

Liberty Link Soybean Programs - Glyphosate-Resistant Waterhemp.

Trial ID: 09-DeSoto-LLsoy 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: 05-22-09

Objectives: Determine which soil residual herbicide provides the greatest benefit for control of glyphosate-resistant waterhemp in a Liberty Link soybean system.

Crop 1: GLXMA Soybean Variety: AG 3905 Description: RR
 Planting Method: SEED Planting Date: 05-22-09
 Rate, Unit: 180000 S/A Depth, Unit: 1.25 IN
 Row Spacing, Unit: 30 IN
 Soil Moisture: ABOVE NORMAL

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 2008

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 0 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	B	C	D
Application Date:	05-23-09	06-17-09	06-17-09	07-02-09
Time of Day:	7:45	9:15	9:15	9:00
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	PRE	3"W	22DAE	44DAE
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	NRJ	NVH	NVH	DKT
Air Temperature, Unit:	73 F	82 F	82 F	77 F
% Relative Humidity:	87	85	85	39
Wind Velocity, Unit:	1 MPH	2 MPH	2 MPH	2 MPH
Wind Direction:	NW	SW	SW	W
Dew Presence (Y/N):	N	Y	Y	N
Soil Temperature, Unit:	70 F	78 F	78 F	80 F
Soil Moisture:	NORMAL	ABONOR	ABONOR	NORMAL
% Cloud Cover:	80	30	30	60

	05-23-09	06-17-09	06-17-09	07-02-09
Crop stage at application:	NA	V3	V3	V5
Height Min, Max (inch):		7 9	7 9	12 15

	Pest Stage At Each Application			
	05-23-09	06-17-09	06-17-09	07-02-09
Application Date:	05-23-09	06-17-09	06-17-09	07-02-09
Weed Code:	AMATA	AMATA	AMATA	AMATA
Stage Majority (leaves):	NA	6	6	8
Stage Min, Max:		3 8	3 8	4 12
Height Majority:		3 IN	3 IN	3 IN
Height Min, Max:		1 3.5	1 3.5	2 5
Density, Unit:		0.5 FT2	0.5 FT2	0.5 FT2

Application Equipment

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

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										GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
										11-06-09	11-06-09	11-06-09	06-17-09	07-01-09
										Moisture	Test wt.	Yield	Injury	Injury
										Percent	lb/bu	bu/A	Percent	Percent
													0 DA-C	14 DA-C
													0 DA-B	14 DA-B
Trt	Treatment	Form	Form	Rate	Rate	Other	Other	Growth	Appl					
No.	Name	Conc	Type	Unit	Unit	Rate	Rate	Stage	Code					
1	NONTREATED									10.1 a	46.4 bc	36 b	0 a	0 a
2	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	10.5 a	47.9 abc	44 ab	0 a	0 a
2	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
2	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
3	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	11.0 a	47.8 abc	42 ab	0 a	0 a
3	IGNITE 280	2.34	EC	0.66	lb ai/a	36	fl oz/a	22DAE	C					
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
4	AUTHORITY FIRST	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	10.2 a	48.5 ab	46 ab	0 a	0 a
4	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
4	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
5	AUTHORITY FIRST	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	10.8 a	47.7 abc	42 ab	0 a	0 a
5	IGNITE 280	2.34	EC	0.66	lb ai/a	36	fl oz/a	22DAE	C					
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
6	IGNITE 280	2.34	EC	0.66	lb ai/a	36	fl oz/a	22DAE	C	10.6 a	48.1 ab	44 ab		0 a
6	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
7	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	3"W	B	10.4 a	45.6 c	37 b		0 a
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	3"W	B					
7	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
8	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	PRE	A	9.9 a	47.7 abc	47 ab	0 a	0 a
8	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
8	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
9	OPTILL	68	WG	0.085	lb ai/a	2	oz/a	PRE	A	10.0 a	47.6 abc	49 ab	0 a	0 a
9	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
9	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
10	PREFIX	5.29	EC	1.32	lb ai/a	2	pt/a	PRE	A	10.2 a	49.1 a	50 a	0 a	0 a
10	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
10	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
11	VALOR XLT	40.3	WG			3	oz/a	PRE	A	10.5 a	48.0 ab	44 ab	0 a	0 a
11	VALOR SX	51	WG	0.056	lb ai/a			PRE	A					
11	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A					
11	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
11	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
12	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	10.6 a	48.0 ab	44 ab	0 a	0 a
12	CLASSIC	25	WG	0.02	lb ai/a			PRE	A					
12	HARMONY SG	50	SG	0.00643	lb ai/a			PRE	A					
12	VALOR SX	51	WG	0.0635	lb ai/a			PRE	A					
12	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
12	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
12	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
12	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					
13	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	10.5 a	48.0 ab	38 ab	0 a	0 a
13	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C					
13	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C					
13	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D					
13	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D					

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Pest Code									
Crop Code									
Rating Date									
Rating Data Type									
Rating Unit									
Rating Timing									
Trt-Eval Interval									

Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl					
No.	Name	Conc	Type	Rate	Unit	Rate	Rate	Unit	Stage	Code			
LSD (P=.05)											1.21	2.38	12.2
Replicate F											0.256	1.646	1.340
Replicate Prob(F)											0.7765	0.2138	0.2807
Treatment F											0.556	1.149	0.975
Treatment Prob(F)											0.8553	0.3701	0.4972

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

Liberty Link Soybean Programs - Glyphosate-Resistant Waterhemp.

Trial ID: 09-DeSoto-LLsoy Location: De Soto, IL

Pest Code		AMATA-HR	AMATA-HR	AMATA-HR
Crop Code				
Rating Date		06-17-09	07-01-09	07-22-09
Rating Data Type		Control	Control	Control
Rating Unit		Percent	Percent	Percent
Rating Timing		0 DA-C	14 DA-C	35 DA-C
Trt-Eval Interval		0 DA-B	14 DA-B	35 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 c	0 d	0 d
2	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	98 ab	96 abc	96 ab
2	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
2	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			
3	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	98 ab	94 bc	89 c
3	IGNITE 280	2.34	EC	0.66	lb ai/a	36	fl oz/a	22DAE	C			
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
4	AUTHORITY FIRST	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	99 a	99 a	99 a
4	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
4	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			
5	AUTHORITY FIRST	70	WG	0.175	lb ai/a	4	oz/a	PRE	A	99 a	98 a	97 ab
5	IGNITE 280	2.34	EC	0.66	lb ai/a	36	fl oz/a	22DAE	C			
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
6	IGNITE 280	2.34	EC	0.66	lb ai/a	36	fl oz/a	22DAE	C		93 c	93 bc
6	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
7	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	3"W	B		95 abc	95 ab
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	3"W	B			
7	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
8	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	PRE	A	96 ab	98 ab	98 ab
8	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
8	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			
9	OPTILL	68	WG	0.085	lb ai/a	2	oz/a	PRE	A	99 a	96 abc	96 ab
9	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
9	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
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10	PREFIX	5.29	EC	1.32	lb ai/a	2	pt/a	PRE	A	99 a	98 a	98 a
10	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
10	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			
11	VALOR XLT	40.3	WG			3	oz/a	PRE	A	99 a	97 ab	97 ab
11	VALOR SX	51	WG	0.056	lb ai/a			PRE	A			
11	CLASSIC	25	WG	0.0194	lb ai/a			PRE	A			
11	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
11	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			
12	ENVIVE	41.3	WG			3.5	oz/a	PRE	A	99 a	98 ab	98 ab
12	CLASSIC	25	WG	0.02	lb ai/a			PRE	A			
12	HARMONY SG	50	SG	0.00643	lb ai/a			PRE	A			
12	VALOR SX	51	WG	0.0635	lb ai/a			PRE	A			
12	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
12	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
12	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
12	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			
13	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A	94 b	95 abc	95 ab
13	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	22DAE	C			
13	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	22DAE	C			
13	IGNITE 280	2.34	EC	0.402	lb ai/a	22	fl oz/a	44DAE	D			
13	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	44DAE	D			

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Crop Code			
Rating Date	06-17-09	07-01-09	07-22-09
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing	0 DA-C	14 DA-C	35 DA-C
Trt-Eval Interval	0 DA-B	14 DA-B	35 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Stage	Appl Code
LSD (P=.05)									
Replicate F									
Replicate Prob(F)									
Treatment F									
Treatment Prob(F)									

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

Trial Comments

1. Protocol: Bayer (MRC).
2. Ratings: CI/WC at 0 + 14 da B and C; WC at 35 da C.
3. All POST applications should be 3-4"W or less, the D application is only if necessary.
4. Blanket burndown application of Roundup PowerMax (32 floz/A) + 2,4-D (1 pt/A) + AMS (1% w/w) was applied on 4-26-09.
5. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
6. Ratings on 7-1-09 at 14 DA-B and 14 DA-C were -1 DA-D (prior to D).
Ratings on 7-22-09 at 35 DA-B and 35 DA-C were also 20 DA-D.
7. Harvested 11-6-09, (2) 30 inch rows by 27 ft.