

MSU Weed Science Research Program

Palmer amaranth control with Cheetah and Cheetah Max

Trial ID: SOY20-15 Study Dir.: Sprague and Powell  
 Conducted: Gratiot Co. Investigator: Christy Sprague

Date Planted: May/22/2015 Row Spacing: 30 IN  
 Variety: MCI 2512LL No. of Reps: 3  
 Population: 145,000 seeds/A % OM: 3.1  
 Soil Type: Sandy loam pH: 7.0  
 Plot Size: 10 X 25 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Spring disk and soil finish

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly l.crabgrass & foxtail	DIGITARIA & SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMAPA	AMARANTH, PALMER	AMARANTHUS PALMERI S.WATS.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May/22/2015	Jul/15/2015
Time Treated:	11:15 AM	11:30 AM
% Cloud Cover:	0	5
Air Temp., Unit:	55 F	66 F
% Relative Humidity:	43	63
Wind Speed/Unit/Dir:	5 mph N	7 mph NE
Soil Temp., Unit:	50 F	70 F
Soil/Leaf Surface M:	5 5	4 5
Soil Moist (1=w 5=d):	3	3

Crop Stage at Each Application

	A	B
Crop Name:	GLXMA	GLXMA
Height (In.):	-	12"
Stage (L):	-	V4-V5

Weed Stage at Each Application

	A	B
Weed 1 Name:	ANGR	ANGR
Height (In.):	-	1-3"
Stage (L):	-	3-6
Weed 2 Name:	CHEAL	CHEAL
Height (In.):	-	1-4"
Stage (L):	-	6-17
Weed 3 Name:	AMAPA	AMAPA
Height (In.):	-	3-9"
Stage (L):	-	6-18

Weed Density (plants/sq. ft.)

	1	2	3
Weed Name:	ANGR	CHEAL	AMAPA
Density:	4	6	6

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	20"	20"	100"	19	Water	28
B	Backpack	3.8	AIXR	11003	32"	20"	100"	19	Water	28

Comments: Palmer amaranth is glyphosate-resistant.

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Weed Code								GLXMA		CHEAL		AMAPA		GLXMA		CHEAL		
Crop Code								injury		control		control		injury		control		
Rating Data Type								percent		percent		percent		percent		percent		
Rating Unit								Jun/24/2015		Jun/24/2015		Jun/24/2015		Jul/08/2015		Jul/08/2015		
Rating Date								33 DA-A		33 DA-A		33 DA-A		47 DA-A		47 DA-A		
Trt-Eval Interval								0		0		0		0		0		
# Subsamples, Dec.																		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code											
1	Valor	51	WG	2	oz/a	PRE	A	0	99	99	7	96						
1	Cheetah	2.34	L	29	fl oz/a	POST	B											
1	AMS		WG	8.5	lb/100 gal	POST	B											
2	Valor	51	WG	2	oz/a	PRE	A	0	99	99	8	99						
2	Cheetah Max	3	L	1	qt/a	POST	B											
2	AMS		WG	8.5	lb/100 gal	POST	B											
3	Untreated							0	0	0	0	0						
4	Valor	51	WG	2	oz/a	PRE	A	0	99	99	8	99						
4	Cheetah	2.34	L	29	fl oz/a	POST	B											
4	Dual Magnum	7.62	L	1	pt/a	POST	B											
4	AMS		WG	8.5	lb/100 gal	POST	B											
5	Valor	51	WG	2	oz/a	PRE	A	0	99	99	7	99						
5	Cheetah	2.34	L	29	fl oz/a	POST	B											
5	Dual Magnum	7.62	L	1.33	pt/a	POST	B											
5	AMS		WG	8.5	lb/100 gal	POST	B											
6	Valor	51	WG	2	oz/a	PRE	A	0	99	99	10	99						
6	Cheetah Max	3	L	1	qt/a	POST	B											
6	Dual Magnum	7.62	L	1	pt/a	POST	B											
6	AMS		WG	8.5	lb/100 gal	POST	B											
LSD (P=.05)								0.0	0.6	0.0	4.4	3.9						
CV								0.0	0.42	0.0	36.23	2.59						

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

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								AMAPA	GLXMA	ANGR	CHEAL	AMAPA
								control	inury	control	control	control
								percent	percent	percent	percent	percent
								Jul/08/2015	Jul/15/2015	Jul/15/2015	Jul/15/2015	Jul/15/2015
								47 DA-A	0 DA-B	0 DA-B	0 DA-B	0 DA-B
								0	0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code					
1	Valor	51	WG	2	oz/a	PRE	A	93	0	98	98	82
1	Cheetah	2.34	L	29	fl oz/a	POST	B					
1	AMS		WG	8.5	lb/100 gal	POST	B					
2	Valor	51	WG	2	oz/a	PRE	A	96	0	98	99	89
2	Cheetah Max	3	L	1	qt/a	POST	B					
2	AMS		WG	8.5	lb/100 gal	POST	B					
3	Untreated							0	0	0	0	0
4	Valor	51	WG	2	oz/a	PRE	A	99	0	99	96	95
4	Cheetah	2.34	L	29	fl oz/a	POST	B					
4	Dual Magnum	7.62	L	1	pt/a	POST	B					
4	AMS		WG	8.5	lb/100 gal	POST	B					
5	Valor	51	WG	2	oz/a	PRE	A	97	0	97	99	87
5	Cheetah	2.34	L	29	fl oz/a	POST	B					
5	Dual Magnum	7.62	L	1.33	pt/a	POST	B					
5	AMS		WG	8.5	lb/100 gal	POST	B					
6	Valor	51	WG	2	oz/a	PRE	A	96	0	97	99	84
6	Cheetah Max	3	L	1	qt/a	POST	B					
6	Dual Magnum	7.62	L	1	pt/a	POST	B					
6	AMS		WG	8.5	lb/100 gal	POST	B					
LSD (P=.05)								6.2	0.0	3.0	4.4	8.1
CV								4.22	0.0	2.05	2.94	6.09

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Weed Code								ANGR	CHEAL	AMAPA	GLXMA	
Crop Code								control	control	control	injury	
Rating Data Type								percent	percent	percent	percent	
Rating Unit								percent	percent	percent	percent	
Rating Date								Jul/21/2015	Jul/21/2015	Jul/21/2015	Aug/04/2015	
Trt-Eval Interval								6 DA-B	6 DA-B	6 DA-B	20 DA-B	
# Subsamples, Dec.								0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code					
1	Valor	51	WG	2	oz/a	PRE	A	0	99	99	97	0
1	Cheetah	2.34	L	29	fl oz/a	POST	B					
1	AMS		WG	8.5	lb/100 gal	POST	B					
2	Valor	51	WG	2	oz/a	PRE	A	18	99	99	99	0
2	Cheetah Max	3	L	1	qt/a	POST	B					
2	AMS		WG	8.5	lb/100 gal	POST	B					
3	Untreated							0	0	0	0	0
4	Valor	51	WG	2	oz/a	PRE	A	0	99	99	99	0
4	Cheetah	2.34	L	29	fl oz/a	POST	B					
4	Dual Magnum	7.62	L	1	pt/a	POST	B					
4	AMS		WG	8.5	lb/100 gal	POST	B					
5	Valor	51	WG	2	oz/a	PRE	A	2	99	99	98	0
5	Cheetah	2.34	L	29	fl oz/a	POST	B					
5	Dual Magnum	7.62	L	1.33	pt/a	POST	B					
5	AMS		WG	8.5	lb/100 gal	POST	B					
6	Valor	51	WG	2	oz/a	PRE	A	20	99	99	99	0
6	Cheetah Max	3	L	1	qt/a	POST	B					
6	Dual Magnum	7.62	L	1	pt/a	POST	B					
6	AMS		WG	8.5	lb/100 gal	POST	B					
LSD (P=.05)								2.3	0.0	0.0	1.8	0.0
CV								18.55	0.0	0.0	1.2	0.0

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								ANGR	CHEAL	AMAPA
								control	control	control
								percent	percent	percent
								Aug/04/2015	Aug/04/2015	Aug/04/2015
								20 DA-B	20 DA-B	20 DA-B
								0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl				
No.	Name	Conc	Type	Unit	Stg	Code				
1	Valor	51	WG	2	oz/a	PRE A	99	99	97	
1	Cheetah	2.34	L	29	fl oz/a	POST B				
1	AMS		WG	8.5	lb/100 gal	POST B				
2	Valor	51	WG	2	oz/a	PRE A	99	98	99	
2	Cheetah Max	3	L	1	qt/a	POST B				
2	AMS		WG	8.5	lb/100 gal	POST B				
3	Untreated						0	0	0	
4	Valor	51	WG	2	oz/a	PRE A	99	98	98	
4	Cheetah	2.34	L	29	fl oz/a	POST B				
4	Dual Magnum	7.62	L	1	pt/a	POST B				
4	AMS		WG	8.5	lb/100 gal	POST B				
5	Valor	51	WG	2	oz/a	PRE A	99	99	95	
5	Cheetah	2.34	L	29	fl oz/a	POST B				
5	Dual Magnum	7.62	L	1.33	pt/a	POST B				
5	AMS		WG	8.5	lb/100 gal	POST B				
6	Valor	51	WG	2	oz/a	PRE A	99	98	99	
6	Cheetah Max	3	L	1	qt/a	POST B				
6	Dual Magnum	7.62	L	1	pt/a	POST B				
6	AMS		WG	8.5	lb/100 gal	POST B				
LSD (P=.05)								0.0	1.2	4.4
CV								0.0	0.77	2.98

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