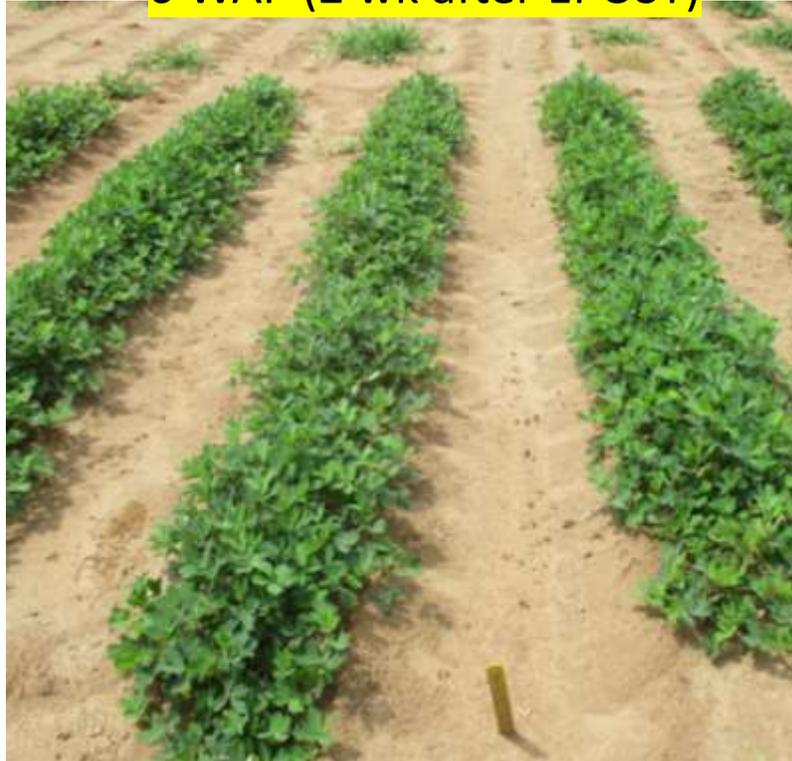
Peanut Injury (%) after Gramoxone

Herbicide program	Timing	2 WAT	4 WAT	8 WAT	Yield (lb/A)
Strongarm fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	25	12	2	4,878
Outlook fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	26	13	1	4,547
Sonalan fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	27	12	1	4,561
Valor fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	26	12	1	5,013
Prowl H2O fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	28	12	3	4,694
Zidua fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	28	14	3	4,475
Dual Magnum fb Gramoxone + Warrant + Basagran	PRE				
	EPOST	26	11	2	4,666
Weed-free control (hand-weeded)	-----	-----	-----	-----	4,626

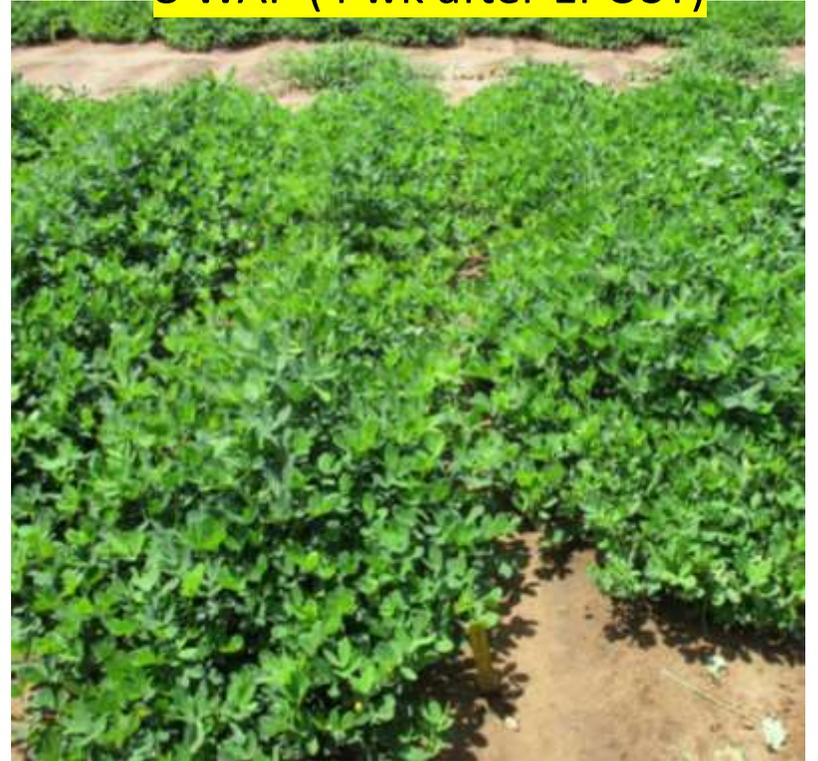
4 WAP (EPOST applied)



6 WAP (2 wk after EPOST)

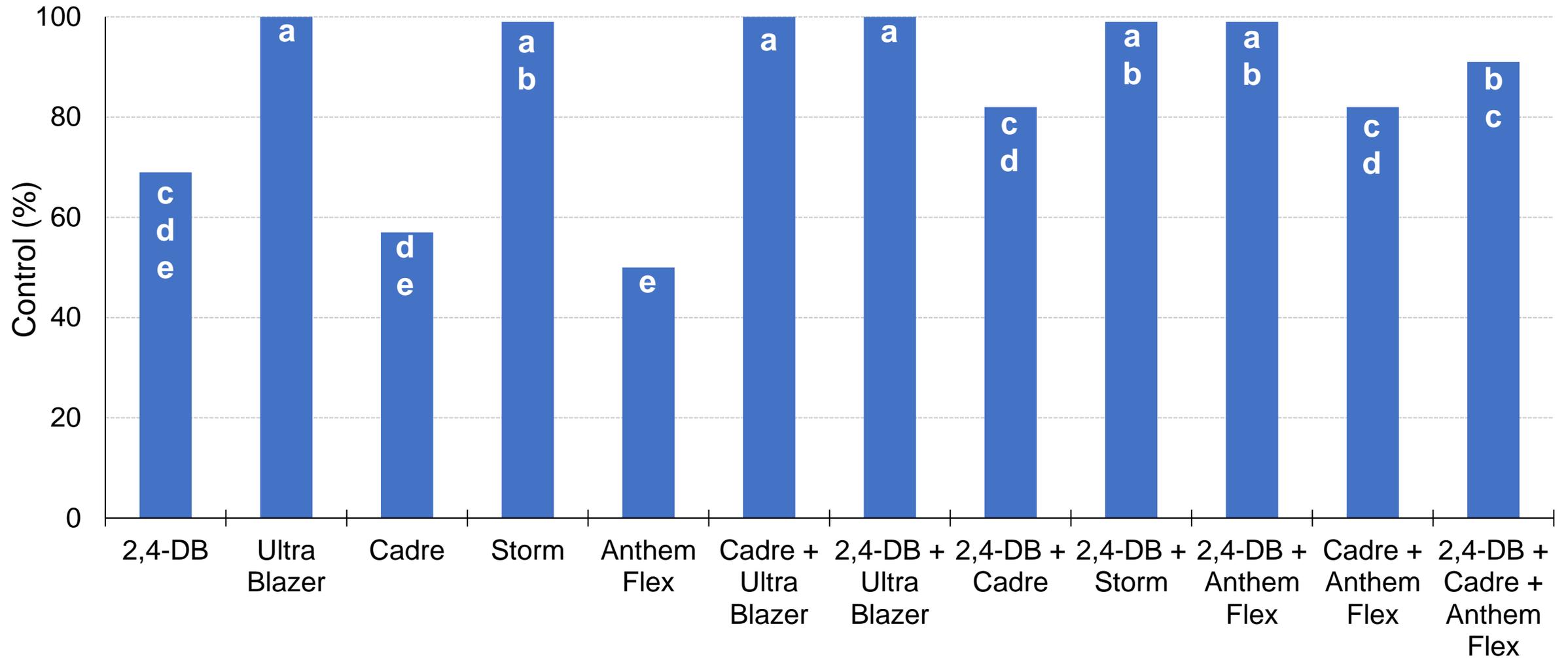


8 WAP (4 wk after EPOST)



Palmer Control in Greenhouse

- Various POST herbicides - applied to Palmer about 4 inch tall





Nontreated check



2,4-DB



Cadre



Storm



Ultra Blazer



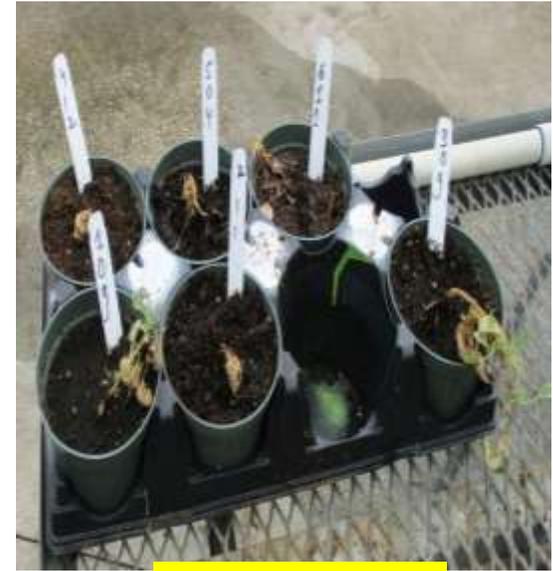
Anthem Flex



2,4-DB + Anthem Flex



Cadre + Anthem Flex



2,4-DB + Storm



Cadre + Ultra Blazer



2,4-DB + Ultra Blazer



2,4-DB + Cadre

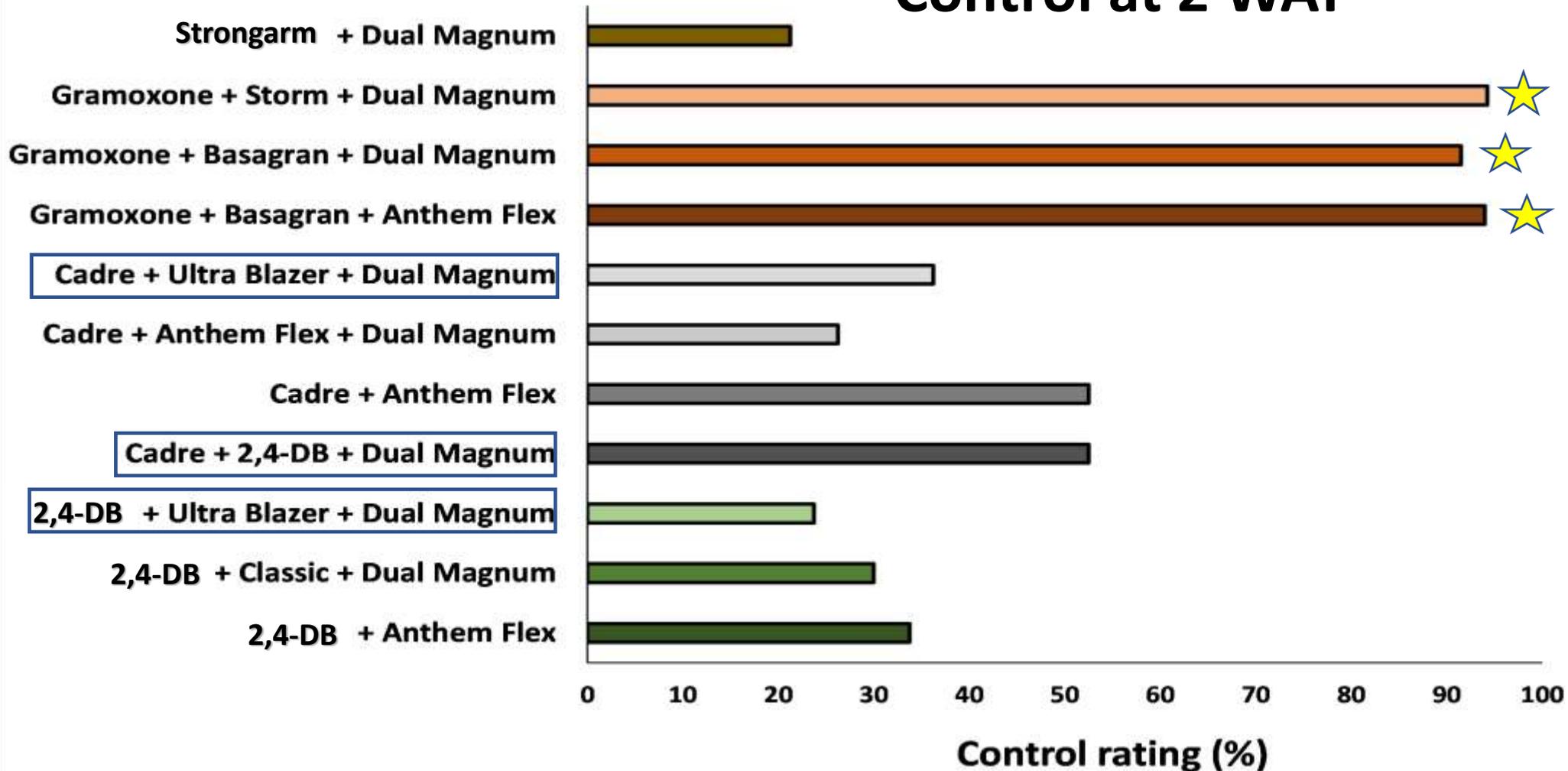
Palmer Amaranth Control

Situation	PPI	PRE	Cracking*	Early POST	Late POST
Palmer (not ALS-resistant)	Prowl or Sonalan+ Strongarm/ Outlook	Strongarm+ Outlook/Valor/ Prowl	Dual+ Storm	Cadre+ Dual/Zidua	2,4-DB+ Ultra Blazer
Palmer (ALS-resistant)	Prowl or Sonalan+ Strongarm/ Outlook	Valor+ Prowl+ Outlook/ Strongarm	Gramoxone+ Dual+ Basagran/Storm	2,4-DB+ Ultra Blazer+ Dual/Zidua+ Cadre	2,4-DB+ Classic

Tropical spiderwort control with tank-mixed POST herbicides for Peanut

Spiderwort control with tank-mix POST herbicides

Control at 2 WAT



Untreated control



Strongarm + Dual Magnum



Cadre + 2, 4-DB + Dual Magnum



Cadre + Anthem Flex + Dual Magnum



Cadre + Ultra Blazer + Dual Magnum



Cadre + Anthem Flex



Gramoxone + Storm + Dual



Gramoxone + Basagran + Anthem Flex



Gramoxone + Basagran + Dual



2,4-DB + Ultra Blazer + Dual



2,4-DB + Classic + Dual



2,4-DB + Anthem Flex



Tropical Spiderwort Control

Situation	PPI	PRE	Cracking	Early POST	Late POST
Tropical spiderwort	Prowl or Sonalan+ Strongarm	Valor+ Strongarm	Gramoxone+ Dual+ Basagran/Storm	Cadre+ Dual	2,4-DB + Aim

Sicklepod and Tropic Croton Control

Situation	PPI	PRE	Cracking*	POST 1	POST 2
Sicklepod (Coffeeweed)	Prowl or	Valor+	Gramoxone+	Cadre+	2,4-DB+
	Sonalan +	Strongarm/	Dual/Outlook+	2,4-DB+	Classic
	Strongarm	Pursuit	Storm	Dual/Zidua	
Tropic croton	Prowl or	Valor+	Gramoxone+	Cadre+	2,4-DB+
	Sonalan+	Strongarm	Dual+	Zidua/Anthem	Ultra blazer
	Strongarm		Storm	Flex	

Late Season Options

- Weed control from early season is critical
- Layered residual needed for effective season long control
- Consider preharvest Interval (PHI) restriction for late season application

Herbicide	PHI (days)
Cadre	90
Dual Magnum	90
Ultra Blazer	75
Storm	75
2,4-DB	60
Classic	45
Cobra	45
Grass herbicides (Select Max, Poast, etc.)	40
Basagran	12

Tropical spiderwort control with POST-applied herbicides

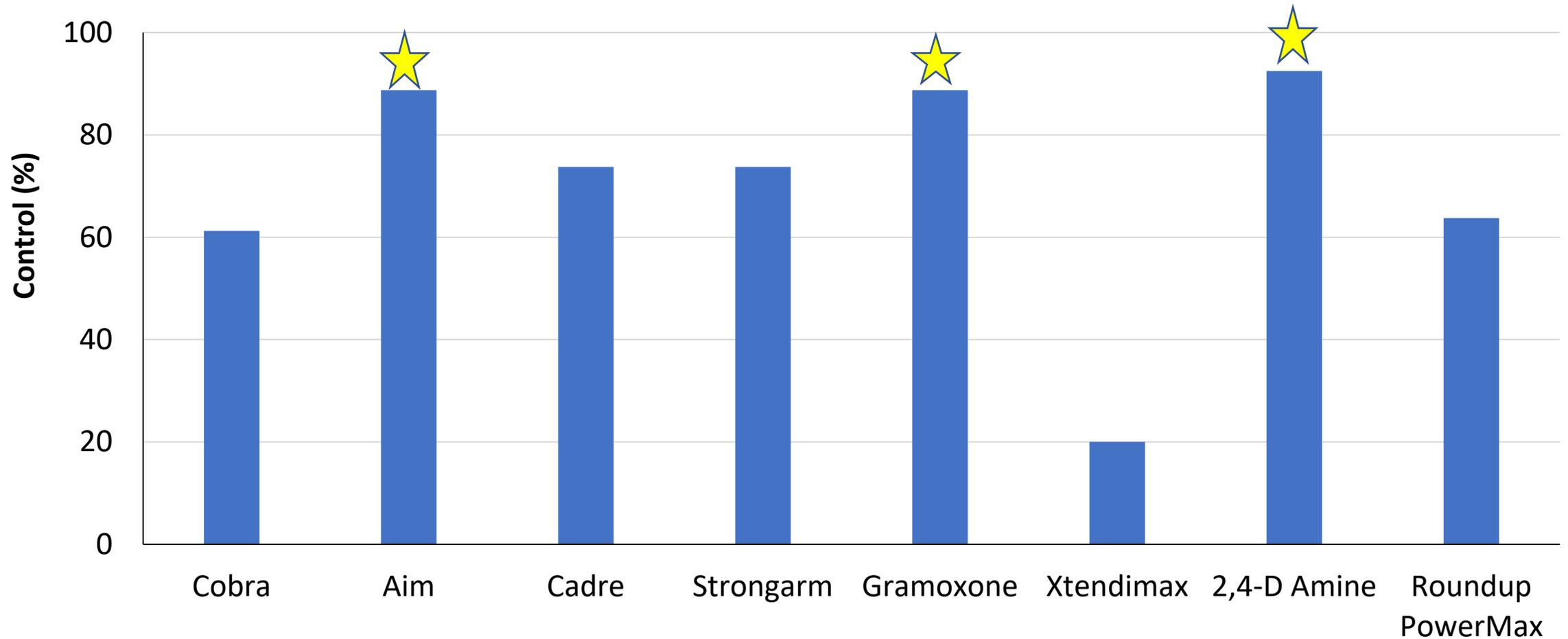
Herbicide Treatments

- Various POST herbicides evaluated for tropical spiderwort control.
- Spiderwort marked at different heights during herbicide application:
 - 3 to 5 inches
 - 6 to 8 inches

SN	POST herbicide treatments	Rate/A
1	Cobra	12.5 fl. oz
2	Aim	2 fl. oz
3	Cadre	3 fl. oz
4	Strongarm	0.45 oz
5	2,4-DB	16 fl. oz
6	Gramoxone	12 fl. oz
7	Xtendimax	22 fl. oz
8	2,4-D Amine	2 pt
9	Roundup PowerMax	32 fl. oz

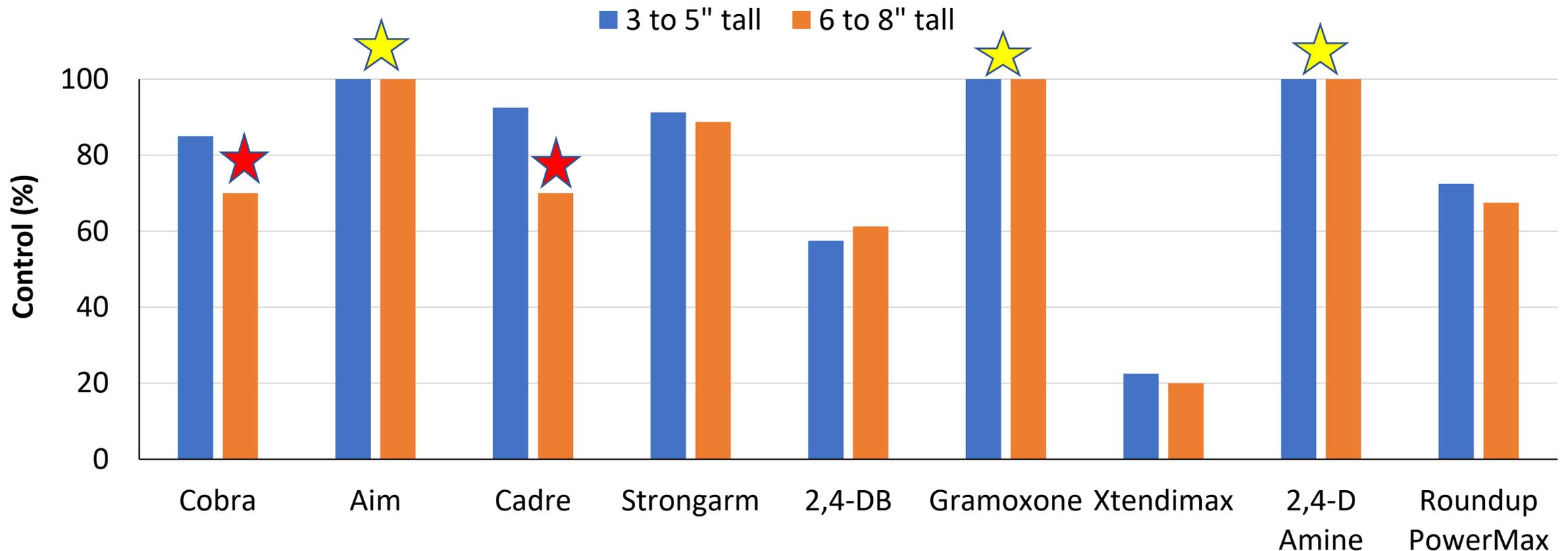
Tropical Spiderwort Control

- Tropical spiderwort overall control rating at 4 wk after treatment



Tropical Spiderwort Control

- Tropical spiderwort control at different height at 4 wk after treatment



Untreated check



Strongarm



Cadre



Aim



Cobra



2,4-DB



2,4-D Amine



XtendiMax



Roundup



Gramoxone



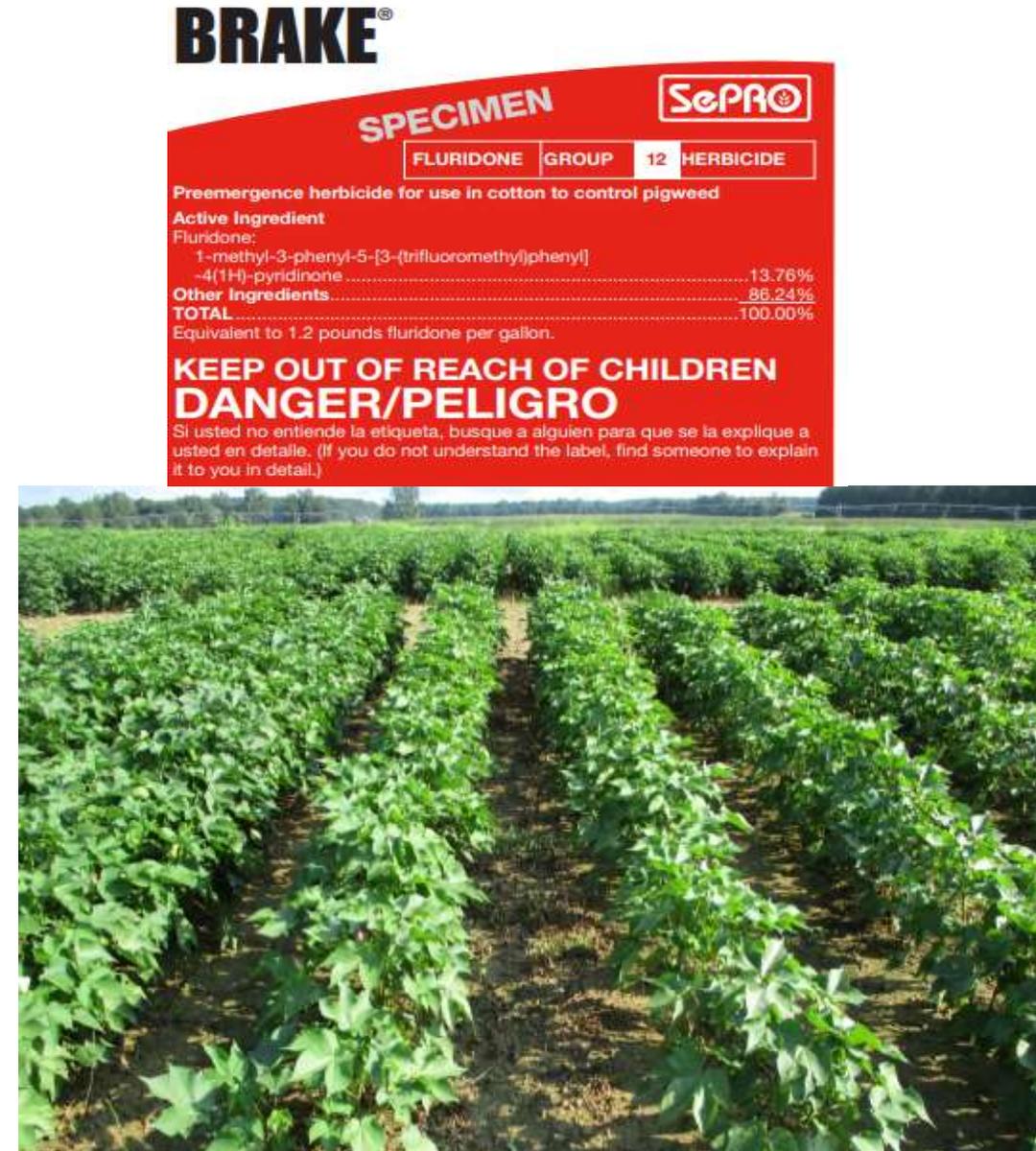
Summary

- Aim, 2,4-D amine, and Gramoxone were effective for tropical spiderwort control.
 - Use of adjuvants is important
- Enlist Cotton could be considered for field history with spiderwort problem.
- Gramoxone and Aim as post-directed, hooded/shielded application for cotton.
- Spiderwort height >4 inches - for Cobra and Cadre herbicide efficacy.

Weed control on dicamba cotton

Dicamba Cotton

- Weed control in XtendFlex cotton with Preemergence fb POST application of XtendiMax and Roundup herbicide
 - Evaluate Reflex herbicide (Group #14)
 - Evaluate Warrant herbicide (Group #15)
 - Evaluate Brake herbicide (Group# 12)
 - Evaluate tank-mix application of PRE
 - Broadleaf and grass weed control



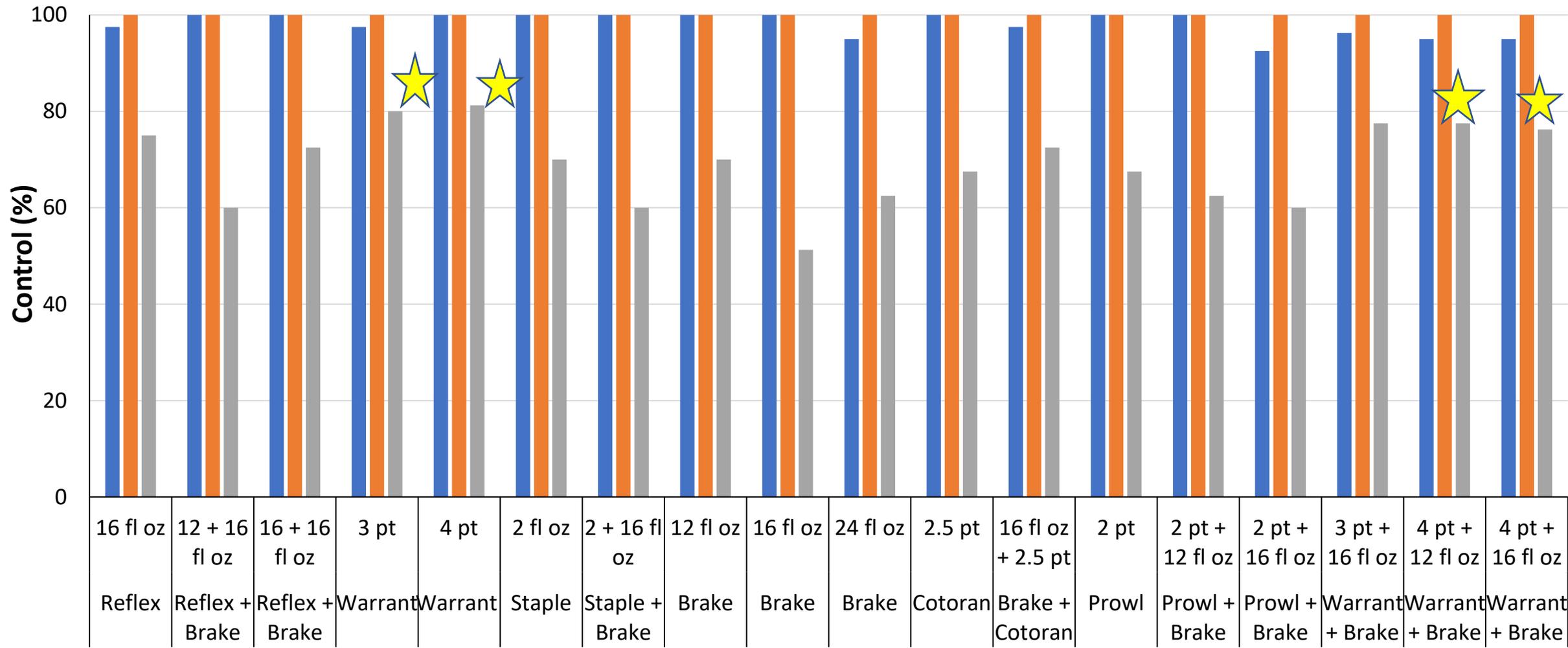
Herbicide Treatments

SN	PRE herbicides - at planting	Rate/A	POST treatments
1	Non-treated check		<p style="text-align: center;"><u>On 8 leaf cotton:</u> XtendiMax + Roundup PowerMax (22 fl oz + 32 fl oz)</p>
2	Reflex	16 fl oz	
3	Reflex + Brake	12 + 16 fl oz	
4	Reflex + Brake	16 + 16 fl oz	
5	Warrant	3 pt	
6	Warrant	4 pt	
7	Staple	2 fl oz	
8	Staple + Brake	2 + 16 fl oz	
9	Brake	12 fl oz	
10	Brake	16 fl oz	
12	Cotoran	2.5 pt	
13	Brake + Cotoran	16 fl oz + 2.5 pt	
14	Prowl	2 pt	
15	Prowl + Brake	2 pt + 12 fl oz	
16	Prowl + Brake	2 pt + 16 fl oz	
17	Warrant + Brake	3 pt + 16 fl oz	
18	Warrant + Brake	4 pt + 12 fl oz	
19	Warrant + Brake	4 pt + 16 fl oz	

***Warrant – currently pending registration in Florida**

Broadleaf Control - 4 wks after POST (9 WAP)

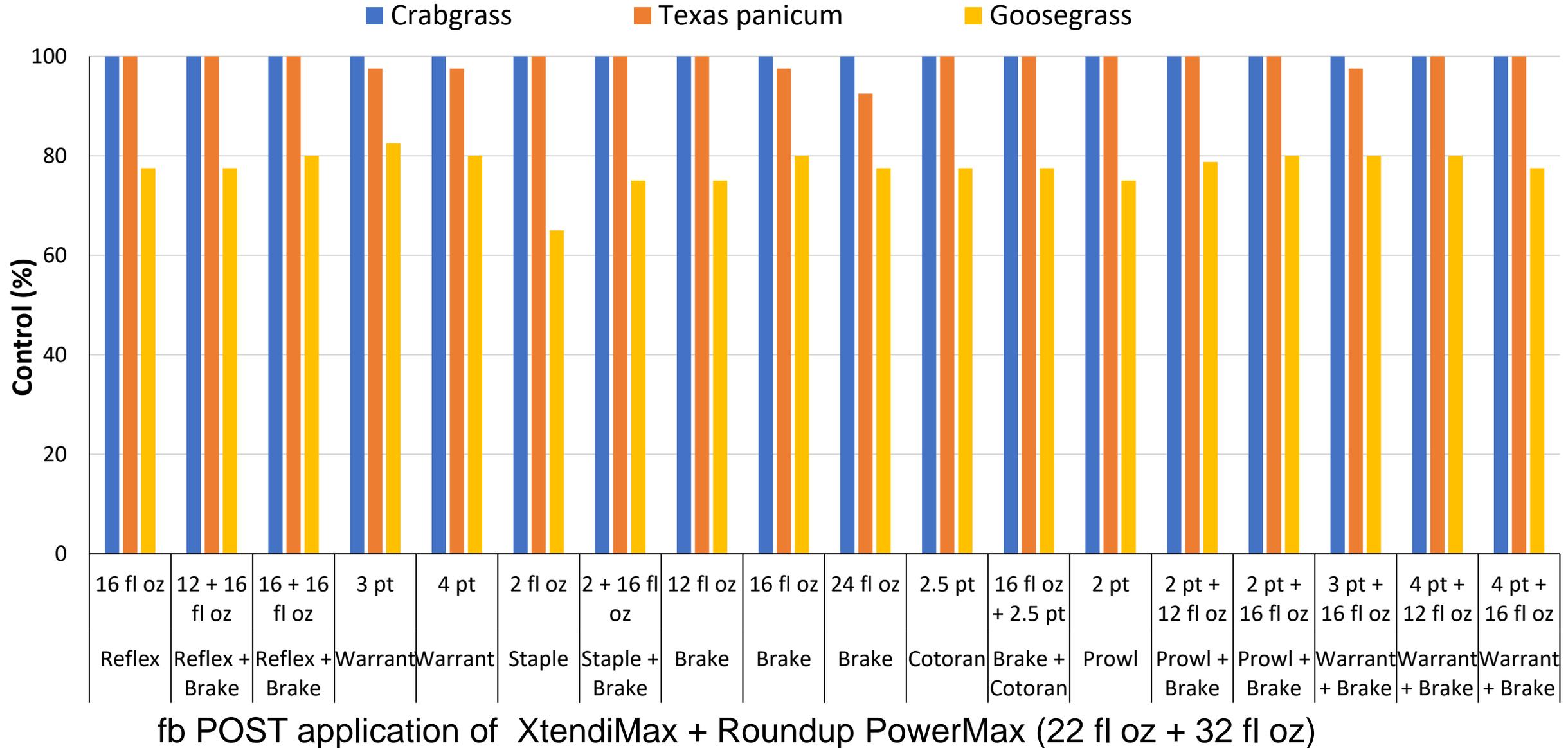
■ Sicklepod ■ Morningglory ■ Tropical spiderwort



fb POST application of XtendiMax + Roundup PowerMax (22 fl oz + 32 fl oz)

*Warrant – currently pending registration in Florida

Grass Control - 4 wks after POST (9 WAP)



*Warrant – currently pending registration in Florida



Nontreated check



Reflex fb POST



Brake fb POST



Warrant fb POST



Staple fb POST



Cotoran fb POST



Nontreated check



Staple + Brake fb POST



Reflex + Brake fb POST



Brake + Cotoran fb POST



Prowl + Brake fb POST



Warrant + Brake fb POST

Cotton Weed Control

Situation	PRE	POST1	POST2	LayBy
Liberty/ Roundup cotton	At least two: (Brake, Reflex, Direx, Staple)	1. Roundup + Dual/Outlook 2. Liberty + Dual/Outlook	1. Liberty + Dual/Outlook 2. Roundup + Dual/Outlook	AIM, MSMA, Direx,
Dicamba cotton	At least two: (Brake, Reflex, Direx, Staple)	XtendiMax/Engenia/T avium + Roundup Dual/Outlook	XtendiMax/Engenia/ Tavium + Roundup	AIM, MSMA, Direx
Enlist Cotton	At least two: (Brake, Reflex, Direx, Staple)	Enlist One + Roundup + Dual/Outlook	Enlist One + Roundup/liberty	AIM, MSMA, Direx

Thank you..!