

## AMS Replacements Protocol.

Project Code: 03-2B-W60      Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country:            Belleville            IL 62221 USA  
 Trial Status: Final                    Updated:            9-2-03

**Objective:**

Determine the effectiveness of AMS replacements formulated with drift control agents in hard water conditions versus glyphosate applied with AMS.

Weed Code	Common Name	Scientific Name
1.	SETFA foxtail, giant	Setaria faberi Herrm.
2.	AMATA waterhemp, common	Amaranthus rudis Sauer
3.	AMBEL ragweed, common	Ambrosia artemisiifolia L.

Crop 1:	GLXMA soybean	Variety:	Pioneer 94M41 RR
Planting Method:	Seeded	Planting Date:	6-21-03
Rate:	75 lb/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	28 FT	Reps:	3
Tillage Type:	No-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	GLXMA, 2002				

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K2O 150 LB/A

Soil Name:	Weir	% OM:	1.5	pH:	6.4	CEC:	9
Texture:	Silt loam	Fert. Level:	P1: 87 LB/A, K: 259 LB/A				

## APPLICATION DESCRIPTION

A

Application Date:	7-8-03
Time of Day:	18:30
Application Method:	Spray
Application Timing:	8"W
Applic. Placement:	BROFOL
Air Temp., Unit:	93 F
% Relative Humidity:	48
Wind Velocity, Unit:	5 MPH

## CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage:	GLXMA V2
Height, Unit:	6 IN

## WEED STAGE AT EACH APPLICATION

A

Weed 1 Code:	SETFA
Stage(leaves):	6-12
Height(inches):	6-10
Density:	Medium
Weed 2 Code:	AMATA
Stage(leaves):	5-28
Height(inches):	4-18
Density:	Medium
Weed 3 Code:	AMBEL
Stage(leaves):	6-18
Height(inches):	6-16
Density:	Low

## APPLICATION EQUIPMENT

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

## NOTES:

Not harvested.

AMS Replacements Protocol.

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Weed Code								SETFA	SETFA	AMATA	AMATA	AMBEL	AMBEL				
Crop Code								GLXMA	GLXMA								
Rating Data Type								Injury	Injury	Control	Control	Control	Control				
Rating Unit								Percent	Percent	Percent	Percent	Percent	Percent				
Rating Date								7-22-03	8-5-03	7-22-03	8-5-03	7-22-03	8-5-03				
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	DEIONIZED WATER									0	0	99	88				
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	96	92	99	99				
3	DEIONIZED WATER									0	0	99	87				
3	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	97	91	99	98				
3	AMS	100	DRY	2.0	% W/W	2	% W/W	8"W	A								
4	HARD WATER									0	0	99	86				
4	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	96	91	99	99				
5	HARD WATER									0	0	99	83				
5	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	97	92	99	96				
5	AMS	100	DRY	2.0	% W/W	2	% W/W	8"W	A								
6	HARD WATER									0	0	99	88				
6	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	96	92	99	99				
6	ARRAY	100	DRY	9.0	LB/100 GAL	9	LB/100 GAL	8"W	A								
7	HARD WATER									0	0	99	92				
7	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	97	91	99	98				
7	ARRAY	100	DRY	14.0	LB/100 GAL	14	LB/100 GAL	8"W	A								
8	HARD WATER									0	0	99	85				
8	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	92	88	99	98				
8	PLACEMENT PROPAK	100	LIQ	1.0	% V/V	1	% V/V	8"W	A								
9	HARD WATER									0	0	99	91				
9	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	97	91	99	99				
9	DRI GARD	100	DRY	9.0	LB/100 GAL	9	LB/100 GAL	8"W	A								
10	HARD WATER									0	0	99	90				
10	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	93	90	99	99				
10	FORMULA 1	100	LIQ	2.0	QT/100 GAL	2	QT/100 GAL	8"W	A								
11	HARD WATER									0	0	99	91				
11	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	96	92	99	98				
11	FORMULA 1	100	LIQ	3.0	QT/100 GAL	3	QT/100 GAL	8"W	A								
12	HARD WATER									0	0	99	91				
12	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	8"W	A	97	95	99	98				
12	AMSOL PLUS	100	LIQ	5.0	% V/V	5	% V/V	8"W	A								
LSD (P=.05)										0.0	0.0	0.0	9.3	2.4	4.3	0.3	2.2

Weed Code				SETFA	SETFA	AMATA	AMATA	AMBEL	AMBEL
Crop Code	GLXMA	GLXMA							
Rating Data Type	Injury	Injury	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	7-22-03	8-5-03	7-22-03	8-5-03	7-22-03	8-5-03	7-22-03	8-5-03	8-5-03
Trt-Eval Interval	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code
Replicate F				0.000	0.000	0.000	0.283	16.073	19.983
Replicate Prob(F)				1.0000	1.0000	1.0000	0.7561	0.0001	0.0001
Treatment F				0.000	0.000	0.000	65.002	1111.470	325.359
Treatment Prob(F)				1.0000	1.0000	1.0000	0.0001	0.0001	0.0001

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#### Trial Comments

1. Protocol: SIU.
2. Ratings: CI and WC 14 and 28 DAT.
3. All treatments originated from a deionized water source.  
Hard water was created by adding CaCl<sub>2</sub> at a concentration of 12.5 mM (500 ppm Ca).
4. DA-A = days after 8"W application.