

Postemergence tank-mixtures with Liberty in LibertyLink soybean

Trial ID: SOY09-17 Study Dir.: Sprague, Powell, Stiles
 Conducted: Campus C-14 Investigator: Christy Sprague

Planting Date: May-9-2017 **Row Spacing:** 30 IN
Variety: CZ2312LL **No. of Reps:** 4
Population: 155000 seeds/A **% OM:** 2.2
Soil Type: SL sandy loam **pH:** 7.4
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plow; spring soil finish twice
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ANGR	mainly foxtail species	Annual grass
2	CHEAL	lambquarters, common	Chenopodium album
3	AMBEL	ragweed, common	Ambrosia artemisiifolia
4	ABUTH	velvetleaf	Abutilon theophrasti
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

	A	B	C
Application Timing:	PRE	EPOS	POST
Date Treated:	May-9-2017	Jun-2-2017	Jun-20-2017
Time Treated:	2:00 PM	8:10 AM	8:00 AM
% Cloud Cover:	30	0	0
Air Temp., Unit:	60 F	59 F	59 F
% Relative Humidity:	24	57	82
Wind Speed/Unit/Dir:	3.3 mph SW	2.5 mph NE	5 mph W
Soil Temp, Unit:	55 F	62 F	63 F
Leaf Moist/Dew Presence (Y/N):	5	5	2
Soil Moist:	3	4	2

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	GLXMA	GLXMA	GLXMA
Height:		4 "	8 "
Stage:		V1	V3

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	ANGR	ANGR	ANGR
Height:		1-4 " (2.5)	6 "
Stage:		2-6L	4L
Weed 2 Name:	CHEAL	CHEAL	CHEAL
Height:		2-4 " (3)	5 "
Stage:		3-8L	10-12L
Weed 3 Name:	AMBEL	AMBEL	AMBEL
Height:		2-3 " (2.5)	6-8 " (7)
Stage:		4L	12-16L
Weed 4 Name:	ABUTH	ABUTH	ABUTH
Height:		2-3 " (2.5)	
Stage:		4L	

Weed Density

	1	2	3	4
Date:	Jun-20-2017	Jun-20-2017	Jun-20-2017	Jun-20-2017
Weed Name:	ANGR	CHEAL	AMBEL	ABUTH
Density:	70 FT2	18 FT2	6 FT2	1 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	22 "	20 "	100 "	19 GPA	WATER	30 PSI
B	Cub	3.8 MPH	AIXR	11003	22 "	20 "	100 "	19 GPA	WATER	30 PSI
C	Cub	3.8 MPH	AIXR	11003	25 "	20 "	100 "	19 GPA	WATER	30 PSI

Comments: The common ragweed population at this location is resistant to ALS-inhibiting (Group 2) herbicides.

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Study Director: Sprague, Powell, Stiles

Pest Code	GLXMA	ANGR	CHEAL	AMBEL	ABUTH	GLXMA	ANGR
Crop Code	Jun-2-2017	Jun-2-2017	Jun-2-2017	Jun-2-2017	Jun-2-2017	Jun-9-2017	Jun-9-2017
Rating Date	injury	control	control	control	control	injury	control
Rating Type	percent	percent	percent	percent	percent	percent	percent
Rating Unit	24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	7 DA-B	7 DA-B
Trt-Eval Interval	0	0	0	0	0	0	0
Number of Decimals							

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*	
1	Liberty	2.34 L	L	29 fl oz/a	B	B	0	0	0	0	0	3	94
1	AMS	WG	WG	2.5 lb/a	B	B							
1	Liberty	2.34 L	L	29 fl oz/a	C	C							
1	SelectMax	1 L	L	6 fl oz/a	C	C							
1	Surfactant	L	L	0.25 % v/v	C	C							
1	AMS	WG	WG	2.5 lb/a	C	C							
2	Fierce	76 WG	WG	3 oz/a	A	A	11	100	100	100	100	9	97
2	Liberty	2.34 L	L	29 fl oz/a	B	B							
2	AMS	WG	WG	2.5 lb/a	B	B							
2	Liberty	2.34 L	L	29 fl oz/a	C	C							
2	SelectMax	1 L	L	6 fl oz/a	C	C							
2	Surfactant	L	L	0.25 % v/v	C	C							
2	AMS	WG	WG	2.5 lb/a	C	C							
3	Untreated						0	0	0	0	0	0	0
4	Liberty	2.34 L	L	29 fl oz/a	B	B	0	0	0	0	0	15	94
4	Resource	0.83 L	L	4 fl oz/a	B	B							
4	Surfactant	L	L	0.25 % v/v	B	B							
4	AMS	WG	WG	2.5 lb/a	B	B							
4	Liberty	2.34 L	L	29 fl oz/a	C	C							
4	SelectMax	1 L	L	6 fl oz/a	C	C							
4	Surfactant	L	L	0.25 % v/v	C	C							
4	AMS	WG	WG	2.5 lb/a	C	C							
5	Liberty	2.34 L	L	29 fl oz/a	B	B	0	0	0	0	0	26	95
5	Cobra	2 L	L	12.5 fl oz/a	B	B							
5	Surfactant	L	L	0.25 % v/v	B	B							
5	AMS	WG	WG	2.5 lb/a	B	B							
5	Liberty	2.34 L	L	29 fl oz/a	C	C							
5	SelectMax	1 L	L	6 fl oz/a	C	C							
5	Surfactant	L	L	0.25 % v/v	C	C							
5	AMS	WG	WG	2.5 lb/a	C	C							
6	Liberty	2.34 L	L	29 fl oz/a	B	B	0	0	0	0	0	23	94
6	Flexstar	1.88 L	L	1 pt/a	B	B							
6	Surfactant	L	L	0.25 % v/v	B	B							
6	AMS	WG	WG	2.5 lb/a	B	B							
6	Liberty	2.34 L	L	29 fl oz/a	C	C							
6	SelectMax	1 L	L	6 fl oz/a	C	C							
6	Surfactant	L	L	0.25 % v/v	C	C							
6	AMS	WG	WG	2.5 lb/a	C	C							
LSD P=.05							2.0	4.2	2.6
Standard Deviation							1.4	0.0	0.0	0.0	0.0	2.8	1.7
CV							77.37	0.0	0.0	0.0	0.0	22.76	2.18

* Adjusted means

Could not calculate LSD (% mean diff) for columns 2,3,4,5,15,21,26 because error mean square = 0.

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Study Director: Sprague, Powell, Stiles

Pest Code	CHEAL	AMBEL	ABUTH	GLXMA	ANGR	CHEAL	AMBEL
Crop Code							
Rating Date	Jun-9-2017	Jun-9-2017	Jun-9-2017	Jun-16-2017	Jun-16-2017	Jun-16-2017	Jun-16-2017
Rating Type	control	control	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*	
1	Liberty	2.34 L	L	29 fl oz/a	B	B	90	100	100	0	82	71	99
1	AMS	WG	WG	2.5 lb/a	B	B							
1	Liberty	2.34 L	L	29 fl oz/a	C	C							
1	SelectMax	1 L	L	6 fl oz/a	C	C							
1	Surfactant	L	L	0.25 % v/v	C	C							
1	AMS	WG	WG	2.5 lb/a	C	C							
2	Fierce	76 WG	WG	3 oz/a	A	A	100	100	100	0	83	99	99
2	Liberty	2.34 L	L	29 fl oz/a	B	B							
2	AMS	WG	WG	2.5 lb/a	B	B							
2	Liberty	2.34 L	L	29 fl oz/a	C	C							
2	SelectMax	1 L	L	6 fl oz/a	C	C							
2	Surfactant	L	L	0.25 % v/v	C	C							
2	AMS	WG	WG	2.5 lb/a	C	C							
3	Untreated						0	0	0	0	0	0	0
4	Liberty	2.34 L	L	29 fl oz/a	B	B	93	99	100	6	78	65	93
4	Resource	0.83 L	L	4 fl oz/a	B	B							
4	Surfactant	L	L	0.25 % v/v	B	B							
4	AMS	WG	WG	2.5 lb/a	B	B							
4	Liberty	2.34 L	L	29 fl oz/a	C	C							
4	SelectMax	1 L	L	6 fl oz/a	C	C							
4	Surfactant	L	L	0.25 % v/v	C	C							
4	AMS	WG	WG	2.5 lb/a	C	C							
5	Liberty	2.34 L	L	29 fl oz/a	B	B	86	100	100	7	80	49	99
5	Cobra	2 L	L	12.5 fl oz/a	B	B							
5	Surfactant	L	L	0.25 % v/v	B	B							
5	AMS	WG	WG	2.5 lb/a	B	B							
5	Liberty	2.34 L	L	29 fl oz/a	C	C							
5	SelectMax	1 L	L	6 fl oz/a	C	C							
5	Surfactant	L	L	0.25 % v/v	C	C							
5	AMS	WG	WG	2.5 lb/a	C	C							
6	Liberty	2.34 L	L	29 fl oz/a	B	B	94	98	99	9	84	80	95
6	Flexstar	1.88 L	L	1 pt/a	B	B							
6	Surfactant	L	L	0.25 % v/v	B	B							
6	AMS	WG	WG	2.5 lb/a	B	B							
6	Liberty	2.34 L	L	29 fl oz/a	C	C							
6	SelectMax	1 L	L	6 fl oz/a	C	C							
6	Surfactant	L	L	0.25 % v/v	C	C							
6	AMS	WG	WG	2.5 lb/a	C	C							
LSD P=.05							6.4	3.5	0.9	1.3	3.8	12.9	5.9
Standard Deviation							4.3	2.3	0.6	0.8	2.5	8.6	3.9
CV							5.51	2.83	0.74	25.48	3.7	14.14	4.87

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Pest Code	ABUTH	GLXMA	ANGR	CHEAL	AMBEL	ABUTH
Crop Code						
Rating Date	Jun-16-2017	Jun-27-2017	Jun-27-2017	Jun-27-2017	Jun-27-2017	Jun-27-2017
Rating Type	control	injury	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-B	7 DA-C	7 DA-C	7 DA-C	7 DA-C	7 DA-C
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*	*
1	Liberty	2.34 L	L	29 fl oz/a	B	B	100	2	96	96	100	100
1	AMS	WG		2.5 lb/a	B	B						
1	Liberty	2.34 L	L	29 fl oz/a	C	C						
1	SelectMax	1 L	L	6 fl oz/a	C	C						
1	Surfactant	L	L	0.25 % v/v	C	C						
1	AMS	WG		2.5 lb/a	C	C						
2	Fierce	76 WG	WG	3 oz/a	A	A	100	2	99	100	100	100
2	Liberty	2.34 L	L	29 fl oz/a	B	B						
2	AMS	WG		2.5 lb/a	B	B						
2	Liberty	2.34 L	L	29 fl oz/a	C	C						
2	SelectMax	1 L	L	6 fl oz/a	C	C						
2	Surfactant	L	L	0.25 % v/v	C	C						
2	AMS	WG		2.5 lb/a	C	C						
3	Untreated						0	0	0	0	0	0
4	Liberty	2.34 L	L	29 fl oz/a	B	B	100	2	94	99	100	100
4	Resource	0.83 L	L	4 fl oz/a	B	B						
4	Surfactant	L	L	0.25 % v/v	B	B						
4	AMS	WG		2.5 lb/a	B	B						
4	Liberty	2.34 L	L	29 fl oz/a	C	C						
4	SelectMax	1 L	L	6 fl oz/a	C	C						
4	Surfactant	L	L	0.25 % v/v	C	C						
4	AMS	WG		2.5 lb/a	C	C						
5	Liberty	2.34 L	L	29 fl oz/a	B	B	100	2	96	98	100	100
5	Cobra	2 L	L	12.5 fl oz/a	B	B						
5	Surfactant	L	L	0.25 % v/v	B	B						
5	AMS	WG		2.5 lb/a	B	B						
5	Liberty	2.34 L	L	29 fl oz/a	C	C						
5	SelectMax	1 L	L	6 fl oz/a	C	C						
5	Surfactant	L	L	0.25 % v/v	C	C						
5	AMS	WG		2.5 lb/a	C	C						
6	Liberty	2.34 L	L	29 fl oz/a	B	B	100	4	99	99	99	99
6	Flexstar	1.88 L	L	1 pt/a	B	B						
6	Surfactant	L	L	0.25 % v/v	B	B						
6	AMS	WG		2.5 lb/a	B	B						
6	Liberty	2.34 L	L	29 fl oz/a	C	C						
6	SelectMax	1 L	L	6 fl oz/a	C	C						
6	Surfactant	L	L	0.25 % v/v	C	C						
6	AMS	WG		2.5 lb/a	C	C						
LSD P=.05							.	2.2	2.4	3.1	0.9	1.2
Standard Deviation							0.0	1.5	1.6	2.1	0.6	0.8
CV							0.0	79.32	1.99	2.53	0.74	0.98

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Pest Code						ANGR	CHEAL	AMBEL	ABUTH		
Crop Code						GLXMA					
Rating Date						Jul-5-2017	Jul-5-2017	Jul-5-2017	Jul-5-2017		
Rating Type						injury	control	control	control		
Rating Unit						percent	percent	percent	percent		
Trt-Eval Interval						15 DA-C	15 DA-C	15 DA-C	15 DA-C		
Number of Decimals						0	0	0	0		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	*	*	*	*	*
1	Liberty	2.34 L	L	29 fl oz/a	B	B	0	83	90	97	96
1	AMS		WG	2.5 lb/a	B	B					
1	Liberty	2.34 L	L	29 fl oz/a	C	C					
1	SelectMax	1 L	L	6 fl oz/a	C	C					
1	Surfactant		L	0.25 % v/v	C	C					
1	AMS		WG	2.5 lb/a	C	C					
2	Fierce	76	WG	3 oz/a	A	A	0	98	100	99	99
2	Liberty	2.34 L	L	29 fl oz/a	B	B					
2	AMS		WG	2.5 lb/a	B	B					
2	Liberty	2.34 L	L	29 fl oz/a	C	C					
2	SelectMax	1 L	L	6 fl oz/a	C	C					
2	Surfactant		L	0.25 % v/v	C	C					
2	AMS		WG	2.5 lb/a	C	C					
3	Untreated						0	0	0	0	0
4	Liberty	2.34 L	L	29 fl oz/a	B	B	0	82	90	98	100
4	Resource	0.83 L	L	4 fl oz/a	B	B					
4	Surfactant		L	0.25 % v/v	B	B					
4	AMS		WG	2.5 lb/a	B	B					
4	Liberty	2.34 L	L	29 fl oz/a	C	C					
4	SelectMax	1 L	L	6 fl oz/a	C	C					
4	Surfactant		L	0.25 % v/v	C	C					
4	AMS		WG	2.5 lb/a	C	C					
5	Liberty	2.34 L	L	29 fl oz/a	B	B	0	85	88	99	98
5	Cobra	2 L	L	12.5 fl oz/a	B	B					
5	Surfactant		L	0.25 % v/v	B	B					
5	AMS		WG	2.5 lb/a	B	B					
5	Liberty	2.34 L	L	29 fl oz/a	C	C					
5	SelectMax	1 L	L	6 fl oz/a	C	C					
5	Surfactant		L	0.25 % v/v	C	C					
5	AMS		WG	2.5 lb/a	C	C					
6	Liberty	2.34 L	L	29 fl oz/a	B	B	0	99	93	100	98
6	Flexstar	1.88 L	L	1 pt/a	B	B					
6	Surfactant		L	0.25 % v/v	B	B					
6	AMS		WG	2.5 lb/a	B	B					
6	Liberty	2.34 L	L	29 fl oz/a	C	C					
6	SelectMax	1 L	L	6 fl oz/a	C	C					
6	Surfactant		L	0.25 % v/v	C	C					
6	AMS		WG	2.5 lb/a	C	C					
LSD P=.05							5.0	5.6	2.4	4.1	
Standard Deviation							0.0	3.3	3.7	1.6	2.7
CV							0.0	4.5	4.85	1.95	3.34

* Adjusted means

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