Southern Illinois University

Evaluation of Crusher Applied Preplant in No-Till Soybean.

Trial ID: 13-26C-N70 Location: Belleville Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final
Initiation Date: 4-15-13
Completion Date: 6-24-13

Trial Location

City: Belleville **Country:** USA
State/Prov.: Illinois IL
Postal Code: 62221

Objectives:
Evaluate the efficacy of Crusher for burndown weed control when applied 30 days prior to planting soybean.

Contacts

Study Director: Bryan Young **Title:** Professor
Organization: Southern Illinois University
Address: 1205 Lincoln Drive - AG 176 - MC 4415 **Phone No.:** 618-453-7679
City+State/Prov: Carbondale IL **Mobile No.:** 618-713-6471
Postal Code: 62901 **E-mail:** bgyoung@siu.edu
Country: USA

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: AG3832 **BBCH Scale:** BSOY
Description: RR2Y
Planting Date: 5-27-13
Planting Rate, Unit: 75 LB/A **Planting Method:** SEEDED
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN

Pest Description

Pest 1 Type: W **Code:** HORPU Hordeum pusillum Nutt.
Common Name: barley, little

Pest 2 Type: W **Code:** GERCA Geranium carolinianum L.
Common Name: geranium, Carolina

Pest 3 Type: W **Code:** STEME Stellaria media (L.) Vill.
Common Name: chickweed, common

Pest 4 Type: W **Code:** CAPBP Capsella bursa-pastoris(L.)M
Common Name: shepherdspurse

Pest 5 Type: W **Code:** AMATA Amaranthus rudis Sauer
Common Name: waterhemp, common

Site and Design

Treated Plot Width: 7.5 FT **Total Plot Width:** 10 FT **Site Type:** FIELD
Treated Plot Length: 25 FT **Total Plot Length:** 25 FT **Experimental Unit:** 1 PLOT
Tillage Type: NOTILL no-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

No.	Previous Crop	Year
1.	ZEAMD	2012

Maintenance

No.	Maintenance Product Name
1.	N 0 LB/A, P2O5 0 LB/A, K2O 100 LB/A

Soil Description

% OM: 2.6 **Texture:** SIL silt loam
pH: 6.4 **Soil Name:** Winfield
CEC: 7

Additional Measured Elements

Element	Quantity	Unit
P1	70	lb/A
K	346	lb/A

Moisture and Weather Conditions

Overall Moisture Conditions: ABONOR
Closest Weather Station: ICN - Belleville IL **Distance, Unit:** 0.5 MI

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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	3-31-13					7	DAY	27	71	F
2.	4-7-13					7	DAY	34	82	F
3.	4-10-13	1.4	IN	RAIN	rain	2	DAY			
4.	4-14-13					7	DAY	31	82	F
5.	4-16-13	1.05	IN	RAIN	rain	2	DAY			
6.	4-18-13	5.2	IN	RAIN	rain	1	DAY			
7.	4-21-13					7	DAY	35	72	F
8.	4-23-13	1.35	IN	RAIN	rain	2	DAY			
9.	4-27-13	0.3	IN	RAIN	rain	2	DAY			
10.	4-28-13					7	DAY	41	83	F
11.	5-3-13	3.07	IN	RAIN	rain	4	DAY			
12.	5-5-13					7	DAY	46	80	F
13.	5-9-13	0.35	IN	RAIN	rain	2	DAY			
14.	5-12-13					7	DAY	39	92	F
15.	5-16-13	0.55	IN	RAIN	rain	2	DAY			
16.	5-19-13					7	DAY	45	88	F
17.	5-20-13	0.67	IN	RAIN	rain	2	DAY			
18.	5-26-13					7	DAY	56	86	F
19.	5-27-13	1.23	IN	RAIN	rain	2	DAY			
20.	5-30-13	0.51	IN	RAIN	rain	3	DAY			
21.	5-31-13	3.46	IN	RAIN	rain	2	DAY			

Application Description

	A
Application Date:	4-15-13
Appl. Start Time:	11:00
Appl. Stop Time:	11:15
Application Method:	Spray
Application Timing:	EPP30
Application Placement:	BROFOL
Applied By:	RFK
Air Temperature, Unit:	69 F
% Relative Humidity:	73
Wind Velocity, Unit:	5 MPH
Wind Direction:	S
Dew Presence (Y/N):	N
Soil Temperature, Unit:	60 F
Soil Moisture:	ABONOR
% Cloud Cover:	0
Next Moisture Occurred On:	4-16-13
Time to Next Moisture, Unit:	16 HR

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA
Stage Scale Used:	DESC
Stage Majority, Percent:	NA

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Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	HORPU W
Stage Majority, Percent:	6
Stage Minimum, Percent:	5
Stage Maximum, Percent:	6
Height, Unit:	5 IN
Height Minimum, Maximum:	3 5
Density, Unit:	0.1 FT2
Pest 2 Code, Type, Scale:	GERCA W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10
Stage Maximum, Percent:	10+
Height, Unit:	3 IN
Height Minimum, Maximum:	2 3
Density, Unit:	2 FT2
Pest 3 Code, Type, Scale:	STEME W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10
Stage Maximum, Percent:	10+
Height, Unit:	4 IN
Height Minimum, Maximum:	3 4
Density, Unit:	1 FT2
Pest 4 Code, Type, Scale:	CAPBP W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10
Stage Maximum, Percent:	10+
Height, Unit:	10 IN
Height Minimum, Maximum:	6 12
Density, Unit:	0.01 FT2
Pest 5 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	NA

Application Equipment

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	BACSPR
Operation Pressure, Unit:	30 PSI
Nozzle Type:	XR
Nozzle Size:	8002
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	15 GPA

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		GLXMA 6-10-13 Injury Percent 14 DAP 56 DA-A	GLXMA 6-24-13 Injury Percent 28 DAP 70 DA-A	HORPU 4-29-13 Control Percent 14 DA-A	HORPU 5-13-13 Control Percent 28 DA-A	GERCA 4-29-13 Control Percent 14 DA-A	GERCA 5-13-13 Control Percent 28 DA-A	GERCA 5-27-13 Control Percent 42 DA-A
1	CRUSHER	50	WG	0.0234	lb ai/a	0.75	oz/a	EPP30	A			0 b	99 a	99 a	50 b	98 a	85 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A								
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A								
2	CRUSHER	50	WG	0.0313	lb ai/a	1	oz/a	EPP30	A			0 b	99 a	99 a	58 b	97 a	91 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A								
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A								
3	CRUSHER	50	WG	0.0625	lb ai/a	2	oz/a	EPP30	A			5 a	99 a	99 a	73 a	98 a	90 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A								
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A								
4	LEADOFF	33.4	WG	0.0313	lb ai/a	1.5	oz/a	EPP30	A			8 a	99 a	99 a	50 b	98 a	90 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A								
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A								
5	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A			0 b	99 a	99 a	50 b	97 a	90 a
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A								
6	NONTREATED											0 b	0 a	0 a	0 c	0 b	0 b
LSD (P=.05)											.	3.5	0.0	0.0	12.6	2.1	11.1
Standard Deviation											.	2.2	0.0	0.0	8.4	1.4	7.4
CV											.	106.52	0.0	0.0	17.93	1.73	9.94
Replicate F												1.410	0.000	0.000	1.429	6.266	1.351
Replicate Prob(F)												0.2919	1.0000	1.0000	0.2737	0.0057	0.2955
Treatment F												8.969	0.000	0.000	34.238	3212.578	97.553
Treatment Prob(F)												0.0013	1.0000	1.0000	0.0001	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.
Missing data estimates are included in columns:Average=16

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	STEME	STEME	CAPBP	CAPBP	AMATA
	Pest Code									STEME	STEME	CAPBP	CAPBP	AMATA
	Crop Code													
	Rating Date									4-29-13	5-13-13	4-29-13	5-13-13	5-27-13
	Rating Type									Control	Control	Control	Control	Control
	Rating Unit									Percent	Percent	Percent	Percent	Percent
	Rating Timing													
	Trt-Eval Interval									14 DA-A	28 DA-A	14 DA-A	28 DA-A	42 DA-A
1	CRUSHER	50	WG	0.0234	lb ai/a	0.75	oz/a	EPP30	A	99 a	99 a	99 a	99 a	97 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A					
2	CRUSHER	50	WG	0.0313	lb ai/a	1	oz/a	EPP30	A	99 a	99 a	99 a	99 a	97 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A					
3	CRUSHER	50	WG	0.0625	lb ai/a	2	oz/a	EPP30	A	99 a	99 a	99 a	99 a	70 ab
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A					
4	LEADOFF	33.4	WG	0.0313	lb ai/a	1.5	oz/a	EPP30	A	99 a	99 a	99 a	99 a	72 ab
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A					
5	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	EPP30	A	99 a	99 a	99 a	99 a	23 bc
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	EPP30	A					
6	NONTREATED									0 a	0 a	0 a	0 a	0 c
	LSD (P=.05)									0.0	0.0	0.0	0.0	52.6
	Standard Deviation									0.0	0.0	0.0	0.0	34.9
	CV									0.0	0.0	0.0	0.0	58.52
	Replicate F									0.000	0.000	0.000	0.000	0.395
	Replicate Prob(F)									1.0000	1.0000	1.0000	1.0000	0.7588
	Treatment F									0.000	0.000	0.000	0.000	5.221
	Treatment Prob(F)									1.0000	1.0000	1.0000	1.0000	0.0057

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Trial Comments

1. Protocol: Cheminova (HGLXMARIMTHI1301).
2. Ratings: CI 14 and 28 DAP; WC 14, 28, and 42 DAT.
3. Blanket applications of Glyfos X-tra (32 floz/A) to be applied at planting after 28 DAT rating and again as needed anytime after the final WC evaluation (42 DAT).
4. On 5-27-13 at planting HORPU, STEME, and CAPBP were senescing naturally in the nontreated plots and could no longer be evaluated.
   On 5-27-13 at 42 DA-A GERCA in some plots had begun to regrow after the 28 DA-A rating.
   On 6-10-13 at 14 DAP it was not possible to rate crop injury due to excessive rainfall after planting which resulted in poor stand in the nontreated and some plots were flooded.
5. Yield not required.
6. Not harvested.