

MSU Weed Science Research Program

PRE herbicides for control of glyphosate-resistant Palmer amaranth in corn

Trial ID: C14-13 Study Dir.: Kohrt, Sprague, Powell
Conducted: Barry Co. Investigator: Christy Sprague

Date Planted: May/16/2013 Row Spacing: 30 IN
Variety: DKC 49-94 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

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

Application Description

A
Application Timing: PRE
Date Treated: May/18/2013
Time Treated: 11:00 AM
% Cloud Cover: 5
Air Temp., Unit: 73 F
% Relative Humidity: 40
Wind Speed/Unit/Dir: 1 mph NE
Soil Temp., Unit: 71 F
Soil/Leaf Surface M: 5 -
Soil Moist (1=w 5=d): 4

Crop Stage at Each Application

A
Crop Name: ZEAMX
Height (In.): -
Stage (L): -

Weed Stage at Each Application

A
Weed 1 Name: AMAPA
Height (In.): -
Stage (L): -

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

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

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Weed Code	AMAPA	AMAPA	AMAPA	AMAPA
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/06/2013	Jun/13/2013	Jun/21/2013	Jul/01/2013
Trt-Eval Interval	19 DA-A	26 DA-A	34 DA-A	44 DA-A
# Subsamples, Dec.	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	AMAPA Jun/06/2013	AMAPA Jun/13/2013	AMAPA Jun/21/2013	AMAPA Jul/01/2013
1	Untreated							0	0	0	0
2	Atrazine	4	L	1	qt/a	PRE	A	20	10	0	0
3	Atrazine	4	L	2	qt/a	PRE	A	40	18	10	3
4	Balance Flexx	2	L	6	fl oz/a	PRE	A	75	63	37	23
5	Callisto	4	L	6	fl oz/a	PRE	A	92	96	83	68
6	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	73	73	49	20
7	Harness	7	L	1.8	pt/a	PRE	A	89	78	48	25
8	Zidua	85	WG	3	oz/a	PRE	A	93	96	94	83
9	Sharpen	2.85	L	3	fl oz/a	PRE	A	9	4	0	0
10	Balance Flexx	2	L	6	fl oz/a	PRE	A	88	90	70	20
	Atrazine	4	L	1	qt/a	PRE	A				
11	Callisto	4	L	6	fl oz/a	PRE	A	97	96	88	70
	Atrazine	4	L	1	qt/a	PRE	A				
12	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	81	88	74	40
	Atrazine	4	L	1	qt/a	PRE	A				
13	Harness	7	L	1.8	pt/a	PRE	A	87	86	66	31
	Atrazine	4	L	1	qt/a	PRE	A				
14	Zidua	85	WG	3	oz/a	PRE	A	99	97	93	85
	Atrazine	4	L	1	qt/a	PRE	A				
15	Sharpen	2.85	L	3	fl oz/a	PRE	A	56	54	18	3
	Atrazine	4	L	1	qt/a	PRE	A				
16	Lumax EZ	3.67	L	2.7	qt/a	PRE	A	98	97	92	80
17	Lexar EZ	3.7	L	3	qt/a	PRE	A	99	97	95	84
18	Zemax	3.67	L	2	qt/a	PRE	A	97	96	91	79
19	Bicep II Magnum	5.5	L	2.1	qt/a	PRE	A	74	80	50	30
20	Harness Xtra 5.6	5.6	L	2	qt/a	PRE	A	88	78	57	19
21	Verdict	5.57	L	15	fl oz/a	PRE	A	87	81	51	28
22	Sharpen	2.85	L	3	fl oz/a	PRE	A	99	96	93	79
	Zidua	85	WG	3	oz/a	PRE	A				
LSD (P=.05)								12.9	15.2	24.3	22.4
CV								12.26	15.02	30.14	40.19

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