

Glyphosate NIS Study.

Project Code: 05-2A-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:      11-03-05

**Objective:**

Evaluate various non-ionic surfactants with a no-surfactant glyphosate formulation.

Weed Code	Common Name	Scientific Name
1.	AMBEL ragweed, common	Ambrosia artemisiifolia L.
2.	SETFA foxtail, giant	Setaria faberi Herrm.
3.	XANST cocklebur, common	Xanthium strumarium L.
4.	ABUTH velvetleaf	Abutilon theophrasti Medicus
5.	AMATA waterhemp, common	Amaranthus rudis Sauer

Crop 1:            GLXMA soybean            Variety:      Asgrow 4403 RR  
 Planting Method: Seeded            Planting Date: 5-17-05  
 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:      Reduced-Till      Study Design: Randomized complete block  
 Previous Crop, Year: ZEAMX, 2004

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

Soil Name: Weir            % OM: 1.6      pH: 6.2      CEC: 7  
 Texture: Silt loam      Fert. Level: P1: 93 LB/A, K: 448 LB/A

**APPLICATION DESCRIPTION**

**A**  
 Application Date: 06-16-05  
 Time of Day: 13:30  
 Application Method: Spray  
 Application Timing: 6-8"W  
 Applic. Placement: BROFOL  
 Air Temp., Unit: 78  
 % Relative Humidity: 40  
 Wind Velocity, Unit: 1-3 MPH  
 Soil Moisture: NORMAL

**CROP STAGE AT EACH APPLICATION**

**A**  
 Crop 1 Code, Stage: GLXMA V2  
 Height, Unit: 5-6 IN

**WEED STAGE AT EACH APPLICATION**

**A**

Weed 1 Code: AMBEL  
 Stage (leaves): 6-7  
 Height (inches): 5-6  
 Density: High

Weed 2 Code: SETFA  
 Stage (leaves): 4-5  
 Height (inches): 5-8  
 Density: High

Weed 3 Code: XANST  
 Stage (leaves): 5-6  
 Height (inches): 6-8  
 Density: Medium

Weed 4 Code: ABUTH  
 Stage (leaves): 5-6  
 Height (inches): 4-6  
 Density: Medium

Weed 5 Code: AMATA  
 Stage (leaves): 5-8  
 Height (inches): 2-4  
 Density: Low

**APPLICATION EQUIPMENT**

**A**  
 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: 10 GPA

**NOTES:**

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	GLXMA Injury Percent 06-30-05 14 DA-A	GLXMA Injury Percent 07-14-05 28 DA-A	AMBEL Control Percent 06-30-05 14 DA-A	AMBEL Control Percent 07-14-05 28 DA-A	SETFA Control Percent 06-30-05 14 DA-A	SETFA Control Percent 07-14-05 28 DA-A	XANST Control Percent 06-30-05 14 DA-A	XANST Control Percent 07-14-05 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	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	71	75				
3	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	78	63				
3	PREFERENCE	100 LIQ		0.25 % v/v		0.25 % v/v		6-8"W A				93	87				
4	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	87	75				
4	AG 03019	100 LIQ		0.25 % v/v		0.25 % v/v		6-8"W A				98	88				
5	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	94	68				
5	AG 03037	100 LIQ		0.25 % v/v		0.25 % v/v		6-8"W A				96	93				
6	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	85	62				
6	AG 04082	100 LIQ		0.25 % v/v		0.25 % v/v		6-8"W A				95	92				
7	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	73	58				
7	AG 05015	100 LIQ		0.25 % v/v		0.25 % v/v		6-8"W A				89	90				
8	TOUCHDOWN HI-TECH	5 SC		0.25 lb ae/a		6.4 fl oz/a		6-8"W A		0	0	65	53				
8	AG 05013	100 LIQ		0.25 % v/v		0.25 % v/v		6-8"W A				85	88				
LSD (P=.05)										0.0	0.0	15.3	14.4	8.5	6.4	34.9	19.0
Replicate F										0.000	0.000	4.445	0.597	1.864	7.080	0.470	3.230
Replicate Prob(F)										1.0000	1.0000	0.0320	0.5637	0.1916	0.0075	0.6343	0.0702
Treatment F										0.000	0.000	34.428	25.853	136.727	222.911	8.472	28.550
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0004	0.0001

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Weed Code	ABUTH	ABUTH	AMATA	AMATA
Crop Code				
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Date	06-30-05	07-14-05	06-30-05	07-14-05
Trt-Eval Interval	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	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	3	15	97	93
3	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	5	13	92	82
3	PREFERENCE	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A				
4	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	5	25	98	95
4	AG 03019	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A				
5	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	3	17	98	83
5	AG 03037	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A				
6	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	5	15	97	93
6	AG 04082	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A				
7	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	3	13	97	96
7	AG 05015	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A				
8	TOUCHDOWN HI-TECH	5	SC	0.25	lb ae/a	6.4	fl oz/a	6-8"W	A	0	8	99	95
8	AG 05013	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A				
LSD (P=.05)										8.2	11.2	4.3	11.5
Replicate F										1.000	0.480	0.084	0.313
Replicate Prob(F)										0.3927	0.6285	0.9196	0.7364
Treatment F										0.592	3.697	595.337	73.707
Treatment Prob(F)										0.7525	0.0179	0.0001	0.0001

## Trial Comments

1. Protocol: Agrilience.
2. Ratings: CI/WC 14 and 28 DAT.
3. DA-A = Days after 6-8"W application.