

## Comparison of "Full Load" Glyphosate Formulations in Roundup Ready Soybean - Waterhemp.

02-52-MW60

**OBJECTIVE:** Compare the performance of glyphosate formulations that do not require additional surfactant (full load) in Roundup Ready soybean.

**SUMMARY:** The primary goal of this study was to compare waterhemp control from each of the glyphosate formulations that do not require additional surfactant. Touchdown provided the greatest control of waterhemp at 14 and 28 DAT (days after treatment) when the products were applied without AMS. Glyphomax Plus and MON 78270 controlled 6 to 13% less waterhemp than Touchdown. However, when AMS was added to each of the products waterhemp control was greatest with Glyphomax Plus and SIU 2002-H1. Adding AMS to Roundup UltraMax, Touchdown, and Clearout 41 Plus did not increase waterhemp control. Waterhemp control was increased by 5 to 9% when AMS was added to Roundup Ultra, Glyphomax Plus, SIU 2002-H1, and MON 78270. Thus, AMS had a positive effect on waterhemp control with over half of the glyphosate products tested and differences in waterhemp control between the different formulations when applied with AMS were very small (0 to 5%).

### HERBICIDES/ADJUVANTS

CLEAROUT 41 PLUS 3 L  
GLYPHOMAX PLUS 3 SL  
MON 78270 4.5 SL  
ROUNDUP ULTRA 3 SL  
ROUNDUP ULTRA MAX 3.7 SL  
SIU 2002-H1 4.17 SL  
TOUCHDOWN 3 SL  
AMS 100 DRY

### WEEDS

foxtail, giant  
waterhemp, common

### CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

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Project Code: 02-52-MW60 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA  
 Trial Status: Final Updated: 10-31-02

**Objective:**

Compare the performance of glyphosate formulations that do not require additional surfactant (full load) in Roundup Ready soybean.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMATA	waterhemp, common	Amaranthus rudis Sauer

Crop 1:	GLXMA soybean	Variety:	Asgrow 4602 RR
Planting Method:	Seeded	Planting Date:	6-4-02
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:	GLXMA, 2001				

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Name:	Weir	% OM:	1.9	pH:	7.1	CEC:	12
Texture:	Silt loam	Fert. Level:	P1: 97 LB/A, K: 282 LB/A				

**APPLICATION DESCRIPTION**

**A**

Application Date: 7-2-02  
 Time of Day: 9:30  
 Application Method: Spray  
 Application Timing: 6"W  
 Applic. Placement: BROFOL  
 Air Temp., Unit: 80 F  
 % Relative Humidity: 60  
 Wind Velocity, Unit: 0-3 MPH  
 Dew Presence (Y/N): N  
 Soil Moisture: BELNOR  
 % Cloud Cover: 15

**CROP STAGE AT EACH APPLICATION**

**A**

Crop 1 Code, Stage: GLXMA V3  
 Height, Unit: 8-10 IN

**WEED STAGE AT EACH APPLICATION**

**A**

Weed 1 Code: SETFA  
 Stage(leaves): 5-7  
 Height(inches): 7-10  
 Density: High

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

## APPLICATION EQUIPMENT

A

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

## NOTES:

This study was not harvested.

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Weed Code		SETFA	SETFA	AMATA	AMATA
Crop Code		GLXMA			
Rating Data Type		Injury	Control	Control	Control
Rating Unit		Percent	Percent	Percent	Percent
Rating Date		7-16-02	7-16-02	7-16-02	7-30-02
Trt-Eval Interval		14 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					
1	NONTREATED									0	0	0	0	0
2	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6"W	A	0	92	73	70	67
3	ROUNDUP ULTRA	3	SL	0.188	LB AE/A	8	OZ/A	6"W	A	0	92	75	70	65
4	GLYPHOMAX PLUS	3	SL	0.188	LB AE/A	8	OZ/A	6"W	A	0	92	73	68	62
5	TOUCHDOWN	3	SL	0.188	LB AE/A	8	OZ/A	6"W	A	0	89	78	74	68
6	SIU 2002-H1	4.17	SL	0.188	LB AE/A	5.77	OZ/A	6"W	A	0	88	74	72	65
7	MON 78270	4.5	SL	0.188	LB AE/A	5.35	OZ/A	6"W	A	0	88	73	66	55
8	CLEAROUT 41 PLUS	3	L	0.188	LB AE/A	8	OZ/A	6"W	A	0	88	75	69	63
9	ROUNDUP ULTRA MAX	3.7	SL	0.188	LB AE/A	6.5	OZ/A	6"W	A	0	91	73	73	67
9	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
10	ROUNDUP ULTRA	3	SL	0.188	LB AE/A	8	OZ/A	6"W	A	0	91	79	75	70
10	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
11	GLYPHOMAX PLUS	3	SL	0.188	LB AE/A	8	OZ/A	6"W	A	0	88	75	77	67
11	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
12	TOUCHDOWN	3	SL	0.188	LB AE/A	8	OZ/A	6"W	A	0	92	72	72	63
12	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
13	SIU 2002-H1	4.17	SL	0.188	LB AE/A	5.77	OZ/A	6"W	A	0	94	77	77	68
13	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
14	MON 78270	4.5	SL	0.188	LB AE/A	5.35	OZ/A	6"W	A	0	89	73	73	65
14	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
15	CLEAROUT 41 PLUS	3	L	0.188	LB AE/A	8	OZ/A	6"W	A	0	91	73	73	68
15	AMS	100	DRY	2.0	% W/W	2	% W/W	6"W	A					
16	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	6"W	A	0	98	95	95	91
LSD (P=.05)										0.0	4.6	4.2	4.4	4.9



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Trial Comments

1. Protocol: SIU (BGY).
2. DA-A = days after 6"W application.