

Weed control systems in LibertyLink soybean

Trial ID: SOY02-16 Study Dir.: Sprague, Powell, Stiles
 Conducted: Campus T-10 Investigator: Christy Sprague

Planting Date: May-9-2016 **Row Spacing:** 30 IN
Variety: CZ2312LL **No. of Reps:** 4
Population: 152000 seeds/A **% OM:** 2.8
Soil Type: SCL sandy clay loam **pH:** 7.7
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plowed; spring soil finished
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ANGR	mainly foxtail species	Annual grass
2	CHEAL	lambsquarters, common	Chenopodium album
3	AMBEL	ragweed, common	Ambrosia artemisiifolia
4	SINAR	mustard, wild	Sinapis arvensis
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

	A	B	C	D
Application Timing:	PRE	EPOS	POST	LPOS
Date Treated:	May-9-2016	Jun-3-2016	Jun-8-2016	Jun-27-2016
Time Treated:	3:30 PM	8:40 AM	8:15 AM	8:30 AM
% Cloud Cover:	70	0	10	0
Air Temp., Unit:	70 F	64 F	53 F	77 F
% Relative Humidity:	24	64	74	60
Wind Speed/Unit/Dir:	5 mph E	3 mph W	7 mph NW	5 mph SW
Soil Temp, Unit:	58 F	66 F	57 F	
Leaf Moist/Dew Presence (Y/N):	5	5	5	5
Soil Moist:	3	4	4	5

Crop Stage at Each Application

	A	B	C	D
Crop 1 Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height:		4 "	4 "	10-12 " (12)
Stage:		V1	V2	V7

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR
Height:		2-4 " (3)	2-5 " (3)	6-8 " (7)
Stage:		3-4L	2-3L	5-6L
Weed 2 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height:		1 "	2 "	3-4 " (3)
Stage:		6L	10L	16L
Weed 3 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height:		1 "	2 "	2-3 " (2)
Stage:		4-6L	4-6L	6-8L
Weed 4 Name:	SINAR	SINAR	SINAR	SINAR
Height:		1 "	1 "	6-8 " (7)
Stage:		5-8L	5-8L	many

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 GAL/AC	WATER	30 PSI
B	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GAL/AC	WATER	30 PSI
C	CUB	3.8 mph	AXIR	11003	24 "	20 "	100 "	19 GAL/AC	WATER	30 PSI
D	CUB	3.8 mph	AXIR	11003	24 "	20 "	100 "	19 GAL/AC	WATER	30 PSI

Comments: The common ragweed population at this location is ALS-resistant.

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Location: Campus T-10

Investigator: Christy Sprague

Study Director: Sprague, Powell, Stiles

Pest Code		ANGR	CHEAL	AMAPO	AMBEL	SINAR	
Crop Code	GLXMA						GLXMA
Rating Date	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-22-2016
Rating Type	injury	control	control	control	control	control	injury
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	14 DA-C
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code							
		Rate Unit								
1	Valor	2.5 oz/a	A	0	30	86	92	65	68	0
1	Liberty	29 fl oz/a	C							
1	AMS	8.5 lb/100 gal	C							
2	Fierce	3 oz/a	A	4	66	97	100	70	88	0
2	Liberty	29 fl oz/a	C							
2	AMS	8.5 lb/100 gal	C							
3	Valor XLT	3.5 oz/a	A	4	72	100	100	85	100	10
3	Zidua SC	3.28 fl oz/a	C							
3	Liberty	29 fl oz/a	C							
3	AMS	8.5 lb/100 gal	C							
4	Authority First	6.4 oz/a	A	1	76	100	100	92	100	0
4	Liberty	29 fl oz/a	C							
4	AMS	8.5 lb/100 gal	C							
5	Authority XL	4 oz/a	A	4	71	100	100	69	100	0
5	Liberty	29 fl oz/a	C							
5	AMS	8.5 lb/100 gal	C							
6	Authority XL	4 oz/a	A	4	80	100	100	84	100	0
6	Anthem MAXX	3 fl oz/a	A							
6	Liberty	29 fl oz/a	C							
6	AMS	8.5 lb/100 gal	C							
7	Authority MTZ	12 oz/a	A	0	41	100	100	0	98	0
7	Liberty	29 fl oz/a	C							
7	AMS	8.5 lb/100 gal	C							
8	Authority MTZ	16 oz/a	A	0	51	100	100	46	95	0
8	Liberty	29 fl oz/a	C							
8	AMS	8.5 lb/100 gal	C							
9	Authority MTZ	12 oz/a	A	0	73	100	100	72	96	0
9	Anthem MAXX	3 fl oz/a	A							
9	Liberty	29 fl oz/a	C							
9	AMS	8.5 lb/100 gal	C							
10	Authority MTZ	13 oz/a	A	0	78	100	100	73	87	0
10	Command 3ME	16 fl oz/a	A							
10	Liberty	29 fl oz/a	C							
10	AMS	8.5 lb/100 gal	C							

Missing data estimates are included in columns: Average=21,22

Could not calculate LSD (% mean diff) for columns 11,16 because error mean square = 0.

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Pest Code		ANGR	CHEAL	AMAPO	AMBEL	SINAR	
Crop Code	GLXMA						GLXMA
Rating Date	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-8-2016	Jun-22-2016
Rating Type	injury	control	control	control	control	control	injury
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A	14 DA-C
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	0	85	99	100	98	100	0
11	Reflex	1 pt/a	A		0	85	99	100	98	100	0
11	Command 3ME	21 fl oz/a	A								
11	Liberty	29 fl oz/a	C								
11	AMS	8.5 lb/100 gal	C								
12	Optill PRO - Optill	2 oz/a	A		1	92	100	100	98	100	0
12	Optill PRO - Outlook	10 fl oz/a	A								
12	Liberty	29 fl oz/a	C								
12	AMS	8.5 lb/100 gal	C								
13	Untreated				0	0	0	0	0	0	0
14	Authority XL	4 oz/a	A		4	77	100	100	73	100	12
14	Anthem MAXX	3 fl oz/a	C								
14	Liberty	29 fl oz/a	C								
14	AMS	8.5 lb/100 gal	C								
15	Authority MTZ	12 oz/a	A		0	45	100	100	0	96	15
15	Anthem MAXX	3 fl oz/a	C								
15	Liberty	29 fl oz/a	C								
15	AMS	8.5 lb/100 gal	C								
16	Authority MTZ	16 oz/a	A		2	61	100	100	65	99	23
16	Prefix	2 pt/a	C								
16	Liberty	29 fl oz/a	C								
16	AMS	8.5 lb/100 gal	C								
17	Prefix	2 pt/a	B		21	87	100	100	96	90	10
17	Liberty	29 fl oz/a	B								
17	AMS	8.5 lb/100 gal	B								
17	Warrant	3 pt/a	D								
17	Liberty	29 fl oz/a	D								
17	AMS	8.5 lb/100 gal	D								
LSD P=.05					1.6	16.5	3.3	3.4	12.8	6.9	3.0
Standard Deviation					1.2	11.6	2.3	2.4	9.0	4.8	2.1
CV					45.82	18.18	2.51	2.54	14.17	5.43	51.08

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Pest Code	ANGR	CHEAL	AMBEL	SINAR		ANGR	CHEAL
Crop Code					GLXMA		
Rating Date	Jun-22-2016	Jun-22-2016	Jun-22-2016	Jun-22-2016	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	control	control	control	control	injury	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-C	14 DA-C	14 DA-C	14 DA-C	30 DA-C	30 DA-C	30 DA-C
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code	ANGR	CHEAL	AMBEL	SINAR	GLXMA	ANGR	CHEAL
1	Valor	2.5 oz/a	A	92	93	100	100	0	66	89
1	Liberty	29 fl oz/a	C							
1	AMS	8.5 lb/100 gal	C							
2	Fierce	3 oz/a	A	93	99	100	100	0	77	97
2	Liberty	29 fl oz/a	C							
2	AMS	8.5 lb/100 gal	C							
3	Valor XLT	3.5 oz/a	A	96	100	100	100	1	76	100
3	Zidua SC	3.28 fl oz/a	C							
3	Liberty	29 fl oz/a	C							
3	AMS	8.5 lb/100 gal	C							
4	Authority First	6.4 oz/a	A	93	100	100	100	0	75	100
4	Liberty	29 fl oz/a	C							
4	AMS	8.5 lb/100 gal	C							
5	Authority XL	4 oz/a	A	94	100	98	100	0	78	100
5	Liberty	29 fl oz/a	C							
5	AMS	8.5 lb/100 gal	C							
6	Authority XL	4 oz/a	A	97	100	100	100	0	79	100
6	Anthem MAXX	3 fl oz/a	A							
6	Liberty	29 fl oz/a	C							
6	AMS	8.5 lb/100 gal	C							
7	Authority MTZ	12 oz/a	A	91	100	93	100	0	60	100
7	Liberty	29 fl oz/a	C							
7	AMS	8.5 lb/100 gal	C							
8	Authority MTZ	16 oz/a	A	89	100	96	100	0	65	100
8	Liberty	29 fl oz/a	C							
8	AMS	8.5 lb/100 gal	C							
9	Authority MTZ	12 oz/a	A	93	100	96	100	0	78	100
9	Anthem MAXX	3 fl oz/a	A							
9	Liberty	29 fl oz/a	C							
9	AMS	8.5 lb/100 gal	C							
10	Authority MTZ	13 oz/a	A	99	100	96	100	0	85	100
10	Command 3ME	16 fl oz/a	A							
10	Liberty	29 fl oz/a	C							
10	AMS	8.5 lb/100 gal	C							

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Pest Code	ANGR	CHEAL	AMBEL	SINAR		ANGR	CHEAL
Crop Code					GLXMA		
Rating Date	Jun-22-2016	Jun-22-2016	Jun-22-2016	Jun-22-2016	Jul-8-2016	Jul-8-2016	Jul-8-2016
Rating Type	control	control	control	control	injury	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-C	14 DA-C	14 DA-C	14 DA-C	30 DA-C	30 DA-C	30 DA-C
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code							
11	Reflex	1 pt/a	A	99	100	100	100	0	93	99
11	Command 3ME	21 fl oz/a	A							
11	Liberty	29 fl oz/a	C							
11	AMS	8.5 lb/100 gal	C							
12	Optill PRO - Optill	2 oz/a	A	96	100	100	100	0	80	100
12	Optill PRO - Outlook	10 fl oz/a	A							
12	Liberty	29 fl oz/a	C							
12	AMS	8.5 lb/100 gal	C							
13	Untreated			0	0	0	0	0	0	0
14	Authority XL	4 oz/a	A	94	100	98	100	0	78	100
14	Anthem MAXX	3 fl oz/a	C							
14	Liberty	29 fl oz/a	C							
14	AMS	8.5 lb/100 gal	C							
15	Authority MTZ	12 oz/a	A	85	100	98	100	1	70	100
15	Anthem MAXX	3 fl oz/a	C							
15	Liberty	29 fl oz/a	C							
15	AMS	8.5 lb/100 gal	C							
16	Authority MTZ	16 oz/a	A	89	100	99	100	0	72	100
16	Prefix	2 pt/a	C							
16	Liberty	29 fl oz/a	C							
16	AMS	8.5 lb/100 gal	C							
17	Prefix	2 pt/a	B	89	90	93	100	1	99	99
17	Liberty	29 fl oz/a	B							
17	AMS	8.5 lb/100 gal	B							
17	Warrant	3 pt/a	D							
17	Liberty	29 fl oz/a	D							
17	AMS	8.5 lb/100 gal	D							
LSD P=.05				6.0	2.8	3.8	.	1.4	10.8	2.6
Standard Deviation				4.2	1.9	2.7	0.0	1.0	7.6	1.8
CV				4.79	2.08	2.9	0.0	445.35	10.45	1.98

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Study Director: Sprague, Powell, Stiles

Pest Code	AMBEL		ANGR	CHEAL	AMAPO	AMBEL		GLXMA
Crop Code		GLXMA						GLXMA
Rating Date	Jul-8-2016	Aug-3-2016	Aug-3-2016	Aug-3-2016	Aug-3-2016	Aug-3-2016	Oct-22-2016	
Rating Type	control	injury	control	control	control	control	moisture	
Rating Unit	percent	percent	percent	percent	percent	percent	percent	
Trt-Eval Interval	30 DA-C	56 DA-C	56 DA-C	56 DA-C	56 DA-C	56 DA-C	136 DA-C	
Number of Decimals	0	0	0	0	0	0	1	

Trt No.	Treatment Name	Rate Unit	Appl Code							
1	Valor	2.5 oz/a	A	99	0	67	86	95	91	17.4
1	Liberty	29 fl oz/a	C							
1	AMS	8.5 lb/100 gal	C							
2	Fierce	3 oz/a	A	98	0	69	93	100	79	17.5
2	Liberty	29 fl oz/a	C							
2	AMS	8.5 lb/100 gal	C							
3	Valor XLT	3.5 oz/a	A	98	0	76	100	100	93	17.3
3	Zidua SC	3.28 fl oz/a	C							
3	Liberty	29 fl oz/a	C							
3	AMS	8.5 lb/100 gal	C							
4	Authority First	6.4 oz/a	A	99	0	73	100	100	98	17.1
4	Liberty	29 fl oz/a	C							
4	AMS	8.5 lb/100 gal	C							
5	Authority XL	4 oz/a	A	96	0	70	100	100	83	17.3
5	Liberty	29 fl oz/a	C							
5	AMS	8.5 lb/100 gal	C							
6	Authority XL	4 oz/a	A	99	0	75	100	100	91	16.9
6	Anthem MAXX	3 fl oz/a	A							
6	Liberty	29 fl oz/a	C							
6	AMS	8.5 lb/100 gal	C							
7	Authority MTZ	12 oz/a	A	94	0	62	100	100	77	17.1
7	Liberty	29 fl oz/a	C							
7	AMS	8.5 lb/100 gal	C							
8	Authority MTZ	16 oz/a	A	97	0	63	96	100	74	17.3
8	Liberty	29 fl oz/a	C							
8	AMS	8.5 lb/100 gal	C							
9	Authority MTZ	12 oz/a	A	97	0	75	100	100	81	16.9
9	Anthem MAXX	3 fl oz/a	A							
9	Liberty	29 fl oz/a	C							
9	AMS	8.5 lb/100 gal	C							
10	Authority MTZ	13 oz/a	A	98	0	84	100	100	83	17.1
10	Command 3ME	16 fl oz/a	A							
10	Liberty	29 fl oz/a	C							
10	AMS	8.5 lb/100 gal	C							

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Pest Code	AMBEL		ANGR	CHEAL	AMAPO	AMBEL		
Crop Code		GLXMA						GLXMA
Rating Date	Jul-8-2016	Aug-3-2016	Aug-3-2016	Aug-3-2016	Aug-3-2016	Aug-3-2016	Oct-22-2016	
Rating Type	control	injury	control	control	control	control	moisture	
Rating Unit	percent	percent	percent	percent	percent	percent	percent	
Trt-Eval Interval	30 DA-C	56 DA-C	56 DA-C	56 DA-C	56 DA-C	56 DA-C	136 DA-C	
Number of Decimals	0	0	0	0	0	0	0	1

Trt No.	Treatment Name	Rate Unit	Appl Code							
11	Reflex	1 pt/a	A	99	0	90	95	100	98	17.1
11	Command 3ME	21 fl oz/a	A							
11	Liberty	29 fl oz/a	C							
11	AMS	8.5 lb/100 gal	C							
12	Optill PRO - Optill	2 oz/a	A	100	0	78	100	100	91	17.2
12	Optill PRO - Outlook	10 fl oz/a	A							
12	Liberty	29 fl oz/a	C							
12	AMS	8.5 lb/100 gal	C							
13	Untreated			0	0	0	0	0	0	18.3
14	Authority XL	4 oz/a	A	98	0	79	100	100	77	17.1
14	Anthem MAXX	3 fl oz/a	C							
14	Liberty	29 fl oz/a	C							
14	AMS	8.5 lb/100 gal	C							
15	Authority MTZ	12 oz/a	A	95	0	68	100	100	76	17.4
15	Anthem MAXX	3 fl oz/a	C							
15	Liberty	29 fl oz/a	C							
15	AMS	8.5 lb/100 gal	C							
16	Authority MTZ	16 oz/a	A	99	0	81	100	100	91	17.0
16	Prefix	2 pt/a	C							
16	Liberty	29 fl oz/a	C							
16	AMS	8.5 lb/100 gal	C							
17	Prefix	2 pt/a	B	100	0	96	100	100	100	17.0
17	Liberty	29 fl oz/a	B							
17	AMS	8.5 lb/100 gal	B							
17	Warrant	3 pt/a	D							
17	Liberty	29 fl oz/a	D							
17	AMS	8.5 lb/100 gal	D							
LSD P=.05				2.5	.	7.3	6.6	2.0	11.9	0.53
Standard Deviation				1.8	0.0	5.2	4.6	1.4	8.3	0.37
CV				1.91	0.0	7.31	5.0	1.49	10.26	2.14

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Pest Code	
Crop Code	GLXMA
Rating Date	Oct-22-2016
Rating Type	yield
Rating Unit	bu/acre
Trt-Eval Interval	at 13% M
Number of Decimals	1

Trt No.	Treatment Name	Rate	Unit	Appl Code	
1	Valor	2.5 oz/a		A	59.3
1	Liberty	29 fl oz/a		C	
1	AMS	8.5 lb/100 gal		C	
2	Fierce	3 oz/a		A	59.3
2	Liberty	29 fl oz/a		C	
2	AMS	8.5 lb/100 gal		C	
3	Valor XLT	3.5 oz/a		A	65.8
3	Zidua SC	3.28 fl oz/a		C	
3	Liberty	29 fl oz/a		C	
3	AMS	8.5 lb/100 gal		C	
4	Authority First	6.4 oz/a		A	70.9
4	Liberty	29 fl oz/a		C	
4	AMS	8.5 lb/100 gal		C	
5	Authority XL	4 oz/a		A	62.7
5	Liberty	29 fl oz/a		C	
5	AMS	8.5 lb/100 gal		C	
6	Authority XL	4 oz/a		A	65.0
6	Anthem MAXX	3 fl oz/a		A	
6	Liberty	29 fl oz/a		C	
6	AMS	8.5 lb/100 gal		C	
7	Authority MTZ	12 oz/a		A	57.3
7	Liberty	29 fl oz/a		C	
7	AMS	8.5 lb/100 gal		C	
8	Authority MTZ	16 oz/a		A	59.9
8	Liberty	29 fl oz/a		C	
8	AMS	8.5 lb/100 gal		C	
9	Authority MTZ	12 oz/a		A	64.7
9	Anthem MAXX	3 fl oz/a		A	
9	Liberty	29 fl oz/a		C	
9	AMS	8.5 lb/100 gal		C	
10	Authority MTZ	13 oz/a		A	73.2
10	Command 3ME	16 fl oz/a		A	
10	Liberty	29 fl oz/a		C	
10	AMS	8.5 lb/100 gal		C	

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Pest Code	
Crop Code	GLXMA
Rating Date	Oct-22-2016
Rating Type	yield
Rating Unit	bu/acre
Trt-Eval Interval	at 13% M
Number of Decimals	1

Trt No.	Treatment Name	Rate Unit	Appl Code	
11	Reflex	1 pt/a	A	69.1
11	Command 3ME	21 fl oz/a	A	
11	Liberty	29 fl oz/a	C	
11	AMS	8.5 lb/100 gal	C	
12	Optill PRO - Optill	2 oz/a	A	64.8
12	Optill PRO - Outlook	10 fl oz/a	A	
12	Liberty	29 fl oz/a	C	
12	AMS	8.5 lb/100 gal	C	
13	Untreated			12.5
14	Authority XL	4 oz/a	A	62.0
14	Anthem MAXX	3 fl oz/a	C	
14	Liberty	29 fl oz/a	C	
14	AMS	8.5 lb/100 gal	C	
15	Authority MTZ	12 oz/a	A	57.4
15	Anthem MAXX	3 fl oz/a	C	
15	Liberty	29 fl oz/a	C	
15	AMS	8.5 lb/100 gal	C	
16	Authority MTZ	16 oz/a	A	62.7
16	Prefix	2 pt/a	C	
16	Liberty	29 fl oz/a	C	
16	AMS	8.5 lb/100 gal	C	
17	Prefix	2 pt/a	B	72.7
17	Liberty	29 fl oz/a	B	
17	AMS	8.5 lb/100 gal	B	
17	Warrant	3 pt/a	D	
17	Liberty	29 fl oz/a	D	
17	AMS	8.5 lb/100 gal	D	
	LSD P=.05			7.62
	Standard Deviation			5.36
	CV			8.77