

MSU Weed Science Research Program

Timing of Glufosinate in 30" Row Liberty Link Soybean

Trial ID: SOY02-07
 Conducted: C-12E

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 5/22/07 **Row Spacing:** 30 IN
Variety: SG2479LL **No. of Reps:** 4
Population: 158,000 seeds/acre **% OM:** 3.4
Soil Type: Loam **pH:** 6.7
Plot Size: 10 X 28 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall Chisel, Spring Soil Finish 5/8/07, Spring Soil Finish 5/21/07
Fertilizer: None at Planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3.	ANGR	mainly foxtail species	SETARIA SP.
4.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S.WATS.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D	E
Application Timing:	Pre	21 DAP	28 DAP	32 DAP	42 DAP
Date Treated:	5/23/07	6/13/07	6/22/07	6/25/07	7/2/07
Time Treated:	9:45 am	4:45 pm	9:30 am	1:00 pm	7:45 pm
% Cloud Cover:	20	5	0	50	90
Air Temp., Unit:	78 F	91 F	63 F	91 F	74 F
% Relative Humidity:	33	30	20	51	39
Wind Speed/Unit/Dir:	2 mph S	4 mph N	3 mph S	2 mph SW	1 mph W
Soil Temp., Unit:	66 F	90 F	66 F	75 F	74 F
Soil/Leaf Surface M:	5 5	5 5	5 5	5 5	4 5
Soil Moist (1=w 5=d):	5	5	5	5	4
	F	G			
Application Timing:	56 DAP	64 DAP			
Date Treated:	7/18/07	7/25/07			
Time Treated:	10:00 am	1:00 pm			
% Cloud Cover:	50	75			
Air Temp., Unit:	87 F	92 F			
% Relative Humidity:	62	40			
Wind Speed/Unit/Dir:	1 mph W	0 mph			
Soil Temp., Unit:	73 F	72 F			
Soil/Leaf Surface M:	5 5	5 5			
Soil Moist (1=w 5=d):	4	5			

Crop Stage at Each Application

	A	B	C	D	E
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	5-6"	9-11"	10-12"	12-18"
Stage (L):	-	V2	V4-V5	V4-V5	R1
	F	G			
Crop Name:	GLXMA	GLXMA			
Height (In.):	24"	27"			
Stage (L):	R2	R3			

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Weed Stage at Each Application

	A	B	C	D	E
Weed 1 Name:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	1-3"	4-6"	4-10"	2-4"
Stage (L):	-	2-5	4-6	4-6	4-6
Weed 2 Name:	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	-	1/2-2.5"	7-10"	2-10"	1-4"
Stage (L):	-	coty-10	many	many	4-8
Weed 3 Name:	ANGR	ANGR	ANGR	ANGR	ANGR
Height (In.):	-	3-5"	9-12"	3-12"	3-8"
Stage (L):	-	2-3	3-5	3-5	3-5
Weed 4 Name:	AMAPO	AMAPO	AMAPO	AMAPO	AMAPO
Height (In.):	-	1-3"	3-7"	5-8"	2-4"
Stage (L):	-	4-8	many	many	4-6
	F	G			
Weed 1 Name:	ABUTH	ABUTH			
Height (In.):	3-5"	4-10"			
Stage (L):	3-4	4-8			
Weed 2 Name:	AMBEL	AMBEL			
Height (In.):	4-8"	4-8"			
Stage (L):	4-6	4-6			
Weed 3 Name:	ANGR	ANGR			
Height (In.):	2-10"	6-12"			
Stage (L):	2-3	3-5			
Weed 4 Name:	AMAPO	AMAPO			
Height (In.):	4-6"	4-8"			
Stage (L):	6-8	6-8			

Weed Density (plants/sq. ft.)

	1	2	3	4
Date:	7/9/07	7/9/07	7/9/07	7/9/07
Weed Name:	ABUTH	ANGR	AMAPO	AMBEL
Density:	2	33	9	17

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	24"	20"	100"	19	Water	27
B	Cub	3.8	AirMix	11003	24"	20"	100"	19	Water	27
C	Cub	3.8	AirMix	11003	24"	20"	100"	19	Water	27
D	Cub	3.8	AirMix	11003	24"	20"	100"	19	Water	27
E	Cub	3.8	AirMix	11003	27"	20"	100"	19	Water	27
F	Cub	3.8	AirMix	11003	34"	20"	100"	19	Water	27
G	Cub	3.8	AirMix	11003	34"	20"	100"	19	Water	27

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Weed Code								ANGR	AMBEL	ABUTH	AMAPO	ANGR		
Crop Code								GLXMA				GLXMA		
Rating Data Type								injury	control	control	control	injury	control	
Rating Unit								percent	percent	percent	percent	percent	percent	
Rating Date								6/13/07	6/13/07	6/13/07	6/13/07	6/26/07	6/26/07	
Trt-Eval Interval								21 DA-A	21 DA-A	21 DA-A	21 DA-A	34 DA-A	34 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	Prowl H2O	3.8	SC	2.5	pt/a	PRE	A	14	83	18	80	93	0	98
1	SP102000017385		L	22	fl oz/a	21 DAP	B							
1	AMS		WG	8.5	lb/100 gal	21 DAP	B							
2	Prowl H2O	3.8	SC	2.5	pt/a	PRE	A	15	83	15	79	93	8	79
2	SP102000017385		L	22	fl oz/a	32 DAP	D							
2	AMS		WG	8.5	lb/100 gal	32 DAP	D							
3	Authority First	70	DF	3.2	oz/a	PRE	A	0	89	89	99	99	0	97
3	SP102000017385		L	22	fl oz/a	21 DAP	B							
3	AMS		WG	8.5	lb/100 gal	21 DAP	B							
4	Authority First	70	DF	3.2	oz/a	PRE	A	1	92	81	99	99	7	85
4	SP102000017385		L	22	fl oz/a	32 DAP	D							
4	AMS		WG	8.5	lb/100 gal	32 DAP	D							
5	Untreated							0	0	0	0	0	0	0
6	SP102000017385		L	22	fl oz/a	21 DAP	B						0	84
6	AMS		WG	8.5	lb/100 gal	21 DAP	B							
6	SP102000017385		L	22	fl oz/a	42 DAP	E							
6	AMS		WG	8.5	lb/100 gal	42 DAP	E							
7	SP102000017385		L	29	fl oz/a	21 DAP	B						1	88
7	AMS		WG	8.5	lb/100 gal	21 DAP	B							
7	SP102000017385		L	29	fl oz/a	42 DAP	E							
7	AMS		WG	8.5	lb/100 gal	42 DAP	E							
8	SP102000017385		L	22	fl oz/a	28 DAP	C						2	81
8	AMS		WG	8.5	lb/100 gal	28 DAP	C							
8	SP102000017385		L	22	fl oz/a	56 DAP	F							
8	AMS		WG	8.5	lb/100 gal	56 DAP	F							
9	SP102000017385		L	29	fl oz/a	28 DAP	C						4	84
9	AMS		WG	8.5	lb/100 gal	28 DAP	C							
9	SP102000017385		L	29	fl oz/a	56 DAP	F							
9	AMS		WG	8.5	lb/100 gal	56 DAP	F							
10	SP102000017385		L	43	fl oz/a	32 DAP	D						8	65
10	AMS		WG	8.5	lb/100 gal	32 DAP	D							
10	SP102000017385		L	43	fl oz/a	64 DAP	G							
10	AMS		WG	8.5	lb/100 gal	64 DAP	G							
11	Liberty 200		L	60	fl oz/a	32 DAP	D						10	65
11	AMS		WG	8.5	lb/100 gal	32 DAP	D							
11	Liberty 200		L	60	fl oz/a	64 DAP	G							
11	AMS		WG	8.5	lb/100 gal	64 DAP	G							
LSD (P=.05)								3.1	6.7	7.3	5.2	2.5	3.8	6.2
Standard Deviation								2.0	4.3	4.7	3.4	1.6	2.6	4.3
CV								34.21	6.26	11.72	4.73	2.07	73.18	5.69

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Weed Code		AMBEL		ABUTH		AMAPO		GLXMA		ANGR		AMBEL		GLXMA	
Crop Code		control		control		control		injury		control		control		injury	
Rating Data Type		percent		percent		percent		percent		percent		percent		percent	
Rating Unit		6/26/07		6/26/07		6/26/07		7/27/07		7/27/07		7/27/07		8/2/07	
Rating Date		34 DA-A		34 DA-A		34 DA-A		65 DA-A		65 DA-A		65 DA-A		71 DA-A	
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	Prowl H2O	3.8	SC	2.5	pt/a	PRE	A	97	94	97	0	94	85	1	
1	SP102000017385		L	22	fl oz/a	21 DAP	B								
1	AMS		WG	8.5	lb/100 gal	21 DAP	B								
2	Prowl H2O	3.8	SC	2.5	pt/a	PRE	A	65	88	99	0	90	75	4	
2	SP102000017385		L	22	fl oz/a	32 DAP	D								
2	AMS		WG	8.5	lb/100 gal	32 DAP	D								
3	Authority First	70	DF	3.2	oz/a	PRE	A	99	99	99	0	92	98	0	
3	SP102000017385		L	22	fl oz/a	21 DAP	B								
3	AMS		WG	8.5	lb/100 gal	21 DAP	B								
4	Authority First	70	DF	3.2	oz/a	PRE	A	78	98	99	0	96	96	1	
4	SP102000017385		L	22	fl oz/a	32 DAP	D								
4	AMS		WG	8.5	lb/100 gal	32 DAP	D								
5	Untreated							0	0	0	0	0	0	0	
6	SP102000017385		L	22	fl oz/a	21 DAP	B	91	91	83	0	99	99	1	
6	AMS		WG	8.5	lb/100 gal	21 DAP	B								
6	SP102000017385		L	22	fl oz/a	42 DAP	E								
6	AMS		WG	8.5	lb/100 gal	42 DAP	E								
7	SP102000017385		L	29	fl oz/a	21 DAP	B	92	90	83	0	99	99	0	
7	AMS		WG	8.5	lb/100 gal	21 DAP	B								
7	SP102000017385		L	29	fl oz/a	42 DAP	E								
7	AMS		WG	8.5	lb/100 gal	42 DAP	E								
8	SP102000017385		L	22	fl oz/a	28 DAP	C	91	87	99	6	99	99	8	
8	AMS		WG	8.5	lb/100 gal	28 DAP	C								
8	SP102000017385		L	22	fl oz/a	56 DAP	F								
8	AMS		WG	8.5	lb/100 gal	56 DAP	F								
9	SP102000017385		L	29	fl oz/a	28 DAP	C	96	94	99	10	99	99	7	
9	AMS		WG	8.5	lb/100 gal	28 DAP	C								
9	SP102000017385		L	29	fl oz/a	56 DAP	F								
9	AMS		WG	8.5	lb/100 gal	56 DAP	F								
10	SP102000017385		L	43	fl oz/a	32 DAP	D	65	61	97	2	92	98	8	
10	AMS		WG	8.5	lb/100 gal	32 DAP	D								
10	SP102000017385		L	43	fl oz/a	64 DAP	G								
10	AMS		WG	8.5	lb/100 gal	64 DAP	G								
11	Liberty 200		L	60	fl oz/a	32 DAP	D	67	61	95	3	91	96	8	
11	AMS		WG	8.5	lb/100 gal	32 DAP	D								
11	Liberty 200		L	60	fl oz/a	64 DAP	G								
11	AMS		WG	8.5	lb/100 gal	64 DAP	G								
LSD (P=.05)								5.4	8.6	3.2	2.0	3.8	4.4	3.8	
Standard Deviation								3.7	5.9	2.2	1.4	2.6	3.0	2.7	
CV								4.88	7.57	2.56	71.63	3.03	3.52	81.96	

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Weed Code	ANGR	AMBEL	AMAPO	ABUTH
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	8/2/07	8/2/07	8/2/07	8/2/07
Trt-Eval Interval	71 DA-A	71 DA-A	71 DA-A	71 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ANGR	AMBEL	AMAPO	ABUTH
1	Prowl H2O	3.8	SC	2.5	pt/a	PRE	A	91	91	92	94
1	SP102000017385		L	22	fl oz/a	21 DAP	B				
1	AMS		WG	8.5	lb/100 gal	21 DAP	B				
2	Prowl H2O	3.8	SC	2.5	pt/a	PRE	A	91	80	85	85
2	SP102000017385		L	22	fl oz/a	32 DAP	D				
2	AMS		WG	8.5	lb/100 gal	32 DAP	D				
3	Authority First	70	DF	3.2	oz/a	PRE	A	97	99	99	99
3	SP102000017385		L	22	fl oz/a	21 DAP	B				
3	AMS		WG	8.5	lb/100 gal	21 DAP	B				
4	Authority First	70	DF	3.2	oz/a	PRE	A	98	99	99	99
4	SP102000017385		L	22	fl oz/a	32 DAP	D				
4	AMS		WG	8.5	lb/100 gal	32 DAP	D				
5	Untreated							0	0	0	0
6	SP102000017385		L	22	fl oz/a	21 DAP	B	99	99	99	99
6	AMS		WG	8.5	lb/100 gal	21 DAP	B				
6	SP102000017385		L	22	fl oz/a	42 DAP	E				
6	AMS		WG	8.5	lb/100 gal	42 DAP	E				
7	SP102000017385		L	29	fl oz/a	21 DAP	B	99	99	99	99
7	AMS		WG	8.5	lb/100 gal	21 DAP	B				
7	SP102000017385		L	29	fl oz/a	42 DAP	E				
7	AMS		WG	8.5	lb/100 gal	42 DAP	E				
8	SP102000017385		L	22	fl oz/a	28 DAP	C	99	99	99	99
8	AMS		WG	8.5	lb/100 gal	28 DAP	C				
8	SP102000017385		L	22	fl oz/a	56 DAP	F				
8	AMS		WG	8.5	lb/100 gal	56 DAP	F				
9	SP102000017385		L	29	fl oz/a	28 DAP	C	99	99	99	99
9	AMS		WG	8.5	lb/100 gal	28 DAP	C				
9	SP102000017385		L	29	fl oz/a	56 DAP	F				
9	AMS		WG	8.5	lb/100 gal	56 DAP	F				
10	SP102000017385		L	43	fl oz/a	32 DAP	D	99	99	99	99
10	AMS		WG	8.5	lb/100 gal	32 DAP	D				
10	SP102000017385		L	43	fl oz/a	64 DAP	G				
10	AMS		WG	8.5	lb/100 gal	64 DAP	G				
11	Liberty 200		L	60	fl oz/a	32 DAP	D	98	99	99	99
11	AMS		WG	8.5	lb/100 gal	32 DAP	D				
11	Liberty 200		L	60	fl oz/a	64 DAP	G				
11	AMS		WG	8.5	lb/100 gal	64 DAP	G				
LSD (P=.05)								3.0	4.0	3.6	3.0
Standard Deviation								2.1	2.8	2.5	2.0
CV								2.39	3.2	2.86	2.32