

MSU Weed Science Research Program

Weed control systems in Roundup Ready soybean

Trial ID: SOY13-14 Study Dir.: Sprague and Powell
 Conducted: Campus T-11 Investigator: Christy Sprague

Date Planted: May/19/2014 Row Spacing: 30 IN
 Variety: Asgrow 2433 RR No. of Reps: 4
 Population: 150,000 seeds/A % OM: 3
 Soil Type: Loam pH: 7.3
 Plot Size: 10 x 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow, spring soil finish 2X.
 Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S.WATS.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C
Application Timing:	PRE	POST	LPOS
Date Treated:	May/19/2014	Jun/27/2014	Jul/10/2014
Time Treated:	8:30 PM	4:30 PM	4:00 PM
% Cloud Cover:	50	40	50
Air Temp., Unit:	61 F	89 F	75 F
% Relative Humidity:	44	50	52
wind Speed/Unit/Dir:	3 mph SE	2 mph S	2 mph NE
Soil Temp., Unit:	60 F	78 F	68 F
Soil/Leaf Surface M:	4 -	4 5	4 5
Soil Moist (1=w 5=d):	4	3	4

Crop Stage at Each Application

	A	B	C
Crop Name:	GLXMA	GLXMA	GLXMA
Height (In.):	-	15"	20"
Stage (L):	-	V4	R1

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	ANGR	ANGR	ANGR
Height (In.):	-	5-14"	-
Stage (L):	-	5-15	-
Weed 2 Name:	CHEAL	CHEAL	CHEAL
Height (In.):	-	2-14"	7"
Stage (L):	-	8-many	10
Weed 3 Name:	AMAPO	AMAPO	AMAPO
Height (In.):	-	4-10"	-
Stage (L):	-	many	-
Weed 4 Name:	AMBEL	AMBEL	AMBEL
Height (In.):	-	1.5-8"	4"
Stage (L):	-	6-many	6
Weed 5 Name:	ABUTH	ABUTH	ABUTH
Height (In.):	-	4-8"	-
Stage (L):	-	5-9	-

Weed Density (plants/sq. ft.)

	1	2	3	4	5
Date:	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Density:	<1	2	<1	<1	<1

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	21"	20"	100"	19	Water	30
B	Cub	3.8	AIXR	11003	29"	20"	100"	19	Water	30
C	Cub	3.8	AIXR	11003	28"	20"	100"	19	Water	30

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Study Dir.: Sprague and Powell
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Weed Code									ANGR	CHEAL
Crop Code								GLXMA	GLXMA	
Rating Data Type								injury	injury	
Rating Unit								percent	percent	
Rating Date								Jun/10/2014	Jun/26/2014	
Trt-Eval Interval								22 DA-A	38 DA-A	
# Subsamples, Dec.									38 DA-A	38 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
1	AMS		WG	17	lb/100 gal	POST	B				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	LPOS	C				
1	AMS		WG	17	lb/100 gal	LPOS	C				
2	Valor	51	WG	2	oz/a	PRE	A	15	1	87	90
2	Warrant	3	L	3	pt/a	POST	B				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
2	AMS		WG	17	lb/100 gal	POST	B				
3	Valor	51	WG	2	oz/a	PRE	A	18	3	91	82
3	Warrant	3	L	3	pt/a	POST	B				
3	Cobra	2	L	4	fl oz/a	POST	B				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
3	Crop oil concentrate		L	0.5	% v/v	POST	B				
3	AMS		WG	17	lb/100 gal	POST	B				
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	13	0	85	94
4	Warrant	3	L	3	pt/a	POST	B				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
4	AMS		WG	17	lb/100 gal	POST	B				
5	Untreated							0	0	0	0
6	Verdict	5.57	L	5	fl oz/a	PRE	A	0	0	83	75
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
6	AMS		WG	17	lb/100 gal	POST	B				
7	Zidua	85	WG	3	oz/a	PRE	A	0	0	99	64
7	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
7	AMS		WG	17	lb/100 gal	POST	B				
8	Valor	51	WG	2	oz/a	PRE	A	24	8	99	98
8	Zidua	85	WG	3	oz/a	PRE	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
8	AMS		WG	17	lb/100 gal	POST	B				
9	Fierce	76	WG	3	oz/a	PRE	A	21	3	98	97
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	Metribuzin	75	WG	5.33	oz/a	PRE	A	0	0	76	71
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	5	0	87	73
11	Warrant	3	L	3	pt/a	PRE	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	Valor	51	WG	2	oz/a	PRE	A	21	8	96	95
12	Warrant	3	L	3	pt/a	PRE	A				
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				

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Trial ID: SOY13-14 Study Dir.: Sprague and Powell
 Conducted: Campus T-11 Investigator: Christy Sprague

Weed Code								ANGR	CHEAL		
Crop Code											
Rating Data Type								control	control		
Rating Unit								percent	percent		
Rating Date								Jun/26/2014	Jun/26/2014		
Trt-Eval Interval								38 DA-A	38 DA-A		
# Subsamples, Dec.								38 DA-A	38 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
13	Anthem	2.15	L	10	fl oz/a	PRE	A	1	1	98	54
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	Authority MAXX	66	WG	6	oz/a	PRE	A	4	1	90	98
14	Warrant	3	L	3	pt/a	PRE	A				
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
15	Authority MAXX	66	WG	6	oz/a	PRE	A	0	0	92	98
15	Warrant	3	L	3	pt/a	POST	B				
15	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
15	AMS		WG	17	lb/100 gal	POST	B				
16	Prefix	5.25	L	2	pt/a	PRE	A	1	1	97	66
16	Touchdown Total	4.17	SL	34	fl oz/a	POST	B				
16	AMS		WG	17	lb/100 gal	POST	B				
17	Dual II Magnum	7.64	L	1	pt/a	PRE	A	1	1	98	48
17	Flexstar GT 3.5	2.82	L	3.5	pt/a	POST	B				
17	MSO		L	1	% v/v	POST	B				
17	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								3.1	2.8	14.9	10.6
CV								27.81	120.87	12.15	9.91

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

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Investigator: Christy Sprague

Weed Code	AMAPO	AMBEL	ABUTH	GLXMA
Crop Code				
Rating Data Type	control	control	control	injury
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/26/2014	Jun/26/2014	Jun/26/2014	Jul/11/2014
Trt-Eval Interval	38 DA-A	38 DA-A	38 DA-A	14 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				0
1	AMS		WG	17	lb/100 gal	POST	B				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	LPOS	C				
1	AMS		WG	17	lb/100 gal	LPOS	C				
2	Valor	51	WG	2	oz/a	PRE	A	99	88	93	0
2	Warrant	3	L	3	pt/a	POST	B				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
2	AMS		WG	17	lb/100 gal	POST	B				
3	Valor	51	WG	2	oz/a	PRE	A	94	83	94	10
3	Warrant	3	L	3	pt/a	POST	B				
3	Cobra	2	L	4	fl oz/a	POST	B				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
3	Crop oil concentrate		L	0.5	% v/v	POST	B				
3	AMS		WG	17	lb/100 gal	POST	B				
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	99	98	99	0
4	Warrant	3	L	3	pt/a	POST	B				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
4	AMS		WG	17	lb/100 gal	POST	B				
5	Untreated							0	0	0	0
6	Verdict	5.57	L	5	fl oz/a	PRE	A	94	69	94	0
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
6	AMS		WG	17	lb/100 gal	POST	B				
7	Zidua	85	WG	3	oz/a	PRE	A	94	71	92	0
7	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
7	AMS		WG	17	lb/100 gal	POST	B				
8	Valor	51	WG	2	oz/a	PRE	A	99	99	99	0
8	Zidua	85	WG	3	oz/a	PRE	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
8	AMS		WG	17	lb/100 gal	POST	B				
9	Fierce	76	WG	3	oz/a	PRE	A	99	99	99	0
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	Metribuzin	75	WG	5.33	oz/a	PRE	A	90	63	85	0
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	85	71	85	0
11	Warrant	3	L	3	pt/a	PRE	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	Valor	51	WG	2	oz/a	PRE	A	99	95	99	0
12	Warrant	3	L	3	pt/a	PRE	A				
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				

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Crop Code				
Rating Data Type	control	control	control	injury
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/26/2014	Jun/26/2014	Jun/26/2014	Jul/11/2014
Trt-Eval Interval	38 DA-A	38 DA-A	38 DA-A	14 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMAPO	AMBEL	ABUTH	GLXMA
13	Anthem	2.15	L	10	fl oz/a	PRE	A	99	58	94	0
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	Authority MAXX	66	WG	6	oz/a	PRE	A	99	88	99	0
14	Warrant	3	L	3	pt/a	PRE	A				
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
15	Authority MAXX	66	WG	6	oz/a	PRE	A	99	79	85	0
15	Warrant	3	L	3	pt/a	POST	B				
15	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
15	AMS		WG	17	lb/100 gal	POST	B				
16	Prefix	5.25	L	2	pt/a	PRE	A	99	80	78	0
16	Touchdown Total	4.17	SL	34	fl oz/a	POST	B				
16	AMS		WG	17	lb/100 gal	POST	B				
17	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	18	77	5
17	Flexstar GT 3.5	2.82	L	3.5	pt/a	POST	B				
17	MSO		L	1	% v/v	POST	B				
17	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								8.0	14.6	14.3	0.3
CV								6.17	14.1	11.65	28.44

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

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Weed Code	ANGR	CHEAL	AMAPO	AMBEL
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/11/2014	Jul/11/2014	Jul/11/2014
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	99	97	99	99
1	AMS		WG	17	lb/100 gal	POST	B				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	LPOS	C				
1	AMS		WG	17	lb/100 gal	LPOS	C				
2	Valor	51	WG	2	oz/a	PRE	A	99	99	99	99
2	Warrant	3	L	3	pt/a	POST	B				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
2	AMS		WG	17	lb/100 gal	POST	B				
3	Valor	51	WG	2	oz/a	PRE	A	99	99	99	99
3	Warrant	3	L	3	pt/a	POST	B				
3	Cobra	2	L	4	fl oz/a	POST	B				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
3	Crop oil concentrate		L	0.5	% v/v	POST	B				
3	AMS		WG	17	lb/100 gal	POST	B				
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	99	99	99	99
4	Warrant	3	L	3	pt/a	POST	B				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
4	AMS		WG	17	lb/100 gal	POST	B				
5	Untreated							0	0	0	0
6	Verdict	5.57	L	5	fl oz/a	PRE	A	99	99	99	99
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
6	AMS		WG	17	lb/100 gal	POST	B				
7	Zidua	85	WG	3	oz/a	PRE	A	99	99	99	99
7	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
7	AMS		WG	17	lb/100 gal	POST	B				
8	Valor	51	WG	2	oz/a	PRE	A	99	99	99	99
8	Zidua	85	WG	3	oz/a	PRE	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
8	AMS		WG	17	lb/100 gal	POST	B				
9	Fierce	76	WG	3	oz/a	PRE	A	99	99	99	99
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	Metribuzin	75	WG	5.33	oz/a	PRE	A	99	99	99	99
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	99	99	99	99
11	Warrant	3	L	3	pt/a	PRE	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	Valor	51	WG	2	oz/a	PRE	A	99	99	99	99
12	Warrant	3	L	3	pt/a	PRE	A				
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				

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Weed Code	ANGR	CHEAL	AMAPO	AMBEL
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/11/2014	Jul/11/2014	Jul/11/2014
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
13	Anthem	2.15	L	10	fl oz/a	PRE	A	99	99	99	99
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	Authority MAXX	66	WG	6	oz/a	PRE	A	99	99	99	99
14	Warrant	3	L	3	pt/a	PRE	A				
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
15	Authority MAXX	66	WG	6	oz/a	PRE	A	99	99	99	99
15	Warrant	3	L	3	pt/a	POST	B				
15	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
15	AMS		WG	17	lb/100 gal	POST	B				
16	Prefix	5.25	L	2	pt/a	PRE	A	99	99	99	99
16	Touchdown Total	4.17	SL	34	fl oz/a	POST	B				
16	AMS		WG	17	lb/100 gal	POST	B				
17	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	99	99	99
17	Flexstar GT 3.5	2.82	L	3.5	pt/a	POST	B				
17	MSO		L	1	% v/v	POST	B				
17	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								0.0	0.6	0.0	0.3
CV								0.0	0.43	0.0	0.26

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

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Trial ID: SOY13-14
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Weed Code	ABUTH		ANGR	CHEAL
Crop Code		GLXMA		
Rating Data Type	control	injury	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/25/2014	Jul/25/2014	Jul/25/2014
Trt-Eval Interval	14 DA-B	28 DA-B	28 DA-B	28 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	99	0	99	99
1	AMS		WG	17	lb/100 gal	POST	B				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	LPOS	C				
1	AMS		WG	17	lb/100 gal	LPOS	C				
2	Valor	51	WG	2	oz/a	PRE	A	99	0	99	99
2	Warrant	3	L	3	pt/a	POST	B				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
2	AMS		WG	17	lb/100 gal	POST	B				
3	Valor	51	WG	2	oz/a	PRE	A	99	7	99	99
3	Warrant	3	L	3	pt/a	POST	B				
3	Cobra	2	L	4	fl oz/a	POST	B				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
3	Crop oil concentrate		L	0.5	% v/v	POST	B				
3	AMS		WG	17	lb/100 gal	POST	B				
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	99	0	99	99
4	Warrant	3	L	3	pt/a	POST	B				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
4	AMS		WG	17	lb/100 gal	POST	B				
5	Untreated							0	0	0	0
6	Verdict	5.57	L	5	fl oz/a	PRE	A	99	0	99	99
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
6	AMS		WG	17	lb/100 gal	POST	B				
7	Zidua	85	WG	3	oz/a	PRE	A	99	0	99	99
7	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
7	AMS		WG	17	lb/100 gal	POST	B				
8	Valor	51	WG	2	oz/a	PRE	A	99	0	99	99
8	Zidua	85	WG	3	oz/a	PRE	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
8	AMS		WG	17	lb/100 gal	POST	B				
9	Fierce	76	WG	3	oz/a	PRE	A	99	0	99	99
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	Metribuzin	75	WG	5.33	oz/a	PRE	A	99	0	99	99
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	99	0	99	99
11	Warrant	3	L	3	pt/a	PRE	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	Valor	51	WG	2	oz/a	PRE	A	99	0	99	99
12	Warrant	3	L	3	pt/a	PRE	A				
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				

MSU Weed Science Research Program

Weed control systems in Roundup Ready soybean

Trial ID: SOY13-14 Study Dir.: Sprague and Powell
 Conducted: Campus T-11 Investigator: Christy Sprague

Weed Code	ABUTH		ANGR	CHEAL
Crop Code		GLXMA		
Rating Data Type	control	injury	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/25/2014	Jul/25/2014	Jul/25/2014
Trt-Eval Interval	14 DA-B	28 DA-B	28 DA-B	28 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
13	Anthem	2.15	L	10	fl oz/a	PRE	A	99	0	99	99
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	Authority MAXX	66	WG	6	oz/a	PRE	A	99	0	99	99
14	Warrant	3	L	3	pt/a	PRE	A				
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
15	Authority MAXX	66	WG	6	oz/a	PRE	A	99	0	99	99
15	Warrant	3	L	3	pt/a	POST	B				
15	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
15	AMS		WG	17	lb/100 gal	POST	B				
16	Prefix	5.25	L	2	pt/a	PRE	A	99	0	99	99
16	Touchdown Total	4.17	SL	34	fl oz/a	POST	B				
16	AMS		WG	17	lb/100 gal	POST	B				
17	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	5	99	99
17	Flexstar GT 3.5	2.82	L	3.5	pt/a	POST	B				
17	MSO		L	1	% v/v	POST	B				
17	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								0.0	1.4	0.0	0.0
CV								0.0	138.52	0.0	0.0

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

MSU Weed Science Research Program

Weed control systems in Roundup Ready soybean

Trial ID: SOY13-14
 Conducted: Campus T-11

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Weed Code	AMAPO	AMBEL	ABUTH	GLXMA
Crop Code				
Rating Data Type	control	control	control	moisture
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/25/2014	Jul/25/2014	Jul/25/2014	Nov/03/2014
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	129 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	99	99	99	11.9
1	AMS		WG	17	lb/100 gal	POST	B				
1	Roundup PowerMax	4.5	SL	32	fl oz/a	LPOS	C				
1	AMS		WG	17	lb/100 gal	LPOS	C				
2	Valor	51	WG	2	oz/a	PRE	A	99	99	99	11.9
2	Warrant	3	L	3	pt/a	POST	B				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
2	AMS		WG	17	lb/100 gal	POST	B				
3	Valor	51	WG	2	oz/a	PRE	A	99	99	99	11.9
3	Warrant	3	L	3	pt/a	POST	B				
3	Cobra	2	L	4	fl oz/a	POST	B				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
3	Crop oil concentrate		L	0.5	% v/v	POST	B				
3	AMS		WG	17	lb/100 gal	POST	B				
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	99	99	99	12.2
4	Warrant	3	L	3	pt/a	POST	B				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
4	AMS		WG	17	lb/100 gal	POST	B				
5	Untreated							0	0	0	11.8
6	Verdict	5.57	L	5	fl oz/a	PRE	A	99	99	99	12.2
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
6	AMS		WG	17	lb/100 gal	POST	B				
7	Zidua	85	WG	3	oz/a	PRE	A	99	99	99	11.6
7	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
7	AMS		WG	17	lb/100 gal	POST	B				
8	Valor	51	WG	2	oz/a	PRE	A	99	99	99	12.0
8	Zidua	85	WG	3	oz/a	PRE	A				
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
8	AMS		WG	17	lb/100 gal	POST	B				
9	Fierce	76	WG	3	oz/a	PRE	A	99	99	99	12.2
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
9	AMS		WG	17	lb/100 gal	POST	B				
10	Metribuzin	75	WG	5.33	oz/a	PRE	A	99	99	99	12.0
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
10	AMS		WG	17	lb/100 gal	POST	B				
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	99	99	99	11.9
11	Warrant	3	L	3	pt/a	PRE	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
11	AMS		WG	17	lb/100 gal	POST	B				
12	Valor	51	WG	2	oz/a	PRE	A	99	99	99	11.9
12	Warrant	3	L	3	pt/a	PRE	A				
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
12	AMS		WG	17	lb/100 gal	POST	B				

MSU Weed Science Research Program

Weed control systems in Roundup Ready soybean

Trial ID: SOY13-14
 Conducted: Campus T-11

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Weed Code	AMAPO	AMBEL	ABUTH	GLXMA
Crop Code				
Rating Data Type	control	control	control	moisture
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/25/2014	Jul/25/2014	Jul/25/2014	Nov/03/2014
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	129 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
13	Anthem	2.15	L	10	fl oz/a	PRE	A	99	99	99	11.9
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
13	AMS		WG	17	lb/100 gal	POST	B				
14	Authority MAXX	66	WG	6	oz/a	PRE	A	99	99	99	12.1
14	Warrant	3	L	3	pt/a	PRE	A				
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
14	AMS		WG	17	lb/100 gal	POST	B				
15	Authority MAXX	66	WG	6	oz/a	PRE	A	99	99	99	12.2
15	Warrant	3	L	3	pt/a	POST	B				
15	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B				
15	AMS		WG	17	lb/100 gal	POST	B				
16	Prefix	5.25	L	2	pt/a	PRE	A	99	99	99	12.0
16	Touchdown Total	4.17	SL	34	fl oz/a	POST	B				
16	AMS		WG	17	lb/100 gal	POST	B				
17	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	99	99	12.6
17	Flexstar GT 3.5	2.82	L	3.5	pt/a	POST	B				
17	MSO		L	1	% v/v	POST	B				
17	AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)								0.0	0.0	0.0	0.99
CV								0.0	0.0	0.0	5.74

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

MSU Weed Science Research Program

Weed control systems in Roundup Ready soybean

Trial ID: SOY13-14
Conducted: Campus T-11Study Dir.: Sprague and Powell
Investigator: Christy Sprague

Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

Subsamples, Dec.

GLXMA

yield

bu/acre

Nov/03/2014

at 13% M

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	70.4
1	AMS		WG	17	lb/100 gal	POST	B	
1	Roundup PowerMax	4.5	SL	32	fl oz/a	LPOS	C	
1	AMS		WG	17	lb/100 gal	LPOS	C	
2	Valor	51	WG	2	oz/a	PRE	A	67.3
2	Warrant	3	L	3	pt/a	POST	B	
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
2	AMS		WG	17	lb/100 gal	POST	B	
3	Valor	51	WG	2	oz/a	PRE	A	65.3
3	Warrant	3	L	3	pt/a	POST	B	
3	Cobra	2	L	4	fl oz/a	POST	B	
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
3	Crop oil concentrate		L	0.5	% v/v	POST	B	
3	AMS		WG	17	lb/100 gal	POST	B	
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	68.1
4	Warrant	3	L	3	pt/a	POST	B	
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
4	AMS		WG	17	lb/100 gal	POST	B	
5	Untreated							44.6
6	Verdict	5.57	L	5	fl oz/a	PRE	A	66.6
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
6	AMS		WG	17	lb/100 gal	POST	B	
7	Zidua	85	WG	3	oz/a	PRE	A	67.5
7	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
7	AMS		WG	17	lb/100 gal	POST	B	
8	Valor	51	WG	2	oz/a	PRE	A	63.0
8	Zidua	85	WG	3	oz/a	PRE	A	
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
8	AMS		WG	17	lb/100 gal	POST	B	
9	Fierce	76	WG	3	oz/a	PRE	A	65.6
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
9	AMS		WG	17	lb/100 gal	POST	B	
10	Metribuzin	75	WG	5.33	oz/a	PRE	A	68.0
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
10	AMS		WG	17	lb/100 gal	POST	B	
11	Metribuzin	75	WG	5.33	oz/a	PRE	A	65.9
11	Warrant	3	L	3	pt/a	PRE	A	
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
11	AMS		WG	17	lb/100 gal	POST	B	
12	Valor	51	WG	2	oz/a	PRE	A	67.1
12	Warrant	3	L	3	pt/a	PRE	A	
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
12	AMS		WG	17	lb/100 gal	POST	B	

MSU Weed Science Research Program

Weed control systems in Roundup Ready soybean

Trial ID: SOY13-14
 Conducted: Campus T-11

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

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

GLXMA
 yield
 bu/acre
 Nov/03/2014
 at 13% M

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	
13	Anthem	2.15	L	10	fl oz/a	PRE	A	65.0
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
13	AMS		WG	17	lb/100 gal	POST	B	
14	Authority MAXX	66	WG	6	oz/a	PRE	A	60.9
14	Warrant	3	L	3	pt/a	PRE	A	
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
14	AMS		WG	17	lb/100 gal	POST	B	
15	Authority MAXX	66	WG	6	oz/a	PRE	A	65.7
15	Warrant	3	L	3	pt/a	POST	B	
15	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	B	
15	AMS		WG	17	lb/100 gal	POST	B	
16	Prefix	5.25	L	2	pt/a	PRE	A	69.2
16	Touchdown Total	4.17	SL	34	fl oz/a	POST	B	
16	AMS		WG	17	lb/100 gal	POST	B	
17	Dual II Magnum	7.64	L	1	pt/a	PRE	A	66.9
17	Flexstar GT 3.5	2.82	L	3.5	pt/a	POST	B	
17	MSO		L	1	% v/v	POST	B	
17	AMS		WG	17	lb/100 gal	POST	B	
LSD (P=.05)								7.31
CV								7.85

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