

Flexstar GT Efficacy and Crop Tolerance in Glyphosate-Tolerant Soybean.

Trial ID: 10-DSO-FlexForm Location: De Soto, IL

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: De Soto IL 62924 USA
 Trial Status: FINAL Initiation Date: 05-08-10

Objectives: Compare crop tolerance and weed control of Flexstar GT reformulation (A17898A) to current Flexstar GT (A16918A), Flexstar plus Touchdown Total tank-mix and Touchdown Total at equivalent rates in glyphosate tolerant soybean.

Crop 1: GLXMA Soybean Variety: AG 4005 Description: RR
 Planting Method: SEEDED Planting Date: 05-08-10
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest Description: glyphosate-resistant waterhemp

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: NO-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2009

Field Prep./Maintenance: N 13 LB/A, P205 34 LB/A, K20 92 LB/A

% OM: 2.5 Texture: SILT LOAM
 pH: 6.8 Soil Name: OKAW
 CEC: 12 Fert. Level: P1 88 LB/A, K 207 LB/A

Application Description

A
 Application Date: 05-28-10
 Time of Day: 15:45
 Application Method: Spray
 Application Timing: EPOST
 Application Placement: BROFOL
 Applied By: NVH
 Air Temperature, Unit: 86 F
 % Relative Humidity: 51
 Wind Velocity, Unit: 3 MPH
 Wind Direction: NE
 Dew Presence (Y/N): N
 Soil Temperature, Unit: 82 F
 Soil Moisture: ABONOR
 % Cloud Cover: 5

Crop stage at application: 05-28-10 V1-V2
 Height Min, Max (inch): 3 6

Pest Stage At Each Application

Application Date: 05-28-10
 Weed Code: AMATA
 Stage Majority (leaves): 6
 Stage Min, Max: COTY 10
 Height Majority: 4 IN
 Height Min, Max: 0.5 6
 Density, Unit: 35 FT2

Application Equipment

Appl. Equipment: CO2 sprayer
 Operating Pressure: 30 PSI
 Nozzle Type: Flat fan
 Nozzle Size: XR 8002
 Boom Length, Unit: 6.67 FT
 Spray Volume, Unit: 15 GPA

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Pest Code										AMATA-HR		AMATA-HR		AMATA-HR	
Crop Code										06-04-10		06-11-10		06-25-10	
Rating Date										Injury		Injury		Injury	
Rating Data Type										Percent		Percent		Percent	
Rating Unit										Control		Control		Control	
Rating Timing										Percent		Percent		Percent	
Trt-Eval Interval										7 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	NONTREATED									0 k		0 g		0 a	
2	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		0 k		0 g		0 a	
2	TOUCHDOWN TOTAL	4.17 SL		1 lb ae/a		30.7 fl oz/a		EPOST A				71 f		28 d	
3	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		13 gh		6 e		0 a	
3	FLEXSTAR	1.88 EC		0.25 lb ai/a		1.06 pt/a		EPOST A						98 abc	
3	TOUCHDOWN TOTAL	4.17 SL		1 lb ae/a		30.7 fl oz/a		EPOST A						97 ab	
3	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						95 ab	
4	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		13 h		7 de		0 a	
4	FLEXSTAR GT	3.31 SL		1.24 lb ai/a		3 pt/a		EPOST A						97 abc	
4	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						96 ab	
5	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		16 def		6 e		0 a	
5	FLEXSTAR GT	3.31 SL		1.87 lb ai/a		4.53 pt/a		EPOST A						98 abc	
5	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						97 ab	
6	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		4 j		0 g		0 a	
6	A17898	2.82 SL		1.25 lb ai/a		3.55 pt/a		EPOST A						95 e	
7	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		7 i		3 f		0 a	
7	A17898	2.82 SL		1.87 lb ai/a		5.3 pt/a		EPOST A						93 abc	
8	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		19 cd		8 cd		0 a	
8	A17898	2.82 SL		1.25 lb ai/a		3.55 pt/a		EPOST A						97 bcd	
8	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						96 ab	
9	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		18 cde		6 e		0 a	
9	A17898	2.82 SL		1.87 lb ai/a		5.3 pt/a		EPOST A						98 abc	
9	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						97 ab	
10	28% UAN	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		20 c		7 de		0 a	
10	A17898	2.82 SL		1.25 lb ai/a		3.55 pt/a		EPOST A						98 abc	
10	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						98 ab	
11	28% UAN	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		19 cd		8 cd		0 a	
11	A17898	2.82 SL		1.87 lb ai/a		5.3 pt/a		EPOST A						97 ab	
11	MSO (DESTINY)	100 SL		1.0 % v/v		1 % v/v		EPOST A						97 ab	
12	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		16 efg		7 de		0 a	
12	A17898	2.82 SL		1.25 lb ai/a		3.55 pt/a		EPOST A						98 ab	
12	COC (PRIME OIL)	100 SL		1.0 % v/v		1 % v/v		EPOST A						97 ab	
13	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		19 cd		9 bc		0 a	
13	A17898	2.82 SL		1.87 lb ai/a		5.3 pt/a		EPOST A						98 abc	
13	COC (PRIME OIL)	100 SL		1.0 % v/v		1 % v/v		EPOST A						97 ab	
14	28% UAN	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		14 fgh		7 de		0 a	
14	A17898	2.82 SL		1.25 lb ai/a		3.55 pt/a		EPOST A						97 abc	
14	COC (PRIME OIL)	100 SL		1.0 % v/v		1 % v/v		EPOST A						95 ab	
15	28% UAN	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		18 cde		7 de		0 a	
15	A17898	2.82 SL		1.87 lb ai/a		5.3 pt/a		EPOST A						98 a	
15	COC (PRIME OIL)	100 SL		1.0 % v/v		1 % v/v		EPOST A						98 a	
16	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		32 a		13 a		0 a	
16	COBRA	2 EC		0.156 lb ai/a		10 fl oz/a		EPOST A						97 bcd	
16	ROUNDUP POWERMAX	4.5 SL		1 lb ae/a		28.4 fl oz/a		EPOST A						92 bc	
16	COC (PRIME OIL)	100 SL		1.0 % v/v		1 % v/v		EPOST A						75 c	
17	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		EPOST A		25 b		11 b		0 a	
17	ULTRA BLAZER	2 EC		0.25 lb ai/a		1 pt/a		EPOST A						96 de	
17	ROUNDUP POWERMAX	4.5 SL		1 lb ae/a		28.4 fl oz/a		EPOST A						89 c	
17	COC (PRIME OIL)	100 SL		1.0 % v/v		1 % v/v		EPOST A						70 c	
LSD (P=.05)										2.6		2.1		0.0	
												1.3		6.0	
														5.7	

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Rating Data Type										Percent	Percent	Percent
Rating Unit										Percent	Percent	Percent
Rating Timing										Percent	Percent	Percent
Trt-Eval Interval										7 DA-A	14 DA-A	28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code			
Replicate F										1.452	7.538	0.000
Replicate Prob(F)										0.2492	0.0021	1.0000
Treatment F										83.880	23.979	0.000
Treatment Prob(F)										0.0001	0.0001	1.0000
										5.878	3.173	0.966
										0.0067	0.0553	0.3915
										3085.313	174.714	256.221
										0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: Syngenta (FM050A).
2. Ratings: CI 7, 14 + 28 DA-A. WC 14, 28 + 42 DA-A.
3. EPOST = 2 to 4 inch AMATA.
4. Note any mixing or spraying differences between the old and new formulations, including dispersion in water, foaming, spray pattern, residue in nozzles, screens, or in bottom of container.
5. No yield.
6. Blanket burndown application of Gramoxone Inteon (3.5 pt/A) + 2,4-D (1 pt/A) + COC (1%) to be applied to all plots 7 DBP.
7. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
8. Observations at mixing and spraying; Both old and new formulations had good dispersion in water, the new formulation produced less foam than the old, no residue was observed in nozzles, screens, nor the bottom of the container for either the old or the new formulation.
9. Not harvested.