Corn & Soybean Weed Management

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Regulatory Status

OTT Dicamba Labels Unlikely for 2025

Regulatory Realities Likely to Keep Over-the-Top Dicamba Off the Market in 2025

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By Jason Jenkins , DTN Crops Editor

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JEFFERSON CITY, Mo. (DTN) -- Like most farmers this time of year, Josh Gackle is field-focused as harvest gets underway. But that doesn't mean he isn't looking ahead.

"Whether it's seed traits or chemicals, we've already started making plans for 2025," said the farmer from Kulm, North Dakota, and current president of the American Soybean Association (ASA). "Dealers and others are calling, and so a lot of decisions are on the table. On our

Regulatory Status

No OTT dicamba in 2025!

Back to the Basics

- RR2 Xtend, XtendiFlex, and Enlist seed traits still available

- **TIMELINESS!!**
- **Be mindful of herbicide resistant species**
- Start clean
- Overlapping soil residuals needed
- Treating weeds when they’re small and actively growing
- WEED SCIENCE 101

- Cover crops
- Tillage

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Burndown

- Certain dicamba products still allowed in pre-plant burndown applications
- 4-16 floz/A of a 4 lb ae formulation
- 14-day minimum plantback restriction for every 8 floz + 1” rainfall

- 2,4-D also labeled for pre-plant/burndown
- 1-2 pts/A (3.8 lb ae/gal) – 15 d plantback restriction for every 1 pt/A

- Most acres will see non-selectives, especially for grass weeds

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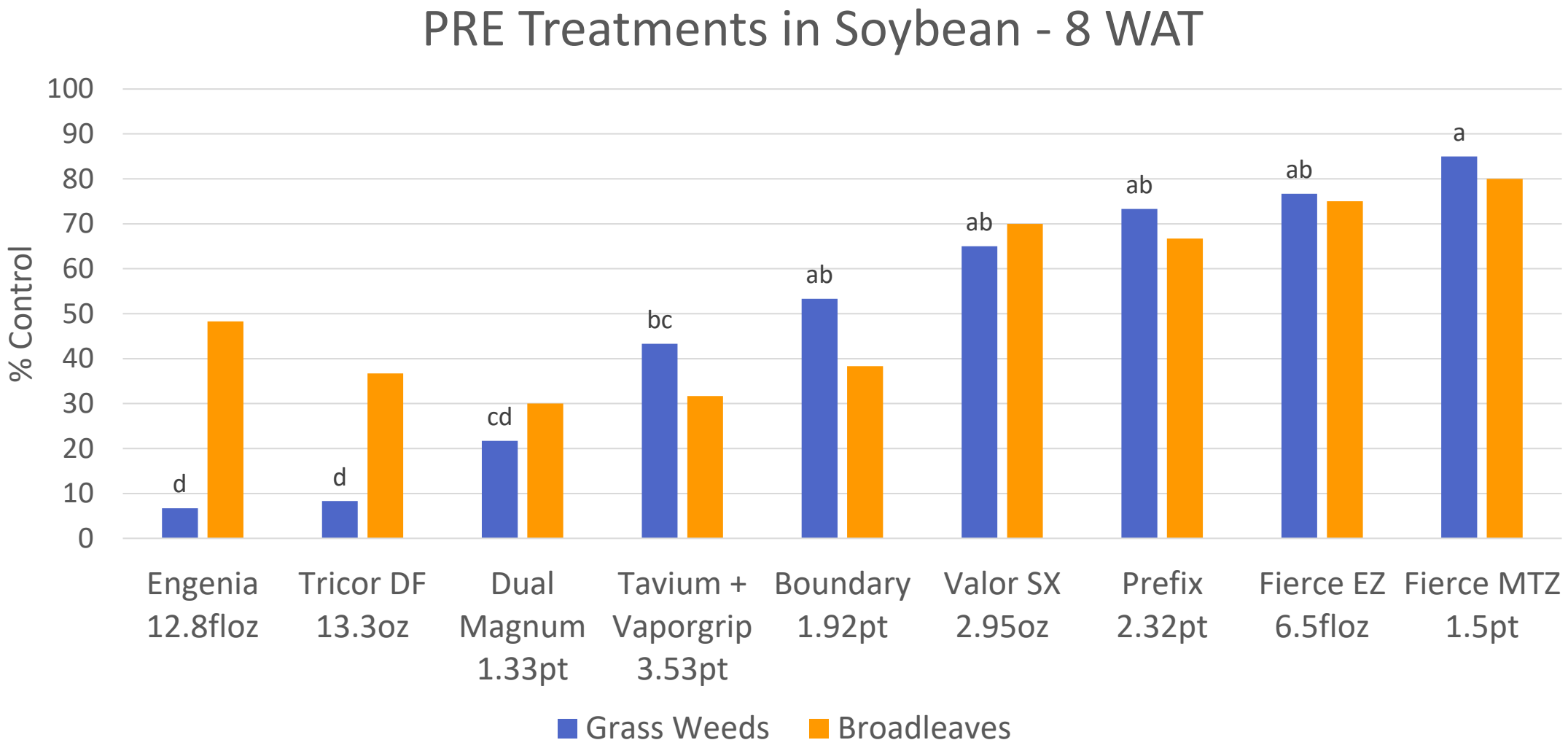
Don’t Forget Residuals




Dual Magnum 7.62
EC
1.33 pt/A
(1.27 lb ai/A) PRE
Applied 5/17/21


Fierce MTZ 2.64 SC
1.5 pt/A
(0.495 lb ai/A) PRE
Applied 5/17/21

Residuals are Essential for Pigweed Management

Preemergence		Early Postemergence		Mid Postemergence
S-metolachlor products (Boundary, Authority Elite, Prefix, etc.) Pyroxasulfone products (Authority Edge, Fierce EZ, Zidua, etc.) Metribuzin products (Authority MTZ, Fierce MTZ, Boundary, Trivence, etc)	**Followed by**	**Enlist**		
		Enlist One + Glufosinate	and/or	Glyphosate OR Clethodim
		Xtend~~a~~flex		
		Xtendimax/Engenia/Tavium + Glyphosate	and/or	Glufosinate (7-10 days later)
		Plus Residual Postemergence		
		Anthem Maxx, Dual Magnum, Outlook, Warrant (& Ultra), Zidua		

Effectiveness of sulfentrazone

- Data generated from 92 university and FMC field trials, 1988-99
- Applied PrePlant or PRE
- Percent control collected 25-35 days after treatment

Weed Species	Percent Control (%)	(>85%)
Coffee Senna	86	✓
Common Cocklebur	85	✓
Lambsquarters	92	✓
Ragweed, Common	67	✓
Eclipta	99	✓
Morningglory spp.		
pitted	94	✓
Scarlet	99	✓
Entireleaf	99	✓
Ivyleaf	99	✓
Smallflower	91	✓
Pigweed spp.		
Palmer	100	✓
Spleen Amaranth	100	✓
Redroot Pigweed	97	✓
Tall Waterhemp	100	✓
Prickly Sida	89	✓
Sicklepod	43	
Tropic Croton	98	✓

Use Caution With Some Residuals

- During a wet spring, emergence through V4, soybeans can be sensitive
- Metribuzin (Group 5) &/or flumioxazin (Group 14) can cause injury
- Slow plant metabolism
- Valor & Reflex splashing on plants during rain
- Addition of Group 15s (Dual Magnum, Outlook, Warrant, etc.) can make it worse

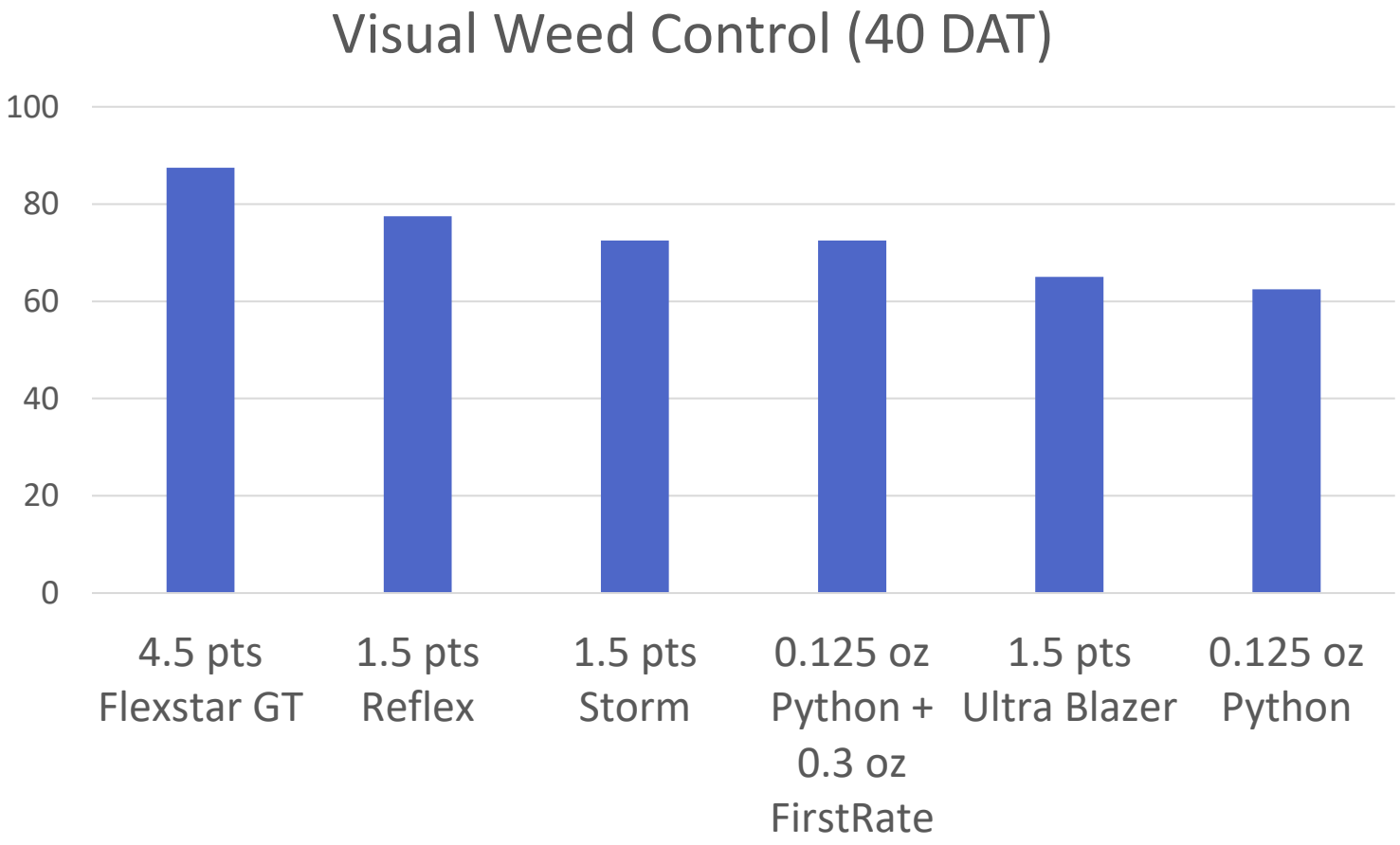
Use Caution With Some Residuals

- Metribuzin will likely cause greater injury in higher pH soils (chlorosis)
  - Calcareous surface area or pH > 7.5
  - Microbial degradation and soil adsorption is reduced in high pH soils = high availability and carryover
  - Don’t use alone for weed control
- PPO herbicides generally cause necrotic speckling, but soybeans usually grow out of injury
  - Greater injury: lactofen (Cobra) > acifluorfen (Ultra Blazer) > fomesafen (Reflex)

Prickly Sida (teaweed)

- Group 15 herbicides are relatively weak
- Reliance on dicamba &/or glyphosate isn't always effective
- Liberty is a better POST, but treat when <3"
- Other PRE options
  - flumetsulam (Python) or any premix with chloransulam (FirstRate)
- Premixes containing Authority, Classic or Valor have decent activity on prickly sida and hophornbeam copperleaf
  - Consider adding metribuzin
- Python may be better choice PRE &/or POST
  - Season max = 1.4 oz/A
  - Cotton rotation: ≥ 0.25 oz/A = 18 mo. ≤ 0.25 oz/A = 9 mo.

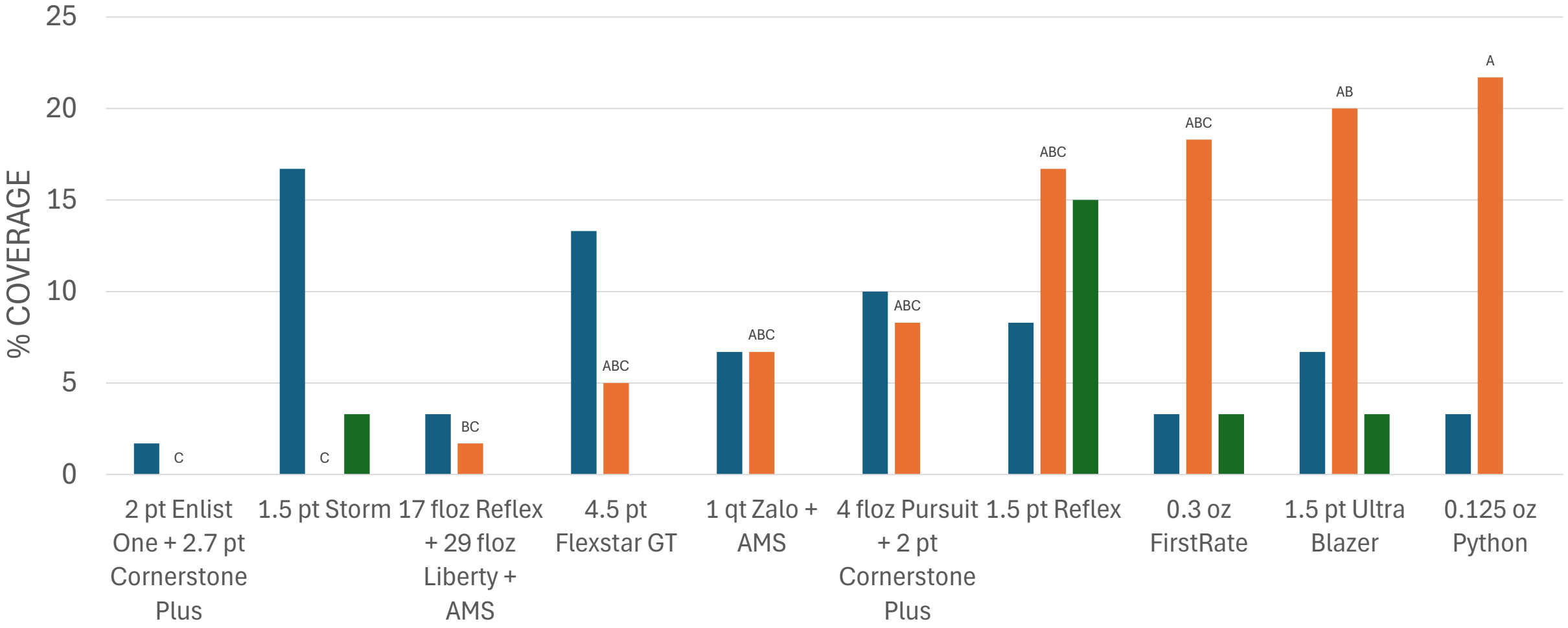
Dicamba Alternatives in Soybean



Crop Rotation Interval

Herbicides	Corn	Cotton	Wheat
Classic	10 Months	10 Months	4 Months
Cobra	None	None	None
Flexstar	10 Months	None	3 Months
FirstRate	9 Months	9 Months	3 Months
Flexstar	10 Months	None	3 Months
Select Max	30 days	None	30 Days
Python	None	18 Months	4 Months
Glyphosate	None	None	None
Glufosinate	None	None	70 Days
Ultra Blazer	100 Days	100 Days	100 Days

Percent Weed Coverage 64/36 DAT



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Sprayed 4-6” pigweed in E3 soybean – photos: 28 DAT

Liberty 32 floz/A + AMS 2.5% v/v @ **15 GPA**, XR tips

Liberty 32 floz/A + AMS 2.5% v/v @ **20 GPA**, XR tips

Sprayed 4-6” pigweed in E3 soybean – photos: 28 DAT

Enlist One 32 floz/A + Liberty 32 floz/A + AMS @ **15 GPA**, AIXR tips

Enlist One 32 floz/A + Liberty 32 floz/A + AMS @ **20 GPA**, AIXR tips

Sprayed 4-6” pigweed in E3 soybean – photos: 28 DAT

Enlist One 32 floz/A + Liberty 32 floz/A + AMS @ **15 GPA**, TTI tips

Enlist One 32 floz/A + Liberty 32 floz/A + AMS @ **20 GPA**, TTI tips

Italian ryegrass
(*Lolium perenne* subsp. *multiflorum*)

Goosegrass
(*Eleusine indica*)

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Don’t mix auxins with glyphosate, FOPs, or DIMs for grass control

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Ryegrass Control Options

- Glyphosate
- Paraquat
- Clethodim
- Rimsulfuron
- Nicosulfuron
- Paraquat + Group 5
- Fall applied Group 15
- Pyroxasulfone
- Pinoxaden + fenoxaprop
- Steel

Resistance?

Gramoxone + PS II herbicides for ryegrass

- Paraquat applied near sunup or sundown will not flash burn compared to midday application
- Paraquat or metribuzin + atrazine prior to corn

OR

- Paraquat + metribuzin prior to soybean

OR

- Paraquat + Cotoran (fluometuron), Diuron, or Caparol (prometryn) prior to cotton

Benefits of early ryegrass control

- Often at least 2 applications are needed for >90% control
- Benefit to cost ratio of 13:1
- Burndown at least 21 days prior to planting

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1.5 oz Steadfast Q + 2 lb AMS + 1% COC applied on April 12.

2 WAT

2 MAT

Italian Ryegrass Persistence in Soil

- At 540 DAB, more than 95 % of seeds were unviable, demonstrating short persistence of Italian ryegrass in the soil seed bank.
  - Cechin et al. 2001

- However, irrespective of treatment, all seeds lost their viability after 16 months of burial.
  - Narwal et al. 2008. Plant Soil 310, 225

- The annual ryegrass secondary dormancy is very low and few seeds are viable in the soil throughout the year. … few seeds of the species could germinate after more than one year of burial… Maia et al. 2009

1-pass POST in Corn

- Warrant 1.5 qt
  - Acetochlor (15)
- Harness Max 1.25 qt
  - Acetochlor (15) + mesotrione (27)
- Caprino 1.8 floz
  - tembotrione (27) + thiencarbazone (2)
- Laudis 2 oz
  - Tembotrione
- Halex GT
  - S-moch, gly, + mesotrione
- Resicore
  acetochlor, mesotrione, & clopyralid
  - 1.25 qt Resicore + 1 qt Atrazine
  - 2.5 qt Resicore + 1 qt Atrazine

1-pass POST in Field Corn

- TriVolt
  - Isoxaflutole (27) + flufenacet (15) + thiencarbazone-methyl (2)
  - 10.75 floz/A – 20 floz/A
- Storen
  - S-metolachlor (15) + mesotrione (27) + pyroxasulfone (15) + bicyclopyrone (27)
  - 2.1 qt/A
- Maverick
  - mesotrione (27) + clopyralid (4) + pyroxasulfone (15)
  - 18 floz/A PRE + 14 floz/A POST (soil type dependent)
- Perpetuo
  - flumiclorac-pentyl (14) + pyroxasulfone (15)
  - 6-10 floz/A
- Surtain
  - Saflufenacil (14) + pyroxasulfone (15)
  - 11 – 14 floz/A

Improving late season morningglory control in corn

- **Goal**: Expand weed control to end of season with soil residuals
- **Objectives**: Evaluate efficacy of soil residuals applied late POST and achieve crop safety
  - Mesotrione
  - Tembotrione
  - Isoxaflutole

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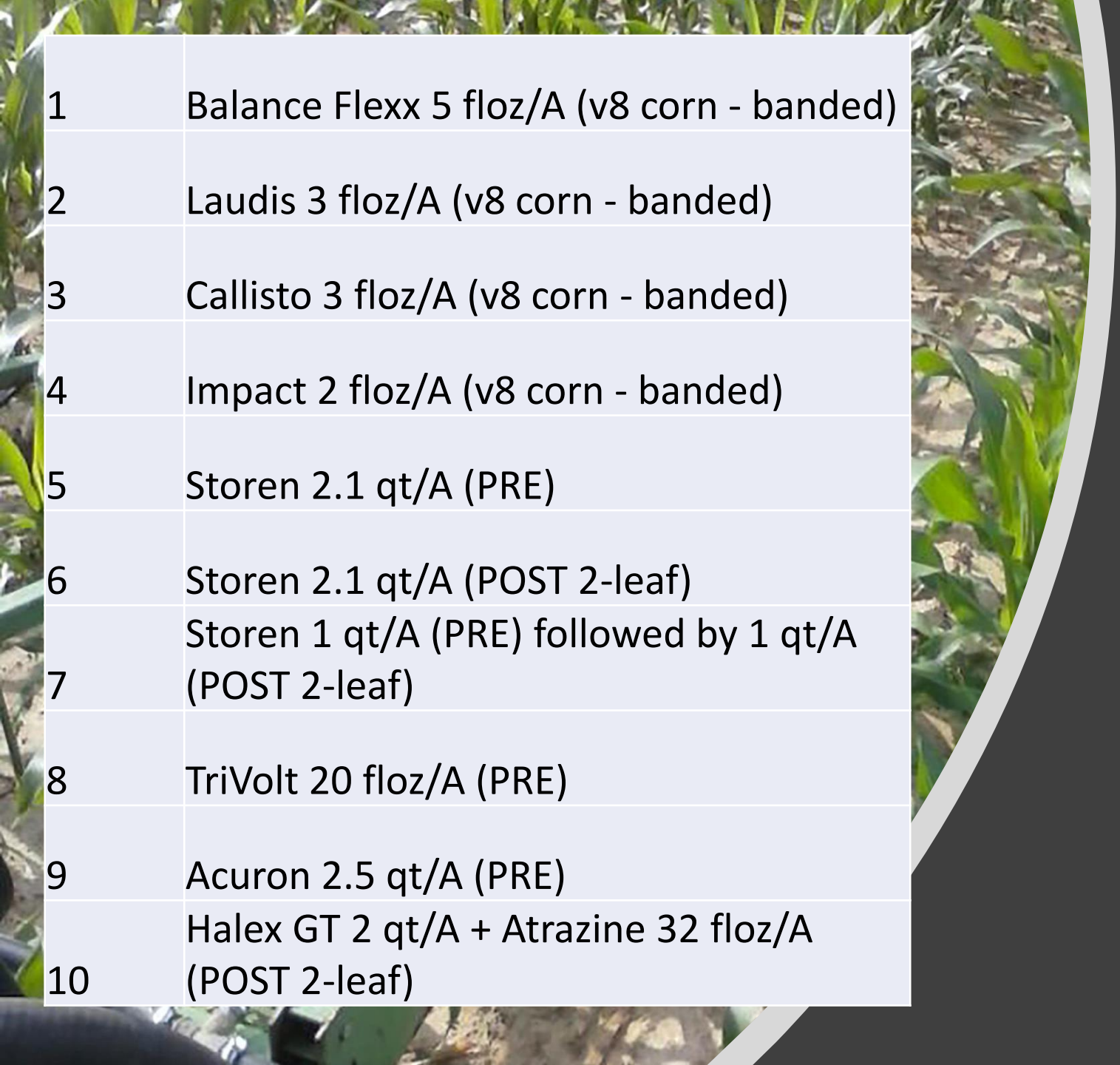
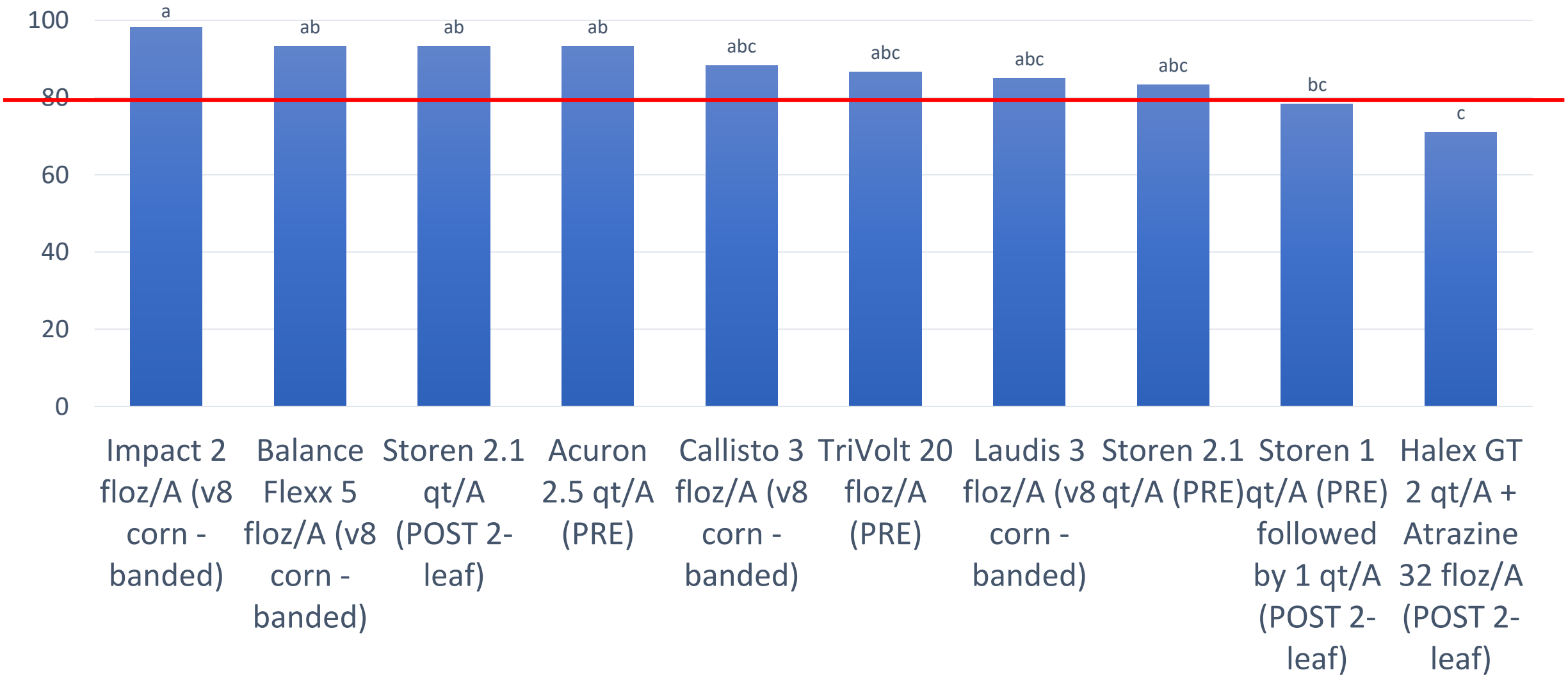


1	Balance Flexx 5 floz/A (v8 corn - banded)
2	Laudis 3 floz/A (v8 corn - banded)
3	Callisto 3 floz/A (v8 corn - banded)
4	Impact 2 floz/A (v8 corn - banded)
5	Storen 2.1 qt/A (PRE)
6	Storen 2.1 qt/A (POST 2-leaf)
7	Storen 1 qt/A (PRE) followed by 1 qt/A (POST 2-leaf)
8	TriVolt 20 floz/A (PRE)
9	Acuron 2.5 qt/A (PRE)
10	Halex GT 2 qt/A + Atrazine 32 floz/A (POST 2-leaf)

Layby Rig or Drop Nozzles

- collaborating with UGA & Texas A&M

Morningglory Control – 101/56 DAT



- PRE – April 22
- Early POST – May 8 (V2)
- Late POST – June 6 (V8)

101 days after PRE/56 days after V8 POST. (Left) Treatment #4 - Impact at 2 oz/A & (Right) Treatment #10 Halex GT at 2 qts/A

Sweet Corn

- Accent Q – 1.8 oz/A per app – 70 d preharvest interval (PHI)
- Impact – 1-2 floz/A – 45 d PHI
- Callisto – 3 floz/A – 45 d PHI
- Armezon Pro – (dimethenamid + topramezone) 14-20 floz/A – 45 d PHI
- Dual Magnum – 1 – 1.33 pts/A (PRE) – 30 d PHI
- Zidua SC – 2.5-4.5 floz/A (PRE) – 37 d PHI

Atrazine + Metolachlor 56 DAT

Photo credit: Toby Covin (Bayer CropScience)

TriVolt + Atrazine 56 DAT

Photo credit: Toby Covin (Bayer CropScience)

Armazon Pro + Atrazine 56 DAT

Photo credit: Toby Covin (Bayer CropScience)

Acuron + Atrazine 56 DAT


Goosegrass

Increasing Issues

- Problems increasing since Xtend crops
  - *Echinochloa*
  - *Eleusine*
- Glyphosate resistance
- Herbicide antagonism
  - Dicamba + glyphosate or clethodim

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- Unsuspecting
- Initial prostrate growth
- Waxy cuticle early
- 2” tall grass has a bigger root by the time it begins to grow vertical

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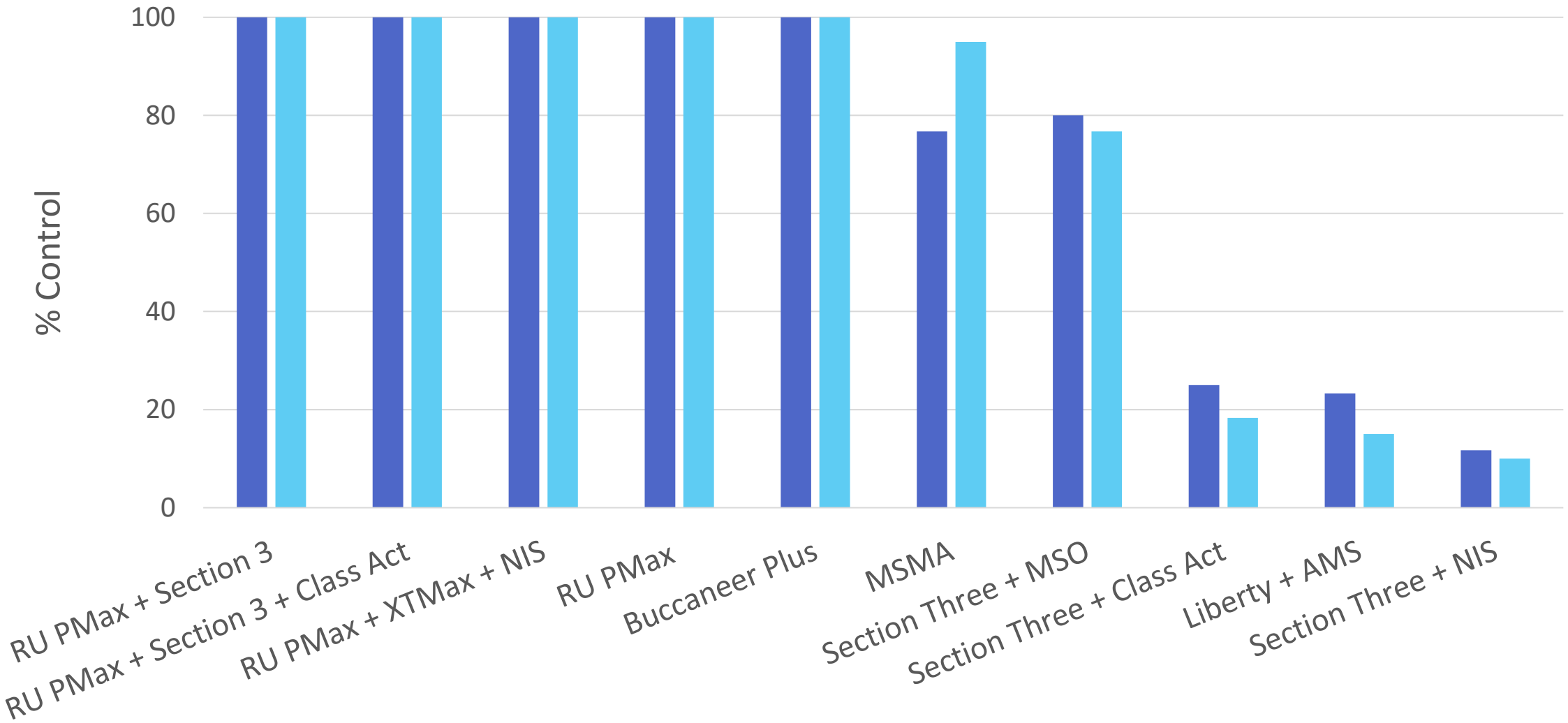
Goosegrass Control



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Thank you

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