

Palmer amaranth control with current regulations for RR2 Xtend soybean II

Trial ID: SOY25-16 Study Dir.: Sprague, Powell, Stiles
 Conducted: Middleton Investigator: Christy Sprague

Planting Date: May-24-2016 **Row Spacing:** 30 IN
Variety: AG29X6 **No. of Reps:** 4
Population: 15000 seeds/A **% OM:** 2.5
Soil Type: LS loamy sand **pH:** 7.0
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops:
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	CHEAL	lambsquarters, common	Chenopodium album
2	AMAPA	amaranth, Palmer	Amaranthus palmeri
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

	A	B	C
Application Timing:	PRE	POST	LPOST
Date Treated:	May-24-2016	Jun-10-2016	Jun-22-2016
Time Treated:	4:00 PM	10:45 AM	10:30 AM
% Cloud Cover:	10	80	30
Air Temp., Unit:	87 F	76 F	78 F
% Relative Humidity:	28	45	45
Wind Speed/Unit/Dir:	3 mph SW	2.5 mph S	2 mph NE
Soil Temp, Unit:	74 F	65 F	78 F
Leaf Moist/Dew Presence (Y/N):	5	5	5
Soil Moist:	4	4	4

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	GLXMA	GLXMA	GLXMA
Height:	3 "	6-7 " (7)	
Stage:	V1	V3	

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	CHEAL	CHEAL	CHEAL
Height:	1 "	2 "	
Stage:	4-9L	10L	
Weed 2 Name:	AMAPA	AMAPA	AMAPA
Height:	1 "	1-2 " (1)	
Stage:	6L	many	

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	BACKPK	3.8 MPH	AIXR	11003	20 IN	20 IN	100 IN	19 GAL/AC	WATER	30 PSI
B	BACKPK	3.8 MPH	TTI	11003	20 IN	20 IN	100 IN	19 GAL/AC	WATER	25 PSI
C	BACKPK	3.8 MPH	TTI	11003	20 IN	20 IN	100 IN	19 GAL/AC	WATER	25 PSI

Comments: The Palmer amaranth population at this location was glyphosate-resistant.

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Study Director: Sprague, Powell, Stiles

Pest Code	AMAPA	CHEAL	AMAPA	CHEAL
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
Rating Date	Jun-10-2016	Jun-10-2016	Jun-17-2016	Jun-17-2016
Rating Type	injury	control	injury	control
Rating Unit	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	0 DA-B	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	GLXMA Jun-10-2016 injury percent	AMAPA Jun-10-2016 control percent	CHEAL Jun-10-2016 control percent	GLXMA Jun-17-2016 injury percent	AMAPA Jun-17-2016 control percent	CHEAL Jun-17-2016 control percent
1	Untreated				0	0	0	0	0	0
2	NON-BUFFER				0	97	96	0	99	99
	2 Rowel FX	3.5 oz/a		A						
	2 Clarity	1 pt/a		B						
	2 Roundup PowerMax	32 fl oz/a		C						
	2 Warrant	3 pt/a		C						
	2 AMS	17 lb/100 gal		C						
3	NON-BUFFER				0	87	90	0	80	96
	3 Rowel FX	3.5 oz/a		A						
	3 Roundup PowerMax	32 fl oz/a		B						
	3 Warrant	3 pt/a		B						
	3 AMS	17 lb/100 gal		B						
	3 Clarity	1 pt/a		C						
4	NON-BUFFER				0	98	94	0	98	98
	4 Fierce XLT	4 oz/a		A						
	4 Clarity	1 pt/a		B						
	4 Roundup PowerMax	32 fl oz/a		C						
	4 Warrant	3 pt/a		C						
	4 AMS	17 lb/100 gal		C						
5	NON-BUFFER				0	97	90	0	97	100
	5 Fierce XLT	4 oz/a		A						
	5 Roundup PowerMax	32 fl oz/a		B						
	5 Warrant	3 pt/a		B						
	5 AMS	17 lb/100 gal		B						
	5 Clarity	1 pt/a		C						
6	BUFFER				0	85	84	18	99	100
	6 Rowel FX	3.5 oz/a		A						
	6 Roundup PowerMax	32 fl oz/a		B						
	6 Warrant Ultra	3 pt/a		B						
	6 AMS	17 lb/100 gal		B						
7	BUFFER				0	99	95	25	100	100
	7 Fierce XLT	4 oz/a		A						
	7 Roundup PowerMax	32 fl oz/a		B						
	7 Warrant Ultra	3 pt/a		B						
	7 AMS	17 lb/100 gal		B						
8	BUFFER				0	0	0	13	85	98
	8 Roundup PowerMax	32 fl oz/a		B						
	8 Warrant Ultra	3 pt/a		B						
	8 AMS	17 lb/100 gal		B						

Could not calculate LSD (% mean diff) for columns 1,13,16 because error mean square = 0.

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Pest Code		AMAPA	CHEAL		AMAPA	CHEAL
Crop Code	GLXMA			GLXMA		
Rating Date	Jun-10-2016	Jun-10-2016	Jun-10-2016	Jun-17-2016	Jun-17-2016	Jun-17-2016
Rating Type	injury	control	control	injury	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	7 DA-B	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code					
9	NON-BUFFER			0	95	100	14	100
9	Clarity	1 qt/a	A					
9	Roundup PowerMax	32 fl oz/a	B					
9	Warrant Ultra	3 pt/a	B					
9	AMS	17 lb/100 gal	B					
10	NON-BUFFER			0	0	0	0	93
10	Clarity	1 qt/a	B					
10	Roundup PowerMax	32 fl oz/a	C					
10	Warrant	3 pt/a	C					
10	AMS	17 lb/100 gal	C					
LSD	P=.05			.	8.9	11.0	4.0	7.9
Standard Deviation				0.0	6.1	7.6	2.7	5.4
CV				0.0	9.32	11.66	39.77	6.41

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Pest Code	AMAPA	CHEAL	AMAPA	CHEAL
Crop Code	GLXMA		GLXMA	
Rating Date	Jun-22-2016	Jun-22-2016	Jun-29-2016	Jun-29-2016
Rating Type	injury	control	Injury	control
Rating Unit	percent	percent	percent	percent
Trt-Eval Interval	0 DA-C	0 DA-C	7 DA-C	7 DA-C
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code					
1	Untreated				0	0	0	0	0
2	NON-BUFFER				0	96	98	2	100
	2 Rowel FX	3.5 oz/a		A					
	2 Clarity	1 pt/a		B					
	2 Roundup PowerMax	32 fl oz/a		C					
	2 Warrant	3 pt/a		C					
	2 AMS	17 lb/100 gal		C					
3	NON-BUFFER				0	78	100	4	100
	3 Rowel FX	3.5 oz/a		A					
	3 Roundup PowerMax	32 fl oz/a		B					
	3 Warrant	3 pt/a		B					
	3 AMS	17 lb/100 gal		B					
	3 Clarity	1 pt/a		C					
4	NON-BUFFER				0	98	96	2	100
	4 Fierce XLT	4 oz/a		A					
	4 Clarity	1 pt/a		B					
	4 Roundup PowerMax	32 fl oz/a		C					
	4 Warrant	3 pt/a		C					
	4 AMS	17 lb/100 gal		C					
5	NON-BUFFER				0	97	100	5	100
	5 Fierce XLT	4 oz/a		A					
	5 Roundup PowerMax	32 fl oz/a		B					
	5 Warrant	3 pt/a		B					
	5 AMS	17 lb/100 gal		B					
	5 Clarity	1 pt/a		C					
6	BUFFER				6	99	100	5	99
	6 Rowel FX	3.5 oz/a		A					
	6 Roundup PowerMax	32 fl oz/a		B					
	6 Warrant Ultra	3 pt/a		B					
	6 AMS	17 lb/100 gal		B					
7	BUFFER				11	100	100	6	100
	7 Fierce XLT	4 oz/a		A					
	7 Roundup PowerMax	32 fl oz/a		B					
	7 Warrant Ultra	3 pt/a		B					
	7 AMS	17 lb/100 gal		B					
8	BUFFER				4	64	95	4	93
	8 Roundup PowerMax	32 fl oz/a		B					
	8 Warrant Ultra	3 pt/a		B					
	8 AMS	17 lb/100 gal		B					

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Crop Code	GLXMA			GLXMA		
Rating Date	Jun-22-2016	Jun-22-2016	Jun-22-2016	Jun-29-2016	Jun-29-2016	Jun-29-2016
Rating Type	injury	control	control	Injury	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-C	0 DA-C	0 DA-C	7 DA-C	7 DA-C	19 DA-B
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code						
9	NON-BUFFER			6	100	100	2	100	100
9	Clarity	1 qt/a	A						
9	Roundup PowerMax	32 fl oz/a	B						
9	Warrant Ultra	3 pt/a	B						
9	AMS	17 lb/100 gal	B						
10	NON-BUFFER			0	100	99	1	100	100
10	Clarity	1 qt/a	B						
10	Roundup PowerMax	32 fl oz/a	C						
10	Warrant	3 pt/a	C						
10	AMS	17 lb/100 gal	C						
	LSD P=.05			2.3	10.7	3.7	2.1	4.4	2.3
	Standard Deviation			1.6	7.4	2.6	1.4	3.1	1.6
	CV			58.48	8.86	2.87	47.43	3.43	1.76

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Pest Code	AMAPA	CHEAL	AMAPA	CHEAL
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
Rating Date	Jul-6-2016	Jul-6-2016	Jul-6-2016	Aug-1-2016
Rating Type	injury	control	control	injury
Rating Unit	percent	percent	percent	percent
Trt-Eval Interval	14 DA-C	14 DA-C	14 DA-C	40 DA-C
Number of Decimals		0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code				
1	Untreated				0.0	0	0	0
2	NON-BUFFER				0.0	99	100	0
	2 Rowel FX	3.5 oz/a		A				
	2 Clarity	1 pt/a		B				
	2 Roundup PowerMax	32 fl oz/a		C				
	2 Warrant	3 pt/a		C				
	2 AMS	17 lb/100 gal		C				
3	NON-BUFFER				0.0	89	100	0
	3 Rowel FX	3.5 oz/a		A				
	3 Roundup PowerMax	32 fl oz/a		B				
	3 Warrant	3 pt/a		B				
	3 AMS	17 lb/100 gal		B				
	3 Clarity	1 pt/a		C				
4	NON-BUFFER				0.0	97	100	0
	4 Fierce XLT	4 oz/a		A				
	4 Clarity	1 pt/a		B				
	4 Roundup PowerMax	32 fl oz/a		C				
	4 Warrant	3 pt/a		C				
	4 AMS	17 lb/100 gal		C				
5	NON-BUFFER				0.0	98	100	0
	5 Fierce XLT	4 oz/a		A				
	5 Roundup PowerMax	32 fl oz/a		B				
	5 Warrant	3 pt/a		B				
	5 AMS	17 lb/100 gal		B				
	5 Clarity	1 pt/a		C				
6	BUFFER				0.0	91	98	0
	6 Rowel FX	3.5 oz/a		A				
	6 Roundup PowerMax	32 fl oz/a		B				
	6 Warrant Ultra	3 pt/a		B				
	6 AMS	17 lb/100 gal		B				
7	BUFFER				0.0	86	98	0
	7 Fierce XLT	4 oz/a		A				
	7 Roundup PowerMax	32 fl oz/a		B				
	7 Warrant Ultra	3 pt/a		B				
	7 AMS	17 lb/100 gal		B				
8	BUFFER				0.0	65	91	0
	8 Roundup PowerMax	32 fl oz/a		B				
	8 Warrant Ultra	3 pt/a		B				
	8 AMS	17 lb/100 gal		B				

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Pest Code		AMAPA	CHEAL		AMAPA	CHEAL
Crop Code	GLXMA			GLXMA		
Rating Date	Jul-6-2016	Jul-6-2016	Jul-6-2016	Aug-1-2016	Aug-1-2016	Aug-1-2016
Rating Type	injury	control	control	injury	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-C	14 DA-C	14 DA-C	40 DA-C	40 DA-C	40 DA-C
Number of Decimals		0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code					
9	NON-BUFFER	0.0			98	100	0	100	100
9	Clarity	1 qt/a		A					
9	Roundup PowerMax	32 fl oz/a		B					
9	Warrant Ultra	3 pt/a		B					
9	AMS	17 lb/100 gal		B					
10	NON-BUFFER	0.0			99	100	0	100	100
10	Clarity	1 qt/a		B					
10	Roundup PowerMax	32 fl oz/a		C					
10	Warrant	3 pt/a		C					
10	AMS	17 lb/100 gal		C					
	LSD P=.05	.			13.0	4.5	.	10.7	5.7
	Standard Deviation	0.00			8.9	3.1	0.0	7.4	4.0
	CV	0.0			10.89	3.48	0.0	9.23	4.46