

Weed Management

Great Plains Cotton Conference

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AGRICULTURE

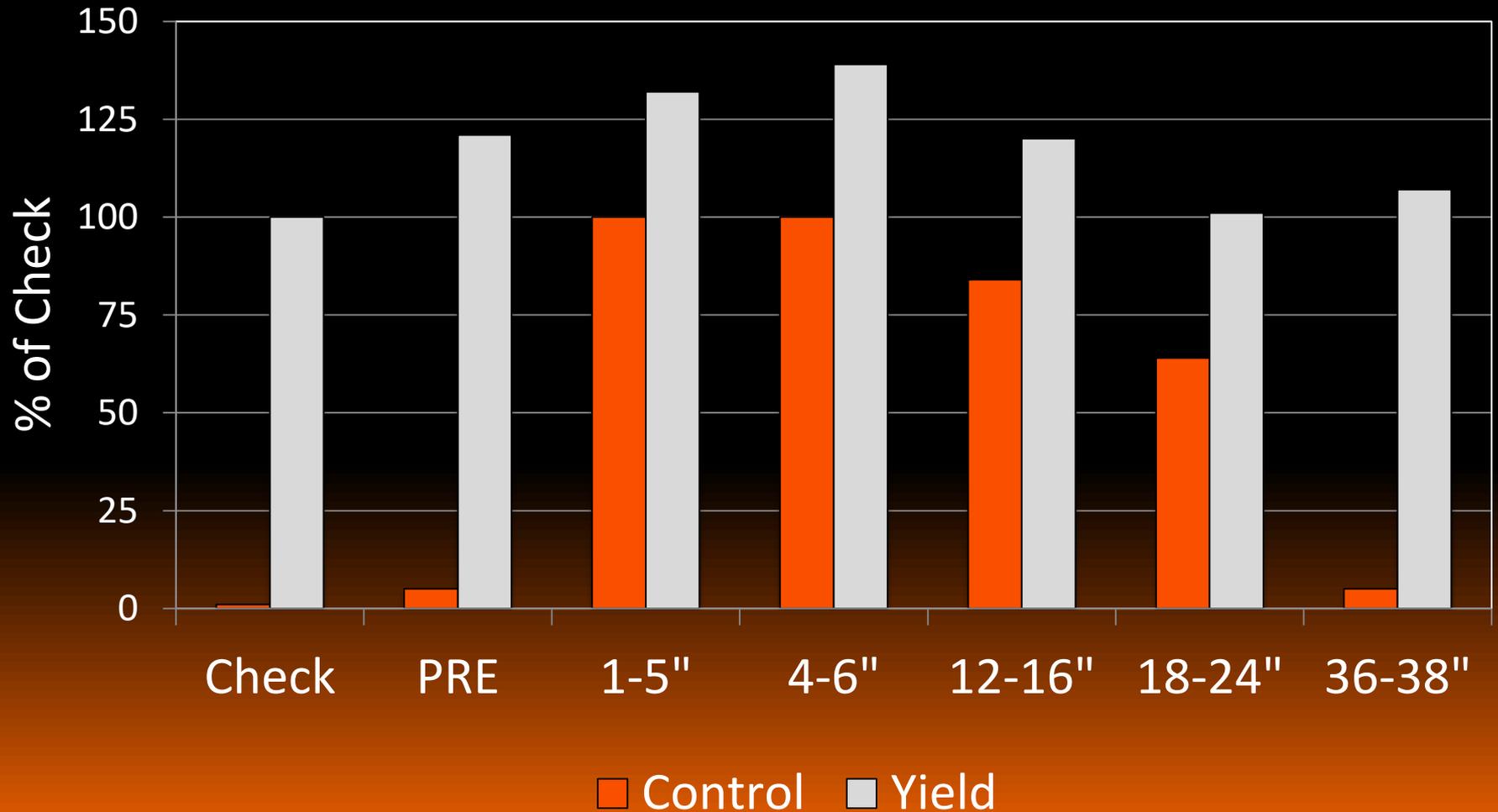
Managing Volunteer Cotton

- The **KEY** to controlling volunteer cotton is controlling it when its small **< 4 leaf**
- Good success with Gramoxone and Aim as a burndown
- POST options switching to another technology (Liberty-Link, Xtend, Enlist)
- PDS, hoods, or cultivation



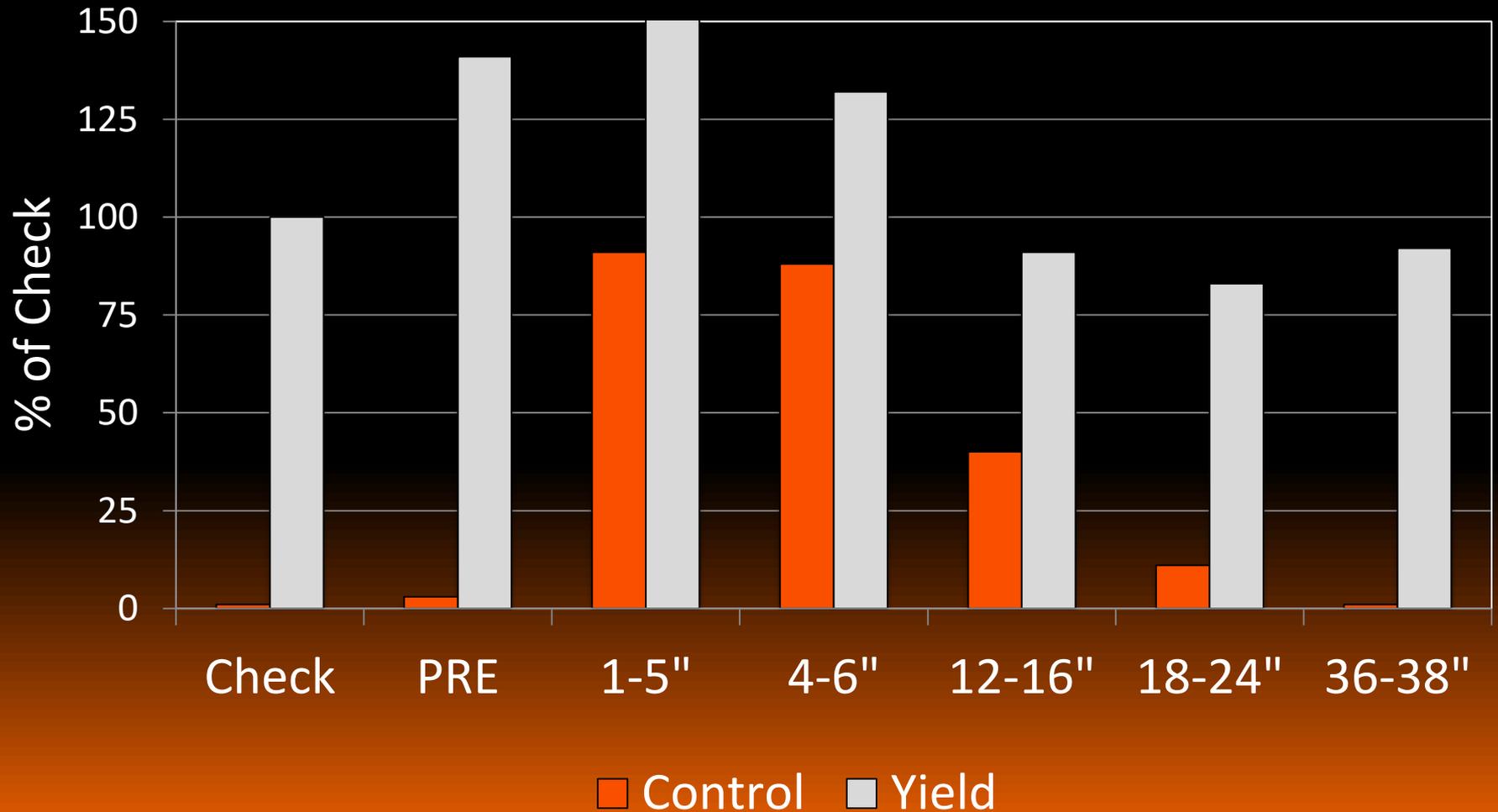
Control of Volunteer Cotton w/ Enlist

76 fl oz/A Enlist Duo



Control of Volunteer Cotton w/ Xtendimax

22 fl oz/A Xtendimax



Volunteer Cotton Germination

Location	% Germination
Muller 1	40
Muller 2	26
Muller 3	32
Abernathy	19
Caldwell	17
Bush	19
Tipton	32
Individual Min	12
Individual Max	55
Average	27

Wanted:



Name: Palmer Amaranth

Alias: Pigweed, Carlessweed, Palmer, Palmer Pigweed

Description: Summer annual reaching heights of 6-10', separate male and female plants

Wanted For: Being the most troublesome weed in summer crops in Oklahoma and other states, prolific seed producer, resistant to several herbicides, robbing yield from farmers

Last Seen: In fields across Oklahoma and many other states

Currently Listed as **Public Enemy #1**

“If you kill off the competition with a highly effective herbicide, the resistant one will flourish”

P.A. Baumann, 2007



Not all control issues are Resistance



Residual Herbicides Key to Success

Yellow Herbicide



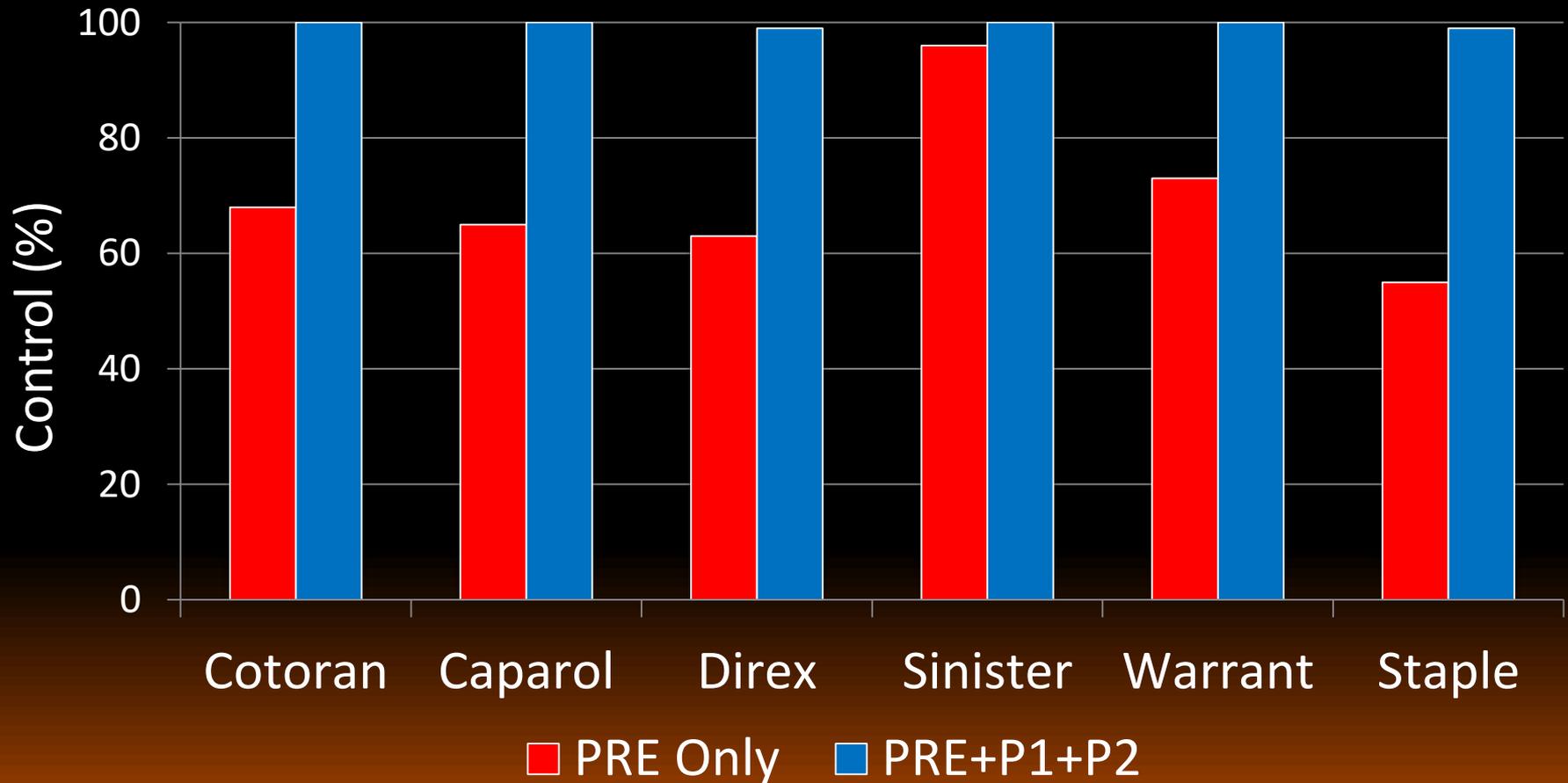
Residual Herbicides Key to Success

**Cotoran, Caparol, Direx
Brake, Sinister, Staple**

**Dual, Warrant, Outlook,
Zidua**

Palmer Pigweed Control

Altus 2019



POST1 = Engenia + Roundup; POST2 = Engenia + Roundup + Cinch

Preemergence Weed Control In Cotton



**Warrant 3 pt/A
PRE**

**Engenia 12.8 fl oz + RU 32 fl oz
POST**

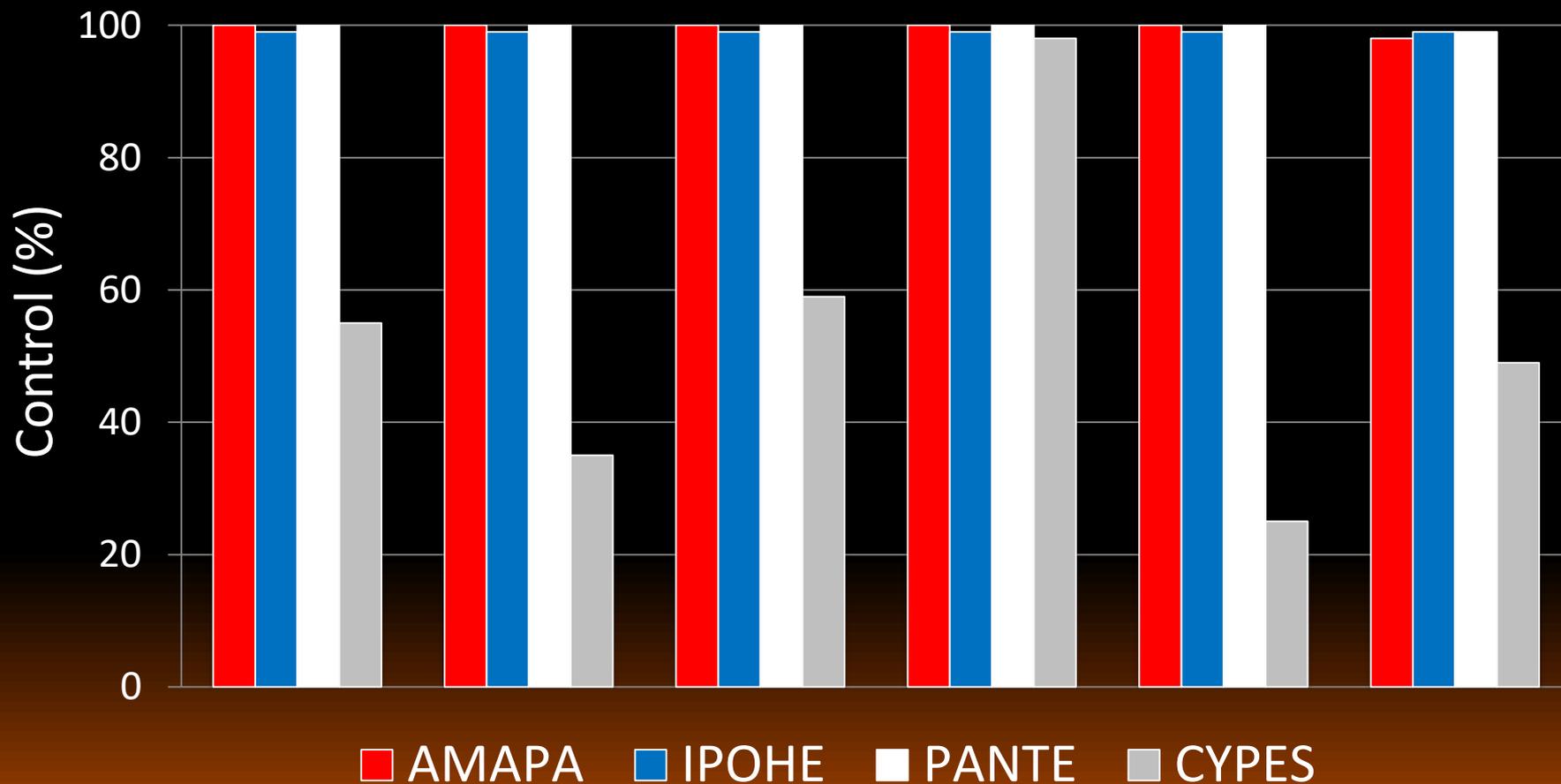


**Cotoran 1 qt/A
PRE**

**Engenia 12.8 fl oz + RU 32 fl oz
POST**

PRE + POST Weed Control

Fort Cobb 2019



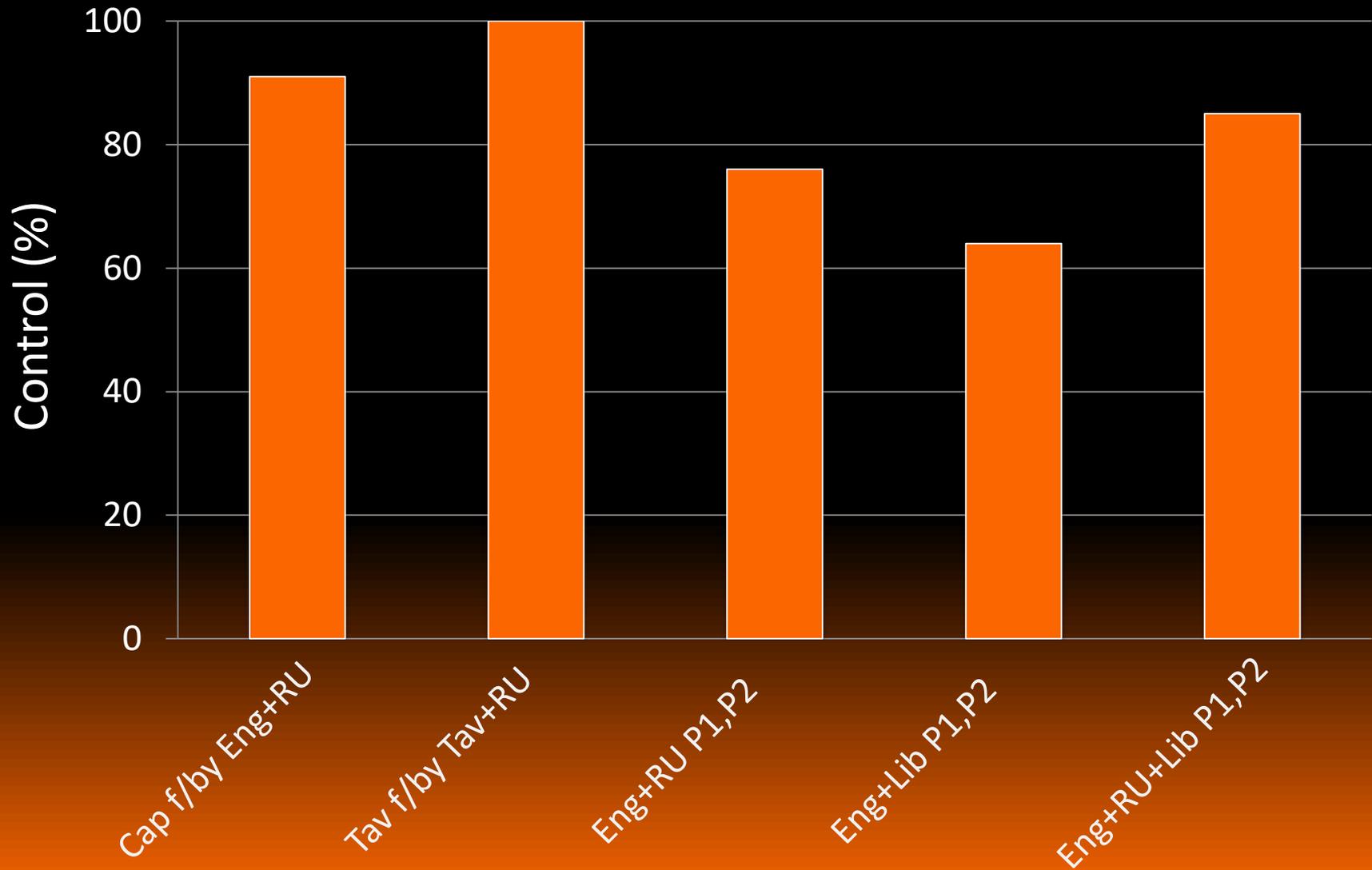
POST1 = Enlist Duo; POST2 = Enlist Duo + Cinch

Sinister Label

- Early PREPLANT – Irrigated and Dryland Cotton
 - 14 to 21 day before planting
 - 0.5 inch rainfall or irrigation
- PRE – Sprinkler Irrigated Cotton Only
 - 0.5 inch of irrigation prior to cotton cracking the soil surface
- POST-DIRECTED – Irrigated and Dryland Cotton
 - Apply with precision post-directed equipment or hoods
 - Apply 0.25% NIS or 0.5% COC
 - Controls small emerged weeds and residual
 - Do not get on cotton foliage
- ROTATION – check label for crop rotation

PRE + POST Weed Control

Altus 2019



Residual Benefits in Cotton



**Tavium 56.5 fl oz + Caparol 32 fl oz PRE
Tavium 56.5 fl oz + Roundup 32 fl oz POST**



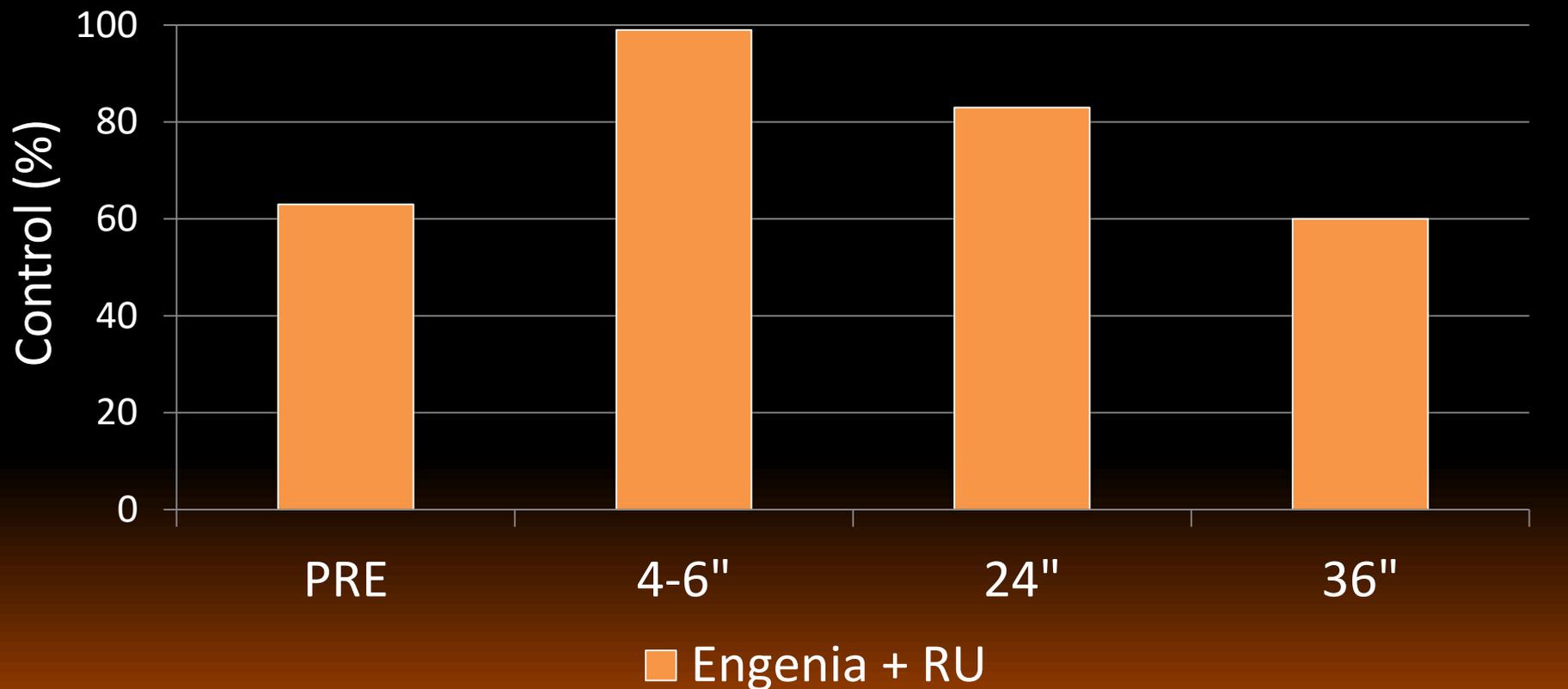
**Engenia 12.8 fl oz
Roundup 32 fl oz
POST 1X**



**Engenia 12.8 fl oz
Roundup 32 fl oz
POST 2X**

GR Resistant Palmer Pigweed Salvage

Bixby



Evaluation 2 weeks after treatment

Managing Resistance

- Do not rely on a single method for weed control
- Do everything possible to increase crop competitiveness
- Use alternative site of action herbicides (alternate herbicides that kill weeds differently than others used)
- Keep using or go back to soil-active herbicides (i.e. Treflan, Prowl, Staple, Warrant, Dual, Brake, Cotoran, Caparol)
- Switch transgenic technologies (Roundup Ready Xtend, Enlist, Liberty Link)
- Apply alternative POST & PD herbicides in lieu of or in combination with alternative site of action herbicides (i.e. Aim, Direx, Staple, OT grass killers).

Reason to Protect New Technology

- HPPD Inhibitors were the last new mode of action discovered and brought to market
- Discovered in late '70's early '80's
- Corn, Sorghum, Wheat, Rice, Sugarcane
- Biotech Traits being developed in Cotton & Soybean

Xtend Cotton Systems

- Must be Trained/Retrained for 2020
- 24-C for Engenia and Xtendimax to allow spraying from sunrise to sunset and up to 90 days after planting of cotton



Minimize Drift with New Technologies

- Only use labeled products
- Follow all label directions
- Use proper nozzles
- Be cognizant of changes in weather and wind direction
- Pay attention to Temperature Inversions
(Can potentially occur at any time)

Summary



Oklahoma State



Weed Science

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