

MSU Weed Science Research Program

Weed control recommendations in Roundup Ready soybean

Trial ID: SOY04-11 Study Dir.: Sprague, Powell
 Conducted: C-12W Crops Investigator: Christy Sprague

Date Planted: 5/10/2011 Row Spacing: 30 IN
 Variety: Pioneer 92M61 No. of Reps: 4
 Population: 155,000 % OM: 3.4
 Soil Type: Silt Loam pH: 7.7
 Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fallow 2010 - Installed Tile Drainage, Spring soil finish
 Fertilizer: None at planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	ANNUAL GRASS	mainly foxtail species
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D
Application Timing:	PRE	MPOS	POST	LPOS
Date Treated:	5/10/2011	6/9/2011	6/21/2011	7/5/2011
Time Treated:	6:50 PM	1:15 PM	11:00 AM	10:00 AM
% Cloud Cover:	100	100	100	10
Air Temp., Unit:	67 F	72 F	76 F	81 F
% Relative Humidity:	47	67	78	50
Wind Speed/Unit/Dir:	3 mph SE	8 mph W	6 mph SE	4 mph SW
Soil Temp., Unit:	65 F	74 F	68 F	74 F
Soil/Leaf Surface M:	5 -	5 5	5 5	5 5
Soil Moist (1=w 5=d):	3	4	4	4

Crop Stage at Each Application

	A	B	C	D
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	4	6-8	12-15
Stage (L):	-	V2	V4	R1

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):	-	3-4"	3-7"	3-6"
Stage (L):	-	5-10	3-6	3-6
Weed 2 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	-	1-2"	4-8"	1-4"
Stage (L):	-	6-8	8-10	6-20
Weed 3 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	-	2-3"	1-4"	1-6"
Stage (L):	-	10-15	many	7-many
Weed 4 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	2"	-	2-5"
Stage (L):	-	3-4	-	4-5

Weed Density (plants/sq. ft.)

Weed Name:	1	2	3	4
ANGR				
CHEAL				
AMBEL				
ABUTH				
Density:	3	<1	8	<1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom				
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI	
A	Cub	3.8	AirMix	11003	19"	20"	100"	19	Water	28	
B	Cub	3.8	AirMix	11003	19"	20"	100"	19	Water	28	
C	Cub	3.8	AirMix	11003	23"	20"	100"	19	Water	28	
D	Cub	3.8	AirMix	11003	26"	20"	100"	19	Water	28	

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Table with 8 columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec., ANGR, CHEAL, AMBEL, ABUTH, GLXMA, ANGR. It lists injury and control percentages for various treatments.

Main data table with 14 columns: Trt No., Treatment Name, Form Conc, Form Type, Rate, Rate Unit, Grow Stg, Appl Code, ANGR, CHEAL, AMBEL, ABUTH, GLXMA, ANGR. It details individual treatment applications and their results.

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Table with columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec., ANGR, CHEAL, AMBEL, ABUTH, GLXMA, ANGR. Rows include treatments like Valor XLT, Roundup PowerMax, AMS, Authority XL, Fierce, and Untreated, with associated injury and control percentages.

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Table with columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec., CHEAL, AMBEL, ABUTH, GLXMA, ANGR, CHEAL. Rows include treatments like Roundup PowerMax, AMS, Warrant, Valor, Gangster, Authority First, and AMS with various application rates and dates.

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Weed Code	CHEAL	AMBEL	ABUTH	GLXMA	ANGR	CHEAL
Crop Code						
Rating Data Type	control	control	control	injury	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Rating Date	6/23/2011	6/23/2011	6/23/2011	7/18/2011	7/18/2011	7/18/2011
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	27 DA-C	27 DA-C	27 DA-C
# Subsamples, Dec.	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
13	Valor XLT	40.3	DG	3	oz/a	PRE	A	99	83	99	6	97	99
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C						
13	AMS		WG	17	lb/100 gal	POST	C						
14	Valor XLT	40.3	DG	3	oz/a	PRE	A	99	86	97	6	98	99
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C						
14	Warrant	3	L	3	pt/a	POST	C						
14	AMS		WG	17	lb/100 gal	POST	C						
15	Authority XL	70	DG	4	oz/a	PRE	A	99	77	99	0	98	99
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C						
15	AMS		WG	17	lb/100 gal	POST	C						
16	Authority XL	70	DG	4	oz/a	PRE	A	99	74	99	1	98	99
16	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C						
16	Warrant	3	L	3	pt/a	POST	C						
16	AMS		WG	17	lb/100 gal	POST	C						
17	Fierce	76	WG	3	oz/a	PRE	A	99	87	97	2	98	99
17	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C						
17	AMS		WG	17	lb/100 gal	POST	C						
18	Fierce	76	WG	3	oz/a	PRE	A	99	90	99	1	99	99
18	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C						
18	Warrant	3	L	3	pt/a	POST	C						
18	AMS		WG	17	lb/100 gal	POST	C						
19	Untreated							0	0	0	0	0	0
LSD (P=.05)								5.0	9.5	7.1	2.8	3.6	2.5
Standard Deviation								3.5	6.7	5.0	2.0	2.5	1.7
CV								3.76	8.46	5.53	123.78	2.79	1.87

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Table with columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec., Trt No., Treatment Name, Form Conc, Form Type, Rate, Rate Unit, Grow Stg, Appl Code, and control percent for AMBEL, ABUTH, ANGR, CHEAL, AMBEL, ABUTH.

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Table with columns: Weed Code, Crop Code, Rating Data Type, Rating Unit, Rating Date, Trt-Eval Interval, # Subsamples, Dec., Trt No., Treatment Name, Form Conc, Form Type, Rate, Rate Unit, Grow Stg, Appl Code, and control percent for AMBEL, ABUTH, ANGR, CHEAL, AMBEL, ABUTH. Includes LSD and CV values at the bottom.

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval
 # Subsamples, Dec.

GLXMA
 moisture
 percent
 10/8/2011
 109 DA-C
 1

GLXMA
 yield
 bu/acre
 10/8/2011
 at 13% M
 1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	Roundup PowerMax	4.5	SL	22	fl oz/a	MPOS	B	8.7	70.6
1	AMS		WG	17	lb/100 gal	MPOS	B		
2	Roundup PowerMax	4.5	SL	22	fl oz/a	MPOS	B	8.4	73.9
2	AMS		WG	17	lb/100 gal	MPOS	B		
2	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	D		
2	AMS		WG	17	lb/100 gal	LPOS	D		
3	Roundup PowerMax	4.5	SL	22	fl oz/a	MPOS	B	8.9	70.2
3	Warrant	3	L	3	pt/a	MPOS	B		
3	AMS		WG	17	lb/100 gal	MPOS	B		
4	Roundup PowerMax	4.5	SL	22	fl oz/a	MPOS	B	8.6	74.9
4	Warrant	3	L	3	pt/a	MPOS	B		
4	AMS		WG	17	lb/100 gal	MPOS	B		
4	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	D		
4	AMS		WG	17	lb/100 gal	LPOS	D		
5	Roundup PowerMax	4.5	SL	22	fl oz/a	MPOS	B	8.5	68.8
5	Warrant	3	L	3	pt/a	MPOS	B		
5	AMS		WG	17	lb/100 gal	MPOS	B		
5	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	D		
5	Warrant	3	L	3	pt/a	LPOS	D		
5	AMS		WG	17	lb/100 gal	LPOS	D		
6	Warrant	3	L	3	pt/a	PRE	A	8.5	68.9
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
6	AMS		WG	17	lb/100 gal	POST	C		
7	Valor	51	WG	2	oz/a	PRE	A	8.6	70.0
7	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
7	AMS		WG	17	lb/100 gal	POST	C		
8	Valor	51	WG	2	oz/a	PRE	A	8.4	66.7
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
8	Warrant	3	L	3	pt/a	POST	C		
8	AMS		WG	17	lb/100 gal	POST	C		
9	Gangster (2.4 oz)		WG			PRE	A	8.6	55.9
9	Valor	51	WG	2	oz/a	PRE	A		
9	FirstRate	84	WG	0.4	oz/a	PRE	A		
9	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
9	AMS		WG	17	lb/100 gal	POST	C		
10	Gangster (2.4 oz)		WG			PRE	A	8.4	55.1
10	Valor	51	WG	2	oz/a	PRE	A		
10	FirstRate	84	WG	0.4	oz/a	PRE	A		
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
10	Warrant	3	L	3	pt/a	POST	C		
10	AMS		WG	17	lb/100 gal	POST	C		
11	Authority First	70	WG	3.2	oz/a	PRE	A	8.6	62.9
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
11	AMS		WG	17	lb/100 gal	POST	C		
12	Authority First	70	WG	3.2	oz/a	PRE	A	8.6	66.4
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
12	Warrant	3	L	3	pt/a	POST	C		
12	AMS		WG	17	lb/100 gal	POST	C		

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 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval
 # Subsamples, Dec.

GLXMA GLXMA
 moisture yield
 percent bu/acre
 10/8/2011 10/8/2011
 109 DA-C at 13% M
 1 1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
13	Valor XLT	40.3	DG	3	oz/a	PRE	A	8.6	62.1
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
13	AMS		WG	17	lb/100 gal	POST	C		
14	Valor XLT	40.3	DG	3	oz/a	PRE	A	8.6	56.0
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
14	Warrant	3	L	3	pt/a	POST	C		
14	AMS		WG	17	lb/100 gal	POST	C		
15	Authority XL	70	DG	4	oz/a	PRE	A	8.6	64.7
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
15	AMS		WG	17	lb/100 gal	POST	C		
16	Authority XL	70	DG	4	oz/a	PRE	A	8.7	64.1
16	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
16	Warrant	3	L	3	pt/a	POST	C		
16	AMS		WG	17	lb/100 gal	POST	C		
17	Fierce	76	WG	3	oz/a	PRE	A	8.6	69.6
17	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
17	AMS		WG	17	lb/100 gal	POST	C		
18	Fierce	76	WG	3	oz/a	PRE	A	8.7	66.9
18	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	C		
18	Warrant	3	L	3	pt/a	POST	C		
18	AMS		WG	17	lb/100 gal	POST	C		
19	Untreated							8.7	8.8
LSD (P=.05)								0.26	8.53
Standard Deviation								0.19	6.03
CV								2.16	9.58

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

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