

MSU Weed Science Research Program

Authority MTZ programs in LibertyLink soybean

Trial ID: SOY03-15 Study Dir.: Sprague and Powell  
 Conducted: Campus C-12 Investigator: Christy Sprague

Date Planted: May/06/2015 Row Spacing: 30 IN  
 Variety: MCIA 2512LL No. of Reps: 4  
 Population: 150,000 seeds/A % OM: 3.5  
 Soil Type: Sandy clay loam pH: 7.7  
 Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow; spring soil finish twice

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May/06/2015	Jun/19/2015
Time Treated:	8:30 PM	3:45 PM
% Cloud Cover:	20	40
Air Temp., Unit:	70 F	70 F
% Relative Humidity:	58	54
Wind Speed/Unit/Dir:	1 mph E	5 mph N
Soil Temp., Unit:	63 F	72 F
Soil/Leaf Surface M:	4 -	3 5
Soil Moist (1=w 5=d):	4	2

Crop Stage at Each Application

	A	B
Crop Name:	GLXMA	GLXMA
Height (In.):	-	12"
Stage (L):	-	V5

Weed Stage at Each Application

	A	B
Weed 1 Name:	ANGR	ANGR
Height (In.):	-	6-12"
Stage (L):	-	3-6
Weed 2 Name:	CHEAL	CHEAL
Height (In.):	-	-
Stage (L):	-	-
Weed 3 Name:	AMBEL	AMBEL
Height (In.):	-	5-10"
Stage (L):	-	6-10

Weed Density (plants/sq. ft.)

	1	2	3	4
Date:	Jun/09/2015	Jun/09/2015	Jun/09/2015	Jun/09/2015
Weed Name:	ANGR	CHEAL	AMBEL	ABUTH
Density:	283	15	119	<1

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	20"	20"	100"	19	Water	28
B	Cub	3.8	AIXR	11003	26"	20"	100"	19	Water	28

MSU Weed Science Research Program

Authority MTZ programs in LibertyLink soybean

Trial ID: SOY03-15 Study Dir.: Sprague and Powell  
 Conducted: Campus C-12 Investigator: Christy Sprague

								ANGR	CHEAL	AMBEL		
Weed Code								GLXMA	GLXMA			
Crop Code								injury	injury			
Rating Data Type								percent	percent	control	control	control
Rating Unit										percent	percent	percent
Rating Date								Jun/03/2015	Jun/19/2015	Jun/19/2015	Jun/19/2015	Jun/19/2015
Trt-Eval Interval								28 DA-A	0 DA-B	0 DA-B	0 DA-B	0 DA-B
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Command 3 ME	3	L	1	pt/a	PRE	A	1	0	96	98	0
1	Liberty	2.34	L	29	fl oz/a	POST	B					
1	AMS		WG	8.5	lb/100 gal	POST	B					
2	Command 3 ME	3	L	10	fl oz/a	PRE	A	0	0	91	94	84
2	Dawn	2	L	1	pt/a	PRE	A					
2	Select Max	0.97	L	12	fl oz/a	POST	B					
2	Cadet	0.91	L	0.5	fl oz/a	POST	B					
2	Surfactant		L	0.25	% v/v	POST	B					
3	Authority MTZ	45	WG	14	oz/a	PRE	A	0	0	43	99	35
3	Select Max	0.97	L	12	fl oz/a	POST	B					
3	Cadet	0.91	L	0.5	fl oz/a	POST	B					
3	Surfactant		L	0.25	% v/v	POST	B					
4	Authority MTZ	45	WG	14	oz/a	PRE	A	4	0	95	99	96
4	Dawn	2	L	1	pt/a	PRE	A					
4	Liberty	2.34	L	29	fl oz/a	POST	B					
4	AMS		WG	8.5	lb/100 gal	POST	B					
5	Authority MTZ	45	WG	14	oz/a	PRE	A	2	0	97	99	77
5	Anthem MAXX	4.3	L	3	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	B					
5	AMS		WG	8.5	lb/100 gal	POST	B					
6	Untreated							0	0	0	0	0
7	Authority MTZ	45	WG	14	oz/a	PRE	A	0	0	43	99	35
7	Cadet	0.91	L	0.5	fl oz/a	POST	B					
7	Dawn	2	L	1	pt/a	POST	B					
7	Liberty	2.34	L	29	fl oz/a	POST	B					
7	AMS		WG	8.5	lb/100 gal	POST	B					
8	Authority MTZ	45	WG	14	oz/a	PRE	A	0	0	43	99	35
8	Anthem MAXX	4.3	L	3	fl oz/a	POST	B					
8	Dawn	2	L	1	pt/a	POST	B					
8	Select Max	0.97	L	12	fl oz/a	POST	B					
8	Surfactant		L	0.25	% v/v	POST	B					
LSD (P=.05)								1.3	0.0	5.0	2.8	5.9
CV								107.85	0.0	5.42	2.2	8.94

Means followed by same letter do not significantly differ (P=.05, LSD)

MSU Weed Science Research Program

Authority MTZ programs in LibertyLink soybean

Trial ID: SOY03-15 Study Dir.: Sprague and Powell  
 Conducted: Campus C-12 Investigator: Christy Sprague

Weed Code								ANGR	CHEAL	AMBEL	ABUTH	
Crop Code								GLXMA				
Rating Data Type								injury	control	control	control	
Rating Unit								percent	percent	percent	percent	
Rating Date								Jun/26/2015	Jun/26/2015	Jun/26/2015	Jun/26/2015	
Trt-Eval Interval								7 DA-B	7 DA-B	7 DA-B	7 DA-B	
# Subsamples, Dec.								0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Command 3 ME	3	L	1	pt/a	PRE	A	4	90	99	81	99
1	Liberty	2.34	L	29	fl oz/a	POST	B					
1	AMS		WG	8.5	lb/100 gal	POST	B					
2	Command 3 ME	3	L	10	fl oz/a	PRE	A	20	97	96	82	99
2	Dawn	2	L	1	pt/a	PRE	A					
2	Select Max	0.97	L	12	fl oz/a	POST	B					
2	Cadet	0.91	L	0.5	fl oz/a	POST	B					
2	Surfactant		L	0.25	% v/v	POST	B					
3	Authority MTZ	45	WG	14	oz/a	PRE	A	21	68	99	61	99
3	Select Max	0.97	L	12	fl oz/a	POST	B					
3	Cadet	0.91	L	0.5	fl oz/a	POST	B					
3	Surfactant		L	0.25	% v/v	POST	B					
4	Authority MTZ	45	WG	14	oz/a	PRE	A	3	99	99	99	99
4	Dawn	2	L	1	pt/a	PRE	A					
4	Liberty	2.34	L	29	fl oz/a	POST	B					
4	AMS		WG	8.5	lb/100 gal	POST	B					
5	Authority MTZ	45	WG	14	oz/a	PRE	A	3	99	99	96	99
5	Anthem MAXX	4.3	L	3	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	B					
5	AMS		WG	8.5	lb/100 gal	POST	B					
6	Untreated							0	0	0	0	0
7	Authority MTZ	45	WG	14	oz/a	PRE	A	26	93	99	98	99
7	Cadet	0.91	L	0.5	fl oz/a	POST	B					
7	Dawn	2	L	1	pt/a	POST	B					
7	Liberty	2.34	L	29	fl oz/a	POST	B					
7	AMS		WG	8.5	lb/100 gal	POST	B					
8	Authority MTZ	45	WG	14	oz/a	PRE	A	31	71	99	89	99
8	Anthem MAXX	4.3	L	3	fl oz/a	POST	B					
8	Dawn	2	L	1	pt/a	POST	B					
8	Select Max	0.97	L	12	fl oz/a	POST	B					
8	Surfactant		L	0.25	% v/v	POST	B					
LSD (P=.05)								2.9	4.0	2.9	3.7	0.0
CV								14.73	3.57	2.25	3.29	0.0

Means followed by same letter do not significantly differ (P=.05, LSD)

MSU Weed Science Research Program

Authority MTZ programs in LibertyLink soybean

Trial ID: SOY03-15 Study Dir.: Sprague and Powell  
 Conducted: Campus C-12 Investigator: Christy Sprague

								GLXMA	ANGR	CHEAL	AMBEL	ABUTH
								injury	control	control	control	control
								percent	percent	percent	percent	percent
								Jul/02/2015	Jul/02/2015	Jul/02/2015	Jul/02/2015	Jul/02/2015
								13 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B
								0	0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl						
No.	Name	Conc	Type	Unit	Stg	Code						
1	Command 3 ME	3	L	1 pt/a	PRE	A	0	98	98	97	99	
1	Liberty	2.34	L	29 fl oz/a	POST	B						
1	AMS		WG	8.5 lb/100 gal	POST	B						
2	Command 3 ME	3	L	10 fl oz/a	PRE	A	18	74	99	90	99	
2	Dawn	2	L	1 pt/a	PRE	A						
2	Select Max	0.97	L	12 fl oz/a	POST	B						
2	Cadet	0.91	L	0.5 fl oz/a	POST	B						
2	Surfactant		L	0.25 % v/v	POST	B						
3	Authority MTZ	45	WG	14 oz/a	PRE	A	20	91	99	19	99	
3	Select Max	0.97	L	12 fl oz/a	POST	B						
3	Cadet	0.91	L	0.5 fl oz/a	POST	B						
3	Surfactant		L	0.25 % v/v	POST	B						
4	Authority MTZ	45	WG	14 oz/a	PRE	A	0	91	99	99	99	
4	Dawn	2	L	1 pt/a	PRE	A						
4	Liberty	2.34	L	29 fl oz/a	POST	B						
4	AMS		WG	8.5 lb/100 gal	POST	B						
5	Authority MTZ	45	WG	14 oz/a	PRE	A	0	91	99	98	99	
5	Anthem MAXX	4.3	L	3 fl oz/a	PRE	A						
5	Liberty	2.34	L	29 fl oz/a	POST	B						
5	AMS		WG	8.5 lb/100 gal	POST	B						
6	Untreated						0	0	0	0	0	
7	Authority MTZ	45	WG	14 oz/a	PRE	A	28	99	99	99	99	
7	Cadet	0.91	L	0.5 fl oz/a	POST	B						
7	Dawn	2	L	1 pt/a	POST	B						
7	Liberty	2.34	L	29 fl oz/a	POST	B						
7	AMS		WG	8.5 lb/100 gal	POST	B						
8	Authority MTZ	45	WG	14 oz/a	PRE	A	25	93	99	95	99	
8	Anthem MAXX	4.3	L	3 fl oz/a	POST	B						
8	Dawn	2	L	1 pt/a	POST	B						
8	Select Max	0.97	L	12 fl oz/a	POST	B						
8	Surfactant		L	0.25 % v/v	POST	B						
LSD (P=.05)								2.1	3.5	1.0	2.8	0.0
CV								12.83	2.98	0.82	2.53	0.0

Means followed by same letter do not significantly differ (P=.05, LSD)

MSU Weed Science Research Program

Authority MTZ programs in LibertyLink soybean

Trial ID: SOY03-15 Study Dir.: Sprague and Powell  
 Conducted: Campus C-12 Investigator: Christy Sprague

								GLXMA	ANGR	CHEAL	AMBEL	ABUTH
								injury	control	control	control	control
								percent	percent	percent	percent	percent
								Jul/17/2015	Jul/17/2015	Jul/17/2015	Jul/17/2015	Jul/17/2015
								28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
								0	0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl						
No.	Name	Conc	Type	Unit	Stg	Code						
1	Command 3 ME	3	L	1 pt/a	PRE	A	0	80	95	96	99	
1	Liberty	2.34	L	29 fl oz/a	POST	B						
1	AMS		WG	8.5 lb/100 gal	POST	B						
2	Command 3 ME	3	L	10 fl oz/a	PRE	A	0	82	98	77	99	
2	Dawn	2	L	1 pt/a	PRE	A						
2	Select Max	0.97	L	12 fl oz/a	POST	B						
2	Cadet	0.91	L	0.5 fl oz/a	POST	B						
2	Surfactant		L	0.25 % v/v	POST	B						
3	Authority MTZ	45	WG	14 oz/a	PRE	A	0	93	99	0	99	
3	Select Max	0.97	L	12 fl oz/a	POST	B						
3	Cadet	0.91	L	0.5 fl oz/a	POST	B						
3	Surfactant		L	0.25 % v/v	POST	B						
4	Authority MTZ	45	WG	14 oz/a	PRE	A	0	94	99	98	99	
4	Dawn	2	L	1 pt/a	PRE	A						
4	Liberty	2.34	L	29 fl oz/a	POST	B						
4	AMS		WG	8.5 lb/100 gal	POST	B						
5	Authority MTZ	45	WG	14 oz/a	PRE	A	0	87	99	90	99	
5	Anthem MAXX	4.3	L	3 fl oz/a	PRE	A						
5	Liberty	2.34	L	29 fl oz/a	POST	B						
5	AMS		WG	8.5 lb/100 gal	POST	B						
6	Untreated						0	0	0	0	0	
7	Authority MTZ	45	WG	14 oz/a	PRE	A	0	95	99	99	99	
7	Cadet	0.91	L	0.5 fl oz/a	POST	B						
7	Dawn	2	L	1 pt/a	POST	B						
7	Liberty	2.34	L	29 fl oz/a	POST	B						
7	AMS		WG	8.5 lb/100 gal	POST	B						
8	Authority MTZ	45	WG	14 oz/a	PRE	A	0	87	99	81	99	
8	Anthem MAXX	4.3	L	3 fl oz/a	POST	B						
8	Dawn	2	L	1 pt/a	POST	B						
8	Select Max	0.97	L	12 fl oz/a	POST	B						
8	Surfactant		L	0.25 % v/v	POST	B						
LSD (P=.05)								0.0	5.0	2.8	5.1	0.0
CV								0.0	4.4	2.2	5.17	0.0

Means followed by same letter do not significantly differ (P=.05, LSD)

## MSU Weed Science Research Program

Authority MTZ programs in LibertyLink soybean

Trial ID: SOY03-15      Study Dir.: Sprague and Powell  
 Conducted: Campus C-12      Investigator: Christy Sprague

Weed Code  
 Crop Code  
 Rating Data Type  
 Rating Unit  
 Rating Date  
 Trt-Eval Interval  
 # Subsamples, Dec.

GLXMA  
 moisture  
 percent  
 Oct/16/2015  
 119 DA-B  
 1

GLXMA  
 yield  
 bu/acre  
 Oct/16/2015  
 at 13% M  
 1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	Command 3 ME	3	L	1	pt/a	PRE	A	15.6	83.7
1	Liberty	2.34	L	29	fl oz/a	POST	B		
1	AMS		WG	8.5	lb/100 gal	POST	B		
2	Command 3 ME	3	L	10	fl oz/a	PRE	A	15.3	72.7
2	Dawn	2	L	1	pt/a	PRE	A		
2	Select Max	0.97	L	12	fl oz/a	POST	B		
2	Cadet	0.91	L	0.5	fl oz/a	POST	B		
2	Surfactant		L	0.25	% v/v	POST	B		
3	Authority MTZ	45	WG	14	oz/a	PRE	A	15.8	48.3
3	Select Max	0.97	L	12	fl oz/a	POST	B		
3	Cadet	0.91	L	0.5	fl oz/a	POST	B		
3	Surfactant		L	0.25	% v/v	POST	B		
4	Authority MTZ	45	WG	14	oz/a	PRE	A	15.0	75.0
4	Dawn	2	L	1	pt/a	PRE	A		
4	Liberty	2.34	L	29	fl oz/a	POST	B		
4	AMS		WG	8.5	lb/100 gal	POST	B		
5	Authority MTZ	45	WG	14	oz/a	PRE	A	15.2	75.4
5	Anthem MAXX	4.3	L	3	fl oz/a	PRE	A		
5	Liberty	2.34	L	29	fl oz/a	POST	B		
5	AMS		WG	8.5	lb/100 gal	POST	B		
6	Untreated							16.1	29.1
7	Authority MTZ	45	WG	14	oz/a	PRE	A	15.0	75.6
7	Cadet	0.91	L	0.5	fl oz/a	POST	B		
7	Dawn	2	L	1	pt/a	POST	B		
7	Liberty	2.34	L	29	fl oz/a	POST	B		
7	AMS		WG	8.5	lb/100 gal	POST	B		
8	Authority MTZ	45	WG	14	oz/a	PRE	A	15.1	72.8
8	Anthem MAXX	4.3	L	3	fl oz/a	POST	B		
8	Dawn	2	L	1	pt/a	POST	B		
8	Select Max	0.97	L	12	fl oz/a	POST	B		
8	Surfactant		L	0.25	% v/v	POST	B		
LSD (P=.05)								1.08	6.24
CV								4.76	6.37

Means followed by same letter do not significantly differ (P=.05, LSD)