

Soil-applied (PRE) herbicides for waterhemp control in LibertyLink soybean

Trial ID: SOY22-17 Study Dir.: Sprague, Powell, Stiles
 Conducted: Isabella County Investigator: Christy Sprague

Planting Date: May-18-2017 **Row Spacing:** 30 IN
Variety: DF9251LL **No. of Reps:** 4
Population: 152000 S/A **% OM:** 2.8
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 and culti-mulched
Fertilizer:

Crop and Weed Description

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

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May-19-2017	Jul-17-2017
Time Treated:	8:30 AM	1:30 PM
% Cloud Cover:	90	40
Air Temp., Unit:	44 F	72 F
% Relative Humidity:	78	56
Wind Speed/Unit/Dir:	2 mph N	1 mph E
Soil Temp, Unit:	50 F	80 F
Leaf Moist/Dew Presence (Y/N):	3	5
Soil Moist:	2	4

Crop Stage at Each Application

	A	B
Crop 1 Name:	GLXMA	GLXMA
Height:		19 "
Stage:		R2

Weed Stage at Each Application

	A	B
Weed 1 Name:	AMATU	AMATU
Height:		2-12 " (6)
Stage:		6-18L

Weed Density

	1
Date:	Jul-17-2017
Weed Name:	AMATU
Density:	73 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	24 "	20 "	100 "	19 GPA	WATER	30 PSI
B	Cub	3.8 MPH	AIXR	11003	28 '	20 "	100 "	19 GPA	WATER	30 PSI

Comments:

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Pest Code	AMATU		AMATU		AMATU	
	GLXMA	AMATU	GLXMA	AMATU	GLXMA	AMATU
Crop Code	Jun-7-2017	Jun-7-2017	Jun-15-2017	Jun-15-2017	Jul-5-2017	Jul-5-2017
Rating Date	injury	control	injury	control	injury	control
Rating Type	percent	percent	percent	percent	percent	percent
Rating Unit	19 DA-A	19 DA-A	27 DA-A	27 DA-A	47 DA-A	47 DA-A
Trt-Eval Interval	0	0	0	0	0	0
Number of Decimals						

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
1	Valor	51	WG	2.5 oz/a		A	0	100	11	91	12	90
1	Liberty	2.34	L	32 fl oz/a		B						
1	AMS		WG	17 lb/100 gal		B						
2	Spartan	4	L	8 fl oz/a		A	1	100	4	93	8	91
2	Liberty	2.34	L	32 fl oz/a		B						
2	AMS		WG	17 lb/100 gal		B						
3	Metribuzin	75	WG	8 oz/a		A	0	99	0	85	3	66
3	Liberty	2.34	L	32 fl oz/a		B						
3	AMS		WG	17 lb/100 gal		B						
4	Untreated						0	0	0	0	0	0
5	Valor	51	WG	2 oz/a		A	1	100	12	97	8	97
5	Metribuzin	75	WG	8 oz/a		A						
5	Liberty	2.34	L	32 fl oz/a		B						
5	AMS		WG	17 lb/100 gal		B						
6	Spartan	4	L	6 fl oz/a		A	1	100	4	96	9	96
6	Metribuzin	75	WG	8 oz/a		A						
6	Liberty	2.34	L	32 fl oz/a		B						
6	AMS		WG	17 lb/100 gal		B						
7	Zidua	85	WG	2.5 oz/a		A	1	100	1	95	4	94
7	Liberty	2.34	L	32 fl oz/a		B						
7	AMS		WG	17 lb/100 gal		B						
8	Dual II Magnum	7.64	L	1.33 pt/a		A	1	100	3	92	3	91
8	Liberty	2.34	L	32 fl oz/a		B						
8	AMS		WG	17 lb/100 gal		B						
9	Warrant	3	L	3 pt/a		A	1	100	5	78	8	88
9	Liberty	2.34	L	32 fl oz/a		B						
9	AMS		WG	17 lb/100 gal		B						
10	Fierce	76	WG	3 oz/a		A	1	100	17	99	10	100
10	Liberty	2.34	L	32 fl oz/a		B						
10	AMS		WG	17 lb/100 gal		B						
11	Fierce MTZ	2.64	L	16 fl oz/a		A	2	100	15	100	9	100
11	Liberty	2.34	L	32 fl oz/a		B						
11	AMS		WG	17 lb/100 gal		B						

* Adjusted means

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 Code	GLXMA	AMATU	GLXMA	AMATU	GLXMA	AMATU
Rating Date	Jun-7-2017	Jun-7-2017	Jun-15-2017	Jun-15-2017	Jul-5-2017	Jul-5-2017
Rating Type	injury	control	injury	control	injury	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	19 DA-A	19 DA-A	27 DA-A	27 DA-A	47 DA-A	47 DA-A
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
12	Warrant Ultra	3.45 L	L	50 fl oz/a	50 fl oz/a	A	1	100	9	99	7	100
12	Liberty	2.34 L	L	32 fl oz/a	32 fl oz/a	B						
12	AMS		WG	17 lb/100 gal	17 lb/100 gal	B						
LSD P=.05							1.5	1.1	7.2	9.4	6.1	7.7
Standard Deviation							1.0	0.8	5.0	6.5	4.2	5.4
CV							173.73	0.83	74.96	7.67	63.22	6.37

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Pest Code	AMATU		AMATU		AMATU	
Crop Code	GLXMA	AMATU	GLXMA	AMATU	GLXMA	AMATU
Rating Date	Jul-17-2017	Jul-17-2017	Aug-1-2017	Aug-1-2017	Aug-16-2017	Aug-16-2017
Rating Type	injury	control	injury	control	injury	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	59 DA-A	59 DA-A	15 DA-B	15 DA-B	30 DA-B	30 DA-B
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
1	Valor	51	WG	2.5 oz/a		A	0	80	0	97	0	96
1	Liberty	2.34	L	32 fl oz/a		B						
1	AMS		WG	17 lb/100 gal		B						
2	Spartan	4	L	8 fl oz/a		A	0	82	0	100	0	100
2	Liberty	2.34	L	32 fl oz/a		B						
2	AMS		WG	17 lb/100 gal		B						
3	Metribuzin	75	WG	8 oz/a		A	0	35	0	82	0	79
3	Liberty	2.34	L	32 fl oz/a		B						
3	AMS		WG	17 lb/100 gal		B						
4	Untreated						0	0	0	0	0	0
5	Valor	51	WG	2 oz/a		A	0	88	0	100	0	100
5	Metribuzin	75	WG	8 oz/a		A						
5	Liberty	2.34	L	32 fl oz/a		B						
5	AMS		WG	17 lb/100 gal		B						
6	Spartan	4	L	6 fl oz/a		A	0	91	0	100	0	100
6	Metribuzin	75	WG	8 oz/a		A						
6	Liberty	2.34	L	32 fl oz/a		B						
6	AMS		WG	17 lb/100 gal		B						
7	Zidua	85	WG	2.5 oz/a		A	0	88	0	100	0	100
7	Liberty	2.34	L	32 fl oz/a		B						
7	AMS		WG	17 lb/100 gal		B						
8	Dual II Magnum	7.64	L	1.33 pt/a		A	0	79	0	99	0	99
8	Liberty	2.34	L	32 fl oz/a		B						
8	AMS		WG	17 lb/100 gal		B						
9	Warrant	3	L	3 pt/a		A	0	72	0	96	0	100
9	Liberty	2.34	L	32 fl oz/a		B						
9	AMS		WG	17 lb/100 gal		B						
10	Fierce	76	WG	3 oz/a		A	0	100	0	100	0	100
10	Liberty	2.34	L	32 fl oz/a		B						
10	AMS		WG	17 lb/100 gal		B						
11	Fierce MTZ	2.64	L	16 fl oz/a		A	0	99	0	100	0	100
11	Liberty	2.34	L	32 fl oz/a		B						
11	AMS		WG	17 lb/100 gal		B						

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	GLXMA		AMATU		GLXMA		AMATU	
Pest Code	Jul-17-2017	Jul-17-2017	Aug-1-2017	Aug-1-2017	Aug-16-2017	Aug-16-2017	Aug-16-2017	Aug-16-2017
Crop Code	injury		control		injury		control	
Rating Date	percent		percent		percent		percent	
Rating Type	59 DA-A		59 DA-A		15 DA-B		15 DA-B	
Rating Unit	0		0		0		0	
Trt-Eval Interval	0		0		0		0	
Number of Decimals	0		0		0		0	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
12	Warrant Ultra	3.45 L	L	50 fl oz/a	50 fl oz/a	A	0	100	0	100	0	100
12	Liberty	2.34 L	L	32 fl oz/a	32 fl oz/a	B						
12	AMS		WG	17 lb/100 gal	17 lb/100 gal	B						
LSD P=.05							.	12.8	.	4.0	.	5.0
Standard Deviation							0.0	8.9	0.0	2.8	0.0	3.5
CV							0.0	11.72	0.0	3.09	0.0	3.88

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Pest Code	AMATU
Crop Code	
Rating Date	Oct-19-2017
Rating Type	control
Rating Unit	percent
Trt-Eval Interval	94 DA-B
Number of Decimals	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*
1	Valor	51	WG	2.5 oz/a		A	96
1	Liberty	2.34	L	32 fl oz/a		B	
1	AMS		WG	17 lb/100 gal		B	
2	Spartan	4	L	8 fl oz/a		A	99
2	Liberty	2.34	L	32 fl oz/a		B	
2	AMS		WG	17 lb/100 gal		B	
3	Metribuzin	75	WG	8 oz/a		A	70
3	Liberty	2.34	L	32 fl oz/a		B	
3	AMS		WG	17 lb/100 gal		B	
4	Untreated						0
5	Valor	51	WG	2 oz/a		A	98
5	Metribuzin	75	WG	8 oz/a		A	
5	Liberty	2.34	L	32 fl oz/a		B	
5	AMS		WG	17 lb/100 gal		B	
6	Spartan	4	L	6 fl oz/a		A	99
6	Metribuzin	75	WG	8 oz/a		A	
6	Liberty	2.34	L	32 fl oz/a		B	
6	AMS		WG	17 lb/100 gal		B	
7	Zidua	85	WG	2.5 oz/a		A	100
7	Liberty	2.34	L	32 fl oz/a		B	
7	AMS		WG	17 lb/100 gal		B	
8	Dual II Magnum	7.64	L	1.33 pt/a		A	98
8	Liberty	2.34	L	32 fl oz/a		B	
8	AMS		WG	17 lb/100 gal		B	
9	Warrant	3	L	3 pt/a		A	97
9	Liberty	2.34	L	32 fl oz/a		B	
9	AMS		WG	17 lb/100 gal		B	
10	Fierce	76	WG	3 oz/a		A	100
10	Liberty	2.34	L	32 fl oz/a		B	
10	AMS		WG	17 lb/100 gal		B	
11	Fierce MTZ	2.64	L	16 fl oz/a		A	100
11	Liberty	2.34	L	32 fl oz/a		B	
11	AMS		WG	17 lb/100 gal		B	

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Pest Code	AMATU
Crop Code	
Rating Date	Oct-19-2017
Rating Type	control
Rating Unit	percent
Trt-Eval Interval	94 DA-B
Number of Decimals	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*
12	Warrant Ultra	3.45	L	50	fl oz/a	A	100
12	Liberty	2.34	L	32	fl oz/a	B	
12	AMS		WG	17	lb/100 gal	B	

LSD P=.05	6.3
Standard Deviation	4.4
CV	4.99

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