

AMS Replacement Study - Agrilience.

Project Code: 06-52-MMW50 Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 8-4-06

Objective:

Evaluate glyphosate efficacy applied in hard water and with various water conditioning adjuvants compared with the standard ammonium sulfate.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMBTR	ragweed, giant	Ambrosia trifida L.
3. ABUTH	velvetleaf	Abutilon theophrasti Medicus
4. AMATA	waterhemp, common	Amaranthus rudis Sauer
5. XANST	cocklebur, common	Xanthium strumarium L.

Crop 1: GLXMA soybean **Variety:** Asgrow 4403 RR
Planting Method: Seeded **Planting Date:** 5-26-06
Rate: 75 lb/A **Depth:** 1.0 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: ZEAMX, 2005
Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 100 LB/A

Soil Name: Weir **% OM:** 2.2 **pH:** 6.9 **CEC:** 9
Texture: Silt loam **Fert. Level:** P1: 107 LB/A, K: 420 LB/A

APPLICATION DESCRIPTION

Application Date: 6-22-06 **A**
Time of Day: 7:30
Application Method: Spray
Application Timing: 6-8"W
Applic. Placement: BROFOL
Air Temp., Unit: 84 F
% Relative Humidity: 90
Wind Velocity, Unit: 1 MPH
Dew Presence (Y/N): N
% Cloud Cover: 40

CROP STAGE AT EACH APPLICATION

Crop 1 Code, Stage: GLXMA V3 **A**
Height, Unit: 7 IN

WEED STAGE AT EACH APPLICATION

Weed 1 Code: SETFA **A**
Stage (leaves): 4-7
Height (inches): 4-8
Density: High

Weed 2 Code: AMBTR
Stage (leaves): 6-8
Height (inches): 4-10
Density: High

Weed 3 Code: ABUTH
Stage (leaves): 3-5
Height (inches): 3-9
Density: Low

Weed 4 Code: AMATA
Stage (leaves): 5-10
Height (inches): 3-7
Density: Medium

Weed 5 Code: XANST
Stage (leaves): 5-7
Height (inches): 6-8
Density: Medium

APPLICATION EQUIPMENT

Appl. Equipment: CO2 sprayer **A**
Operating Pressure: 40 PSI
Nozzle Type: Flat fan
Nozzle Size: XR 110015
Boom Length, Unit: 7.5 FT
Spray Volume, Unit: 10 GPA

NOTES:

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Weed Code								SETFA	SETFA	AMBTR	AMBTR	ABUTH	ABUTH				
Crop Code								GLXMA	GLXMA	Control	Control	Control	Control				
Rating Data Type								Injury	Injury	Percent	Percent	Percent	Percent				
Rating Unit								7-6-06	7-20-06	7-6-06	7-20-06	7-6-06	7-20-06				
Rating Date								14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A				
Trt-Eval Interval								14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	NONTREATED									0	0	0	0				
2	HARD WATER (350 PPM) 2 ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	91				
										47	22	10	3				
3	HARD WATER (350 PPM) 3 ROUNDUP W-MAX 3 N-PAK AMS	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	97				
		100	LIQ	5.0	% v/v	5	gal/100 gal	6-8"	W A	52	40	28	23				
4	HARD WATER (350 PPM) 4 ROUNDUP W-MAX 4 CLASS ACT NG	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	98				
		100	LIQ	2.5	% v/v	2.5	gal/100 gal	6-8"	W A	53	38	35	22				
5	HARD WATER (350 PPM) 5 ROUNDUP W-MAX 5 ALLIANCE	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	95				
		100	LIQ	1.25	% v/v	5	qt/100 gal	6-8"	W A	50	35	27	12				
6	HARD WATER (350 PPM) 6 ROUNDUP W-MAX 6 ALLIANCE	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	98				
		100	LIQ	1.0	% v/v	4	qt/100 gal	6-8"	W A	43	20	20	10				
7	HARD WATER (350 PPM) 7 ROUNDUP W-MAX 7 AG 03019	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	97				
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A	47	27	13	3				
8	HARD WATER (350 PPM) 8 ROUNDUP W-MAX 8 AG 03019	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	95				
		100	LIQ	0.75	% v/v	3	qt/100 gal	6-8"	W A	50	37	17	7				
9	HARD WATER (350 PPM) 9 ROUNDUP W-MAX 9 AG 06068	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	97				
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A	45	32	15	3				
10	HARD WATER (350 PPM) 10 ROUNDUP W-MAX 10 AG 06069	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	96				
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A	48	33	25	10				
11	HARD WATER (350 PPM) 11 ROUNDUP W-MAX 11 CHOICE	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	98				
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A	50	28	23	13				
12	HARD WATER (350 PPM) 12 ROUNDUP W-MAX 12 QUEST	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	0	0	99	97				
		100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"	W A	47	22	15	3				
LSD (P=.05)										0.0	0.0	0.0	3.7	5.8	9.9	10.9	8.2
Replicate F										0.000	0.000	0.000	2.800	4.697	0.575	0.164	4.766
Replicate Prob(F)										1.0000	1.0000	1.0000	0.0825	0.0200	0.5711	0.8496	0.0203
Treatment F										0.000	0.000	0.000	481.461	52.081	10.851	6.369	6.742
Treatment Prob(F)										1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001

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Weed Code	AMATA	AMATA	XANST	XANST
Crop Code				
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Date	7-6-06	7-20-06	7-6-06	7-20-06
Trt-Eval Interval	14 DA-A	28 DA-A	14 DA-A	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code				
1	NONTREATED									0	0	0	0
2	HARD WATER (350 PPM) 2 ROUNDUP W-MAX	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	63	22	99	99
3	HARD WATER (350 PPM) 3 ROUNDUP W-MAX 3 N-PAK AMS	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	82	38	99	99
		100	LIQ	5.0	% v/v	5	gal/100 gal	6-8"	W A				
4	HARD WATER (350 PPM) 4 ROUNDUP W-MAX 4 CLASS ACT NG	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	87	52	99	99
		100	LIQ	2.5	% v/v	2.5	gal/100 gal	6-8"	W A				
5	HARD WATER (350 PPM) 5 ROUNDUP W-MAX 5 ALLIANCE	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	82	42	99	99
		100	LIQ	1.25	% v/v	5	qt/100 gal	6-8"	W A				
6	HARD WATER (350 PPM) 6 ROUNDUP W-MAX 6 ALLIANCE	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	68	35	99	99
		100	LIQ	1.0	% v/v	4	qt/100 gal	6-8"	W A				
7	HARD WATER (350 PPM) 7 ROUNDUP W-MAX 7 AG 03019	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	63	32	99	99
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A				
8	HARD WATER (350 PPM) 8 ROUNDUP W-MAX 8 AG 03019	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	75	35	99	99
		100	LIQ	0.75	% v/v	3	qt/100 gal	6-8"	W A				
9	HARD WATER (350 PPM) 9 ROUNDUP W-MAX 9 AG 06068	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	65	35	99	99
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A				
10	HARD WATER (350 PPM) 10 ROUNDUP W-MAX 10 AG 06069	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	77	47	99	99
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A				
11	HARD WATER (350 PPM) 11 ROUNDUP W-MAX 11 CHOICE	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	72	28	99	99
		100	LIQ	0.5	% v/v	2	qt/100 gal	6-8"	W A				
12	HARD WATER (350 PPM) 12 ROUNDUP W-MAX 12 QUEST	4.5	SL	0.387	lb ae/a	11	fl oz/a	6-8"	W A	68	23	99	99
		100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"	W A				
LSD (P=.05)										6.5	9.8	0.3	0.3
Replicate F										5.996	2.869	1.000	1.000
Replicate Prob(F)										0.0083	0.0782	0.3840	0.3840
Treatment F										102.330	16.051	88156.009	88156.009
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001

Trial Comments

1. Protocol: Agrilience.
2. Ratings: CI/WC 14 + 28 DAT.
3. Mixing instructions: Use hard water.
4. Spraying instructions: Use XR 110015 tips.
5. DA-A = Days after 6-8"W application.
6. Not harvested.