

MSU Weed Science Research Program

Comparison of Different Adjuvants for Use with Glyphosate

Trial ID: SOY06-08
 Conducted: T-12 Botany

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 5/8/08
 Variety: Pioneer 92M33
 Population: 154,000 seeds/Acre
 Soil Type: Clay Loam
 Plot Size: 10 X 35 FT

Row Spacing: 30 IN
 No. of Reps: 4
 % OM: 3.3
 pH: 7.2
 Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow and Soil finish x2 on 5/8/08
 Fertilizer: None at planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIFOLIA L.
3.	BRAKA	MUSTARD, WILD	BRASSICA KABER
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
6.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
7.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
8.	SOLPT	NIGHTSHADE, EASTERN BLACK	SOLANUM PTYCANTHUM DUNAL
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

A
 Application Timing: POST
 Date Treated: 6/12/08
 Time Treated: 1:30 PM
 % Cloud Cover: 90
 Air Temp., Unit: 81 F
 % Relative Humidity: 56
 Wind Speed/Unit/Dir: 6 mph SW
 Soil Temp., Unit: 75 F
 Soil/Leaf Surface M: 4 5
 Soil Moist (1=w 5=d): 3

Crop Stage at Each Application

A
 Crop Name: GLXMA
 Height (In.): 6-8
 Stage (L): V2

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Weed Stage at Each Application

A
 Weed 1 Name: ANGR
 Height (In.): 1-5
 Stage (L): 2-3
 Weed 2 Name: AMBEL
 Height (In.): .5-4
 Stage (L): 2-6
 Weed 3 Name: BRAKA
 Height (In.): 4-12
 Stage (L): flowering
 Weed 4 Name: CHEAL
 Height (In.): 1-4
 Stage (L): 6-12
 Weed 5 Name: AMASS
 Height (In.): .5-3
 Stage (L): 4-8
 Weed 6 Name: ABUTH
 Height (In.): -
 Stage (L): -
 Weed 7 Name: POLPY
 Height (In.): -
 Stage (L): -
 Weed 8 Name: SOLPT
 Height (In.): -
 Stage (L): -

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6	7	8
Date:	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08
Weed Name:	CHEAL	ABUTH	ANGR	BRAKA	AMBEL	POLPE	SOLPT	AMAPO
Density:	20.6	0.125	107.5	0.375	9.625	0.5	0.125	2.125

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	23	20	100	19	water	28

Comments: Previous Crop- Fallow

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Weed Code									ANGR	CHEAL	AMBEL	AMARE
Crop Code									GLXMA			
Rating Data Type									injury	control	control	control
Rating Unit									percent	percent	percent	percent
Rating Date									6/19/08	6/19/08	6/19/08	6/19/08
Trt-Eval Interval									7 DA-A	7 DA-A	7 DA-A	7 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	89	92	84	99
2	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	88	90	85	99
2	N Pak		L	2.5	% v/v	POST	A					
3	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	90	96	86	99
3	Class Act NG		L	2.5	% v/v	POST	A					
4	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	92	96	86	99
4	Class Act NG		L	2.5	% v/v	POST	A					
4	AG 02013		L	4	fl oz/a	POST	A					
5	Untreated							0	0	0	0	0
6	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	94	97	89	99
6	Alliance		L	1.25	% v/v	POST	A					
7	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	92	98	87	99
7	Placement ProPak		L	1	% v/v	POST	A					
8	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	0	88	94	86	99
8	AG 07043		L	1	% v/v	POST	A					
LSD (P=.10)								0.0	2.5	3.5	5.2	0.0
Standard Deviation								0.0	2.1	2.9	4.3	0.0
CV								0.0	2.65	3.5	5.7	0.0

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Weed Code	BRAKA	ANGR	CHEAL	AMAPO	AMBEL
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	6/19/08	6/26/08	6/26/08	6/26/08	6/26/08
Trt-Eval Interval	7 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	BRAKA	ANGR	CHEAL	AMAPO	AMBEL
1	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	89	95	95	99	91
2	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	86	96	96	99	90
2	N Pak		L	2.5	% v/v	POST	A					
3	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	87	97	99	99	93
3	Class Act NG		L	2.5	% v/v	POST	A					
4	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	89	98	99	99	96
4	Class Act NG		L	2.5	% v/v	POST	A					
4	AG 02013		L	4	fl oz/a	POST	A					
5	Untreated							0	0	0	0	0
6	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	89	97	99	99	95
6	Alliance		L	1.25	% v/v	POST	A					
7	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	84	97	99	99	90
7	Placement ProPak		L	1	% v/v	POST	A					
8	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	84	95	96	99	92
8	AG 07043		L	1	% v/v	POST	A					
LSD (P=.10)								6.2	2.3	2.8	0.2	4.8
Standard Deviation								5.1	1.9	2.3	0.2	3.9
CV								6.73	2.22	2.66	0.2	4.83

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Weed Code	ABUTH	BRAKA	ANGR	CHEAL	AMAPO
Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	6/26/08	6/26/08	6/30/08	6/30/08	6/30/08
Trt-Eval Interval	14 DA-A	14 DA-A	18 DA-A	18 DA-A	18 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ABUTH	BRAKA	ANGR	CHEAL	AMAPO
1	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	95	95	94	92	99
2	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	94	97	97	95	98
2	N Pak		L	2.5	% v/v	POST	A					
3	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	99	97	98	77	99
3	Class Act NG		L	2.5	% v/v	POST	A					
4	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	99	98	99	97	97
4	Class Act NG		L	2.5	% v/v	POST	A					
4	AG 02013		L	4	fl oz/a	POST	A					
5	Untreated							0	0	0	0	0
6	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	99	98	99	99	99
6	Alliance		L	1.25	% v/v	POST	A					
7	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	98	98	98	74	99
7	Placement ProPak		L	1	% v/v	POST	A					
8	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	98	94	95	92	99
8	AG 07043		L	1	% v/v	POST	A					
LSD (P=.10)								2.4	2.3	2.3	27.4	2.0
Standard Deviation								1.9	1.9	1.9	22.5	1.6
CV								2.28	2.25	2.26	28.84	1.87

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Weed Code	AMBEL	ABUTH	BRAKA
Crop Code			
Rating Data Type	control	control	control
Rating Unit	percent	percent	percent
Rating Date	6/30/08	6/30/08	6/30/08
Trt-Eval Interval	18 DA-A	18 DA-A	18 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMBEL	ABUTH	BRAKA
1	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	91	97	99
2	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	94	94	99
2	N Pak		L	2.5	% v/v	POST	A			
3	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	75	99	99
3	Class Act NG		L	2.5	% v/v	POST	A			
4	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	98	99	99
4	Class Act NG		L	2.5	% v/v	POST	A			
4	AG 02013		L	4	fl oz/a	POST	A			
5	Untreated							0	0	0
6	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	98	98	99
6	Alliance		L	1.25	% v/v	POST	A			
7	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	96	98	99
7	Placement ProPak		L	1	% v/v	POST	A			
8	Roundup PowerMax	4.5	SL	11	fl oz/a	POST	A	97	97	98
8	AG 07043		L	1	% v/v	POST	A			
LSD (P=.10)								19.3	2.9	1.1
Standard Deviation								15.9	2.4	0.9
CV								19.62	2.83	1.01