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Linex Effectiveness in Soybeans.

Trial ID: 11S-THP-CTS-45 Protocol ID: 11S-THP-CTS-215
Location: Throckmorton Study Director: White/Marquardt
Project ID: Investigator: Dr. Bill Johnson
Sponsor Contact: NovaSource-Gil Cook

General Trial Information

Study Director: White/Marquardt **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: E established
Initiation Date: 4-9-2011

Trial Location

City: Lafayette USA 49.376656 **-** 24.53833
State/Prov.: IN -124.715843 **-** -66.968887
Postal Code: 47909
Country: USA

Personnel

Study Director: White/Marquardt **Title:** Research Associate
Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA
Postal Code: 47907 **E-mail:** mdwhite@purdue.edu
Phone No.: 765-494-0891

Investigator: Dr. Bill Johnson **Title:** Professor
Affiliation: Purdue University
Address: 915 W State Street
Location: West Lafayette, IN, USA
Postal Code: 47907 **E-mail:** wgi@purdue.edu
Phone No.: 765-494-4656 **Mobile No.:** 765-404-9801

Cooperator/Landowner

Cooperator: Throckmorton Purdue Ag Center **Role:** Purdue Ag Center
Organization: Purdue University
Address 1: 8343 US 231 S
Phone No.: 765-538-3422
City: Lafayette **Fax No.:** 765-538-3423
State/Prov: IN
Postal Code: 47909 **E-mail:** jayyoung@purdue.edu
Country: USA United States

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: Asgrow AG2931 **Description:** RR2
BBCH Scale: BSOY **Planting Date:** 5-10-2011
Planting Method: PLANTD planted **Rate, Unit:** 124000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 cm
Emergence Date: 5-16-2011

Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 2 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

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

Pest 4 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters

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Site and Design

Plot Width, Unit: 10 FT
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT2
Replications: 4
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: TPAC -Field 4A
% OM: 3.1
pH: 6
CEC: 11.1
Texture: SIL silt loam
Soil Name: Toronto-Millbrook

Application Description

	A	B
Application Date:	5-11-2011	6-6-2011
Time of Day:		11:30 AM
Application Method:	SPRAY	SPRAY
Application Timing:	ATPLAN	MIPOWE
Application Placement:	FOLIAR	FOLIAR
Applied By:	MW	JR
Air Temperature, Unit:	81 F	86 F
% Relative Humidity:	65	54
Wind Velocity, Unit:	2.0 MPH	5.5 MPH
Wind Direction:	E	SW
Dew Presence (Y/N):	Y yes	N no
Soil Temperature, Unit:	68 F	83 F
Soil Moisture:	DRY	SLIWET
% Cloud Cover:	30	0

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH
Stage Majority, Percent:		V2
Height, Unit:		3.5 IN
Height Minimum, Maximum:		3 4

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Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Height, Unit:		3.5 IN
Height Minimum, Maximum:		1 6
Density, Unit:		80 YD2
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W
Height, Unit:		4.5 IN
Height Minimum, Maximum:		3 6
Density, Unit:		6 YD2
Pest 3 Code, Type, Scale:	ABUTH W	ABUTH W
Height, Unit:		3.5 IN
Height Minimum, Maximum:		2 5
Density, Unit:		4 YD2
Pest 4 Code, Type, Scale:	CHEAL W	CHEAL W
Height, Unit:		1.5 IN
Height Minimum, Maximum:		1 2
Density, Unit:		7 YD2

Application Equipment

	A	B
Appl. Equipment:	CO2 BKPK	CO2 BKPK
Equipment Type:	SPRBAC	SPRBAC
Operation Pressure, Unit:	17 PSI	17 PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	XR 110 02	XR 110 02
Nozzle Spacing, Unit:	15 IN	15 IN
Nozzles/Row:	8	6
Boom Length, Unit:	10 FT	7.5 FT
Boom Height, Unit:	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	H20	H20
Water Hardness (ppm CaCO3):	150	150
Spray Volume, Unit:	15 gal/ac	15 gal/ac
Mix Size, Unit:	1.8 liters	1.8 liters
Propellant:	C02	C02
Tank Mix (Y/N):	N no	N no

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Location: Throckmorton Study Director: White/Marquardt
Project ID: Investigator: Dr. Bill Johnson
Sponsor Contact: NovaSource-Gil Cook

Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7
	Pest Type					W Weed	W Weed			W Weed	W Weed
	Pest Code					SETFA	AMBTR			SETFA	AMBTR
	Pest Scientific Name					Setaria faberi	Ambrosia trifi>			Setaria faberi	Ambrosia trifi>
	Pest Name					Giant foxtail	Giant ragweed			Giant foxtail	Giant ragweed
	Crop Code				GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
	BBCH Scale				BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
	Crop Scientific Name				Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
	Crop Name				Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
	Rating Date				5-24-2011	5-31-2011	5-31-2011	5-31-2011	5-31-2011	6-3-2011	6-3-2011
	Rating Type				CONTRO	CONTRO	CONTRO	PHYLMA	PHYNLS	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1	1
	Crop Stage Majority									V1	V1
	Pest Stage Majority									4 IN	5 IN
	Pest Density, Unit					20 FT2	3 FT2			30 FT2	1 FT2
	Assessed By				CB/WGJ	MW	MW	MW	MW	MW	MW
	Days After First/Last Applic.				13 13	20 20	20 20	20 20	20 20	23 23	23 23
	Trt-Eval Interval				13 DA-A						
	Plant-Eval Interval				14 DP-1	21 DP-1	21 DP-1	21 DP-1	21 DP-1	24 DP-1	24 DP-1
	Days After Emergence				8 DE-1	15 DE-1	15 DE-1	15 DE-1	15 DE-1	18 DE-1	18 DE-1
1	Untreated Check				0.0 a	0.0 b	0.0 b	0.0 a	0.0 a	0.0 b	0.0 b
2	Linex (4 SC)	0.5	lb ai/a	A	0.0 a	63.8 a	0.0 b	2.0 a	0.0 a	65.0 a	2.5 b
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
3	Linex (4 SC)	0.5	lb ai/a	A	0.0 a	45.0 a	57.5 a	1.5 a	0.0 a	53.8 a	10.0 b
	Classic	0.2	oz ai/a	A							
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
4	Linex (4 SC)	0.5	lb ai/a	A	0.0 a	73.8 a	32.5 a	0.8 a	0.0 a	73.8 a	37.5 a
	FirstRate (84 WG)	0.252	oz ai/a	A							
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
5	Sencor 75DF	0.38	lb ai/a	A	0.0 a	85.0 a	45.0 a	2.0 a	0.8 a	87.5 a	35.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
6	Canopy	0.164	lb ai/a	A	0.0 a	76.3 a	0.0 b	0.8 a	0.0 a	71.3 a	10.0 b
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
7	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	0.0 a	32.5 ab	0.0 b	0.0 a	0.0 a	15.0 b	0.0 b
	AMS - Liquid	8.5	lb ai/100 gal	B							
	LSD (P=.05)				0.00	36.92	22.01	2.52	0.84	30.05	14.53
	Standard Deviation				0.00	24.85	14.81	1.70	0.57	20.23	9.78
	CV				0.0	46.23	76.81	169.85	529.15	38.66	72.06
	Bartlett's X2				0.0	10.694	0.042	1.396	0.0	5.592	4.31
	P(Bartlett's X2)				.	0.058	0.979	0.845	.	0.348	0.366
	Replicate F				0.000	0.873	1.671	0.759	1.000	0.095	3.237
	Replicate Prob(F)				1.0000	0.4734	0.2088	0.5315	0.4155	0.9617	0.0467
	Treatment F				0.000	5.830	11.495	1.011	1.000	10.344	10.793
	Treatment Prob(F)				1.0000	0.0016	0.0001	0.4488	0.4552	0.0001	0.0001

Means followed by same letter do not significantly differ (P= 05, Student-Newman-Keuls)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Trt No.	Treatment Name	Rate	Unit	Appl Code	8	9	10	11	12	13	14
	Pest Type				W Weed	W Weed			W Weed	W Weed	W Weed
	Pest Code				AMARE	ABUTH			SETFA	AMBTR	ABUTH
	Pest Scientific Name				Amaranthus ret>	Abutilon theop>			Setaria faberi	Ambrosia trifi>	Abutilon theop>
	Pest Name				Redroot pigweed	Velvetleaf			Giant foxtail	Giant ragweed	Velvetleaf
	Crop Code				GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
	BBCH Scale				BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
	Crop Scientific Name				Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
	Crop Name				Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
	Rating Date				6-3-2011	6-3-2011	6-3-2011	6-27-2011	6-27-2011	6-27-2011	6-27-2011
	Rating Type				CONTRO	CONTRO	PHYNLS	PHYGEN	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1	1
	Crop Stage Majority				V1	V1	V1				
	Pest Stage Majority				0.5 IN	1 IN					
	Pest Density, Unit				3 FT2	1 FT2			10 FT2	5 YD2	1 YD2
	Assessed By				MW	MW	MW				
	Days After First/Last Applic.				23 23	23 23	23 23	47 21	47 21	47 21	47 21
	Trt-Eval Interval										
	Plant-Eval Interval				24 DP-1	24 DP-1	24 DP-1	48 DP-1	48 DP-1	48 DP-1	48 DP-1
	Days After Emergence				18 DE-1	18 DE-1	18 DE-1	42 DE-1	42 DE-1	42 DE-1	42 DE-1
1	Untreated Check				0.0 c	0.0 b	0.0 a	0.0 a	0.0 b	0.0 b	0.0 b
2	Linex (4 SC)	0.5	lb ai/a	A	99.0 a	96.8 a	0.0 a	3.8 a	95.5 a	87.5 a	100.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
3	Linex (4 SC)	0.5	lb ai/a	A	99.0 a	98.0 a	0.0 a	5.0 a	96.0 a	86.3 a	100.0 a
	Classic	0.2	oz ai/a	A							
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
4	Linex (4 SC)	0.5	lb ai/a	A	99.0 a	95.8 a	0.0 a	7.5 a	98.0 a	91.8 a	100.0 a
	FirstRate (84 WG)	0.252	oz ai/a	A							
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
5	Sencor 75DF	0.38	lb ai/a	A	99.0 a	96.8 a	2.0 a	6.3 a	96.0 a	86.3 a	100.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
6	Canopy	0.164	lb ai/a	A	96.8 a	99.0 a	0.0 a	11.3 a	95.5 a	85.0 a	100.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B							
	AMS - Liquid	8.5	lb ai/100 gal	B							
7	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	49.5 b	24.8 b	0.0 a	3.8 a	95.0 a	84.3 a	100.0 a
	AMS - Liquid	8.5	lb ai/100 gal	B							
	LSD (P=.05)				32.44	27.51	1.38	7.63	3.98	13.49	0.00
	Standard Deviation				21.83	18.52	0.93	5.14	2.68	9.08	0.00
	CV				28.18	25.37	324.04	95.89	3.26	12.2	0.0
	Bartlett's X2				10.87	36.206	0.0	3.861	8.122	1.536	0.0
	P(Bartlett's X2)				0.001*	0.001*	.	0.57	0.15	0.909	.
	Replicate F				0.896	1.329	1.000	0.947	2.456	4.979	0.000
	Replicate Prob(F)				0.4623	0.2960	0.4155	0.4386	0.0963	0.0109	1.0000
	Treatment F				12.601	20.617	2.667	1.872	734.529	52.536	0.000
	Treatment Prob(F)				0.0001	0.0001	0.0497	0.1413	0.0001	0.0001	1.0000

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Pest Type					W Weed
Pest Code					AMARE
Pest Scientific Name					Amaranthus ret>
Pest Name					Redroot pigweed
Crop Code					GLXMA
BBCH Scale					BSOY
Crop Scientific Name					Glycine max
Crop Name					Soybean
Rating Date					6-27-2011
Rating Type					CONTRO
Rating Unit					%
Number of Subsamples					1
Crop Stage Majority					
Pest Stage Majority					
Pest Density, Unit					1 YD2
Assessed By					
Days After First/Last Applic.					47 21
Trt-Eval Interval					
Plant-Eval Interval					48 DP-1
Days After Emergence					42 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	15
1	Untreated Check				0.0 b
2	Linex (4 SC)	0.5	lb ai/a	A	100.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	
	AMS - Liquid	8.5	lb ai/100 gal	B	
3	Linex (4 SC)	0.5	lb ai/a	A	100.0 a
	Classic	0.2	oz ai/a	A	
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	
	AMS - Liquid	8.5	lb ai/100 gal	B	
4	Linex (4 SC)	0.5	lb ai/a	A	100.0 a
	FirstRate (84 WG)	0.252	oz ai/a	A	
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	
	AMS - Liquid	8.5	lb ai/100 gal	B	
5	Sencor 75DF	0.38	lb ai/a	A	100.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	
	AMS - Liquid	8.5	lb ai/100 gal	B	
6	Canopy	0.164	lb ai/a	A	100.0 a
	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	
	AMS - Liquid	8.5	lb ai/100 gal	B	
7	Roundup PowerMax 4.5 SL	0.77	lb ae/a	B	100.0 a
	AMS - Liquid	8.5	lb ai/100 gal	B	
LSD (P=.05)					0.00
Standard Deviation					0.00
CV					0.0
Bartlett's X2					0.0
P(Bartlett's X2)					.
Replicate F					0.000
Replicate Prob(F)					1.0000
Treatment F					0.000
Treatment Prob(F)					1.0000

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Location: Throckmorton Study Director: White/Marquardt
Project ID: Investigator: Dr. Bill Johnson
Sponsor Contact: NovaSource-Gil Cook

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
SETFA, Setaria faberi, = US
AMBTR, Ambrosia trifida, = US
AMARE, Amaranthus retroflexus, = US
ABUTH, Abutilon theophrasti, = US
Crop Code
GLXMA, BSOY, Glycine max, = US
Rating Type
CONTRO = control / burndown or knockdown
PHYLMA = phytotoxicity - leaf malformation
PHYNLS = phytotoxicity - necrosis, leaf spot
PHYGEN = phytotoxicity - general / injury
Rating Unit
% = percent

FT2 = per square foot
YD2 = per square yard
Plant-Eval Interval
14 DP-1 = 1 GLXMA 5-10-2011
21 DP-1 = 1 GLXMA 5-10-2011
24 DP-1 = 1 GLXMA 5-10-2011
48 DP-1 = 1 GLXMA 5-10-2011