

AMS Replacements with Glyphosate - Big Rivers.

Project Code: 07-51E-MN70 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: 1-23-08

Objective:

Evaluate adjuvants for use with loaded glyphosate under
hard water conditions.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. CYPES	nutsedge, yellow	Cyperus esculentus L.
3. AMBTR	ragweed, giant	Ambrosia trifida L.
4. AMATA	waterhemp, common	Amaranthus rudis Sauer
5. ABUTH	velvetleaf	Abutilon theophrasti Medicus

Crop 1:	GLXMA soybean	Variety:	Asgrow 4404 RR/STS
Planting Method:	Seeded	Planting Date:	6-2-07
Rate:	75 lb/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	27 FT	Reps:	3
Tillage Type:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	ZEAMX, 2006				
Field Prep./Maintenance:	N 0 LB/A, P205 0 LB/A, K20 100 LB/A				

Soil Name:	Weir	% OM:	2	pH:	6.8	CEC:	11
Texture:	Silt loam	Fert. Level:	Pl: 117 LB/A, K: 297 LB/A				

APPLICATION DESCRIPTION**A**

Application Date: 7-2-07
Time of Day: 10:45
Application Method: Spray
Application Timing: 8-12"W
Applic. Placement: BROFOL
Air Temp., Unit: 80 F
% Relative Humidity: 52
Wind Velocity, Unit: 3-5 MPH
Dew Presence (Y/N): N
Soil Moisture: ABONOR
% Cloud Cover: 20

CROP STAGE AT EACH APPLICATION**A**

Crop 1 Code, Stage: GLXMA V3-V4
Height, Unit: 12 IN

WEED STAGE AT EACH APPLICATION**A**

Weed 1 Code:	SETFA
Stage(leaves):	6-12
Height(inches):	6-12
Density:	Low
Weed 2 Code:	CYPES
Stage(leaves):	10-15
Height(inches):	6-12
Density:	Medium
Weed 3 Code:	AMBTR
Stage(leaves):	6-10
Height(inches):	10-15
Density:	High
Weed 4 Code:	AMATA
Stage(leaves):	12-20
Height(inches):	8-12
Density:	High
Weed 5 Code:	ABUTH
Stage(leaves):	4-7
Height(inches):	6-12
Density:	Medium

APPLICATION EQUIPMENT**A**

Appl. Equipment: CO2 sprayer
Operating Pressure: 40 PSI
Nozzle Type: Flat fan
Nozzle Size: XR 8002
Boom Length, Unit: 7.5 FT
Spray Volume, Unit: 15 GPA

NOTES:

Southern Illinois University

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

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Weed Code	AMBTR	AMBTR	AMATA	AMATA	ABUTH	ABUTH
Crop Code						
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	7-16-07	7-30-07	7-16-07	7-30-07	7-16-07	7-30-07
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 Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	NONTREATED								0 e	0 c	0 c	0 d	0 h	0 e
2	DEIONIZED WATER								96 bcd	94 ab	95 ab	93 abc	53 fg	40 d
2	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
3	DEIONIZED WATER								97 ab	95 a	94 ab	92 abc	73 bc	68 bc
3	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
3	N-PAK AMS	100	LIQ	2.5 % v/v	2.5	% v/v	8-12"W	A						
4	DEIONIZED WATER								97 a	94 ab	97 a	95 ab	88 a	90 a
4	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
4	N-PAK AMS	100	LIQ	5.0 % v/v	5	% v/v	8-12"W	A						
5	HARD WATER (350 PPM)								96 bcd	94 ab	89 b	87 c	52 g	43 d
5	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
6	HARD WATER (350 PPM)								97 ab	96 a	95 a	89 bc	70 cd	61 c
6	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
6	N-PAK AMS	100	LIQ	2.5 % v/v	2.5	% v/v	8-12"W	A						
7	HARD WATER (350 PPM)								97 abc	95 a	95 ab	90 abc	79 b	68 bc
7	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
7	N-PAK AMS	100	LIQ	5.0 % v/v	5	% v/v	8-12"W	A						
8	HARD WATER (350 PPM)								95 cd	94 ab	93 ab	89 abc	67 cde	50 d
8	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
8	EXTRA POINT LITE	100	LIQ	0.5 % v/v	2	qt/100 gal	8-12"W	A						
9	HARD WATER (350 PPM)								95 d	93 b	93 ab	92 abc	63 de	47 d
9	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
9	AMSWC	100	DRY	0.24 % w/w	2	lb/100 gal	8-12"W	A						
10	HARD WATER (350 PPM)								96 a-d	95 a	98 a	97 a	78 b	68 bc
10	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
10	EXTRA POINT	100	LIQ	2.5 % v/v	2.5	gal/100 gal	8-12"W	A						
11	HARD WATER (350 PPM)								95 d	95 a	96 a	96 ab	61 ef	47 d
11	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
11	CHOICE WM	100	LIQ	0.5 % v/v	0.5	% v/v	8-12"W	A						
12	HARD WATER (350 PPM)								97 abc	96 a	95 a	95 ab	70 cd	75 b
12	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	A						
12	ARRAY	100	DRY	1.08 % w/w	9	lb/100 gal	8-12"W	A						
LSD (P=.05)									1.4	1.7	5.9	7.8	7.8	10.4
Replicate F									7.713	2.825	0.250	1.597	8.182	0.154
Replicate Prob(F)									0.0029	0.0809	0.7806	0.2250	0.0022	0.8584
Treatment F									3505.667	2214.604	186.292	101.249	71.583	41.497
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: Big Rivers.
2. Ratings: CI/WC 14 + 28 DAT.
3. Use hardwater (350 ppm CaCo3 equivalent).
4. DA-A = Days after 8-12"W application.