MSU Weed Science Research Program

Postemergence control of glyphosate-resistant Palmer amaranth

Trial ID: SOY12-12 Study Dir.: Powell, Sprague, Powell
Conducted: Mendon, MI Investigator: Christy Sprague

Date Planted:	May/16/2012	**Row Spacing:**	30 IN
Variety:	DF 9231LL	**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.
Crop	**Code**	**Common Name**	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C
Application Timing:	PRE	3 INCH	6 INCH
Date Treated:	May/16/2012	Jun/06/2012	Jun/11/2012
Time Treated:	6:15 PM	3:15 PM	11:50 AM
% Cloud Cover:	20	50	100
Air Temp., Unit:	73 F	77 F	77 F
% Relative Humidity:	24	32	70
Wind Speed/Unit/Dir:	6 mph N	3 mph NW	3 mph N
Soil Temp., Unit:	69 F	74 F	76 F
Soil/Leaf Surface M:	3 -	4 5	5 5
Soil Moist (1=w 5=d):	3	3	5

Crop Stage at Each Application

	A	B	C
Crop Name:	GLXMA	GLXMA	GLXMA
Height (In.):	-	4"	5"
Stage (L):	-	V2	V2

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	AMAPA	AMAPA	AMAPA
Height (In.):	-	3"	7"
Stage (L):	-	6	12

Weed Density (plants/sq. ft.)

	1
Date:	Jun/06/2012
Weed Name:	AMAPA
Density:	7

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	22"	20"	120"	19	Water	28
B	Backpack	3.8	AirMix	11003	22"	20"	100"	19	Water	28
C	Backpack	3.8	AirMix	11003	28"	20"	100"	19	Water	28

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	GLXMA injury percent Jun/14/2012 8 DA-B	AMAPA control percent Jun/14/2012 8 DA-B	GLXMA injury percent Jun/21/2012 10 DA-C	AMAPA control percent Jun/21/2012 10 DA-C	GLXMA injury percent Jun/25/2012 14 DA-C
	Weed Code								AMAPA		AMAPA	
	Crop Code							GLXMA		GLXMA		GLXMA
	Rating Data Type							injury	control	injury	control	injury
	Rating Unit							percent	percent	percent	percent	percent
	Rating Date							Jun/14/2012	Jun/14/2012	Jun/21/2012	Jun/21/2012	Jun/25/2012
	Trt-Eval Interval							8 DA-B	8 DA-B	10 DA-C	10 DA-C	14 DA-C
	# Subsamples, Dec.							0	0	0	0	0
1	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	0	0	0	0	0
2	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	22	69	12	49	5
	Cobra	2	L	8	fl oz/a	3-inch	B					
	COC		L	0.5	% v/v	3-inch	B					
	AMS		WG	8.5	lb/100 gal	3-inch	B					
3	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	16	93	8	78	2
	Flexstar	1.88	L	1	pt/a	3-inch	B					
	COC		L	1	% v/v	3-inch	B					
	AMS		WG	8.5	lb/100 gal	3-inch	B					
4	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	0	92	0	78	0
	Liberty	2.34	L	22	fl oz/a	3-inch	B					
	AMS		WG	8.5	lb/100 gal	3-inch	B					
5	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	0	94	0	82	0
	Liberty	2.34	L	29	fl oz/a	3-inch	B					
	AMS		WG	8.5	lb/100 gal	3-inch	B					
6	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	1	95	0	86	0
	Liberty	2.34	L	36	fl oz/a	3-inch	B					
	AMS		WG	8.5	lb/100 gal	3-inch	B					
7	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A			15	40	9
	Cobra	2	L	8	fl oz/a	6-inch	C					
	COC			0.5	% v/v	6-inch	C					
	AMS		WG	8.5	lb/100 gal	6-inch	C					
8	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A			15	40	8
	Cobra	2	L	12.5	fl oz/a	6-inch	C					
	COC			0.5	% v/v	6-inch	C					
	AMS		WG	8.5	lb/100 gal	6-inch	C					
9	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A			11	66	1
	Flexstar	1.88	L	1	pt/a	6-inch	C					
	COC			1	% v/v	6-inch	C					
	AMS		WG	8.5	lb/100 gal	6-inch	C					
10	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A			3	70	0
	Liberty	2.34	L	22	fl oz/a	6-inch	C					
	AMS		WG	8.5	lb/100 gal	6-inch	C					
11	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A			0	78	0
	Liberty	2.34	L	29	fl oz/a	6-inch	C					
	AMS		WG	8.5	lb/100 gal	6-inch	C					
12	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A			0	78	0
	Liberty	2.34	L	36	fl oz/a	6-inch	C					
	AMS		WG	8.5	lb/100 gal	6-inch	C					
LSD (P=.05)								1.7	4.6	3.2	11.4	2.6
CV								17.07	4.15	42.25	12.69	91.22

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

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
	Weed Code							AMAPA	GLXMA	AMAPA	AMAPA
	Crop Code										
	Rating Data Type							control	injury	control	control
	Rating Unit							percent	percent	percent	percent
	Rating Date							Jun/25/2012	Jul/02/2012	Jul/02/2012	Jul/12/2012
	Trt-Eval Interval							14 DA-C	21 DA-C	21 DA-C	31 DA-C
	# Subsamples, Dec.							0	0	0	0
1	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	0	0	61	54
2	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	35	4	71	58
	Cobra	2	L	8	fl oz/a	3-inch	B				
	COC		L	0.5	% v/v	3-inch	B				
	AMS		WG	8.5	lb/100 gal	3-inch	B				
3	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	70	1	86	76
	Flexstar	1.88	L	1	pt/a	3-inch	B				
	COC		L	1	% v/v	3-inch	B				
	AMS		WG	8.5	lb/100 gal	3-inch	B				
4	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	76	0	81	75
	Liberty	2.34	L	22	fl oz/a	3-inch	B				
	AMS		WG	8.5	lb/100 gal	3-inch	B				
5	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	79	0	92	83
	Liberty	2.34	L	29	fl oz/a	3-inch	B				
	AMS		WG	8.5	lb/100 gal	3-inch	B				
6	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	77	0	86	72
	Liberty	2.34	L	36	fl oz/a	3-inch	B				
	AMS		WG	8.5	lb/100 gal	3-inch	B				
7	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	39	4	71	66
	Cobra	2	L	8	fl oz/a	6-inch	C				
	COC			0.5	% v/v	6-inch	C				
	AMS		WG	8.5	lb/100 gal	6-inch	C				
8	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	34	6	73	63
	Cobra	2	L	12.5	fl oz/a	6-inch	C				
	COC			0.5	% v/v	6-inch	C				
	AMS		WG	8.5	lb/100 gal	6-inch	C				
9	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	58	3	84	69
	Flexstar	1.88	L	1	pt/a	6-inch	C				
	COC			1	% v/v	6-inch	C				
	AMS		WG	8.5	lb/100 gal	6-inch	C				
10	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	55	0	75	66
	Liberty	2.34	L	22	fl oz/a	6-inch	C				
	AMS		WG	8.5	lb/100 gal	6-inch	C				
11	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	68	0	83	72
	Liberty	2.34	L	29	fl oz/a	6-inch	C				
	AMS		WG	8.5	lb/100 gal	6-inch	C				
12	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	74	3	86	83
	Liberty	2.34	L	36	fl oz/a	6-inch	C				
	AMS		WG	8.5	lb/100 gal	6-inch	C				
LSD (P=.05)								12.9	1.8	10.6	12.9
CV								16.19	74.47	9.32	12.87

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