

MSU Weed Science Research Program

Performance of Roundup tank-mixes with different nozzles

Trial ID: SOY18-14
 Conducted: Campus B-9

Study Dir.: Sprague and Powell
 Investigator: Christy Sprague

Date Planted:
Variety:
Population:
Soil Type: Silt loam
Plot Size: 10 X 30 FT
Row Spacing:
No. of Reps: 4
% OM: 2.8
pH: 6.9
Design: RANDOMIZED COMPLETE BLOCK

Tillage: Spring soil finish
Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

Application Timing: POST
Date Treated: Jul/10/2014
Time Treated: 12:30 AM
% Cloud Cover: 40
Air Temp., Unit: 77 F
% Relative Humidity: 53
Wind Speed/Unit/Dir: 3 mph NE
Soil Temp., Unit: 71 F
Soil/Leaf Surface M: 4 5
Soil Moist (1=w 5=d): 3

Crop Stage at Each Application

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

Weed Stage at Each Application

Weed 1 Name: A
 ANGR
Height (In.): 15"
Stage (L): 8
Weed 2 Name: AMBEL
Height (In.): 6-8"
Stage (L): 10-16
Weed 3 Name: ABUTH
Height (In.): 5-8"
Stage (L): 6-8

Weed Density (plants/sq. ft.)

	1	2	3
Date:	Jul/17/2014	Jul/17/2014	Jul/17/2014
Weed Name:	ANGR	AMBEL	ABUTH
Density:	7	7	<1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom	GPA	Carrier	PSI
A	Backpack	4.0	Comments	11002	30"	20"	100"	15	Water	30

Comments: Nozzles:
 TTI 11002
 AITJ-60 11002
 XR 11002

This study was moved to a non-crop area due to low weed pressure at original site.

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Crop Code					
Rating Data Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/24/2014	Jul/24/2014
Trt-Eval Interval	7 DA-A	7 DA-A	7 DA-A	14 DA-A	14 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code	ANGR	AMBEL	ABUTH	ANGR	AMBEL
1	TTI - 11002					POST	A	83	52	38	99	93
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
1	MON-10		L	2	% v/v	POST	A					
2	TTI - 11002					POST	A	89	81	65	99	84
2	Cobra	2	L	10	fl oz/a	POST	A					
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
2	Surfactant		L	0.25	% v/v	POST	A					
2	MON-10		L	2	% v/v	POST	A					
3	TTI - 11002					POST	A	91	93	73	99	95
3	Flexstar	1.88	L	1	pt/a	POST	A					
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
3	Surfactant		L	0.5	% v/v	POST	A					
3	MON-10		L	2	% v/v	POST	A					
4	TTI - 11002					POST	A	78	59	55	99	88
4	Warrant	3	L	3	pt/a	POST	A					
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
4	MON-10		L	2	% v/v	POST	A					
5	TTI - 11002					POST	A	86	75	57	99	81
5	Cobra	2	L	10	fl oz/a	POST	A					
5	Warrant	3	L	3	pt/a	POST	A					
5	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
5	Surfactant		L	0.25	% v/v	POST	A					
5	MON-10		L	2	% v/v	POST	A					
6	TTI - 11002					POST	A	78	50	33	99	83
6	SelectMax	0.97	L	6	fl oz/a	POST	A					
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
6	MON-10		L	2	% v/v	POST	A					
7	Untreated							0	0	0	0	0
8	AITJ60 - 11002					POST	A	76	58	48	99	97
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
8	MON-10		L	2	% v/v	POST	A					
9	AITJ60 - 11002					POST	A	91	86	65	99	92
9	Cobra	2	L	10	fl oz/a	POST	A					
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
9	Surfactant		L	0.25	% v/v	POST	A					
9	MON-10		L	2	% v/v	POST	A					
10	AITJ60 - 11002					POST	A	91	92	63	99	90
10	Flexstar	1.88	L	1	pt/a	POST	A					
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
10	Surfactant		L	0.5	% v/v	POST	A					
10	MON-10		L	2	% v/v	POST	A					
11	AITJ60 - 11002					POST	A	78	60	40	99	97
11	Warrant	3	L	3	pt/a	POST	A					
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
11	MON-10		L	2	% v/v	POST	A					

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Crop Code					
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Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/24/2014	Jul/24/2014
Trt-Eval Interval	7 DA-A	7 DA-A	7 DA-A	14 DA-A	14 DA-A
# Subsamples, Dec.					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ANGR	AMBEL	ABUTH	ANGR	AMBEL
12	AITJ60 - 11002					POST	A	88	79	53	99	90
12	Cobra	2	L	10	fl oz/a	POST	A					
12	Warrant	3	L	3	pt/a	POST	A					
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
12	Surfactant		L	0.25	% v/v	POST	A					
12	MON-10		L	2	% v/v	POST	A					
13	AITJ60 - 11002					POST	A	76	54	38	99	90
13	SelectMax	0.97	L	6	fl oz/a	POST	A					
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
13	MON-10		L	2	% v/v	POST	A					
14	XR - 11002					POST	A	91	80	72	99	89
14	Cobra	2	L	10	fl oz/a	POST	A					
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A					
14	Surfactant		L	0.25	% v/v	POST	A					
14	MON-10		L	2	% v/v	POST	A					
LSD (P=.05)								5.7	7.6	14.8	0.0	7.5
CV								5.12	8.09	20.33	0.0	6.31

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

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Weed Code	ABUTH	ANGR	AMBEL	ABUTH
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/24/2014	Jul/31/2014	Jul/31/2014	Jul/31/2014
Trt-Eval Interval	14 DA-A	21 DA-A	21 DA-A	21 DA-A
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Unit	Appl Stg	Code				
1	TTI - 11002					POST	A	85	99	84	89
1	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
1	MON-10		L	2	% v/v	POST	A				
2	TTI - 11002					POST	A	77	99	79	74
2	Cobra	2	L	10	fl oz/a	POST	A				
2	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
2	Surfactant		L	0.25	% v/v	POST	A				
2	MON-10		L	2	% v/v	POST	A				
3	TTI - 11002					POST	A	93	99	78	83
3	Flexstar	1.88	L	1	pt/a	POST	A				
3	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
3	Surfactant		L	0.5	% v/v	POST	A				
3	MON-10		L	2	% v/v	POST	A				
4	TTI - 11002					POST	A	88	99	81	88
4	Warrant	3	L	3	pt/a	POST	A				
4	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
4	MON-10		L	2	% v/v	POST	A				
5	TTI - 11002					POST	A	83	99	74	80
5	Cobra	2	L	10	fl oz/a	POST	A				
5	Warrant	3	L	3	pt/a	POST	A				
5	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
5	Surfactant		L	0.25	% v/v	POST	A				
5	MON-10		L	2	% v/v	POST	A				
6	TTI - 11002					POST	A	73	99	83	83
6	SelectMax	0.97	L	6	fl oz/a	POST	A				
6	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
6	MON-10		L	2	% v/v	POST	A				
7	Untreated							0	0	0	0
8	AITJ60 - 11002					POST	A	88	99	95	92
8	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
8	MON-10		L	2	% v/v	POST	A				
9	AITJ60 - 11002					POST	A	85	99	81	75
9	Cobra	2	L	10	fl oz/a	POST	A				
9	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
9	Surfactant		L	0.25	% v/v	POST	A				
9	MON-10		L	2	% v/v	POST	A				
10	AITJ60 - 11002					POST	A	92	99	88	89
10	Flexstar	1.88	L	1	pt/a	POST	A				
10	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
10	Surfactant		L	0.5	% v/v	POST	A				
10	MON-10		L	2	% v/v	POST	A				
11	AITJ60 - 11002					POST	A	85	99	93	95
11	Warrant	3	L	3	pt/a	POST	A				
11	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
11	MON-10		L	2	% v/v	POST	A				

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Rating Unit	percent	percent	percent	percent
Rating Date	Jul/24/2014	Jul/31/2014	Jul/31/2014	Jul/31/2014
Trt-Eval Interval	14 DA-A	21 DA-A	21 DA-A	21 DA-A
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ABUTH	ANGR	AMBEL	ABUTH
12	AITJ60 - 11002					POST	A	85	99	89	88
12	Cobra	2	L	10	fl oz/a	POST	A				
12	Warrant	3	L	3	pt/a	POST	A				
12	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
12	Surfactant		L	0.25	% v/v	POST	A				
12	MON-10		L	2	% v/v	POST	A				
13	AITJ60 - 11002					POST	A	93	99	86	90
13	SelectMax	0.97	L	6	fl oz/a	POST	A				
13	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
13	MON-10		L	2	% v/v	POST	A				
14	XR - 11002					POST	A	86	99	78	84
14	Cobra	2	L	10	fl oz/a	POST	A				
14	Roundup PowerMax	4.5	SL	32	fl oz/a	POST	A				
14	Surfactant		L	0.25	% v/v	POST	A				
14	MON-10		L	2	% v/v	POST	A				
LSD (P=.05)								11.9	0.0	10.3	11.0
CV								10.41	0.0	9.31	9.76

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