

MSU Weed Science Research Program

Programs glyphosate-resistant Palmer amaranth in RR and LL soybean

Trial ID: SOY13-12 Study Dir.: Powell, Sprague, Powell
 Conducted: Mendon, MI Investigator: Christy Sprague

Date Planted: May/16/2012 **Row Spacing:** 30 IN
Variety: See comments **No. of Reps:** 4
Population: 150,000 Seeds/A **% OM:** 2.4
Soil Type: Sandy clay loam **pH:** 6.8
Plot Size: 10 X 30 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall disk, spring soil finish
Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	AMAPA	AMARANTH, PALMER	AMARANTHUS PALMERI S. WATS.
2.	AMAPA	AMARANTH, PALMER	AMARANTHUS PALMERI S. WATS.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D	E
Application Timing:	PRE	3 Inch	3 Inch/RG	LPOS	LPOS 2
Date Treated:	May/16/2012	Jun/06/2012	Jun/14/2012	Jun/22/2012	Jun/22/2012
Time Treated:	6:15 PM	3:40 PM	9:05 AM	9:45 AM	9:45 AM
% Cloud Cover:	20	50	0	0	0
Air Temp., Unit:	73 F	77 F	64 F	71 F	71 F
% Relative Humidity:	24	32	62	74	74
Wind Speed/Unit/Dir:	6 mph N	3 mph NW	5 mph E	2 mph NW	2 mph NW
Soil Temp., Unit:	69 F	74 F	67 F	70 F	70 F
Soil/Leaf Surface M:	3 -	4 5	5 5	4 4	4 4
Soil Moist (1=w 5=d):	3	3	5	5	5

Crop Stage at Each Application

	A	B	C	D	E
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	4"	5.5"	9"	9"
Stage (L):	-	V2	V2-V3	V5	V5

Weed Stage at Each Application

	A	B	C	D	E
Weed 1 Name:	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Height (In.):	-	3"	7"	15"	7"
Stage (L):	-	6	14	40	24
Weed 2 Name:	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Height (In.):	-	-	-	3"	5"
Stage (L):	-	-	-	16	16

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	22"	20"	120"	19	Water	28
B	Backpack	3.8	AirMix	11003	22"	20"	100"	19	Water	28
C	Backpack	3.8	AirMix	11003	22"	20"	100"	19	Water	28
D	Backpack	3.8	AirMix	11003	35"	20"	100"	19	Water	28
E	Backpack	3.8	AirMix	11003	28"	20"	100"	19	Water	28

Comments: Liberty Link Seed: DF 9231; Roundup Ready 2 Seed: Asgrow 2330

D application: Weed code 1 for glyphosate treatments and weed code 2 for Liberty treatments

E application: Weed code 1 for treatment two and weed code 2 for Liberty treatment

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Trial ID: SOY13-12
Conducted: Mendon, MIStudy Dir.: Powell, Sprague, Powell
Investigator: Christy Sprague

Weed Code		AMAPA		AMAPA
Crop Code		GLXMA		GLXMA
Rating Data Type		injury	control	injury
Rating Unit		percent	percent	percent
Rating Date		Jun/14/2012	Jun/14/2012	Jun/21/2012
Trt-Eval Interval		8 DA-B	8 DA-B	7 DA-C
# Subsamples, Dec.		0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	RR2 Yield Seed							0	0	0	0
	Roundup PowerMax	4.5	L	22	fl oz/a	EPOS	B				
	AMS		WG	17	lb/100 gal	EPOS	B				
	Roundup PowerMax	4.5	L	22	fl oz/a	LPOS	D				
	AMS		WG	17	lb/100 gal	LPOS	D				
2	RR2 Yield Seed							0	55	11	68
	Valor	51	WG	2	oz/a	PRE	A				
	Flexstar	1.88	L	1	pt/a	POST	C				
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	C				
	AMS		WG	17	lb/100 gal	POST	C				
	Cobra	2	L	8	fl oz/a	LPOS2	E				
	COC		L	0.5	% v/v	LPOS2	E				
	AMS		WG	17	lb/100 gal	LPOS2	E				
3	RR2 Yield Seed							0	54	13	66
	Valor	51	WG	2	oz/a	PRE	A				
	Flexstar	1.88	L	1	pt/a	POST	C				
	Warrant	3	L	3	pt/a	POST	C				
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	C				
	AMS		WG	17	lb/100 gal	POST	C				
4	RR2 Yield Seed							0	54	16	56
	Valor	51	WG	2	oz/a	PRE	A				
	Flexstar	1.88	L	1	pt/a	POST	C				
	Dual II Magnum	7.64	L	1.33	pt/a	POST	C				
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	C				
	AMS		WG	17	lb/100 gal	POST	C				
5	LibertyLink Seed							0	82	0	73
	Liberty	2.34	L	29	fl oz/a	EPOS	B				
	AMS		WG	8.5	lb/100 gal	EPOS	B				
	Liberty	2.34	L	29	fl oz/a	LPOS	D				
	AMS		WG	8.5	lb/100 gal	LPOS	D				
6	LibertyLink Seed							0	53	0	86
	Valor	51	WG	2	oz/a	PRE	A				
	Liberty	2.34	L	29	fl oz/a	POST	C				
	AMS		WG	8.5	lb/100 gal	POST	C				
	Liberty	2.34	L	29	fl oz/a	LPOS2	E				
	AMS		WG	8.5	lb/100 gal	LPOS2	E				
7	LibertyLink Seed							0	50	0	82
	Valor	51	WG	2	oz/a	PRE	A				
	Liberty	2.34	L	29	fl oz/a	POST	C				
	Warrant	3	L	3	pt/a	POST	C				
	AMS		WG	8.5	lb/100 gal	POST	C				
8	LibertyLink Seed							0	50	1	87
	Valor	51	WG	2	oz/a	PRE	A				
	Liberty	2.34	L	29	fl oz/a	POST	C				
	Dual II Magnum	7.64	L	1.33	pt/a	POST	C				
	AMS		WG	8.5	lb/100 gal	POST	C				
	LSD (P=.05)							0.0	13.1	2.9	15.6
	CV							0.0	17.87	38.15	16.46

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

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Weed Code	GLXMA	AMAPA	GLXMA	AMAPA	AMAPA
Crop Code	injury	control	injury	control	control
Rating Data Type	percent	percent	percent	percent	percent
Rating Unit	Jun/28/2012	Jun/28/2012	Jul/02/2012	Jul/02/2012	Jul/12/2012
Rating Date	6 DA-D	6 DA-D	10 DA-D	10 DA-D	20 DA-D
Trt-Eval Interval	0	0	0	0	0
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	RR2 Yield Seed							0	0	0	0	0
	Roundup PowerMax	4.5	L	22	fl oz/a	EPOS	B					
	AMS		WG	17	lb/100 gal	EPOS	B					
	Roundup PowerMax	4.5	L	22	fl oz/a	LPOS	D					
	AMS		WG	17	lb/100 gal	LPOS	D					
2	RR2 Yield Seed							31	72	20	63	54
	Valor	51	WG	2	oz/a	PRE	A					
	Flexstar	1.88	L	1	pt/a	POST	C					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	C					
	AMS		WG	17	lb/100 gal	POST	C					
	Cobra	2	L	8	fl oz/a	LPOS2	E					
	COC		L	0.5	% v/v	LPOS2	E					
	AMS		WG	17	lb/100 gal	LPOS2	E					
3	RR2 Yield Seed							13	43	5	35	28
	Valor	51	WG	2	oz/a	PRE	A					
	Flexstar	1.88	L	1	pt/a	POST	C					
	Warrant	3	L	3	pt/a	POST	C					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	C					
	AMS		WG	17	lb/100 gal	POST	C					
4	RR2 Yield Seed							12	48	4	45	33
	Valor	51	WG	2	oz/a	PRE	A					
	Flexstar	1.88	L	1	pt/a	POST	C					
	Dual II Magnum	7.64	L	1.33	pt/a	POST	C					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	C					
	AMS		WG	17	lb/100 gal	POST	C					
5	LibertyLink Seed							3	97	0	86	76
	Liberty	2.34	L	29	fl oz/a	EPOS	B					
	AMS		WG	8.5	lb/100 gal	EPOS	B					
	Liberty	2.34	L	29	fl oz/a	LPOS	D					
	AMS		WG	8.5	lb/100 gal	LPOS	D					
6	LibertyLink Seed							5	98	0	92	80
	Valor	51	WG	2	oz/a	PRE	A					
	Liberty	2.34	L	29	fl oz/a	POST	C					
	AMS		WG	8.5	lb/100 gal	POST	C					
	Liberty	2.34	L	29	fl oz/a	LPOS2	E					
	AMS		WG	8.5	lb/100 gal	LPOS2	E					
7	LibertyLink Seed							0	59	0	58	53
	Valor	51	WG	2	oz/a	PRE	A					
	Liberty	2.34	L	29	fl oz/a	POST	C					
	Warrant	3	L	3	pt/a	POST	C					
	AMS		WG	8.5	lb/100 gal	POST	C					
8	LibertyLink Seed							6	64	0	53	53
	Valor	51	WG	2	oz/a	PRE	A					
	Liberty	2.34	L	29	fl oz/a	POST	C					
	Dual II Magnum	7.64	L	1.33	pt/a	POST	C					
	AMS		WG	8.5	lb/100 gal	POST	C					
	LSD (P=.05)							2.7	11.9	1.3	11.3	15.1
	CV							21.0	13.5	24.6	14.28	21.97

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