

08-03-05 (05-22-S110)

Southern Illinois University

AMS Replacement Study - Precision Labs.

Project Code: 05-22-S110 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: Prelim-results Updated: 08-03-05

Objective:
Evaluate the performance of experimental adjuvants with glyphosate as a possible replacement to AMS.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. ABUTH	velvetleaf	Abutilon theophrasti Medicus
3. AMATA	waterhemp, common	Amaranthus rudis Sauer
4. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.

Crop 1:	GLXMA soybean	Variety:	Asgrow 4403 RR
Planting Method:	Seeded	Planting Date:	5-18-05
Rate:	75 S/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	23 FT	Reps:	3
Tillage Type:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	_____, 2004				

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 100 LB/A

Soil Name:	Clarksdale	% OM:	2.1	pH:	6.5	CEC:	10
Texture:	Silt loam	Fert. Level:	P1: 99 LB/A, K: 493 LB/A				

APPLICATION DESCRIPTION

APPLICATION DESCRIPTION		A
Application Date:	06-22-05	
Time of Day:	13:30	
Application Method:	Spray	
Application Timing:	8"W	
Applic. Placement:	BROFOL	
Wind Velocity, Unit:	3 MPH	
Soil Moisture:	BELNOR	

CROP STAGE AT EACH APPLICATION

CROP STAGE AT EACH APPLICATION		A
Crop 1 Code, Stage:	GLXMA V4	
Height, Unit:	7-8 IN	

WEED STAGE AT EACH APPLICATION

WEED STAGE AT EACH APPLICATION		A
Weed 1 Code:	SETFA	
Stage(leaves):	5-7	
Height(inches):	7-10	
Density:	High	
Weed 2 Code:	ABUTH	
Stage(leaves):	6-7	
Height(inches):	10-16	
Density:	Medium	
Weed 3 Code:	AMATA	
Stage(leaves):	10-18	
Height(inches):	10-12	
Density:	Low	
Weed 4 Code:	IPOHE	
Stage(leaves):	3-8	
Height(inches):	3-9	
Density:	Medium	

APPLICATION EQUIPMENT

APPLICATION EQUIPMENT		A
Appl. Equipment:	CO2 sprayer	
Operating Pressure:	40 PSI	
Nozzle Type:	Flat fan	
Nozzle Size:	XR 11001	
Boom Length, Unit:	7.5 FT	
Spray Volume, Unit:	Per trt	

NOTES:

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Weed Code										SETFA	SETFA	ABUTH	ABUTH	AMATA	AMATA	
Crop Code										GLXMA	GLXMA					
Rating Data Type										Injury	Injury	Control	Control	Control	Control	
Rating Unit										Percent	Percent	Percent	Percent	Percent	Percent	
Rating Date										07-06-05	07-20-05	07-06-05	07-20-05	07-06-05	07-20-05	
Tri-Eval Interval										14 DAT	28 DA-A	14 DAT	28 DA-A	14 DAT	28 DA-A	
Tri No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code							
19	10 GPA									0	0	99	99	68	80	90
19	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
19	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	8"W	A							
20	10 GPA									0	0	99	99	63	80	
20	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
20	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	8"W	A							
21	10 GPA									0	0	99	99	55	78	95
21	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
21	PL 331	100	LIQ	2.5	% v/v	2.5	% v/v	8"W	A							
22	10 GPA									0	0	99	99	45	47	
22	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
22	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A							
22	PL 332	100	DRY	0.075	% w/w	10	oz/100 gal	8"W	A							
23	10 GPA									0	0	99	99	65	82	
23	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
23	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	8"W	A							
24	10 GPA									0	0	99	99	33	45	83
24	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
24	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A							
25	10 GPA									0	0	99	99	42	67	
25	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
26	10 GPA									0	0	99	99	45	65	
26	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
26	PX 711	100	LIQ	0.5	% v/v	0.5	% v/v	8"W	A							
27	10 GPA									0	0	99	99	65	75	
27	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A							
27	PX 711	100	LIQ	0.75	% v/v	0.75	% v/v	8"W	A							
LSD (P=.05)										0.0	0.0	0.0	0.0	18.3	21.6	28.4
Replicate F										0.000	0.000	0.000	0.000	6.156	1.637	0.467
Replicate Prob(F)										1.0000	1.0000	1.0000	1.0000	0.0040	0.2043	0.6575
Treatment F										0.000	0.000	0.000	0.000	1.954	2.332	1.152
Treatment Prob(F)										1.0000	1.0000	1.0000	1.0000	0.0200	0.0047	0.4842

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Weed Code		IPOHE	IPOHE
Crop Code			
Rating Data Type		Control	Control
Rating Unit		Percent	Percent
Rating Date		07-06-05	07-20-05
Trt-Eval Interval		14 DAT	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
1	5 GPA									45	47
1	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
1	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	8"W	A		
2	5 GPA									43	40
2	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
2	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	8"W	A		
3	5 GPA									45	52
3	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
3	PL 331	100	LIQ	2.5	% v/v	2.5	% v/v	8"W	A		
4	5 GPA									47	45
4	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
4	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A		
4	PL 332	100	DRY	0.075	% w/w	10	oz/100 gal	8"W	A		
5	5 GPA									43	47
5	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
5	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	8"W	A		
6	5 GPA									43	47
6	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
6	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A		
7	5 GPA									48	52
7	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
8	5 GPA									52	43
8	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
8	PX 711	100	LIQ	0.5	% v/v	0.5	% v/v	8"W	A		
9	5 GPA									48	53
9	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
9	PX 711	100	LIQ	0.75	% v/v	0.75	% v/v	8"W	A		
10	7.5 GPA									48	45
10	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
10	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	8"W	A		
11	7.5 GPA									50	45
11	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
11	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	8"W	A		
12	7.5 GPA									47	45
12	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
12	PL 331	100	LIQ	2.5	% v/v	2.5	% v/v	8"W	A		
13	7.5 GPA									43	50
13	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
13	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A		
13	PL 332	100	DRY	0.075	% w/w	10	oz/100 gal	8"W	A		
14	7.5 GPA									43	47
14	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
14	ARRAY	100	DRY	1.08	% w/w	9	lb/100 gal	8"W	A		
15	7.5 GPA									47	45
15	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
15	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A		
16	7.5 GPA									48	43
16	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
17	7.5 GPA									53	55
17	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
17	PX 711	100	LIQ	0.5	% v/v	0.5	% v/v	8"W	A		
18	7.5 GPA									57	55
18	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
18	PX 711	100	LIQ	0.75	% v/v	0.75	% v/v	8"W	A		

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Rating Unit	Percent	Percent
Rating Date	07-06-05	07-20-05
Trt-Eval Interval	14 DAT	28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
19	10 GPA									47	50
19	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
19	AMS	100	DRY	1.0	% w/w	8.5	lb/100 gal	8"W	A		
20	10 GPA									40	40
20	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
20	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	8"W	A		
21	10 GPA									47	52
21	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
21	PL 331	100	LIQ	2.5	% v/v	2.5	% v/v	8"W	A		
22	10 GPA									45	52
22	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
22	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A		
22	PL 332	100	DRY	0.075	% w/w	10	oz/100 gal	8"W	A		
23	10 GPA									47	52
23	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
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24	10 GPA									47	53
24	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
24	PX 202	100	DRY	0.264	% w/w	2.2	lb/100 gal	8"W	A		
25	10 GPA									38	40
25	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
26	10 GPA									47	47
26	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
26	PX 711	100	LIQ	0.5	% v/v	0.5	% v/v	8"W	A		
27	10 GPA									50	57
27	ROUNDUP ORIG MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	8"W	A		
27	PX 711	100	LIQ	0.75	% v/v	0.75	% v/v	8"W	A		
LSD (P=.05)										11.5	12.4
Replicate F										0.870	0.587
Replicate Prob(F)										0.4250	0.5599
Treatment F										0.890	1.196
Treatment Prob(F)										0.6179	0.2855

Trial Comments

1. Protocol: Precision Labs.
2. Ratings: CI/wc 14 and 28 DAT.
3. Mix Sizes:
 - 5 GPA = 0.079 gal (min .1584)
 - 7.5 GPA = 0.109 gal (min .1188)
 - 10 GPA = 0.139 gal (min .0792)
4. Nozzle size and spray pressure were constant for all treatments.
5. DA-A = Days after 8"W application.
6. AMATA population was low and not possible to evaluate AMATA control in all plots.