

MSU Weed Science Research Program

Volunteer corn control with various adjuvant formulations and Section Three (clethodim)

Trial ID: SOY16-25 Study Dir.: Stiles, Sprague
Conducted: Campus, B-8 Investigator: Christy Sprague

Planting Date: May-27-2025 **Row Spacing:** 30 "
Variety: P23Z82E **No. of Reps:** 4
Population: 150000 S/A **% OM:** 2.6
Soil Type: SCL sandy clay loam **pH:** 6.8
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Spring chisel plow followed by soil finisher twice.

Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ZEAMX	volunteer corn	Zea mays
2	ANGR	annual grass	mostly giant foxtail and barnyardgrass
3	CHEAL	common lambsquarters	Chenopodium album
4	AMAPO	Powell amaranth	Amaranthus powellii
5	AMBEL	common ragweed	Ambrosia artemisiifolia
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

Application Timing: A
Date Treated: POST
Time Treated: Jul-1-2025
% Cloud Cover: 10:15 AM
Air Temp., Unit: 0
% Relative Humidity: 74 F
Wind Speed/Unit/Dir: 65
Soil Temp, Unit: 5 MPH W
Leaf Moist/Dew Presence (Y/N): 72 F
Soil Moist: N
5

Crop Stage at Each Application

A
Crop 1 Name: GLXMA
Height: 6-8 " (7)
Stage: V3

Weed Stage at Each Application

A
Weed 1 Name: ZEAMX
Height: 10-14 " (12)
Stage: V4
Weed 2 Name: ANGR
Height: 2-10 " (4)
Stage: 2-6L
Weed 3 Name: CHEAL
Height: 1-8 " (6)
Stage: 4-38L
Weed 4 Name: AMAPO
Height: 1-3 " (2)
Stage: 4-8L
Weed 5 Name: AMBEL
Height: 4-6 " (5)
Stage: 4-10L

Weed Density

	1	2	3	4	5
Date:	Jul-1-2025	Jul-1-2025	Jul-1-2025	Jul-1-2025	Jul-1-2025
Weed Name:	ZEAMX	ANGR	CHEAL	AMAPO	AMBEL
Density:	4 FT2	2 FT2	3 FT2	1 FT2	1 FT2

Application Equipment

Appl	Sprayer	Ground	Nozzle	Nozzle	Nozzle	Nozzle	Boom	Spray	Carrier	Operation
	Type	Speed	Type	Size	Height	Spacing	Width	Volume		Pressure
A	CUB	3.8 MPH	AIXR	11003	30.0 "	20.0 "	120.0 "	19 GAL/AC	WATER	30 PSI

Comments: The common ragweed population appears to be segregating for Group 9 (glyphosate) resistance.

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Trial ID: S0Y16-25

Protocol ID: S0Y16-25 Location: Campus, B-8 Trial Year: 2025

Study Director: Stiles, Sprague Sponsor Contact:

Investigator: Christy Sprague

Rating Date					Jul-8-2025	Jul-8-2025	Jul-8-2025	Jul-8-2025	Jul-8-2025	Jul-8-2025	Jul-15-2025
Rating Type					injury	control	control	control	control	control	injury
Rating Unit					%	%	%	%	%	%	%
Crop Type, Code					C, GLXMA						C, GLXMA
Pest Code						V. CORN	ANGR	CHEAL	AMAPO	AMBEL	
Treatment Appl. Interval					7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A	14 DA-A
Number of Decimals					0	0	0	0	0	0	0
Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Timing						
1	Untreated					0	0	0	0	0	0
2	Roundup PowerMax 3	15 fl oz/a	A		POST	0	89	100	88	100	84
	Section Three	6 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
3	Roundup PowerMax 3	15 fl oz/a	A		POST	0	89	100	84	100	71
	Section Three	6 fl oz/a	A		POST						
	Superb HC	0.5 % v/v	A		POST						
	Interlock	4 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
4	Roundup PowerMax 3	15 fl oz/a	A		POST	0	91	99	68	100	70
	Section Three	6 fl oz/a	A		POST						
	Optify HSCOC	1 % v/v	A		POST						
	Interlock	4 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
5	Roundup PowerMax 3	15 fl oz/a	A		POST	0	91	100	90	100	76
	Section Three	6 fl oz/a	A		POST						
	Strikelock	12 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
6	Roundup PowerMax 3	15 fl oz/a	A		POST	0	83	100	74	100	66
	Section Three	6 fl oz/a	A		POST						
	AG24059	0.5 % v/v	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
7	Roundup PowerMax 3	15 fl oz/a	A		POST	0	86	99	76	100	80
	Section Three	6 fl oz/a	A		POST						
	AG24059	1 % v/v	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
8	Roundup PowerMax 3	15 fl oz/a	A		POST	0	91	99	79	100	86
	Section Three	6 fl oz/a	A		POST						
	AG24059	8 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
9	Roundup PowerMax 3	15 fl oz/a	A		POST	0	89	100	66	100	75
	Section Three	6 fl oz/a	A		POST						
	AG24059	12 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
10	Roundup PowerMax 3	15 fl oz/a	A		POST	0	89	99	68	100	80
	Section Three	6 fl oz/a	A		POST						
	AG24059	16 fl oz/a	A		POST						
	Class Act NG	1.25 % v/v	A		POST						
	LSD P=.05					.	6.5	1.5	9.4	.	12.0
	Standard Deviation					0.0	4.5	1.0	6.5	0.0	8.3
	CV					0.0	5.62	1.15	9.38	0.0	12.0

Could not calculate LSD (% mean diff) or mean separation letters for columns 1,5,7,11,13,17 because error variance is 0.
Mean separation letters are 'na' (not applicable) when error variance is 0

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Trial ID: S0Y16-25

Protocol ID: S0Y16-25 Location: Campus, B-8 Trial Year: 2025

Study Director: Stiles, Sprague Sponsor Contact:

Investigator: Christy Sprague

Rating Date				Jul-15-2025	Jul-15-2025	Jul-15-2025	Jul-15-2025	Jul-15-2025	Jul-22-2025	Jul-22-2025
Rating Type				control	control	control	control	control	injury	control
Rating Unit				%	%	%	%	%	%	%
Crop Type, Code									C, GLXMA	
Pest Code				V. CORN	ANGR	CHEAL	AMAPO	AMBEL		V. CORN
Treatment Appl. Interval				14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A	21 DA-A
Number of Decimals				0	0	0	0	0	0	0
Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Appl Timing					
1	Untreated					0	0	0	0	0
2	Roundup PowerMax 3	15 fl oz/a	A		POST	96	100	92	100	93
	Section Three	6 fl oz/a	A		POST					0
	Class Act NG	1.25 % v/v	A		POST					90
3	Roundup PowerMax 3	15 fl oz/a	A		POST	98	100	87	100	96
	Section Three	6 fl oz/a	A		POST					0
	Superb HC	0.5 % v/v	A		POST					98
	Interlock	4 fl oz/a	A		POST					
	Class Act NG	1.25 % v/v	A		POST					
4	Roundup PowerMax 3	15 fl oz/a	A		POST	96	100	64	100	79
	Section Three	6 fl oz/a	A		POST					0
	Optify HSCOC	1 % v/v	A		POST					99
	Interlock	4 fl oz/a	A		POST					
	Class Act NG	1.25 % v/v	A		POST					
5	Roundup PowerMax 3	15 fl oz/a	A		POST	97	100	95	100	95
	Section Three	6 fl oz/a	A		POST					0
	Strikelock	12 fl oz/a	A		POST					98
	Class Act NG	1.25 % v/v	A		POST					
6	Roundup PowerMax 3	15 fl oz/a	A		POST	95	100	75	100	89
	Section Three	6 fl oz/a	A		POST					0
	AG24059	0.5 % v/v	A		POST					98
	Class Act NG	1.25 % v/v	A		POST					
7	Roundup PowerMax 3	15 fl oz/a	A		POST	100	100	80	100	94
	Section Three	6 fl oz/a	A		POST					0
	AG24059	1 % v/v	A		POST					100
	Class Act NG	1.25 % v/v	A		POST					
8	Roundup PowerMax 3	15 fl oz/a	A		POST	97	100	84	100	92
	Section Three	6 fl oz/a	A		POST					0
	AG24059	8 fl oz/a	A		POST					96
	Class Act NG	1.25 % v/v	A		POST					
9	Roundup PowerMax 3	15 fl oz/a	A		POST	95	100	65	100	88
	Section Three	6 fl oz/a	A		POST					0
	AG24059	12 fl oz/a	A		POST					94
	Class Act NG	1.25 % v/v	A		POST					
10	Roundup PowerMax 3	15 fl oz/a	A		POST	96	100	65	100	96
	Section Three	6 fl oz/a	A		POST					0
	AG24059	16 fl oz/a	A		POST					95
	Class Act NG	1.25 % v/v	A		POST					
LSD P=.05						4.4	0.5	9.1	.	7.4
Standard Deviation						3.0	0.3	6.3	0.0	5.1
CV						3.48	0.35	8.91	0.0	6.18
									0.0	5.35

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 Protocol ID: SOY16-25 Location: Campus, B-8 Trial Year: 2025
 Study Director: Stiles, Sprague Sponsor Contact:
 Investigator: Christy Sprague

Rating Date					Jul-22-2025	Jul-22-2025	Jul-22-2025	Jul-22-2025
Rating Type					control	control	control	control
Rating Unit					%	%	%	%
Crop Type, Code								
Pest Code					ANGR	CHEAL	AMAPO	AMBEL
Treatment Appl. Interval					21 DA-A	21 DA-A	21 DA-A	21 DA-A
Number of Decimals					0	0	0	0
Trt No.	Treatment Name	Rate	Appl Unit	Appl Code	Timing			
1	Untreated					0	0	0
2	Roundup PowerMax 3	15 fl oz/a	A	POST		98	96	100
	Section Three	6 fl oz/a	A	POST				93
	Class Act NG	1.25 % v/v	A	POST				
3	Roundup PowerMax 3	15 fl oz/a	A	POST		100	88	100
	Section Three	6 fl oz/a	A	POST				88
	Superb HC	0.5 % v/v	A	POST				
	Interlock	4 fl oz/a	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
4	Roundup PowerMax 3	15 fl oz/a	A	POST		100	64	100
	Section Three	6 fl oz/a	A	POST				81
	Optify HSCOC	1 % v/v	A	POST				
	Interlock	4 fl oz/a	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
5	Roundup PowerMax 3	15 fl oz/a	A	POST		100	96	100
	Section Three	6 fl oz/a	A	POST				93
	Strikelock	12 fl oz/a	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
6	Roundup PowerMax 3	15 fl oz/a	A	POST		100	75	100
	Section Three	6 fl oz/a	A	POST				89
	AG24059	0.5 % v/v	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
7	Roundup PowerMax 3	15 fl oz/a	A	POST		100	81	100
	Section Three	6 fl oz/a	A	POST				93
	AG24059	1 % v/v	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
8	Roundup PowerMax 3	15 fl oz/a	A	POST		99	89	100
	Section Three	6 fl oz/a	A	POST				93
	AG24059	8 fl oz/a	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
9	Roundup PowerMax 3	15 fl oz/a	A	POST		100	65	100
	Section Three	6 fl oz/a	A	POST				88
	AG24059	12 fl oz/a	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
10	Roundup PowerMax 3	15 fl oz/a	A	POST		99	68	100
	Section Three	6 fl oz/a	A	POST				94
	AG24059	16 fl oz/a	A	POST				
	Class Act NG	1.25 % v/v	A	POST				
LSD P=.05						1.3	8.7	.9.1
Standard Deviation						0.9	6.0	0.06.3
CV						1.01	8.29	0.07.74

Could not calculate LSD (% mean diff) or mean separation letters for columns 1,5,7,11,13,17 because error variance is 0.
 Mean separation letters are 'na' (not applicable) when error variance is 0