

Flexstar GT 3.5 Programs in Soybean.

Trial ID: 11-DSO-FlexGT3.5 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: 5-20-11

Objectives: Evaluate weed control from residual herbicides followed by Flexstar GT 3.5 postemergence.

Crop 1: GLXMA Soybean Variety: AG 4005 Description: RR  
 Planting Method: SEEDED Planting Date: 5-20-11  
 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. ZEAMD 2010

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

% Sand: 13.2 % OM: 2.4 Texture: SILT LOAM  
 % Silt: 65.5 pH: 6.6 Soil Name: OKAW  
 % Clay: 21.3 CEC: 12.5 Fert. Level: P1 40 LB/A, K 238 LB/A

Application Description

	A	B	C
Application Date:	5-20-11	6-16-11	6-30-11
Time of Day:	18:00	10:00	14:30
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	1-2"WH	1-2"RG
Application Placement:	BROSIOI	BROFOL	BROFOL
Applied By:	JRK	JRK	CME
Air Temperature, Unit:	84 F	82 F	93 F
% Relative Humidity:	50	42	53
Wind Velocity, Unit:	3 MPH	2 MPH	1 MPH
Wind Direction:	S	S	E
Dew Presence (Y/N):	N	N	N
Soil Temperature, Unit:	74 F	76 F	81 F
Soil Moisture:	NORMAL	NORMAL	NORMAL
% Cloud Cover:	100	80	0

	20-5-11	16-6-11	30-6-11
Crop stage at application:	NA	V1-V2	V5-V6
Height Min, Max (inch):	NA	NA 6	8 10 17

Pest Stage At Each Application

	5-20-11	6-16-11	6-30-11
Weed Code:	AMATA	AMATA	AMATA
Stage Majority (leaves):	NA	4	7
Stage Min, Max:		coty 8	coty 15
Height Majority:		2 IN	5 IN
Height Min, Max:		0.5 4	0.5 10
Density, Unit:		0.3 FT2	0.1 FT2

Application Equipment

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

Flexstar GT 3.5 Programs in Soybean.

Trial ID: 11-DSO-FlexGT3.5 Location: De Soto, IL

Pest Code	Crop Code	Rating Date	Rating Data Type	Rating Unit	Rating Timing	Trt-Eval Interval	GLXMA 6-16-11 Injury Percent 27 DA-A 0 DA-B	GLXMA 6-30-11 Injury Percent 14 DA-B 0 DA-C	GLXMA 7-7-11 Injury Percent 21 DA-B 7 DA-C	GLXMA 7-21-11 Injury Percent 35 DA-B 21 DA-C
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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED									0 a	0 a	0 b	0 a
2	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	0 a	0 a	0 b	0 a
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
2	TOUCHDOWN TOTAL	4.17	SL	1	lb ae/a	30.7	fl oz/a	1-2"	WH B				
3	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	0 a	0 a	0 b	0 a
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
3	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
3	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
4	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	0 a	0 a	0 b	0 a
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
4	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
4	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
5	VALOR XLT	40.3	WG			3	oz/a	PRE	A	0 a	0 a	0 b	0 a
5	VALOR SX	51	WG	0.056	lb ai/a			PRE	A				
5	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A				
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
5	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
5	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
6	VALOR XLT	40.3	WG			3	oz/a	PRE	A	0 a	0 a	0 b	0 a
6	VALOR SX	51	WG	0.056	lb ai/a			PRE	A				
6	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A				
6	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
6	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
6	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	0 a	0 a	0 b	0 a
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
7	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
7	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
8	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	0 a	0 a	0 b	0 a
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
8	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
8	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
9	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	0 a	0 a	0 b	0 a
9	CLASSIC	25	WG	0.02	lb ai/a			PRE	A				
9	HARMONY SG	50	SG	0.00643	lb ai/a			PRE	A				
9	VALOR SX	51	WG	0.0635	lb ai/a			PRE	A				
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
9	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
9	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
10	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	0 a	0 a	0 b	0 a
10	CLASSIC	25	WG	0.02	lb ai/a			PRE	A				
10	HARMONY SG	50	SG	0.00643	lb ai/a			PRE	A				
10	VALOR SX	51	WG	0.0635	lb ai/a			PRE	A				
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
10	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
10	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
11	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	0 a	0 a	0 b	0 a
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
11	COBRA	2	EC	0.156	lb ai/a	10	fl oz/a	1-2"	WH B				
11	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	1-2"	WH B				
11	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
12	VALOR XLT	40.3	WG			3	oz/a	PRE	A	0 a	0 a	0 b	0 a
12	VALOR SX	51	WG	0.056	lb ai/a			PRE	A				
12	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A				
12	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
12	WARRANT	3	CS	1.13	lb ai/a	3	pt/a	1-2"	WH B				
12	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	1-2"	WH B				

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Pest Code													
Crop Code										GLXMA	GLXMA	GLXMA	GLXMA
Rating Date										6-16-11	6-30-11	7-7-11	7-21-11
Rating Data Type										Injury	Injury	Injury	Injury
Rating Unit										Percent	Percent	Percent	Percent
Rating Timing										27 DA-A	14 DA-B	21 DA-B	35 DA-B
Trt-Eval Interval										0 DA-B	0 DA-C	7 DA-C	21 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
13	BOUNDARY	6.5	EC		1.46 lb ai/a	1.8	pt/a	PRE	A	0 a	0 a	5 a	0 a
13	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"WH	B				
13	FLEXSTAR GT 3.5	3.5	SL		1.16 lb ai/a	2.65	pt/a	1-2"WH	B				
13	MSO	100	SL		1 % v/v	1	% v/v	1-2"WH	B				
13	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"RG	C				
13	FLEXSTAR GT 3.5	3.5	SL		1.16 lb ai/a	2.65	pt/a	1-2"RG	C				
13	MSO	100	SL		1 % v/v	1	% v/v	1-2"RG	C				
14	BOUNDARY	6.5	EC		1.46 lb ai/a	1.8	pt/a	PRE	A	0 a	0 a	5 a	0 a
14	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"WH	B				
14	SEQUENCE	5.25	SL		1.64 lb ai/a	2.5	pt/a	1-2"WH	B				
14	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"RG	C				
14	FLEXSTAR GT 3.5	3.5	SL		1.16 lb ai/a	2.65	pt/a	1-2"RG	C				
14	MSO	100	SL		1 % v/v	1	% v/v	1-2"RG	C				
LSD (P=.05)										0.0	0.0	0.0	0.0
Replicate F										0.000	0.000	0.000	0.000
Replicate Prob(F)										1.0000	1.0000	1.0000	1.0000
Treatment F										0.000	0.000	0.000	0.000
Treatment Prob(F)										1.0000	1.0000	1.0000	1.0000

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

Flexstar GT 3.5 Programs in Soybean.

Trial ID: 11-DSO-FlexGT3.5 Location: De Soto, IL

Pest Code	Crop Code	Rating Date	Rating Data Type	Rating Unit	Rating Timing	Trt-Eval Interval	AMATA-HR						
							6-16-11 Control Percent	6-30-11 Control Percent	7-7-11 Control Percent	7-21-11 Control Percent			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED									0 e	0 d	0 d	0 c
2	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	84 c	90 c	65 c	57 b
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
2	TOUCHDOWN TOTAL	4.17	SL	1	lb ae/a	30.7	fl oz/a	1-2"	WH B				
3	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	75 d	99 a	96 ab	95 a
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
3	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
3	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
4	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	85 bc	99 a	98 ab	97 a
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
4	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
4	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
5	VALOR XLT	40.3	WG			3	oz/a	PRE	A	95 a	99 a	98 ab	98 a
5	VALOR SX	51	WG	0.056	lb ai/a			PRE	A				
5	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A				
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
5	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
5	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
6	VALOR XLT	40.3	WG			3	oz/a	PRE	A	90 abc	99 a	99 ab	99 a
6	VALOR SX	51	WG	0.056	lb ai/a			PRE	A				
6	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A				
6	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
6	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
6	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	95 a	99 a	98 ab	98 a
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
7	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
7	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
8	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	92 abc	99 a	98 ab	97 a
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
8	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
8	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
9	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	93 ab	99 a	99 a	99 a
9	CLASSIC	25	WG	0.02	lb ai/a			PRE	A				
9	HARMONY SG	50	SG	0.00643	lb ai/a			PRE	A				
9	VALOR SX	51	WG	0.0635	lb ai/a			PRE	A				
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
9	FLEXSTAR GT 3.5	3.5	SL	1.53	lb ai/a	3.5	pt/a	1-2"	WH B				
9	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
10	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	90 abc	99 a	98 ab	98 a
10	CLASSIC	25	WG	0.02	lb ai/a			PRE	A				
10	HARMONY SG	50	SG	0.00643	lb ai/a			PRE	A				
10	VALOR SX	51	WG	0.0635	lb ai/a			PRE	A				
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
10	FLEXSTAR GT 3.5	3.5	SL	2.32	lb ai/a	5.3	pt/a	1-2"	WH B				
10	MSO	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
11	BOUNDARY	6.5	EC	1.46	lb ai/a	1.8	pt/a	PRE	A	93 abc	99 a	92 b	90 a
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
11	COBRA	2	EC	0.156	lb ai/a	10	fl oz/a	1-2"	WH B				
11	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	1-2"	WH B				
11	COC (PRIME OIL)	100	SL	1	% v/v	1	% v/v	1-2"	WH B				
12	VALOR XLT	40.3	WG			3	oz/a	PRE	A	93 ab	99 a	98 ab	98 a
12	VALOR SX	51	WG	0.056	lb ai/a			PRE	A				
12	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A				
12	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	1-2"	WH B				
12	WARRANT	3	CS	1.13	lb ai/a	3	pt/a	1-2"	WH B				
12	ROUNDUP POWERMAX	4.5	SL	1	lb ae/a	28.4	fl oz/a	1-2"	WH B				

## Flexstar GT 3.5 Programs in Soybean.

Trial ID: 11-DSO-FlexGT3.5 Location: De Soto, IL

Pest Code		AMATA-HR	AMATA-HR	AMATA-HR	AMATA-HR
Crop Code					
Rating Date		6-16-11	6-30-11	7-7-11	7-21-11
Rating Data Type		Control	Control	Control	Control
Rating Unit		Percent	Percent	Percent	Percent
Rating Timing		27 DA-A	14 DA-B	21 DA-B	35 DA-B
Trt-Eval Interval		0 DA-B	0 DA-C	7 DA-C	21 DA-C

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
13	BOUNDARY	6.5	EC		1.46 lb ai/a	1.8	pt/a	PRE	A	88	abc	99	a			
13	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"WH	B							
13	FLEXSTAR GT 3.5	3.5	SL		1.16 lb ai/a	2.65	pt/a	1-2"WH	B							
13	MSO	100	SL		1 % v/v	1	% v/v	1-2"WH	B							
13	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"RG	C							
13	FLEXSTAR GT 3.5	3.5	SL		1.16 lb ai/a	2.65	pt/a	1-2"RG	C							
13	MSO	100	SL		1 % v/v	1	% v/v	1-2"RG	C							
14	BOUNDARY	6.5	EC		1.46 lb ai/a	1.8	pt/a	PRE	A	87	abc	95	b			
14	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"WH	B							
14	SEQUENCE	5.25	SL		1.64 lb ai/a	2.5	pt/a	1-2"WH	B							
14	N-PAK AMS	100	SL		2.5 % v/v	2.5	% v/v	1-2"RG	C							
14	FLEXSTAR GT 3.5	3.5	SL		1.16 lb ai/a	2.65	pt/a	1-2"RG	C							
14	MSO	100	SL		1 % v/v	1	% v/v	1-2"RG	C							
LSD (P=.05)										8.6		1.6		6.9		11.1
Replicate F										1.806		0.844		1.099		1.030
Replicate Prob(F)										0.1851		0.4418		0.3487		0.3717
Treatment F										68.678		2369.853		130.097		51.775
Treatment Prob(F)										0.0001		0.0001		0.0001		0.0001

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

## Trial Comments

1. Protocol: Syngenta (HFM050B4).
2. Ratings: CI at B and at C; WC at B, 7 DA-C, and 21 DA-C.
3. Crop destruct, no yield requested.
4. Apply Gramoxone Inteon (2.5 pt/A) at planting if necessary.
5. Blanket application of Roundup WeatherMax (22 floz/A) + 2,4-D LV4 (1 pt/A) + NPAK AMS (2.5 %v/v) was applied to all plots on 4-2-11.  
Blanket burndown application of Gramoxone Inteon (3.5 pt/A) plus COC (1% v/v) was applied to all plots on 5-20-11.
6. Rainfall for the week prior to planting and the PRE application was 1.2 inch.  
Rainfall (weekly totals) for the the next six weeks were 2.18, 0, 0, 0.75, 1.81, and 4.38 inch.
7. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).