

MSU Weed Science Research Program

Glyphosate-resistant Palmer amaranth control with Balance Bean

Trial ID: SOY24-14 Study Dir.: Sprague and Powell
 Conducted: Gratiot County Investigator: Christy Sprague

Date Planted: Jun/26/2014 Row Spacing: 30 IN
 Variety: Bayer Balance Bean No. of Reps: 4
 Population: 135,000 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. Area was burndown with Liberty prior to soybean planting.
 Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	AMAPA	AMARANTH, PALMER	AMARANTHUS PALMERI S.WATS.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	Jun/27/2014	Jul/29/2014
Time Treated:	10:30 AM	11:00 AM
% Cloud Cover:	50	50
Air Temp., Unit:	78 F	73 F
% Relative Humidity:	60	68
Wind Speed/Unit/Dir:	3 mph SE	3 mph E
Soil Temp., Unit:	72 F	67 F
Soil/Leaf Surface M:	4 5	4 4
Soil Moist (1=w 5=d):	5	4

Crop Stage at Each Application

	A	B
Crop Name:	GLXMA	GLXMA
Height (In.):	-	6"
Stage (L):	-	V2-V3

Weed Stage at Each Application

	A	B
Weed 1 Name:	AMAPA	AMAPA
Height (In.):	-	2"
Stage (L):	-	6

Weed Density (plants/sq. ft.)

1
 Date: Jul/29/2014
 Weed Name: AMAPA
 Density: 7

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Backpack	3.5	AIXR	11003	21"	20"	100"	19	Water	30
B	Backpack	3.5	AIXR	11003	24"	20"	100"	19	Water	30

Comments: Center two rows seeded with Bayer Balance Bean variety FG72XLL55-IFT
 Outside two rows seeded with MCIA 2563N LibertyLink soybean.
 The Balance Bean was a 3-way stack with LL/RR/BB.
 The soybean crop was destroyed prior to flowering.

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Weed Code								AMAPA		AMAPA		GLXMA
Crop Code								control		control		injury
Rating Data Type								percent		percent		percent
Rating Unit												
Rating Date								Jul/21/2014		Jul/29/2014		Aug/04/2014
Trt-Eval Interval								24 DA-A		32 DA-A		6 DA-B
# Subsamples, Dec.								0		0		0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Balance Bean	4	L	3	fl oz/a	PRE	A	9	96	33	85	18
1	Liberty	2.34	L	29	fl oz/a	POST	B					
1	AMS		WG	8.5	lb/100 gal	POST	B					
2	Balance Bean	4	L	2	fl oz/a	PRE	A	9	97	34	83	14
2	Metribuzin	75	WG	5.33	oz/a	PRE	A					
2	Liberty	2.34	L	29	fl oz/a	POST	B					
2	AMS		WG	8.5	lb/100 gal	POST	B					
3	Balance Bean	4	L	3	fl oz/a	PRE	A	11	99	34	97	18
3	Metribuzin	75	WG	8	oz/a	PRE	A					
3	Liberty	2.34	L	29	fl oz/a	POST	B					
3	AMS		WG	8.5	lb/100 gal	POST	B					
4	Untreated							0	0	0	0	0
5	Balance Bean	4	L	3	fl oz/a	PRE	A	7	94	20	92	9
5	Zidua	85	WG	2	oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	B					
5	AMS		WG	8.5	lb/100 gal	POST	B					
6	Balance Bean	4	L	3	fl oz/a	PRE	A	9	99	35	98	18
6	Valor	51	WG	2	oz/a	PRE	A					
6	Liberty	2.34	L	29	fl oz/a	POST	B					
6	AMS		WG	8.5	lb/100 gal	POST	B					
7	Valor	51	WG	2	oz/a	PRE	A	8	98	9	96	1
7	Liberty	2.34	L	29	fl oz/a	POST	B					
7	AMS		WG	8.5	lb/100 gal	POST	B					
8	Fierce	76	WG	3	oz/a	PRE	A	8	99	5	98	2
8	Liberty	2.34	L	29	fl oz/a	POST	B					
8	AMS		WG	8.5	lb/100 gal	POST	B					
9	Valor	51	WG	2	oz/a	PRE	A	1	99	3	94	0
9	Metribuzin	75	WG	5.33	oz/a	PRE	A					
9	Liberty	2.34	L	29	fl oz/a	POST	B					
9	AMS		WG	8.5	lb/100 gal	POST	B					
10	Callisto	4	L	6	fl oz/a	PRE	A	3	97	5	70	3
10	Liberty	2.34	L	29	fl oz/a	POST	B					
10	AMS		WG	8.5	lb/100 gal	POST	B					
11	Callisto	4	L	6	fl oz/a	PRE	A	4	98	6	86	8
11	Metribuzin	75	WG	5.33	oz/a	PRE	A					
11	Liberty	2.34	L	29	fl oz/a	POST	B					
11	AMS		WG	8.5	lb/100 gal	POST	B					
12	Balance Bean	4	L	2	fl oz/a	PRE	A	11	98	29	85	29
12	Metribuzin	75	WG	5.33	oz/a	PRE	A					
12	Flexstar GT	2.82	L	3.5	pt/a	POST	B					
12	Crop oil concentrate		L	1	% v/v	POST	B					
12	AMS		WG	17	lb/100 gal	POST	B					
LSD (P=.05)								6.1	5.1	9.0	15.3	5.0
CV								64.37	3.95	35.34	12.95	35.15

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

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Trial ID: SOY24-14 Study Dir.: Sprague and Powell
Conducted: Gratiot County Investigator: Christy SpragueWeed Code AMAPA
Crop Code
Rating Data Type control
Rating Unit percent
Rating Date Aug/04/2014
Trt-Eval Interval 6 DA-B
Subsamples, Dec. 0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
1	Balance Bean	4	L	3	fl oz/a	PRE	A	96
1	Liberty	2.34	L	29	fl oz/a	POST	B	
1	AMS		WG	8.5	lb/100 gal	POST	B	
2	Balance Bean	4	L	2	fl oz/a	PRE	A	96
2	Metribuzin	75	WG	5.33	oz/a	PRE	A	
2	Liberty	2.34	L	29	fl oz/a	POST	B	
2	AMS		WG	8.5	lb/100 gal	POST	B	
3	Balance Bean	4	L	3	fl oz/a	PRE	A	99
3	Metribuzin	75	WG	8	oz/a	PRE	A	
3	Liberty	2.34	L	29	fl oz/a	POST	B	
3	AMS		WG	8.5	lb/100 gal	POST	B	
4	Untreated							0
5	Balance Bean	4	L	3	fl oz/a	PRE	A	98
5	Zidua	85	WG	2	oz/a	PRE	A	
5	Liberty	2.34	L	29	fl oz/a	POST	B	
5	AMS		WG	8.5	lb/100 gal	POST	B	
6	Balance Bean	4	L	3	fl oz/a	PRE	A	99
6	Valor	51	WG	2	oz/a	PRE	A	
6	Liberty	2.34	L	29	fl oz/a	POST	B	
6	AMS		WG	8.5	lb/100 gal	POST	B	
7	Valor	51	WG	2	oz/a	PRE	A	99
7	Liberty	2.34	L	29	fl oz/a	POST	B	
7	AMS		WG	8.5	lb/100 gal	POST	B	
8	Fierce	76	WG	3	oz/a	PRE	A	99
8	Liberty	2.34	L	29	fl oz/a	POST	B	
8	AMS		WG	8.5	lb/100 gal	POST	B	
9	Valor	51	WG	2	oz/a	PRE	A	99
9	Metribuzin	75	WG	5.33	oz/a	PRE	A	
9	Liberty	2.34	L	29	fl oz/a	POST	B	
9	AMS		WG	8.5	lb/100 gal	POST	B	
10	Callisto	4	L	6	fl oz/a	PRE	A	99
10	Liberty	2.34	L	29	fl oz/a	POST	B	
10	AMS		WG	8.5	lb/100 gal	POST	B	
11	Callisto	4	L	6	fl oz/a	PRE	A	96
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	
11	Liberty	2.34	L	29	fl oz/a	POST	B	
11	AMS		WG	8.5	lb/100 gal	POST	B	
12	Balance Bean	4	L	2	fl oz/a	PRE	A	99
12	Metribuzin	75	WG	5.33	oz/a	PRE	A	
12	Flexstar GT	2.82	L	3.5	pt/a	POST	B	
12	Crop oil concentrate		L	1	% v/v	POST	B	
12	AMS		WG	17	lb/100 gal	POST	B	
LSD (P=.05)								4.1
CV								3.13

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