

Water Conditioning Agents with Gly Star Plus - United Suppliers.

Project Code: 06-10B-MW70 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: 12-1-06**Objective:**

Compare glyphosate efficacy with commercial and experimental adjuvant formulations for conditioning hard water.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMBTR	ragweed, giant	Ambrosia trifida L.
3. XANST	cocklebur, common	Xanthium strumarium L.
4. ABUTH	velvetleaf	Abutilon theophrasti Medicus
5. IPOSS	morningglory, species	Ipomoea sp.

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

Plot Width, Unit:	10 FT	Plot Length, Unit:	20 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, K2O 100 LB/A				

Soil Name:	Weir	% OM:	2	pH:	6.2	CEC:	11
Texture:	Silt loam	Fert. Level:	P1: 88 LB/A, K: 445 LB/A				

**APPLICATION DESCRIPTION**

Application Date:	6-27-06
Time of Day:	8:00
Application Method:	Spray
Application Timing:	6-8"W
Applic. Placement:	BROFOL
Air Temp., Unit:	66 F
% Relative Humidity:	92
Wind Velocity, Unit:	1-3 MPH
Dew Presence (Y/N):	Y
Soil Moisture:	NORMAL
% Cloud Cover:	80

**CROP STAGE AT EACH APPLICATION**

Crop 1 Code, Stage:	GLXMA V3
Height, Unit:	7-9 IN

**WEED STAGE AT EACH APPLICATION**

Weed 1 Code:	SETFA
Stage (leaves):	3-6
Height (inches):	2-8
Density:	High
Weed 2 Code:	AMBTR
Stage (leaves):	2-8
Height (inches):	6-10
Density:	Medium
Weed 3 Code:	XANST
Stage (leaves):	4-8
Height (inches):	4-10
Density:	High
Weed 4 Code:	ABUTH
Stage (leaves):	3-6
Height (inches):	2-8
Density:	Medium
Weed 5 Code:	IPOSS
Stage (leaves):	8-10
Height (inches):	10-12
Density:	Low

**APPLICATION EQUIPMENT**

Appl. Equipment:	CO2 sprayer
Operating Pressure:	40 PSI
Nozzle Type:	Flat fan
Nozzle Size:	XR 110015
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	12.5 GPA

**NOTES:**

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Weed Code		Crop Code		GLXMA				SETFA		SETFA		SETFA				
Rating Data Type		Injury		Injury		Injury		Control		Control		Control				
Rating Unit		Percent		Percent		Percent		Percent		Percent		Percent				
Rating Date		6-30-06		7-4-06		7-11-06		7-25-06		7-4-06		7-11-06				
Trt-Eval Interval		3 DA-A		7 DA-A		14 DA-A		28 DA-A		7 DA-A		14 DA-A				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code							
1	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
2	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
2	FORMULA 1	100	LIQ	0.75	% v/v	3	qt/100 gal	6-8"W	A							
3	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
3	SPEEDWAY	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A							
4	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
4	USEXP1	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A							
5	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
5	USEXP2	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A							
6	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
6	USEXP5	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A							
7	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
7	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"W	A							
8	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
8	AMS 2000	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"W	A							
9	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
9	AMS 20/10	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"W	A							
10	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
10	PAYOFF PLUS	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"W	A							
11	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	99
11	AMSOL PLUS	100	LIQ	5	% v/v	5	gal/100 gal	6-8"W	A							
12	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	0	0	0	0	99	99	98
12	DOUBLE DOWN	100	LIQ	2.5	% v/v	2.5	gal/100 gal	6-8"W	A							
13	NONTREATED									0	0	0	0	0	0	0
LSD (P=.05)										0.0	0.0	0.0	0.0	0.0	0.0	0.4
Replicate F										0.000	0.000	0.000	0.000	0.000	0.000	1.565
Replicate Prob(F)										1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.2296
Treatment F										0.000	0.000	0.000	0.000	0.000	0.000	45947.048
Treatment Prob(F)										1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0001

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	AMBTR	AMBTR	AMBTR	XANST	XANST	XANST	ABUTH	ABUTH	ABUTH				
						Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent				
						7-4-06	7-11-06	7-25-06	7-4-06	7-11-06	7-25-06	7-4-06	7-11-06	7-25-06				
						7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A	7 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	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	55	38	32	91	93				
2	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	60	47	35	96	98				
2	FORMULA 1	100	LIQ	0.75	% v/v	3	qt/100 gal	6-8"	W A				98	37				
3	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	62	50	33	94	95				
3	SPEEDWAY	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"	W A				97	32				
4	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	57	50	33	93	97				
4	USEXP1	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"	W A				97	33				
5	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	60	50	38	90	95				
5	USEXP2	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"	W A				96	35				
6	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	58	45	33	94	93				
6	USEXP5	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"	W A				97	35				
7	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	57	50	42	96	98				
7	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"	W A				98	40				
8	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	60	52	42	93	96				
8	AMS 2000	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"	W A				96	36				
9	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	58	48	39	95	96				
9	AMS 20/10	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"	W A				97	37				
10	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	63	50	40	94	95				
10	PAYOFF PLUS	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"	W A				97	37				
11	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	60	48	35	95	96				
11	AMSOL PLUS	100	LIQ	5	% v/v	5	gal/100 gal	6-8"	W A				97	37				
12	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"	W A	55	50	43	89	92				
12	DOUBLE DOWN	100	LIQ	2.5	% v/v	2.5	gal/100 gal	6-8"	W A				96	35				
13	NONTREATED									0	0	0	0	0				
LSD (P=.05)										6.8	8.6	8.5	4.0	4.0	1.8	5.4	5.9	5.6
Replicate F										0.283	0.687	0.187	1.824	12.715	7.608	1.410	2.182	0.750
Replicate Prob(F)										0.7562	0.5139	0.8311	0.1831	0.0002	0.0028	0.2637	0.1347	0.4831
Treatment F										51.099	22.017	14.393	357.251	371.145	1858.133	29.871	29.857	23.356
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Weed Code	IPOSS	IPOSS	IPOSS
Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date	7-4-06	7-11-06	7-25-06
Trt-Eval Interval	7 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	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	28	35	32
2	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	35	43	38
2	FORMULA 1	100	LIQ	0.75	% v/v	3	qt/100 gal	6-8"W	A			
3	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	35	38	37
3	SPEEDWAY	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A			
4	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	33	35	32
4	USEXP1	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A			
5	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	32	38	37
5	USEXP2	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A			
6	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	40	42	38
6	USEXP5	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A			
7	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	37	43	47
7	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"W	A			
8	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	35	43	38
8	AMS 2000	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"W	A			
9	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	37	42	40
9	AMS 20/10	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"W	A			
10	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	37	48	38
10	PAYOFF PLUS	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"W	A			
11	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	37	43	43
11	AMSOL PLUS	100	LIQ	5	% v/v	5	gal/100 gal	6-8"W	A			
12	GLY STAR PLUS	3	SL	0.375	lb ae/a	16	fl oz/a	6-8"W	A	37	40	40
12	DOUBLE DOWN	100	LIQ	2.5	% v/v	2.5	gal/100 gal	6-8"W	A			
13	NONTREATED									0	0	0
	LSD (P=.05)									5.8	6.0	8.0
	Replicate F									1.991	11.115	6.287
	Replicate Prob(F)									0.1585	0.0004	0.0064
	Treatment F									25.955	33.305	17.364
	Treatment Prob(F)									0.0001	0.0001	0.0001

## Trial Comments

1. Protocol: United Suppliers.
2. Ratings: CI 3 + 7 DAT; WC 7, 14 + 28 DAT.
3. Spraying instructions: Use XR 110015 tips.
4. DA-A = Days after 6-8"W application.
5. IPOSS was IPOHE (ivyleaf morningglory) and IPOLA (pitted morningglory).
6. Not harvested.