

MSU Weed Science Research Program

Soil-applied herbicides for control of glyphosate-resistant Palmer amaranth

Trial ID: SOY11-12 Study Dir.: Powell, Sprague, Powell
Conducted: Mendon, MI Investigator: Christy Sprague

Date Planted: May/16/2012 Row Spacing: 30" IN
Variety: Asgrow 2330 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

Application Timing: A PRE B 3 INCH
Date Treated: May/16/2012 Jun/14/2012
Time Treated: 3:00 PM 10:00 AM
% Cloud Cover: 10 0
Air Temp., Unit: 69 F 64 F
% Relative Humidity: 28 62
Wind Speed/Unit/Dir: 7 mph N 5 mph E
Soil Temp., Unit: 69 F 67 F
Soil/Leaf Surface M: 3 - 5 5
Soil Moist (1=w 5=d): 3 5

Crop Stage at Each Application

Crop Name: A B
GLXMA GLXMA
Height (In.): - 5.5"
Stage (L): - V2-V3

Weed Stage at Each Application

Weed 1 Name: A B
AMAPA AMAPA
Height (In.): - 6"
Stage (L): - 14

Weed Density (plants/sq. ft.)

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

Application Equipment

Appl Sprayer Speed Nozzle Nozzle Nozzle Nozzle Boom
Type MPH Type Size Height Spacing Width GPA Carrier PSI
A Backpack 3.8 XR 8003 19" 20" 120" 19 Water 28
B Backpack 3.8 XR 8003 30" 20" 120" 19 Water 28

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Trial ID: SOY11-12 Study Dir.: Powell, Sprague, Powell
 Conducted: Mendon, MI Investigator: Christy Sprague

Weed Code	AMAPA	GLXMA	AMAPA	GLXMA
Crop Code	injury	control	injury	control
Rating Data Type	percent	percent	percent	percent
Rating Unit	Jun/08/2012	Jun/08/2012	Jun/14/2012	Jun/14/2012
Rating Date	23 DA-A	23 DA-A	0 DA-B	7 DA-B
Trt-Eval Interval	0	0	0	0
# Subsamples, Dec.	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code	GLXMA injury percent	AMAPA control percent	GLXMA injury percent	AMAPA control percent	GLXMA injury percent
1	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B	0	0	0	0	15
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
2	Sencor	75	DF	8 oz/a	PRE	A	6	64	4	45	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
3	Dual II Magnum	7.64	L	1.33 pt/a	PRE	A	0	34	0	15	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
4	Zidua	85	WG	2.5 oz/a	PRE	A	0	74	0	56	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
5	Prowl H2O	3.8	L	2 pt/a	PRE	A	0	40	0	18	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
6	Boundary	6.5	L	2.4 pt/a	PRE	A	6	75	0	60	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
7	Prefix	5.29	L	2 pt/a	PRE	A	0	60	0	28	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
8	Spartan	4	L	8 fl oz/a	PRE	A	0	84	0	77	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
9	Valor	51	WG	2 oz/a	PRE	A	4	76	0	66	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
10	Valor	51	WG	2.5 oz/a	PRE	A	3	78	1	64	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
11	Fierce	76	WG	3 oz/a	PRE	A	3	84	3	79	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
12	Fierce	76	WG	3.75 oz/a	PRE	A	4	90	2	81	15
	Roundup PowerMax	4.5	L	22 fl oz/a	POST	B					
	Cobra	2	L	12.5 fl oz/a	POST	B					
	AMS		WG	17 lb/100 gal	POST	B					
LSD (P=.05)							2.1	14.8	2.2	18.5	0.0
CV							70.61	16.24	188.62	26.11	0.0

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

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Weed Code	AMAPA	GLXMA	AMAPA	GLXMA	AMAPA
Crop Code	control	injury	control	injury	control
Rating Data Type	percent	percent	percent	percent	percent
Rating Unit	Jun/21/2012	Jun/28/2012	Jun/28/2012	Jul/02/2012	Jul/02/2012
Rating Date	7 DA-B	14 DA-B	14 DA-B	18 DA-B	18 DA-B
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	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B	0	10	0	10	0
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Sencor	75	DF	8	oz/a	PRE	A	43	10	9	10	10
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	13	10	5	10	15
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
4	Zidua	85	WG	2.5	oz/a	PRE	A	58	10	51	10	45
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
5	Prowl H2O	3.8	L	2	pt/a	PRE	A	30	10	13	10	20
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
6	Boundary	6.5	L	2.4	pt/a	PRE	A	61	10	49	10	53
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
7	Prefix	5.29	L	2	pt/a	PRE	A	44	10	24	10	20
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
8	Spartan	4	L	8	fl oz/a	PRE	A	81	10	75	10	75
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
9	Valor	51	WG	2	oz/a	PRE	A	67	10	63	10	60
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
10	Valor	51	WG	2.5	oz/a	PRE	A	65	10	56	10	53
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
11	Fierce	76	WG	3	oz/a	PRE	A	74	10	70	10	66
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
12	Fierce	76	WG	3.75	oz/a	PRE	A	79	10	76	10	77
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	Cobra	2	L	12.5	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
LSD (P=.05)								14.6	0.0	20.0	0.0	18.2
CV								19.83	0.0	34.0	0.0	30.67

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