

Waterhemp control with various soil-applied (PRE) herbicides in soybean

Trial ID: SOY23-22 Study Dir.: Sprague, Powell, Stiles
 Conducted: Shiawassee County Investigator: Christy Sprague

Planting Date: May-24-2022 **Row Spacing:** 30 IN
Variety: AG24XF1 **No. of Reps:** 4
Population: 150000 seeds/A **% OM:** 2.6
Soil Type: SCL sandy clay loam **pH:** 6.1
Plot Size: 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plow; spring disk and soil finished.
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	AMATU	tall waterhemp	Amaranthus tuberculatus
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May-24-2022	Jul-7-2022
Time Treated:	3:00 PM	4:15 PM
% Cloud Cover:	5	70
Air Temp., Unit:	70 F	81 F
% Relative Humidity:	38	53
Wind Speed/Unit/Dir:	5 MPH NE	4 MPH W
Soil Temp, Unit:	70 F	89 F
Leaf Moist/Dew Presence (Y/N):	N	N
Soil Moist:	4	5

Crop Stage at Each Application

	A	B
Crop 1 Name:	GLXMA	GLXMA
Height:		12-14 " (12)
Stage:		V6

Weed Stage at Each Application

	A	B
Weed 1 Name:	AMATU	AMATU
Height:		6 "
Stage:		6L-12L (8)

Weed Density

Date:	1 Jul-7-2022
Weed Name:	AMATU
Density:	44 FT2

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 MPH	AIXR	11003	18.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI
B	CUB	3.8 MPH	AIXR	11003	32.0 "	20.0 "	120.0 "	19 GAL/AC	WATER	30 PSI

Comments: Waterhemp at this location is glyphosate (Group 9) and ALS (Group 2) resistant. GPS coordinates: 42°50'7.97"N; 84° 9'1.63"W.

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 Project ID: Project ID 2: Project ID 3:
 Study Director: Sprague, Powell, Stiles Sponsor Contact:
 Investigator (Creator): Christy Sprague

Pest Code	AMATU		AMATU		AMATU	
Crop Type, Code	C, GLXMA	AMATU	C, GLXMA	AMATU	C, GLXMA	AMATU
Rating Date	Jun-14-2022	Jun-14-2022	Jun-23-2022	Jun-23-2022	Jun-30-2022	Jun-30-2022
Rating Type	injury	control	injury	control	injury	control
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Trt-Eval Interval	21 DA-A	21 DA-A	30 DA-A	30 DA-A	37 DA-A	37 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
1	Experimental A	4.125	fl oz/a	PRE	A	4	91	3	88	1	78
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
2	Valor EZ	2.5	fl oz/a	PRE	A	4	93	5	88	1	79
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
3	Spartan	8	fl oz/a	PRE	A	6	100	5	99	1	97
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
4	Untreated					0	0	0	0	0	0
5	Metribuzin	8	oz/a	PRE	A	0	98	2	96	0	83
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
6	Dimetric Charged	12	fl oz/a	PRE	A	6	100	2	97	0	89
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
7	Authority MTZ	16	oz/a	PRE	A	6	100	5	100	1	96
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
8	Boundary	2	pt/a	PRE	A	10	100	5	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
9	Zidua SC	4	fl oz/a	PRE	A	3	100	1	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
10	Dual II Magnum	2	pt/a	PRE	A	9	99	11	100	2	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
11	Warrant	3	pt/a	PRE	A	10	91	6	87	0	77
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
12	Outlook	18	fl oz/a	PRE	A	12	100	8	100	2	98
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
13	BroadAxe XC	26	fl oz/a	PRE	A	5	100	7	100	2	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
14	Authority Edge	9	fl oz/a	PRE	A	5	100	5	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						

Could not calculate LSD (% mean diff) for columns 7,9,11 because error mean square = 0.

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Pest Code				AMATU		AMATU		AMATU			
Crop Type, Code				C, GLXMA		C, GLXMA		C, GLXMA			
Rating Date				Jun-14-2022		Jun-23-2022		Jun-30-2022			
Rating Type				injury		injury		injury			
Rating Unit/Min/Max				%, 0, 100		%, 0, 100		%, 0, 100			
Trt-Eval Interval				21 DA-A		30 DA-A		37 DA-A			
Number of Decimals				0		0		0			
Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code						
15	Fierce EZ	6 fl oz/a		PRE	A	10	100	4	100	1	100
	Liberty	32 fl oz/a		POST	B						
	Roundup PowerMax 3	30 fl oz/a		POST	B						
	AMS	17 lb/100 gal		POST	B						
16	Fierce MTZ	16 fl oz/a		PRE	A	13	100	9	100	2	99
	Liberty	32 fl oz/a		POST	B						
	Roundup PowerMax 3	30 fl oz/a		POST	B						
	AMS	17 lb/100 gal		POST	B						
	LSD P=.05					6.5	5.1	4.3	5.5	1.8	3.9
	Standard Deviation					4.6	3.6	3.0	3.8	1.3	2.8
	CV					74.53	3.93	64.37	4.22	170.68	3.16

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Pest Code	AMATU		AMATU		AMATU	
	C, GLXMA	AMATU	C, GLXMA	AMATU	C, GLXMA	AMATU
Crop Type, Code	Jul-7-2022	Jul-7-2022	Jul-21-2022	Jul-21-2022	Sep-1-2022	Sep-1-2022
Rating Date	injury	control	injury	control	injury	control
Rating Type	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
Rating Unit/Min/Max	44 DA-A	44 DA-A	14 DA-B	14 DA-B	56 DA-B	56 DA-B
Trt-Eval Interval	0	0	0	0	0	0
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code	C, GLXMA	AMATU	C, GLXMA	AMATU	C, GLXMA	AMATU
1	Experimental A	4.125	fl oz/a	PRE	A	0	72	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
2	Valor EZ	2.5	fl oz/a	PRE	A	0	79	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
3	Spartan	8	fl oz/a	PRE	A	0	97	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
4	Untreated					0	0	0	0	0	0
5	Metribuzin	8	oz/a	PRE	A	0	78	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
6	Dimetric Charged	12	fl oz/a	PRE	A	0	82	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
7	Authority MTZ	16	oz/a	PRE	A	0	94	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
8	Boundary	2	pt/a	PRE	A	0	100	0	100	0	99
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
9	Zidua SC	4	fl oz/a	PRE	A	0	100	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
10	Dual II Magnum	2	pt/a	PRE	A	0	100	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
11	Warrant	3	pt/a	PRE	A	0	75	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
12	Outlook	18	fl oz/a	PRE	A	0	92	0	100	0	99
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
13	BroadAxe XC	26	fl oz/a	PRE	A	0	100	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
	AMS	17	lb/100 gal	POST	B						
14	Authority Edge	9	fl oz/a	PRE	A	0	100	0	100	0	100
	Liberty	32	fl oz/a	POST	B						
	Roundup PowerMax 3	30	fl oz/a	POST	B						
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Rating Date	Jul-7-2022	Jul-7-2022	Jul-21-2022	Jul-21-2022	Sep-1-2022	Sep-1-2022	Sep-1-2022	Sep-1-2022	
Rating Type	injury	control	injury	control	injury	control	injury	control	
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	
Trt-Eval Interval	44 DA-A	44 DA-A	14 DA-B	14 DA-B	56 DA-B	56 DA-B	56 DA-B	56 DA-B	
Number of Decimals	0	0	0	0	0	0	0	0	
Trt No.	Treatment Name	Rate	Unit	Appl Timing	Appl Code				
15	Fierce EZ	6 fl oz/a		PRE	A	0	100	0	100
	Liberty	32 fl oz/a		POST	B				
	Roundup PowerMax 3	30 fl oz/a		POST	B				
	AMS	17 lb/100 gal		POST	B				
16	Fierce MTZ	16 fl oz/a		PRE	A	0	100	0	100
	Liberty	32 fl oz/a		POST	B				
	Roundup PowerMax 3	30 fl oz/a		POST	B				
	AMS	17 lb/100 gal		POST	B				
LSD P=.05						.	5.8	.	0.4
Standard Deviation						0.0	4.1	0.0	0.3
CV						0.0	4.76	0.0	0.33

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