

Glyphosate-resistant waterhemp control in Enlist E3 soybean

Trial ID: SOY18-20 Study Dir.: Sprague, Powell, Stiles
 Conducted: Isabella Co. Investigator: Christy Sprague

Planting Date: May-13-2020 **Row Spacing:** 30 IN
Variety: P25T09E **No. of Reps:** 4
Population: 156000 seeds/A **% OM:** 2.5
Soil Type: SL sandy loam **pH:** 6.8
Plot Size: 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Spring disked; spring cultimulched

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	C
Application Timing:	PRE	EPOS	POST
Date Treated:	May-13-2020	Jun-25-2020	Jul-8-2020
Time Treated:	8:50 AM	9:50 AM	9:25 AM
% Cloud Cover:	0	0	20
Air Temp., Unit:	41 F	68 F	78 F
% Relative Humidity:	60	67	72
Wind Speed/Unit/Dir:	2 mph N	5 mph W	2 mph N
Soil Temp, Unit:	41 F	71 F	74 F
Leaf Moist/Dew Presence (Y/N):		5	4
Soil Moist:		5	4

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	GLXMA	GLXMA	GLXMA
Height:		8 "	12 "
Stage:		V3	V6

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	AMATU	AMATU	AMATU
Height:		4-6 " (5)	2-15 " (4)
Stage:		8-10L	8-20L

Weed Density

Date:	1 Jul-8-2020
Weed Name:	AMATU
Density:	10 FT ²

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	21 "	20 "	120 "	19 GPA	WATER	30 psi
B	CUB	3.8 mph	AIXR	11003	26 "	20 "	120 "	19 GPA	WATER	30 psi
C	CUB	3.8 mph	AIXR	11003	30 "	20 "	100 "	19 GPA	WATER	30 psi

Comments: The waterhemp population at this location is Group 2 (ALS) and Group 9 (glyphosate) resistant.

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Sponsor Contact:

Pest Code	AMATU		AMATU		AMATU	AMATU
Crop Type, Code	C GLXMA	C GLXMA	C GLXMA	C GLXMA	C GLXMA	C GLXMA
Rating Date	Jun-2-2020	Jul-8-2020	Jul-22-2020	Jul-22-2020	Aug-11-2020	Oct-6-2020
Rating Type	injury	control	injury	control	control	control
Rating Unit	percent	perent	percent	percent	percent	percent
Trt-Eval Interval	20 DA-A	13 DA-B	14 DA-C	14 DA-C	34 DA-C	90 DA-C
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Appl Timing	Appl Code	0	62	0	56	65	69
1	Valor	51	WG	2 oz/a	PRE	A	0	62	0	56	65	69
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
2	Valor	51	WG	2 oz/a	PRE	A	0	69	0	98	100	100
	Enlist Duo	3.33	SL	4.75 pt/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
3	Valor	51	WG	2 oz/a	PRE	A	0	53	0	84	77	76
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
4	Valor	51	WG	2 oz/a	PRE	A	0	65	0	95	100	100
	Enlist One	3.8	SL	32 fl oz/a	POST	C						
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
5	Valor	51	WG	2 oz/a	PRE	A	0	72	0	99	100	100
	Warrant	3	L	3 pt/a	POST	C						
	Enlist Duo	3.33	SL	4.75 pt/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
6	Valor	51	WG	2 oz/a	PRE	A	0	65	0	86	86	86
	Warrant	3	L	3 pt/a	POST	C						
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
7	Valor	51	WG	2 oz/a	PRE	A	0	68	0	98	99	99
	Warrant	3	L	3 pt/a	POST	C						
	Enlist One	3.8	SL	32 fl oz/a	POST	C						
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
8	Valor	51	WG	2 oz/a	PRE	A	0	64	0	96	100	99
	Dual II Magnum	7.64	L	1.33 pt/a	POST	C						
	Enlist One	3.8	SL	32 fl oz/a	POST	C						
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
9	Valor	51	WG	2 oz/a	PRE	A	0	73	0	99	100	100
	Outlook	6	L	16 fl oz/a	POST	C						
	Enlist One	3.8	SL	32 fl oz/a	POST	C						
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
10	Valor	51	WG	2 oz/a	PRE	A	0	73	0	98	100	99
	Zidua SC	4.19	L	4 fl oz/a	POST	C						
	Enlist One	3.8	SL	32 fl oz/a	POST	C						
	Liberty	2.34	L	32 fl oz/a	POST	C						
	AMS		WG	17 lb/100 gal	POST	C						
11	Roundup PowerMax	4.5	SL	32 fl oz/a	EPOS	B	0	20	0	9	0	0
	AMS		WG	17 lb/100 gal	EPOS	B						
12	Enlist Duo	3.33	SL	4.75 pt/a	EPOS	B	0	90	0	90	90	92
	AMS		WG	17 lb/100 gal	EPOS	B						
13	Liberty	2.34	L	32 fl oz/a	EPOS	B	0	78	0	46	48	38
	AMS		WG	17 lb/100 gal	EPOS	B						
14	Enlist One	3.8	SL	32 fl oz/a	EPOS	B	0	97	0	88	89	85
	Liberty	2.34	L	32 fl oz/a	EPOS	B						
	AMS		WG	17 lb/100 gal	EPOS	B						

Could not calculate LSD (% mean diff) for columns 1,3 because error mean square = 0.

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		AMATU		AMATU		AMATU		AMATU		
		C	GLXMA	C	GLXMA					
		Jun-2-2020	Jul-8-2020	Jul-22-2020	Jul-22-2020	Aug-11-2020	Oct-6-2020			
		injury	control	injury	control	control	control			
		percent	percent	percent	percent	percent	percent			
		20 DA-A	13 DA-B	14 DA-C	14 DA-C	34 DA-C	90 DA-C			
Number of Decimals		0	0	0	0	0	0			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code			
15	Liberty	2.34	L	32	fl oz/a	EPOS	B	0	86	0
	Roundup PowerMax	4.5	SL	32	fl oz/a	EPOS	B			
	AMS		WG	17	lb/100 gal	EPOS	B			
16	Enlist One	3.8	SL	32	fl oz/a	EPOS	B	0	95	0
	Liberty	2.34	L	32	fl oz/a	EPOS	B			
	Roundup PowerMax	4.5	SL	32	fl oz/a	EPOS	B			
	AMS		WG	17	lb/100 gal	POST	B			
LSD P=.05					12.3				9.0	9.5
Standard Deviation		0.0		0.0	8.6	0.0		6.3	6.7	7.0
CV		0.0		0.0	12.17	0.0		7.98	8.35	8.78