

# The Ohio State University

## Waterhemp Control With Overlapping Residuals

Trial ID: 23OLR  
 Protocol ID: 23OLR Location: Trial Year: 2023  
 Study Director: Sponsor Contact:  
 Investigator:

### Crop Description

Crop 1: C GLXMA Glycine max Soybean  
 Entry Date: Apr-19-2024 Stage Scale: BBCH  
 Variety: Seed Consultants SC7332E  
 Attributes: RR,LL,2,4-D tolerannt  
 Seed Shape: ROUND  
 Planting Date: Apr-18-2024 Planting Rate: 155000 S/A  
 Depth: 1 IN  
 Rows per Plot: 4 Planting Method: PLANTD planted  
 Row Spacing: 30 IN Planting Equipment: FE field equipment  
 Seed Bed: MEDIUM medium  
 Soil Temperature: 68 F Soil Moisture: SLIDRY slightly dry  
 Emergence Date: May-2-2024

### Pest Description

Pest 1 Type: W Code: SETFA Setaria faberi Entry Date: May-24-2024  
 Common Name: Giant foxtail Stage Scale: BBCH  
 Pest 2 Type: W Code: AMBTR Ambrosia trifida Entry Date: May-24-2024  
 Common Name: Giant ragweed Stage Scale: BBCH  
 Pest 3 Type: W Code: AMATA Amaranthus x tamariscinus Entry Date: May-24-2024  
 Common Name: common water hemp Stage Scale: BBCH  
 Pest 4 Type: W Code: CHEAL Chenopodium album Entry Date: May-24-2024  
 Common Name: common lambsquarters Stage Scale: BBCH

### Site and Design

Treated Plot Width: 6.67 FT  
 Treated Plot Length: 30 FT  
 Treated Plot Area: 200.1 FT<sup>2</sup>  
 Replications: 4 Treatments: 8 Plots: 32 Study Design: RACOB L Randomized Complete Block (RCB)  
 Distance between Blocks: 0 FT  
 Distance between 'Plot' Experimental Units: 0 FT

### Soil Description

Description Name: Entomology W-1  
 % Sand: 35 % OM: 2.3 Texture: L loam  
 % Silt: 40 Soil Name: Crosby  
 % Clay: 25 Fert. Level: G good  
 pH: 6.6 CEC: 12.7  
 Soil Drainage: G good

### Application Description

	A	B
Date	Apr-18-2024	May-24-2024
Start Time	2:55 PM	8:35 AM
Stop Time	3:00 PM	8:55 AM
Method	SPRAY	SPRAY
Timing	PRE	POST
Placement	BROSOI	BROFOL
Mixed/Prepared By	Dobbels	Barclay
Applied By	Dobbels	Barclay
Entry Date	Apr-19-2024	May-24-2024
Air Temperature Start, Stop	72, 72 F	63, 63 F
% Relative Humidity Start, Stop	45, 45	91, 91
Wind Velocity+Dir. Start	5 MPH, NE	3 MPH, S
Wind Velocity+Dir. Stop	5 MPH, NE	3 MPH, S
Wind Velocity+Dir. Max	5 MPH, NE	3 MPH, S
Wet Leaves (Y/N)	N, no	Y, yes
Soil Temperature	68 F	62 F
Soil Temperature Depth	6 IN	6 IN
Soil Moisture	SLIDRY	SLIDRY
Soil Surface Condition	MEDIUM	MEDIUM
% Ground Cover	0	
% Cloud Cover	20	100
First Moisture Occurred On	Apr-19-2024	
Time to First Moisture	12.0 HR	2.0 DAY
Amount of First Moisture	0.03 IN	0.09 IN
Moisture 1 Week Before Appl.	0.21 IN	0.88 IN
Moisture 6 Hours After Appl.	0 IN	0 IN
Moisture 24 Hours After Appl.	0.03 IN	0 IN
Moisture 1 Week After Appl.	0.03 IN	0.68 IN
Problems with Application?	N, no	N, no

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### Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	GLXMA, BSOY	GLXMA, BSOY
Days after Emergence	-14	22
Stage Majority, Percent		12, 100
Height Average		4 IN
Height Minimum, Maximum		4, 5

### Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	SETFA, W, BBCH	SETFA, W, BBCH
Stage Majority, Percent		14, -
Stage Minimum, Percent		14, -
Stage Maximum, Percent		16, -
Height Average		4 IN
Height Minimum, Maximum		2, 6
Pest 2 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Stage Majority, Percent		16, -
Stage Minimum, Percent		14, -
Stage Maximum, Percent		18, -
Height Average		6 IN
Height Minimum, Maximum		4, 10
Pest 3 Code, Type, Scale	AMATA, W, BBCH	AMATA, W, BBCH
Stage Majority, Percent		14, -
Stage Minimum, Percent		14, -
Stage Maximum, Percent		16, -
Height Average		0.5 IN
Height Minimum, Maximum		0.5, 2
Pest 4 Code, Type, Scale	CHEAL, W, BBCH	CHEAL, W, BBCH
Stage Majority, Percent		14, -
Stage Minimum, Percent		14, -
Stage Maximum, Percent		19, -
Height Average		2 IN
Height Minimum, Maximum		0.5, 4

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Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	Appl Timing	Rep 1	Rep 2	Rep 3	Rep 4	Notes
1	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	101	206	304	408	
2	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	102	208	301	407	
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					
3	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	103	204	305	401	
	Dual II Magnum	7.64	LBA/GAL	EC	1.3	pt/a	1.24	lb ai/a	B	POST					
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					
4	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	104	205	306	403	
	Warrant	3	LBA/GAL	CS	48	oz/a	1.13	lb ai/a	B	POST					
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					
5	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	105	203	307	405	
	Zidua SC	4.17	LBA/GAL	SC	3.5	oz/a	0.114	lb ai/a	B	POST					
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					
6	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	106	207	303	402	
	Outlook	6	LBA/GAL	EC	14	oz/a	0.656	lb ai/a	B	POST					
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					
7	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	107	202	308	404	
	Prefix	5.29	LBA/GAL	L	1	qt/a	1.32	lb ai/a	B	POST					
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					
8	Dual II Magnum	7.64	LBA/GAL	EC	1	pt/a	0.955	lb ai/a	A	PRE	108	201	302	406	
	Reflex	2	LBA/GAL	EC	1	pt/a	0.25	lb ai/a	B	POST					
	Enlist One	3.8	LBAE/GAL	SL	0.95	lb ae/a	32	oz/a	B	POST					
	Roundup Powermax 3	4.79	LBAE/GAL	SL	1.12	lb ae/a	30	oz/a	B	POST					
	AMSOL	100 %		L	2.5 %	v/v	1.5	qt/a	B	POST					

Sort Order: Replicate 1