

## Palmer amaranth control and crop tolerance in Balance GT soybean - "Stewarded"

Trial ID: SOY22-16 Study Dir.: Sprague, Powell, Stiles  
 Conducted: Middleton Investigator: Christy Sprague

**Planting Date:** Jun-7-2016 **Row Spacing:** 30 IN  
**Variety:** See comments **No. of Reps:** 4  
**Population:** 150000 seeds/A **% OM:** 2.5  
**Soil Type:** LS loamy sand **pH:** 7.0  
**Plot Size:** 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

**Tillage/Previous Crops:** Spring disked  
**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
<b>Application Timing:</b>	PRE	POST
<b>Date Treated:</b>	Jun-7-2016	Jun-22-2016
<b>Time Treated:</b>	3:00 PM	11:00 AM
<b>% Cloud Cover:</b>	90	40
<b>Air Temp., Unit:</b>	61 F	78 F
<b>% Relative Humidity:</b>	60	45
<b>Wind Speed/Unit/Dir:</b>	8 mph NW	3 mph NE
<b>Soil Temp, Unit:</b>	63 F	78 F
<b>Leaf Moist/Dew Presence (Y/N):</b>	5	5
<b>Soil Moist:</b>	4	4

## Crop Stage at Each Application

	A	B
<b>Crop 1 Name:</b>	GLXMA	GLXMA
<b>Height:</b>		3 "
<b>Stage:</b>		Unifol

## Weed Stage at Each Application

	A	B
<b>Weed 1 Name:</b>	CHEAL	CHEAL
<b>Height:</b>	.5-1 " (1)	2-3 " (2)
<b>Stage:</b>	2-4L	many
<b>Weed 2 Name:</b>	AMAPA	AMAPA
<b>Height:</b>	.5-1 " (1)	2-4 " (3)
<b>Stage:</b>	2-4L	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	AIXR	11003	22 IN	20 IN	100 IN	19 GAL/AC	WATER	30 PSI

**Comments:** The Palmer amaranth population at this location was glyphosate-resistant. The outer two rows were planted to Roundup Ready soybean, the center two rows were Balance GT soybean.

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**Location: Middleton**

**Investigator: Christy Sprague**

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Pest Code	CHEAL		AMAPA		CHEAL		AMAPA	
Crop Code	GLXMA		GLXMA		GLXMA		GLXMA	
Rating Date	Jun-22-2016	Jun-22-2016	Jun-22-2016	Jun-29-2016	Jun-29-2016	Jun-29-2016	Jul-6-2016	
Rating Type	injury	control	control	injury	control	control	injury	
Rating Unit	percent	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	14 DA-B	
Number of Decimals	0	0	0	0	0	0	0	

Trt No.	Treatment Name	Rate Unit	Appl Code	0	84	83	2	100	96	0
1	Balance Bean	2 fl oz/a	A	0	84	83	2	100	96	0
1	Metribuzin	5.33 oz/a	A							
1	Liberty	29 fl oz/a	B							
1	AMS	8.5 lb/100 gal	B							
2	Balance Bean	3 fl oz/a	A	0	89	66	1	100	94	0
2	Metribuzin	5.33 oz/a	A							
2	Liberty	29 fl oz/a	B							
2	AMS	8.5 lb/100 gal	B							
3	Balance Bean	2 fl oz/a	A	3	43	90	3	91	100	0
3	Dual II Magnum	1 pt/a	A							
3	Liberty	29 fl oz/a	B							
3	AMS	8.5 lb/100 gal	B							
4	Balance Bean	3 fl oz/a	A	0	89	88	3	100	100	0
4	Zidua SC	2.46 fl oz/a	A							
4	Liberty	29 fl oz/a	B							
4	AMS	8.5 lb/100 gal	B							
5	Balance Bean	3 fl oz/a	A	0	90	71	4	98	100	0
5	Authority XL	4 oz/a	A							
5	Liberty	29 fl oz/a	B							
5	AMS	8.5 lb/100 gal	B							
6	Untreated			0	0	0	0	0	0	0
7	Balance Bean	2 fl oz/a	A	3	58	70	4	95	96	0
7	Prefix	2 pt/a	A							
7	Liberty	29 fl oz/a	B							
7	AMS	8.5 lb/100 gal	B							
8	Fierce	3 oz/a	A	5	62	89	6	96	93	0
8	Liberty	29 fl oz/a	B							
8	AMS	8.5 lb/100 gal	B							
LSD P=.05				2.2	12.4	18.3	2.6	7.7	8.0	.
Standard Deviation				1.5	8.4	12.4	1.8	5.2	5.4	0.0
CV				118.32	13.14	17.84	63.85	6.17	6.41	0.0

Missing data estimates are included in columns: Average=1,2,3  
 Could not calculate LSD (% mean diff) for columns 7,10 because error mean square = 0.

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Location: Middleton

Investigator: Christy Sprague

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

Trt No.	Treatment Name	Rate Unit	Appl Code					
1	Balance Bean	2 fl oz/a	A	99	95	0	98	70
1	Metribuzin	5.33 oz/a	A					
1	Liberty	29 fl oz/a	B					
1	AMS	8.5 lb/100 gal	B					
2	Balance Bean	3 fl oz/a	A	98	96	0	98	79
2	Metribuzin	5.33 oz/a	A					
2	Liberty	29 fl oz/a	B					
2	AMS	8.5 lb/100 gal	B					
3	Balance Bean	2 fl oz/a	A	90	95	0	85	88
3	Dual II Magnum	1 pt/a	A					
3	Liberty	29 fl oz/a	B					
3	AMS	8.5 lb/100 gal	B					
4	Balance Bean	3 fl oz/a	A	100	100	0	98	98
4	Zidua SC	2.46 fl oz/a	A					
4	Liberty	29 fl oz/a	B					
4	AMS	8.5 lb/100 gal	B					
5	Balance Bean	3 fl oz/a	A	100	96	0	98	91
5	Authority XL	4 oz/a	A					
5	Liberty	29 fl oz/a	B					
5	AMS	8.5 lb/100 gal	B					
6	Untreated			0	0	0	0	0
7	Balance Bean	2 fl oz/a	A	93	95	0	91	76
7	Prefix	2 pt/a	A					
7	Liberty	29 fl oz/a	B					
7	AMS	8.5 lb/100 gal	B					
8	Fierce	3 oz/a	A	93	96	0	89	88
8	Liberty	29 fl oz/a	B					
8	AMS	8.5 lb/100 gal	B					
LSD P=.05				8.2	6.8	.	11.7	17.6
Standard Deviation				5.6	4.6	0.0	8.0	12.0
CV				6.66	5.51	0.0	9.74	16.26