

Adjuvant Studies, Corn or Soybean

12-12-06 (06-10B-E70)

Southern Illinois University

Water Conditioning Agents with Roundup OriginalMax - United Suppliers.

Project Code: 06-10B-E70 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. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.

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, K20 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

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Application Date:	6-27-06
Time of Day:	9:00
Application Method:	Spray
Application Timing:	6-8"W
Applic. Placement:	BROFOL
Air Temp., Unit:	66 F
% Relative Humidity:	92
Wind Velocity, Unit:	5 MPH
Soil Moisture:	NORMAL
% Cloud Cover:	25

CROP STAGE AT EACH APPLICATION

A

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

WEED STAGE AT EACH APPLICATION

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Weed 1 Code:	SETFA
Stage (leaves):	3-5
Height (inches):	3-8
Density:	High
Weed 2 Code:	AMBTR
Stage (leaves):	4-8
Height (inches):	6-12
Density:	Medium
Weed 3 Code:	XANST
Stage (leaves):	3-7
Height (inches):	5-8
Density:	Medium
Weed 4 Code:	ABUTH
Stage (leaves):	3-5
Height (inches):	3-9
Density:	Medium
Weed 5 Code:	IPOHE
Stage (leaves):	8-10
Height (inches):	8-12
Density:	Low

APPLICATION EQUIPMENT

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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	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	GLXMA Injury Percent	GLXMA Injury Percent	GLXMA Injury Percent	GLXMA Injury Percent	SETFA Control Percent	SETFA Control Percent	SETFA Control Percent			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Prod Rate	Prod Unit	Grow Stg	Appl Code							
				Unit	Rate	Unit			3 DA-A	7 DA-A	14 DA-A	28 DA-A			
1	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
2	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
2	FORMULA 1	100 LIQ		0.75 % v/v	3 qt/100 gal		6-8"W A					99			
3	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
3	SPEEDWAY	100 LIQ		0.25 % v/v	1 qt/100 gal		6-8"W A					99			
4	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
4	USEXP1	100 LIQ		0.25 % v/v	1 qt/100 gal		6-8"W A					99			
5	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
5	USEXP2	100 LIQ		0.25 % v/v	1 qt/100 gal		6-8"W A					99			
6	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
6	USEXP5	100 LIQ		0.25 % v/v	1 qt/100 gal		6-8"W A					99			
7	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
7	AMS	100 DRY		2.0 % w/w	17 lb/100 gal		6-8"W A					99			
8	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
8	AMS 2000	100 DRY		2.0 % w/w	17 lb/100 gal		6-8"W A					99			
9	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
9	AMS 20/10	100 DRY		1.2 % w/w	10 lb/100 gal		6-8"W A					99			
10	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
10	PAYOFF PLUS	100 DRY		1.2 % w/w	10 lb/100 gal		6-8"W A					99			
11	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
11	AMSOL PLUS	100 LIQ		5 % v/v	5 gal/100 gal		6-8"W A					99			
12	ROUNDUP ORIG MAX	4.5 SL		0.375 lb ae/a	10.7 fl oz/a		6-8"W A		0	0	0	99			
12	DOUBLE DOWN	100 LIQ		2.5 % v/v	2.5 gal/100 gal		6-8"W A					99			
13	NONTREATED								0	0	0	0			
LSD (P=.05)									0.0	0.0	0.0	0.0	0.4	0.0	0.3
Replicate F									0.000	0.000	0.000	0.000	2.182	0.000	1.000
Replicate Prob(F)									1.0000	1.0000	1.0000	1.0000	0.1347	1.0000	0.3827
Treatment F									0.000	0.000	0.000	0.000	48061.005	0.000	88160.509
Treatment Prob(F)									1.0000	1.0000	1.0000	1.0000	0.0001	1.0000	0.0001

Water Conditioning Agents with Roundup OriginalMax - United Suppliers.

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								AMBTR	AMBTR	AMBTR	XANST	XANST	XANST	
								Control	Control	Control	Control	Control	Control	
								Percent	Percent	Percent	Percent	Percent	Percent	
								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	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	57	42	33	87	90	92
2	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	57	45	33	91	93	97
2	FORMULA 1	100	LIQ	0.75 % v/v	3	qt/100 gal	6-8"W	A						
3	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	53	40	35	91	95	96
3	SPEEDWAY	100	LIQ	0.25 % v/v	1	qt/100 gal	6-8"W	A						
4	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	55	47	40	92	97	98
4	USEXP1	100	LIQ	0.25 % v/v	1	qt/100 gal	6-8"W	A						
5	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	62	52	38	93	96	97
5	USEXP2	100	LIQ	0.25 % v/v	1	qt/100 gal	6-8"W	A						
6	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	62	50	43	88	94	96
6	USEXP5	100	LIQ	0.25 % v/v	1	qt/100 gal	6-8"W	A						
7	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	62	53	53	91	94	97
7	AMS	100	DRY	2.0 % w/w	17	lb/100 gal	6-8"W	A						
8	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	60	48	46	96	97	97
8	AMS 2000	100	DRY	2.0 % w/w	17	lb/100 gal	6-8"W	A						
9	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	62	50	48	94	97	97
9	AMS 20/10	100	DRY	1.2 % w/w	10	lb/100 gal	6-8"W	A						
10	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	62	50	45	92	98	97
10	PAYOFF PLUS	100	DRY	1.2 % w/w	10	lb/100 gal	6-8"W	A						
11	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	63	48	43	95	95	97
11	AMSOL PLUS	100	LIQ	5 % v/v	5	gal/100 gal	6-8"W	A						
12	ROUNDUP ORIG MAX	4.5	SL	0.375 lb ae/a	10.7	fl oz/a	6-8"W	A	58	40	42	93	97	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
LSD (P=.05)									7.3	9.6	11.9	7.8	5.2	3.3
Replicate F									3.111	1.833	1.990	5.856	4.058	1.863
Replicate Prob(F)									0.0629	0.1817	0.1587	0.0085	0.0303	0.1770
Treatment F									44.803	17.438	10.181	91.240	219.566	554.180
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Weed Code								ABUTH	ABUTH	ABUTH	IPOHE	IPOHE	IPOHE		
Crop Code								Control	Control	Control	Control	Control	Control		
Rating Data Type								Percent	Percent	Percent	Percent	Percent	Percent		
Rating Unit								7-4-06	7-11-06	7-25-06	7-4-06	7-11-06	7-25-06		
Rating Date								7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A		
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	28	30	27	30	30	43
2	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	30	30	25	33	37	42
2	FORMULA 1	100	LIQ	0.75	% v/v	3	qt/100 gal	6-8"W	A						
3	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	28	23	22	32	35	42
3	SPEEDWAY	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A						
4	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	30	25	23	32	37	41
4	USEXP1	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A						
5	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	37	30	28	35	37	42
5	USEXP2	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A						
6	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	33	28	28	35	37	43
6	USEXP5	100	LIQ	0.25	% v/v	1	qt/100 gal	6-8"W	A						
7	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	38	33	40	37	39	43
7	AMS	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"W	A						
8	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	40	42	43	38	43	42
8	AMS 2000	100	DRY	2.0	% w/w	17	lb/100 gal	6-8"W	A						
9	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	42	42	37	38	38	42
9	AMS 20/10	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"W	A						
10	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	43	46	39	37	42	42
10	PAYOFF PLUS	100	DRY	1.2	% w/w	10	lb/100 gal	6-8"W	A						
11	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	42	47	38	38	42	43
11	AMSOL PLUS	100	LIQ	5	% v/v	5	gal/100 gal	6-8"W	A						
12	ROUNDUP ORIG MAX	4.5	SL	0.375	lb ae/a	10.7	fl oz/a	6-8"W	A	38	42	37	33	37	42
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
	LSD (P=.05)									7.3	9.3	9.5	5.3	7.0	4.5
	Replicate F									0.103	1.748	1.577	0.447	0.144	17.561
	Replicate Prob(F)									0.9021	0.1956	0.2272	0.6449	0.8664	0.0001
	Treatment F									20.534	15.226	12.468	30.202	20.814	58.572
	Treatment Prob(F)									0.0001	0.0001	0.0001	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. Not harvested.