

MSU Weed Science Research Program

Palmer amaranth control with overlapping residuals in corn

Trial ID: C14-15 Study Dir.: Sprague, Kohrt, Powell
 Conducted: Barry Co. Investigator: Christy Sprague

Date Planted: May/14/2015 Row Spacing: 30 IN
 Variety: Pioneer P0157AM No. of Reps: 4
 Population: 25,500 seeds/A % OM: 2.5
 Soil Type: Sandy loam pH: 6.7
 Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow, spring soil finish
 Fertilizer: Manure; 3.5 gallons 3-9-6 popup + 15 gallons 28% UAN; 25 gallons of 28% UAN was sidedressed

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	B
Application Timing:	PRE	POST
Date Treated:	May/18/2015	Jun/22/2015
Time Treated:	5:00 PM	1:00 PM
% Cloud Cover:	60	30
Air Temp., Unit:	82 F	77 F
% Relative Humidity:	40	75
Wind Speed/Unit/Dir:	5 mph W	3 mph W
Soil Temp., Unit:	58 F	73 F
Soil/Leaf Surface M:	3 -	4 5
Soil Moist (1=w 5=d):	3	4

Crop Stage at Each Application

	A	B
Crop Name:	ZEAMX	ZEAMX
Height (In.):	-	20"
Stage (L):	-	V6

Weed Stage at Each Application

	A	B
Weed 1 Name:	AMAPA	AMAPA
Height (In.):	-	2"
Stage (L):	-	4

Weed Density (plants/sq. ft.)

1
 Date: Jul/07/2015
 Weed Name: AMAPA
 Density: 49

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Backpack	3.8	AIXR	11003	20"	20"	100"	19	Water	30
B	Backpack	3.8	AIXR	11003	34"	20"	100"	19	Water	30

Comments: Palmer amaranth is resistant to glyphosate, ALS-inhibitors, and triazines.

MSU Weed Science Research Program

Palmer amaranth control with overlapping residuals in corn

Trial ID: C14-15
 Conducted: Barry Co.

Study Dir.: Sprague, Kohrt, Powell
 Investigator: Christy Sprague

								AMAPA		AMAPA	
								ZEAMX	control	ZEAMX	control
								injury	percent	injury	percent
								percent	percent	percent	percent
								Jun/08/2015	Jun/08/2015	Jun/17/2015	Jun/17/2015
								21 DA-A	21 DA-A	30 DA-A	30 DA-A
								0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl					
No.	Name	Conc	Type	Unit	Stg	Code					
1	Zidua	85	WG	3 oz/a	PRE	A	0	98	0	98	
1	Sharpen	2.85	L	2 fl oz/a	PRE	A					
1	BAS 67703H	4.75	L	16 fl oz/a	POST	B					
1	Atrazine	90	WG	0.56 lb/a	POST	B					
1	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B					
1	Surfactant		L	0.25 % v/v	POST	B					
1	AMS		WG	17 lb/100 gal	POST	B					
2	Verdict	5.57	L	14 fl oz/a	PRE	A	0	99	0	95	
2	BAS 67703H	4.75	L	16 fl oz/a	POST	B					
2	Atrazine	90	WG	0.56 lb/a	POST	B					
2	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B					
2	Surfactant		L	0.25 % v/v	POST	B					
2	AMS		WG	17 lb/100 gal	POST	B					
3	Verdict	5.57	L	18 fl oz/a	PRE	A	0	99	0	98	
3	Status	56	WG	5 oz/a	POST	B					
3	Zidua	85	WG	3 oz/a	POST	B					
3	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B					
3	Surfactant		L	0.25 % v/v	POST	B					
3	AMS		WG	17 lb/100 gal	POST	B					
4	Verdict	5.57	L	18 fl oz/a	PRE	A	0	99	0	96	
4	Status	56	WG	5 oz/a	POST	B					
4	Prowl H2O	3.8	L	2 pt/a	POST	B					
4	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B					
4	Surfactant		L	0.25 % v/v	POST	B					
4	AMS		WG	17 lb/100 gal	POST	B					
5	Untreated						0	0	0	0	
6	Zidua	85	WG	3 oz/a	PRE	A	0	99	0	99	
6	Sharpen	2.85	L	2 fl oz/a	PRE	A					
6	Status	56	WG	5 oz/a	POST	B					
6	Atrazine	90	WG	1.1 lb/a	POST	B					
6	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B					
6	Surfactant		L	0.25 % v/v	POST	B					
6	AMS		WG	17 lb/100 gal	POST	B					
7	Lumax EZ	3.67	L	1.5 qt/a	PRE	A	0	99	0	95	
7	Halex GT	4.38	L	3.6 pt/a	POST	B					
7	Surfactant		L	0.25 % v/v	POST	B					
7	AMS		WG	17 lb/100 gal	POST	B					
8	Corvus	2.63	L	4.5 fl oz/a	PRE	A	0	99	0	90	
8	Atrazine	90	WG	1.1 lb/a	PRE	A					
8	Laudis	3.5	L	3 fl oz/a	POST	B					
8	Atrazine	90	WG	0.56 lb/a	POST	B					
8	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B					
8	Surfactant		L	0.25 % v/v	POST	B					
8	AMS		WG	17 lb/100 gal	POST	B					
LSD (P=.05)								0.0	1.0	0.0	3.1
CV								0.0	0.82	0.0	2.51

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

MSU Weed Science Research Program

Palmer amaranth control with overlapping residuals in corn

Trial ID: C14-15
 Conducted: Barry Co.

Study Dir.: Sprague, Kohrt, Powell
 Investigator: Christy Sprague

Weed Code								AMAPA		AMAPA		ZEAMX	
Crop Code								ZEAMX	control	ZEAMX	control	ZEAMX	
Rating Data Type								injury	percent	injury	percent	injury	
Rating Unit								percent	percent	percent	percent	percent	
Rating Date								Jun/24/2015	Jun/24/2015	Jun/29/2015	Jun/29/2015	Jul/07/2015	
Trt-Eval Interval								37 DA-A	37 DA-A	7 DA-B	7 DA-B	15 DA-B	
# Subsamples, Dec.								0	0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Zidua	85	WG	3	oz/a	PRE	A	0	96	0	98	0	
1	Sharpen	2.85	L	2	fl oz/a	PRE	A						
1	BAS 67703H	4.75	L	16	fl oz/a	POST	B						
1	Atrazine	90	WG	0.56	lb/a	POST	B						
1	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
1	Surfactant		L	0.25	% v/v	POST	B						
1	AMS		WG	17	lb/100 gal	POST	B						
2	Verdict	5.57	L	14	fl oz/a	PRE	A	0	92	0	97	0	
2	BAS 67703H	4.75	L	16	fl oz/a	POST	B						
2	Atrazine	90	WG	0.56	lb/a	POST	B						
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
2	Surfactant		L	0.25	% v/v	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Verdict	5.57	L	18	fl oz/a	PRE	A	0	98	0	98	0	
3	Status	56	WG	5	oz/a	POST	B						
3	Zidua	85	WG	3	oz/a	POST	B						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
3	Surfactant		L	0.25	% v/v	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	Verdict	5.57	L	18	fl oz/a	PRE	A	0	96	0	97	0	
4	Status	56	WG	5	oz/a	POST	B						
4	Prowl H2O	3.8	L	2	pt/a	POST	B						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
4	Surfactant		L	0.25	% v/v	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	Untreated							0	0	0	0	0	
6	Zidua	85	WG	3	oz/a	PRE	A	0	99	0	99	0	
6	Sharpen	2.85	L	2	fl oz/a	PRE	A						
6	Status	56	WG	5	oz/a	POST	B						
6	Atrazine	90	WG	1.1	lb/a	POST	B						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	Surfactant		L	0.25	% v/v	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Lumax EZ	3.67	L	1.5	qt/a	PRE	A	0	91	0	95	0	
7	Halex GT	4.38	L	3.6	pt/a	POST	B						
7	Surfactant		L	0.25	% v/v	POST	B						
7	AMS		WG	17	lb/100 gal	POST	B						
8	Corvus	2.63	L	4.5	fl oz/a	PRE	A	0	88	0	96	0	
8	Atrazine	90	WG	1.1	lb/a	PRE	A						
8	Laudis	3.5	L	3	fl oz/a	POST	B						
8	Atrazine	90	WG	0.56	lb/a	POST	B						
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
8	Surfactant		L	0.25	% v/v	POST	B						
8	AMS		WG	17	lb/100 gal	POST	B						
LSD (P=.05)								0.0	3.9	0.0	2.9	0.0	
CV								0.0	3.25	0.0	2.29	0.0	

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

MSU Weed Science Research Program

Palmer amaranth control with overlapping residuals in corn

Trial ID: C14-15
 Conducted: Barry Co.

Study Dir.: Sprague, Kohrt, Powell
 Investigator: Christy Sprague

								AMAPA		AMAPA		AMAPA	
								control	ZEAMX	control	ZEAMX	control	
								percent	injury	percent	injury	percent	
								Jul/07/2015	Jul/16/2015	Jul/16/2015	Jul/30/2015	Jul/30/2015	
								15 DA-B	24 DA-B	24 DA-B	38 DA-B	38 DA-B	
								0	0	0	0	0	
Trt	Treatment	Form	Form	Rate	Grow	Appl							
No.	Name	Conc	Type	Unit	Stg	Code							
1	Zidua	85	WG	3 oz/a	PRE	A	99	0	99	0	98		
1	Sharpen	2.85	L	2 fl oz/a	PRE	A							
1	BAS 67703H	4.75	L	16 fl oz/a	POST	B							
1	Atrazine	90	WG	0.56 lb/a	POST	B							
1	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B							
1	Surfactant		L	0.25 % v/v	POST	B							
1	AMS		WG	17 lb/100 gal	POST	B							
2	Verdict	5.57	L	14 fl oz/a	PRE	A	96	0	94	0	90		
2	BAS 67703H	4.75	L	16 fl oz/a	POST	B							
2	Atrazine	90	WG	0.56 lb/a	POST	B							
2	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B							
2	Surfactant		L	0.25 % v/v	POST	B							
2	AMS		WG	17 lb/100 gal	POST	B							
3	Verdict	5.57	L	18 fl oz/a	PRE	A	98	0	98	0	99		
3	Status	56	WG	5 oz/a	POST	B							
3	Zidua	85	WG	3 oz/a	POST	B							
3	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B							
3	Surfactant		L	0.25 % v/v	POST	B							
3	AMS		WG	17 lb/100 gal	POST	B							
4	Verdict	5.57	L	18 fl oz/a	PRE	A	96	0	99	0	94		
4	Status	56	WG	5 oz/a	POST	B							
4	Prowl H2O	3.8	L	2 pt/a	POST	B							
4	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B							
4	Surfactant		L	0.25 % v/v	POST	B							
4	AMS		WG	17 lb/100 gal	POST	B							
5	Untreated						0	0	0	0	0		
6	Zidua	85	WG	3 oz/a	PRE	A	99	0	98	0	95		
6	Sharpen	2.85	L	2 fl oz/a	PRE	A							
6	Status	56	WG	5 oz/a	POST	B							
6	Atrazine	90	WG	1.1 lb/a	POST	B							
6	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B							
6	Surfactant		L	0.25 % v/v	POST	B							
6	AMS		WG	17 lb/100 gal	POST	B							
7	Lumax EZ	3.67	L	1.5 qt/a	PRE	A	97	0	95	0	89		
7	Halex GT	4.38	L	3.6 pt/a	POST	B							
7	Surfactant		L	0.25 % v/v	POST	B							
7	AMS		WG	17 lb/100 gal	POST	B							
8	Corvus	2.63	L	4.5 fl oz/a	PRE	A	98	0	95	0	95		
8	Atrazine	90	WG	1.1 lb/a	PRE	A							
8	Laudis	3.5	L	3 fl oz/a	POST	B							
8	Atrazine	90	WG	0.56 lb/a	POST	B							
8	Roundup PowerMax	4.5	SL	22 fl oz/a	POST	B							
8	Surfactant		L	0.25 % v/v	POST	B							
8	AMS		WG	17 lb/100 gal	POST	B							
LSD (P=.05)								4.8	0.0	4.6	0.0	7.4	
CV								3.82	0.0	3.71	0.0	6.12	

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