

Northeast Research & Extension Center

2009 Ignite / Efficacy / Evaluation of Weed Control in Liberty Link Soybeans at Universities

Trial ID: 09 SLL-1 Liberty Link SB	Protocol ID: 09 SLL-1 Liberty Link SB
Location: Concord, NE	Study Director:
Project ID: HP09NARMRC	Investigator: Stevan Knezevic
	Sponsor Contact:

General Trial Information

Investigator: Stevan Knezevic
Trial Status: F one-year/final

Trial Location

City: Concord
State/Prov.: NE
Postal Code: 68728
Country: USA

Personnel

Investigator: Stevan Knezevic

Crop Description

Crop 1: GLXMA Glycine max Variety: SG2779LL BBCH Scale: BSOY Planting Method: SEEDED seeded Depth, Unit: 1.5 in Row Spacing, Unit: 30 in Seed Bed: CLOTRA cloddy/trashy Harvest Date: 11-05-09 Harvested Width, Unit: 5 ft % Standard Moisture: 13.0 Weighing Equipment: Almaco	Soybean Description: Liberty Link Planting Date: 05-19-09 Rate, Unit: 196020 s/a Harvest Equipment: Almaco SP40 Harvested Length, Unit: 27.5 ft Moisture Meter: Almaco
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Pest Description

Pest 1 Type: W Code: SETVI Setaria viridis
Common Name: Green foxtail

Pest 2 Type: W Code: CHEAL Chenopodium album
Common Name: Common lambsquarters

Pest 3 Type: W Code: ABUTH Abutilon theophrasti
Common Name: Velvetleaf

Pest 4 Type: W Code: AMATU Amaranthus tuberculatus
Common Name: Tall waterhemp

Site and Design

Plot Width, Unit: 10 FT Site Type: FIELD field
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT2 Tillage Type: CONTIL conventional-till
Replications: 3 Study Design: RACOB L Randomized Complete Block (RCB)

	Previous Crops	Previous Pesticides	Year
1.	Corn, field	glyphosate	2008

Soil Description

% Sand: 18 % OM: 3.0 Texture: SICL silty clay loam
% Silt: 54 pH: 6.2
% Clay: 28 CEC: 16.8 Fert. Level: E excellent

Analyzed By:
Midwest Labs

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Application Description

	A	B	C	D
Application Date:	05-21-09	06-24-09	07-01-09	07-28-09
Time of Day:	5:30 am	3:00 pm	10:30 am	2:30 pm
Application Method:	spray	spray	spray	spray
Application Timing:	PRE	EPOST	MPOST	LPOST
Application Placement:	surface	foliar	foliar	foliar
Applied By:	js	js	js	js
Air Temperature, Unit:	60 F	80 F	74 F	76 F
% Relative Humidity:	95	50	59	40
Wind Velocity, Unit:	5 mph	3 mph	3 mph	4 mph
Wind Direction:	N	S	S	NW
Dew Presence (Y/N):		N no	N no	N no
Soil Temperature, Unit:	66 F	70 F	74 F	77 F
Soil Moisture:		adequate		dry
% Cloud Cover:	100		30	50
Next Rain Occurred On:	05-22-09			

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		DESC	DESC	DESC
Stage Majority, Percent:		3T 100	4T 100	R2 50
Stage Minimum, Percent:				R3 50
Height, Unit:		6 in	10 in	27 in
Height Minimum, Maximum:		5 7	8 12	24 30

Pest Stage At Each Application

	A	B	C	D
Pest 1 Code, Type, Scale:	SETVI W	SETVI W	SETVI W	SETVI W
Height, Unit:		6 in	14 in	
Height Minimum, Maximum:			12 16	
Density, Unit:		20 m2		
Pest 2 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W	CHEAL W
Height, Unit:		9 in		
Height Minimum, Maximum:		8 10		
Density, Unit:		1 m2		
Pest 3 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W	ABUTH W
Height, Unit:		10 in	15 in	
Height Minimum, Maximum:		8 12	12 18	
Density, Unit:		5 m2		
Pest 4 Code, Type, Scale:	AMATU W	AMATU W	AMATU W	AMATU W
Height, Unit:		8 in		
Height Minimum, Maximum:		6 10		
Density, Unit:		10 m2		

Application Equipment

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	A	B	C	D
Appl. Equipment:	backpack	BACKPACK	BACKPACK	BACKPACK
Operating Pressure, Unit:	20 psi	40 PSI	35 PSI	30 PSI
Nozzle Type:	Turbo Tee	TURBO TEE	TURBO TEE	TURBO TEE
Nozzle Size:	11003	11002	11002	11002
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN	20 IN
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT
Boom Height, Unit:	12 IN	12 IN	12 IN	12 IN
Ground Speed, Unit:	2.7 MPH	2.7 MPH	2.7 MPH	2.4 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA
Mix Size, Unit:	1.8 Liters	1.8 Liters	1.8 Liters	1.8 Liters
Propellant:	co2	co2	co2	co2

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Description	Soybean 11-05-09	Soybean 11-05-09	Soybean 06-29-09	Soybean 07-06-09	Soybean 07-06-09	Soybean 07-18-09	Green foxtail 06-29-09	Green foxtail 07-18-09					
Rating Date	11-05-09	11-05-09	06-29-09	07-06-09	07-06-09	07-18-09	06-29-09	07-18-09					
Rating Type	Yield@13.0%	Moisture	Stunting	Stunting	Chlorosis	Injury	Control	Control					
Rating Unit	bu/A	%	%	%	%	%	%	%					
Days After First/Last Applic.	168 100	168 100	39 5	46 5	46 5	58 17	39 5	58 17					
Trt-Eval Interval													
Trt No.	Treatment Name	Rate	Rate Unit	Growth Stage	Appl Code								
						1	2	3	4	5	6	7	8
12	Non treated Check					27.370 c	10.690 b	0.0 b	0.0 a	0.0 d	0.0 a	0.0 d	0.0 c
LSD (P=.05)		5.9057	0.1348	6.87	5.20	2.74	18.14	17.68	2.85				
Standard Deviation		3.4674	0.0791	4.06	3.07	1.62	10.71	10.44	1.68				
CV		6.29	0.71	97.42	230.33	80.83	202.93	14.77	1.84				
Grand Mean		55.15	11.16	4.17	1.33	2.0	5.28	70.69	91.36				
Bartlett's X2		4.97	5.057	1.957	9.316	13.759	16.852	6.759	6.345				
P(Bartlett's X2)		0.893	0.887	0.962	0.097	0.184	0.032*	0.662	0.012*				
Replicate F		4.400	6.434	1.644	1.617	2.901	0.188	1.764	0.893				
Replicate Prob(F)		0.0261	0.0070	0.2161	0.2212	0.0761	0.8302	0.1947	0.4238				
Treatment F		19.846	10.802	4.460	1.157	3.038	0.698	17.989	878.226				
Treatment Prob(F)		0.0001	0.0001	0.0014	0.3689	0.0128	0.7273	0.0001	0.0001				

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Description					Lambsquarter	Lambsquarter	Velvetleaf	Velvetleaf	Waterhemp	Waterhemp	
Rating Date					06-29-09	07-18-09	06-29-09	07-18-09	06-29-09	07-18-09	
Rating Type					Control	Control	Control	Control	Control	Control	
Rating Unit					%	%	%	%	%	%	
Days After First/Last Applic.					39 5	58 17	39 5	58 17	39 5	58 17	
Trt-Eval Interval											
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	9	10	11	12	13	14
1	Valor	2	oz/a	PRE	A	86.7 abc	100.0 a	60.0 cd	100.0 a	92.5 a	100.0 a
	Ignite	22	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
	Ignite	22	oz/a	LPOST	D						
	AMS	8.5	lb/100 gal	LPOST	D						
2	Valor	2	oz/a	PRE	A	83.3 a-d	100.0 a	61.7 cd	100.0 a	90.0 a	100.0 a
	Ignite	22	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
3	Valor	2	oz/a	PRE	A	81.7 bcd	100.0 a	68.3 a-d	100.0 a	88.3 a	100.0 a
	Ignite	36	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
4	Authority Assist	5	oz/a	PRE	A	93.3 a	100.0 a	81.7 abc	100.0 a	95.0 a	100.0 a
	Ignite	22	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
	Ignite	22	oz/a	LPOST	D						
	AMS	8.5	lb/100 gal	LPOST	D						
5	Authority Assist	5	oz/a	PRE	A	91.7 ab	100.0 a	82.5 abc	100.0 a	95.0 a	100.0 a
	Ignite	22	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
6	Authority Assist	5	oz/a	PRE	A	91.7 ab	100.0 a	86.7 ab	100.0 a	90.0 a	100.0 a
	Ignite	36	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
7	Prefix	2	pt/a	PRE	A	73.3 de	100.0 a	66.7 bcd	100.0 a	93.3 a	100.0 a
	Ignite	22	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
	Ignite	22	oz/a	LPOST	D						
	AMS	8.5	lb/100 gal	LPOST	D						
8	Prefix	2	pt/a	PRE	A	76.7 cde	100.0 a	60.0 cd	100.0 a	86.7 a	100.0 a
	Ignite	22	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
9	Prefix	2	pt/a	PRE	A	68.3 e	100.0 a	51.7 d	100.0 a	88.3 a	100.0 a
	Ignite	36	oz/a	MPOST	C						
	AMS	8.5	lb/100 gal	MPOST	C						
10	Ignite	22	oz/a	EPOST	B	91.7 ab	99.7 b	90.0 ab	98.0 b	85.0 a	81.7 b
	AMS	8.5	lb/100 gal	EPOST	B						
	Ignite	22	oz/a	LPOST	D						
	AMS	8.5	lb/100 gal	LPOST	D						
11	Ignite	36	oz/a	EPOST	B	91.7 ab	100.0 a	91.7 a	100.0 a	86.7 a	91.7 a
	AMS	8.5	lb/100 gal	EPOST	B						

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Rating Unit

% = percent

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Description							Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Green foxtail	Green foxtail						
Rating Date							11-05-09	11-05-09	06-29-09	07-06-09	07-06-09	07-18-09	06-29-09	07-18-09						
Rating Type							Yield@13.0%	Moisture	Stunting	Stunting	Chlorosis	Injury	Control	Control						
Rating Unit							bu/A	%	%	%	%	%	%	%						
Days After First/Last Applic.							168	100	39	5	46	5	46	5	58	17	39	5	58	17
Trt-Eval Interval																				
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	Plot	1	2	3	4	5	6	7	8						
1	Valor	2	oz/a	PRE	A	101	63.440	11.270	0.0	0.0	0.0	0.0	80.0	100.0						
	Ignite	22	oz/a	MPOST	C	212	60.450	11.140	0.0	0.0	1.0	0.0	50.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	308	53.780	11.390	0.0	0.0	1.0	5.0	50.0	100.0						
	Ignite	22	oz/a	LPOST	D															
	AMS	8.5	lb/100 gal	LPOST	D															
						Mean =	59.223	11.267	0.0	0.0	0.7	1.7	60.0	100.0						
2	Valor	2	oz/a	PRE	A	102	51.660	11.240	10.0	15.0	5.0	20.0	70.0	100.0						
	Ignite	22	oz/a	MPOST	C	204	57.410	11.260	0.0	0.0	2.0	0.0	40.0	90.0						
	AMS	8.5	lb/100 gal	MPOST	C	302	53.110	11.060	5.0	0.0	0.0	5.0	70.0	100.0						
						Mean =	54.060	11.187	5.0	5.0	2.3	8.3	60.0	96.7						
3	Valor	2	oz/a	PRE	A	103	60.400	11.220	0.0	0.0	5.0	0.0	70.0	100.0						
	Ignite	36	oz/a	MPOST	C	208	57.370	11.150	0.0	0.0	3.0	0.0	40.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	301	54.430	11.210	5.0	0.0	1.0	5.0	50.0	100.0						
						Mean =	57.400	11.193	1.7	0.0	3.0	1.7	53.3	100.0						
4	Authority Assist	5	oz/a	PRE	A	104	62.100	11.260	0.0	0.0	2.0	0.0	70.0	100.0						
	Ignite	22	oz/a	MPOST	C	202	63.500	11.180	0.0	0.0	1.0	0.0	90.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	305	51.880	11.050	0.0	0.0	0.0	0.0	70.0	100.0						
	Ignite	22	oz/a	LPOST	D															
	AMS	8.5	lb/100 gal	LPOST	D															
						Mean =	59.160	11.163	0.0	0.0	1.0	0.0	76.7	100.0						
5	Authority Assist	5	oz/a	PRE	A	105	62.740	11.260	10.0	2.0	0.0	20.0	90.0	100.0						
	Ignite	22	oz/a	MPOST	C	201	62.180	11.220	0.0	0.0	1.0	0.0	75.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	306	58.460	11.060	0.0	0.0	0.0	0.0	90.0	100.0						
						Mean =	61.127	11.180	3.3	0.7	0.3	6.7	85.0	100.0						
6	Authority Assist	5	oz/a	PRE	A	106	58.990	11.240	0.0	0.0	5.0	0.0	90.0	100.0						
	Ignite	36	oz/a	MPOST	C	210	56.660	11.170	10.0	0.0	2.0	50.0	70.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	309	55.510	11.110	0.0	0.0	5.0	0.0	90.0	100.0						
						Mean =	57.053	11.173	3.3	0.0	4.0	16.7	83.3	100.0						
7	Prefix	2	pt/a	PRE	A	107	55.380	11.320	0.0	0.0	1.0	0.0	70.0	100.0						
	Ignite	22	oz/a	MPOST	C	206	60.050	11.180	10.0	0.0	1.0	0.0	90.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	312	56.300	11.150	0.0	0.0	2.0	0.0	80.0	100.0						
	Ignite	22	oz/a	LPOST	D															
	AMS	8.5	lb/100 gal	LPOST	D															
						Mean =	57.243	11.217	3.3	0.0	1.3	0.0	80.0	100.0						
8	Prefix	2	pt/a	PRE	A	108	60.420	11.190	10.0	5.0	5.0	5.0	90.0	100.0						
	Ignite	22	oz/a	MPOST	C	205	54.120	11.270	0.0	0.0	1.0	0.0	80.0	100.0						
	AMS	8.5	lb/100 gal	MPOST	C	304	53.540	11.070	0.0	0.0	1.0	10.0	80.0	100.0						
						Mean =	56.027	11.177	3.3	1.7	2.3	5.0	83.3	100.0						

Description						Lambsquarter	Lambsquarter	Velvetleaf	Velvetleaf	Waterhemp	Waterhemp	
Rating Date						06-29-09	07-18-09	06-29-09	07-18-09	06-29-09	07-18-09	
Rating Type						Control	Control	Control	Control	Control	Control	
Rating Unit						%	%	%	%	%	%	
Days After First/Last Applic.						39 5	58 17	39 5	58 17	39 5	58 17	
Trt-Eval Interval												
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	Plot	9	10	11	12	13	14
1	Valor	2 oz/a		PRE	A	101	90.0	100.0				
	Ignite	22 oz/a		MPOST	C	212	90.0	100.0	70.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	308	80.0	100.0	50.0	100.0	90.0	100.0
	Ignite	22 oz/a		LPOST	D							
	AMS	8.5 lb/100 gal		LPOST	D							
						Mean =	86.7	100.0	60.0	100.0	92.5	100.0
2	Valor	2 oz/a		PRE	A	102	90.0	100.0	75.0		95.0	
	Ignite	22 oz/a		MPOST	C	204	80.0	100.0	40.0	100.0	80.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	302	80.0	100.0	70.0	100.0	95.0	100.0
						Mean =	83.3	100.0	61.7	100.0	90.0	100.0
3	Valor	2 oz/a		PRE	A	103	80.0	100.0	80.0	100.0	80.0	100.0
	Ignite	36 oz/a		MPOST	C	208	85.0	100.0	85.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	301	80.0	100.0	40.0	100.0	90.0	100.0
						Mean =	81.7	100.0	68.3	100.0	88.3	100.0
4	Authority Assist	5 oz/a		PRE	A	104	95.0	100.0	70.0	100.0	95.0	100.0
	Ignite	22 oz/a		MPOST	C	202	95.0	100.0	90.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	305	90.0	100.0	85.0	100.0	95.0	100.0
	Ignite	22 oz/a		LPOST	D							
	AMS	8.5 lb/100 gal		LPOST	D							
						Mean =	93.3	100.0	81.7	100.0	95.0	100.0
5	Authority Assist	5 oz/a		PRE	A	105	90.0	100.0			95.0	100.0
	Ignite	22 oz/a		MPOST	C	201	95.0	100.0	75.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	306	90.0	100.0	90.0	100.0	95.0	100.0
						Mean =	91.7	100.0	82.5	100.0	95.0	100.0
6	Authority Assist	5 oz/a		PRE	A	106	90.0	100.0	90.0	100.0	80.0	100.0
	Ignite	36 oz/a		MPOST	C	210	95.0	100.0	80.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	309	90.0	100.0	90.0	100.0	95.0	100.0
						Mean =	91.7	100.0	86.7	100.0	90.0	100.0
7	Prefix	2 pt/a		PRE	A	107	70.0	100.0	70.0	100.0	90.0	100.0
	Ignite	22 oz/a		MPOST	C	206	60.0	100.0	80.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	312	90.0	100.0	50.0	100.0	95.0	100.0
	Ignite	22 oz/a		LPOST	D							
	AMS	8.5 lb/100 gal		LPOST	D							
						Mean =	73.3	100.0	66.7	100.0	93.3	100.0
8	Prefix	2 pt/a		PRE	A	108	90.0	100.0	70.0	100.0	90.0	100.0
	Ignite	22 oz/a		MPOST	C	205	70.0	100.0	70.0	100.0	95.0	100.0
	AMS	8.5 lb/100 gal		MPOST	C	304	70.0	100.0	40.0	100.0	75.0	100.0
						Mean =	76.7	100.0	60.0	100.0	86.7	100.0

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Description						Lambsquarter	Lambsquarter	Velvetleaf	Velvetleaf	Waterhemp	Waterhemp	
Rating Date						06-29-09	07-18-09	06-29-09	07-18-09	06-29-09	07-18-09	
Rating Type						Control	Control	Control	Control	Control	Control	
Rating Unit						%	%	%	%	%	%	
Days After First/Last Applic.						39 5	58 17	39 5	58 17	39 5	58 17	
Trt-Eval Interval												
Trt No.	Treatment Name	Rate	Unit	Growth Stage	Appl Code	Plot	9	10	11	12	13	14
9	Prefix	2	pt/a	PRE	A	109	70.0	100.0	40.0	100.0	80.0	100.0
	Ignite	36	oz/a	MPOST	C	203	70.0	100.0	75.0	100.0	95.0	100.0
	AMS	8.5	lb/100 gal	MPOST	C	311	65.0	100.0	40.0	100.0	90.0	100.0
	Mean =							68.3	100.0	51.7	100.0	88.3
10	Ignite	22	oz/a	EPOST	B	110	90.0	99.0	90.0	99.0	80.0	70.0
	AMS	8.5	lb/100 gal	EPOST	B	211	90.0	100.0	90.0	100.0	85.0	90.0
	Ignite	22	oz/a	LPOST	D	310	95.0	100.0	90.0	95.0	90.0	85.0
	AMS	8.5	lb/100 gal	LPOST	D							
Mean =							91.7	99.7	90.0	98.0	85.0	81.7
11	Ignite	36	oz/a	EPOST	B	111	95.0	100.0	95.0	100.0	90.0	100.0
	AMS	8.5	lb/100 gal	EPOST	B	207	90.0	100.0	90.0	100.0	90.0	75.0
						303	90.0	100.0	90.0	100.0	80.0	100.0
Mean =							91.7	100.0	91.7	100.0	86.7	91.7
12	Non treated Check					112	0.0	0.0	0.0	0.0	0.0	0.0
						209	0.0	0.0	0.0	0.0	0.0	0.0
						307	0.0	0.0	0.0	0.0	0.0	0.0
	Mean =							0.0	0.0	0.0	0.0	0.0

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Trial ID: 09 SLL-1 Liberty Link SB Protocol ID: 09 SLL-1 Liberty Link SB
Location: Concord, NE Study Director:
Project ID: HP09NARMRC Investigator: Stevan Knezevic
Sponsor Contact:

Rating Unit

% = percent