

MSU Weed Science Research Program
Control of glyphosate-resistant Palmer amaranth with POST HPPD inhibitors

Trial ID: C16-13 Study Dir.: Kohrt, Sprague, Powell
Conducted: Barry Co. Investigator: Christy Sprague

Date Planted: May/20/2013 Row Spacing: 30 IN
Variety: DKC 48-12 No. of Reps: 4
Population: 27,500 seeds/A % OM: 2.2
Soil Type: Sandy loam pH: 6.9
Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Spring soil finish

Crop and Weed Description			Scientific Name
Weed	Code	Common Name	
1.	AMAPA	AMARANTH, PALMER	AMARANTHUS PALMERI S.WATS.
Crop	Code	Common Name	
1.	ZEAMX	CORN, FIELD	

Application Description		
	A	B
Application Timing:	3" POST	6" POST
Date Treated:	Jun/17/2013	Jun/28/2013
Time Treated:	10:30 AM	1:45 PM
% Cloud Cover:	10	70
Air Temp., Unit:	73 F	80 F
% Relative Humidity:	53	50
Wind Speed/Unit/Dir:	0 mph -	10 mph W
Soil Temp., Unit:	70 F	80 F
Soil/Leaf Surface M:	5 5	5 5
Soil Moist (1=w 5=d):	3	3

Crop Stage at Each Application		
	A	B
Crop Name:	ZEAMX	ZEAMX
Height (In.):	10"	22"
Stage (L):	V4	V7

Weed Stage at Each Application		
	A	B
Weed 1 Name:	AMAPA	AMAPA
Height (In.):	3"	6"
Stage (L):	6	12

Weed Density (plants/sq. ft.)	
	1
Weed Name:	AMAPA
Density:	45

Application Equipment										
Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Backpack	3.5	AI XR	11003	20"	20"	100"	19	water	30
B	Backpack	3.5	AI XR	11003	24"	20"	100"	19	water	30

Comments: This Palmer amaranth population was resistant to glyphosate and ALS-inhibiting herbicides.

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Weed Code	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jun/24/2013	Jul/07/2013	Jul/07/2013	Jul/18/2013	Jul/18/2013
Trt-Eval Interval	7 DA-A	9 DA-B	20 DA-A	20 DA-B	31 DA-A
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code					
1	Untreated							0				
2	Roundup PowerMax AMS	4.5	SL	44	fl oz/a	3-inch	A	33	33	33	20	20
	Roundup PowerMax AMS	4.5	SL	44	fl oz/a	6-inch	B					
	Roundup PowerMax AMS	4.5	WG	17	lb/100 gal	6-inch	B					
3	Atrazine	4	L	1	pt/a	3-inch	A	84		50		30
	COC		L	1	% v/v	3-inch	A					
4	Callisto	4	L	3	fl oz/a	3-inch	A	68		58		51
	COC		L	1	% v/v	3-inch	A					
	AMS		WG	8.5	lb/100 gal	3-inch	A					
5	Callisto	4	L	3	fl oz/a	3-inch	A	97		96		96
	Atrazine	4	L	1	pt/a	3-inch	A					
	COC		L	1	% v/v	3-inch	A					
	AMS		WG	8.5	lb/100 gal	3-inch	A					
6	Impact	2.8	L	0.75	fl oz/a	3-inch	A	69		59		55
	MSO		L	1	% v/v	3-inch	A					
	AMS		WG	8.5	lb/100 gal	3-inch	A					
7	Impact	2.8	L	0.75	fl oz/a	3-inch	A	98		95		94
	Atrazine	4	L	1	pt/a	3-inch	A					
	MSO		L	1	% v/v	3-inch	A					
	AMS		WG	8.5	lb/100 gal	3-inch	A					
8	Laudis	3.5	L	3	fl oz/a	3-inch	A	91		83		80
	MSO		L	1	% v/v	3-inch	A					
	AMS		WG	8.5	lb/100 gal	3-inch	A					
9	Laudis	3.5	L	3	fl oz/a	3-inch	A	98		94		93
	Atrazine	4	L	1	pt/a	3-inch	A					
	MSO		L	1	% v/v	3-inch	A					
	AMS		WG	8.5	lb/100 gal	3-inch	A					
10	Atrazine	4	L	1	pt/a	6-inch	B		18		3	
	COC		L	1	% v/v	6-inch	B					
11	Callisto	4	L	3	fl oz/a	6-inch	B		20		3	
	COC		L	1	% v/v	6-inch	B					
	AMS		WG	8.5	lb/100 gal	6-inch	B					
12	Callisto	4	L	3	fl oz/a	6-inch	B		67		52	
	Atrazine	4	L	1	pt/a	6-inch	B					
	COC		L	1	% v/v	6-inch	B					
	AMS		WG	8.5	lb/100 gal	6-inch	B					
13	Impact	2.8	L	0.75	fl oz/a	6-inch	B		40		50	
	MSO		L	1	% v/v	6-inch	B					
	AMS		WG	8.5	lb/100 gal	6-inch	B					
14	Impact	2.8	L	0.75	fl oz/a	6-inch	B		50		42	
	Atrazine	4	L	1	pt/a	6-inch	B					
	MSO		L	1	% v/v	6-inch	B					
	AMS		WG	8.5	lb/100 gal	6-inch	B					
15	Laudis	3.5	L	3	fl oz/a	6-inch	B		33		23	
	MSO		L	1	% v/v	6-inch	B					
	AMS		WG	8.5	lb/100 gal	6-inch	B					

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Trt-Eval Interval	7 DA-A	9 DA-B	20 DA-A	20 DA-B	31 DA-A
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
16	Laudis	3.5	L	3	fl oz/a	6-inch	B
	Atrazine	4	L	1	pt/a	6-inch	B
	MSO		L	1	% v/v	6-inch	B
	AMS		WG	8.5	lb/100 gal	6-inch	B

LSD (P=.05)	13.0	18.5	14.9	23.7	19.8
CV	12.63	32.59	16.16	53.73	23.42

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