

Glyphosate plus Micronutrients in Soybean - Winfield Solutions.

Trial ID: 10-2B-M70

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Belleville IL 62221 USA
 Trial Status: FINAL Initiation Date: 06-10-10

Objectives: Determine the effect of micronutrients and adjuvants
 on the efficacy of glyphosate in soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 Description: RR/STS
 Planting Method: SEEDED Planting Date: 06-10-10
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant
 Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 3 Type: W Code: AMBEL Ambrosia artemisiifolia L. ragweed, common
 Pest 4 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf
 Pest 5 Type: W Code: GGGAN grasses, annual

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 28 FT Tillage Type: REDUCED-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2009

Field Prep./Maintenance: N 0 LB/A, P2O5 0 LB/A, K2O 150 LB/A

% OM: 1.6 Texture: SILT LOAM
 pH: 6.8 Soil Name: PIERRON
 CEC: 8 Fert. Level: P1: 77 LB/A, K: 252 LB/A

Application Description

A
 Application Date: 07-02-10
 Time of Day: 4:45
 Application Method: Spray
 Application Timing: 4-6"W
 Application Placement: BROFOL
 Applied By: DKP
 Air Temperature, Unit: 68 F
 % Relative Humidity: 92
 Wind Velocity, Unit: 0 MPH
 Wind Direction: NA
 Dew Presence (Y/N): Y
 Soil Moisture: NORMAL
 % Cloud Cover: 0

07-02-10
 Crop stage at application: V2-V3
 Height Min, Max (inch): 4 7

Pest Stage At Each Application

Application Date: 07-02-10
 Weed Code: AMBTR
 Stage Majority (leaves): 6
 Stage Min, Max: 2 10
 Height Majority: 6 IN
 Height Min, Max: 3 10
 Density, Unit: 3 FT2
 Weed Code: AMATA
 Stage Majority (leaves): 8
 Stage Min, Max: 2 12
 Height Majority: 5 IN
 Height Min, Max: 2 7
 Density, Unit: 3 FT2
 Weed Code: AMBEL
 Stage Majority (leaves): 4
 Stage Min, Max: 2 6
 Height Majority: 3 IN
 Height Min, Max: 1 6
 Density, Unit: 0.01 FT2
 Weed Code: ABUTH
 Stage Majority (leaves): 4
 Stage Min, Max: 2 6
 Height Majority: 5 IN
 Height Min, Max: 2 7
 Density, Unit: 0.01 FT2
 Weed Code: GGGAN
 Stage Majority (leaves): 5
 Stage Min, Max: 1 7
 Height Majority: 5 IN
 Height Min, Max: 1 8
 Density, Unit: 5 FT2

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Application Equipment

Appl. Equipment:	CO2 sprayer
Operating Pressure:	30 PSI
Nozzle Type:	Flat fan
Nozzle Size:	TT 110015
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	10 GPA

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Pest Code										GLXMA		AMBTR	AMBTR	AMATA	AMATA	AMBEL	AMBEL
Crop Code										07-16-10	07-30-10	07-16-10	07-30-10	07-16-10	07-30-10	07-16-10	07-30-10
Rating Date										Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Data Type										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit																	
Rating Timing																	
Trt-Eval Interval										14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	7 de	11 e	13 de	10 d	10 d	3 cd
2	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	20 ab	14 b-e	23 a	19 ab	21 a	10 a
2	CLASS ACT NG	100 SL		2.5 % v/v		2.5 % v/v		4-6"W	A								
3	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	21 ab	18 abc	12 e	18 abc	20 ab	8 ab
3	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
4	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	12 cd	13 de	20 ab	17 abc	20 ab	10 a
4	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
4	CLASS ACT NG	100 SL		2.5 % v/v		2.5 % v/v		4-6"W	A								
5	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	22 a	18 ab	20 ab	19 ab	13 bcd	6 bc
5	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
5	AG 10003	100 SL		1 % v/v		1 % v/v		4-6"W	A								
6	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	25 a	17 a-d	19 abc	20 a	12 cd	6 bc
6	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
6	AG 10003	100 SL		1.5 % v/v		1.5 % v/v		4-6"W	A								
7	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	10 cd	12 e	13 de	15 c	13 bcd	9 ab
7	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
7	AG 10003	100 SL		2 % v/v		2 % v/v		4-6"W	A								
8	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	18 abc	13 de	15 b-e	15 c	17 a-d	7 ab
8	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
8	AG 10004	100 SL		1 % v/v		1 % v/v		4-6"W	A								
9	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	23 a	20 a	18 a-d	17 abc	20 ab	10 a
9	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
9	AG 10004	100 SL		1.5 % v/v		1.5 % v/v		4-6"W	A								
10	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	20 ab	14 cde	19 abc	19 ab	17 a-d	7 ab
10	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
10	AG 10004	100 SL		2 % v/v		2 % v/v		4-6"W	A								
11	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	10 cd	13 de	14 cde	16 bc	17 a-d	6 bc
11	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
11	AG 10009	100 SL		1 % v/v		1 % v/v		4-6"W	A								
12	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	13 bcd	13 de	18 a-d	18 abc	18 abc	10 a
12	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
12	AG 10009	100 SL		1.5 % v/v		1.5 % v/v		4-6"W	A								
13	TOUCHDOWN HI-TECH	5 SL		0.39 lb ae/a		10 fl oz/a		4-6"W	A	0 a	0 a	10 cd	12 e	20 ab	18 abc	13 bcd	6 bc
13	AGM 09026	100 SL		1 qt/a		1 qt/a		4-6"W	A								
13	AG 10009	100 SL		2 % v/v		2 % v/v		4-6"W	A								
14	NONTREATED									0 a	0 a	0 e	0 f	0 f	0 e	0 e	0 d
LSD (P=.05)										0.0	0.0	8.2	4.1	5.0	3.6	7.4	3.6
Replicate F										0.000	0.000	0.302	2.710	3.111	2.347	0.103	0.892
Replicate Prob(F)										1.0000	1.0000	0.7417	0.0853	0.0614	0.1156	0.9026	0.4220
Treatment F										0.000	0.000	6.704	11.434	10.934	18.427	4.747	5.564
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0004	0.0000

Means followed by same letter do not significantly differ (P=.05, LSD)

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Location: Belleville Res. Center

Pest Code	ABUTH	ABUTH	GGGAN
Crop Code			
Rating Date	07-16-10	07-30-10	07-16-10
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	14 DA-A	28 DA-A	14 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	12 f	18 d	52 def
2	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	20 ab	27 ab	72 a
2	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		4-6"W	A			
3	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	18 abc	28 ab	42 f
3	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
4	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	22 a	31 a	63 abc
4	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
4	CLASS ACT NG	100	SL	2.5 % v/v	2.5 % v/v		4-6"W	A			
5	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	20 ab	24 bc	63 abc
5	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
5	AG 10003	100	SL	1 % v/v	1 % v/v		4-6"W	A			
6	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	13 def	19 cd	63 abc
6	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
6	AG 10003	100	SL	1.5 % v/v	1.5 % v/v		4-6"W	A			
7	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	13 def	20 cd	65 abc
7	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
7	AG 10003	100	SL	2 % v/v	2 % v/v		4-6"W	A			
8	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	10 f	19 cd	50 ef
8	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
8	AG 10004	100	SL	1 % v/v	1 % v/v		4-6"W	A			
9	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	12 ef	18 d	62 a-d
9	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
9	AG 10004	100	SL	1.5 % v/v	1.5 % v/v		4-6"W	A			
10	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	13 def	18 d	70 ab
10	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
10	AG 10004	100	SL	2 % v/v	2 % v/v		4-6"W	A			
11	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	16 cde	23 bcd	58 cde
11	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
11	AG 10009	100	SL	1 % v/v	1 % v/v		4-6"W	A			
12	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	18 bc	27 ab	63 abc
12	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
12	AG 10009	100	SL	1.5 % v/v	1.5 % v/v		4-6"W	A			
13	TOUCHDOWN HI-TECH	5	SL	0.39 lb ae/a	10 fl oz/a		4-6"W	A	17 bcd	23 bcd	60 b-e
13	AGM 09026	100	SL	1 qt/a	1 qt/a		4-6"W	A			
13	AG 10009	100	SL	2 % v/v	2 % v/v		4-6"W	A			
14	NONTREATED								0 g	0 e	0 g
LSD (P=.05)									3.8	5.7	10.6
Replicate F									1.108	1.042	0.728
Replicate Prob(F)									0.3455	0.3670	0.4925
Treatment F									17.189	14.348	24.119
Treatment Prob(F)									0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Winfield Solutions.
2. Ratings: CI/WC at 14 and 28 DAT.
3. GGGAN = Annual grasses including SETFA (giant foxtail) and PANDI (fall panicum).
4. Weed control was lower than expected due to the very early morning application time.
Not possible to rate GGGAN at 28 DA-A due to competition from dense AMBTR.
5. Not harvested.