

Glyphosate Formulation Evaluation - Winfield Solutions.

Trial ID: 09-51E-N60

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: 06-29-09

Objectives: Evaluate experimental formulations of glyphosate for weed control
 and crop injury in Roundup Ready soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 Description: RR/STS
 Planting Method: SEEDED Planting Date: 06-30-09
 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: ABUTH Abutilon theophrasti Medicus velvetleaf
 Pest 3 Type: W Code: IPOHE Ipomoea hederacea (L.) Jacq. morningglory, ivyleaf
 Pest 4 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 5 Type: W Code: GGGAN grasses, annual

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 27 FT Tillage Type: REDUCED-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2008

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 150 LB/A

% OM: 2.2 Texture: SILT LOAM
 pH: 6.7 Soil Name: PIERRON
 CEC: 11 Fert. Level: P1: 90 LB/A, K: 409 LB/A

Application Description

A

Application Date: 07-29-09
 Time of Day: 15:45
 Application Method: Spray
 Application Timing: 6-8"W
 Application Placement: BROFOL
 Applied By: DKP
 Air Temperature, Unit: 88 F
 % Relative Humidity: 40
 Wind Velocity, Unit: 3 MPH
 Wind Direction: NW
 Dew Presence (Y/N): N
 Soil Moisture: NORMAL
 % Cloud Cover: 10

07-29-09
 Crop stage at application: V3-V4
 Height Min, Max (inch): 5 7

Pest Stage At Each Application

Application Date: 06-29-09
 Weed Code: AMBTR
 Stage Majority (leaves): 6
 Stage Min, Max: 4 10
 Height Majority: 7 IN
 Height Min, Max: 3.5 10
 Density, Unit: 0.7 FT2
 Weed Code: ABUTH
 Stage Majority (leaves): 4
 Stage Min, Max: 3 6
 Height Majority: 5 IN
 Height Min, Max: 1.5 6
 Density, Unit: 0.5 FT2
 Weed Code: IPOHE
 Stage Majority (leaves): 4
 Stage Min, Max: 3 7
 Height Majority: 6 IN
 Height Min, Max: 2 7
 Density, Unit: 0.9 FT2
 Weed Code: AMATA
 Stage Majority (leaves): 5
 Stage Min, Max: 3 10
 Height Majority: 4 IN
 Height Min, Max: 1 5
 Density, Unit: 0.9 FT2
 Weed Code: GGGAN
 Stage Majority (leaves): 3
 Stage Min, Max: 1 5
 Height Majority: 6 IN
 Height Min, Max: 3 8
 Density, Unit: 0.9 FT2

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Application Equipment

Appl. Equipment:	CO2 sprayer
Operating Pressure:	30 PSI
Nozzle Type:	Flat fan
Nozzle Size:	XR 8002
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	15 GPA

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Pest Code										AMBTR		AMBTR		ABUTH		ABUTH		IPOHE		IPOHE	
Crop Code										GLXMA		GLXMA		08-12-09		08-26-09		08-12-09		08-26-09	
Rating Date										Injury		Injury		Control		Control		Control		Control	
Rating Data Type										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	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code												
1	ROUNDUP POWERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	6-8"W	A	0 a	0 a	86 bc	87 d	72 b	57 bcd	67 b	58 bc				
2	CORNERSTONE PLUS	3	SL	0.56	lb ae/a	24	fl oz/a	6-8"W	A	0 a	0 a	88 b	87 cd	70 b	55 cd	65 b	63 bc				
3	AGH 09001		SL	24	fl oz/a	24	fl oz/a	6-8"W	A	0 a	0 a	84 c	87 cd	72 b	50 d	65 b	60 bc				
4	AGH 09002		SL	19.5	fl oz/a	19.5	fl oz/a	6-8"W	A	0 a	0 a	86 bc	91 b	76 ab	64 b	63 b	65 b				
5	AGH 09003		SL	24	fl oz/a	24	fl oz/a	6-8"W	A	0 a	0 a	95 a	94 a	83 a	83 a	77 a	78 a				
6	AGH 09004		SL	19.5	fl oz/a	19.5	fl oz/a	6-8"W	A	0 a	0 a	87 bc	90 bc	72 b	59 bc	63 b	57 bc				
7	AGH 09005		SL	24	fl oz/a	24	fl oz/a	6-8"W	A	0 a	0 a	93 a	94 a	70 b	63 bc	70 ab	63 bc				
8	AGH 09006		SL	19.5	fl oz/a	19.5	fl oz/a	6-8"W	A	0 a	0 a	85 bc	82 e	67 b	50 d	65 b	55 c				
9	NONTREATED									0 a	0 a	0 d	0 f	0 c	0 e	0 c	0 d				
10	NONTREATED									0 a	0 a	0 d	0 f	0 c	0 e	0 c	0 d				
LSD (P=.05)										0.0	0.0	3.0	3.2	9.4	8.4	8.9	9.3				
Replicate F										0.000	0.000	6.379	1.827	6.336	7.596	0.654	2.795				
Replicate Prob(F)										1.0000	1.0000	0.0081	0.1895	0.0083	0.0041	0.5319	0.0877				
Treatment F										0.000	0.000	1348.275	1237.641	96.099	90.927	90.896	75.319				
Treatment Prob(F)										1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001				

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

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Pest Code	AMATA	AMATA	GGGAN	GGGAN
Crop Code				
Rating Date	08-12-09	08-26-09	08-12-09	08-26-09
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Timing				
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	Other Rate	Other Unit	Growth Stage	Appl Code				
1	ROUNDUP POWERMAX	4.5	SL	0.58	lb ae/a	16.5	fl oz/a	6-8"W	A	87	ab	79	bcd
2	CORNERSTONE PLUS	3	SL	0.56	lb ae/a	24	fl oz/a	6-8"W	A	88	ab	83	abc
3	AGH 09001		SL	24	fl oz/a	24	fl oz/a	6-8"W	A	85	b	76	cd
4	AGH 09002		SL	19.5	fl oz/a	19.5	fl oz/a	6-8"W	A	91	ab	88	ab
5	AGH 09003		SL	24	fl oz/a	24	fl oz/a	6-8"W	A	93	ab	92	a
6	AGH 09004		SL	19.5	fl oz/a	19.5	fl oz/a	6-8"W	A	85	b	75	cd
7	AGH 09005		SL	24	fl oz/a	24	fl oz/a	6-8"W	A	94	a	88	ab
8	AGH 09006		SL	19.5	fl oz/a	19.5	fl oz/a	6-8"W	A	75	c	70	d
9	NONTREATED									0	d	0	e
10	NONTREATED									0	d	0	e
LSD (P=.05)										8.6		10.9	
Replicate F										0.037		1.498	
Replicate Prob(F)										0.9637		0.2501	
Treatment F										164.072		91.512	
Treatment Prob(F)										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. Treatment 9 was TBA and no treatment was ever assigned.
4. GGGAN = Annual grasses including SETFA (giant foxtail) and PANDI (fall panicum).
5. Not harvested.