Harrow and Basis Applied Preplant to Corn.

Trial ID: 14-6C-W35 Location: Belleville Res. Center Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: F one-year/final
Initiation Date: 5-2-14
Completion Date: 6-20-14

Trial Location

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

Objectives:
To determine the efficacy and selectivity of Harrow applied preplant to corn.

Contacts

Study Director: Ronald F. Krausz **Title:** Researcher/Farm Manager
Organization: Belleville Research Center - Southern Illinois Univ Carbondale
Address: 2036 Charles Lane **Phone No.:** 618-566-4761
City+State/Prov: Belleville, IL
Postal Code: 62221 **E-mail:** rkrausz@siu.edu
Country: USA

Crop Description

Crop 1: ZEAMD Zea mays indentata Dent corn
Variety: DKC 63-33 **BBCH Scale:** BCOR
Description: SS RIB
Planting Date: 5-9-14
Planting Rate, Unit: 28000 S/A **Planting Method:** SEEDED
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN

Pest Description

Pest 1 Type: W **Code:** CAPBP Capsella bursa-pastoris(L.)M
Common Name: shepherdspurse

Pest 2 Type: W **Code:** RANAB Ranunculus abortivus L.
Common Name: buttercup, smallflower

Pest 3 Type: W **Code:** LAMPU Lamium purpureum L.
Common Name: deadnettle, purple

Pest 4 Type: W **Code:** HORPU Hordeum pusillum Nutt.
Common Name: barley, lit le

Pest 5 Type: W **Code:** STEME Stellaria media (L.) Vill.
Common Name: chickweed, common

Pest 6 Type: W **Code:** AMBTR Ambrosia trifida L.
Common Name: ragweed, giant

Pest 7 Type: W **Code:** SETFA Setaria faberi Herrm.
Common Name: foxtail, giant

Pest 8 Type: W **Code:** CHEAL Chenopodium album L.
Common Name: lambsquarters, common

Pest 9 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: 30 FT **Total Plot Length:** 30 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.	GLXMA	2013

Maintenance

No.	Maintenance Product Name
1.	N 150 LB/A, P2O5 50 LB/A, K2O 100 LB/A

Soil Description

% OM: 2.9 **Texture:** SIL silt loam
pH: 6.7 **Soil Name:** Caseyville
CEC: 7

Additional Measured Elements

Element	Quantity	Unit
P1	63	lb/A
K	323	lb/A

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Moisture and Weather Conditions

Overall Moisture Conditions: NORMAL
Closest Weather Station: ICN - Belleville IL **Distance, Unit:** 0 5 MI

No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	4-1-14	3.19	IN	RAIN	rain	4	DAY			
2.	4-1-14					7	DAY	34	66	F
3.	4-7-14	0.3	IN	RAIN	rain	2	DAY			
4.	4-8-14					7	DAY	34	83	F
5.	4-12-14	0.66	IN	RAIN	rain	3	DAY			
6.	4-15-14					7	DAY	31	79	F
7.	4-21-14	0.17	IN	RAIN	rain	2	DAY			
8.	4-22-14					7	DAY	44	78	F
9.	4-24-14	2.24	IN	RAIN	rain	5	DAY			
10.	4-29-14	0.09	IN	RAIN	rain	2	DAY			
11.	4-29-14					7	DAY	41	87	F
12.	5-6-14					7	DAY	56	86	F
13.	5-8-14	0.13	IN	RAIN	rain	2	DAY			
14.	5-12-14	0.88	IN	RAIN	rain	4	DAY			
15.	5-13-14					7	DAY	37	76	F
16.	5-20-14					7	DAY	55	87	F
17.	5-21-14	0.06	IN	RAIN	rain	1	DAY			
18.	5-25-14	0.49	IN	RAIN	rain	2	DAY			
19.	5-27-14	0.08	IN	RAIN	rain	2	DAY			
20.	5-27-14					7	DAY	60	86	F
21.	5-31-14	0.14	IN	RAIN	rain	1	DAY			
22.	6-1-14	0.13	IN	RAIN	rain	1	DAY			
23.	6-3-14					7	DAY	59	90	F
24.	6-4-14	0.67	IN	RAIN	rain	1	DAY			
25.	6-7-14	0.6	IN	RAIN	rain	1	DAY			
26.	6-9-14	1.38	IN	RAIN	rain	2	DAY			
27.	6-10-14					7	DAY	51	90	F
28.	6-12-14	0.07	IN	RAIN	rain	1	DAY			
29.	6-15-14	0.02	IN	RAIN	rain	1	DAY			
30.	6-17-14					7	DAY	67	92	F
31.	6-20-14	2.09	IN	RAIN	rain	5	DAY			
32.	6-24-14					7	DAY	65	91	F
33.	6-27-14	0.11	IN	RAIN	rain	2	DAY			

Application Description

	A
Application Date:	5-2-14
Appl. Start Time:	7:00
Appl. Stop Time:	7:15
Application Method:	Spray
Application Timing:	7DBP
Application Placement:	BROFOL
Applied By:	RFK
Air Temperature, Unit:	47 F
% Relative Humidity:	89
Wind Velocity, Unit:	0 MPH
Dew Presence (Y/N):	N
Soil Temperature, Unit:	56 F
Soil Moisture:	ABONOR
% Cloud Cover:	100
Next Moisture Occurred On:	5-8-14
Time to Next Moisture, Unit:	6 DAY

Crop Stage At Each Application

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

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Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	CAPBP W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10+
Stage Maximum, Percent:	10+
Height, Unit:	24 IN
Height Minimum, Maximum:	12 24
Density, Unit:	1 FT2
Pest 2 Code, Type, Scale:	RANAB W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10+
Stage Maximum, Percent:	10+
Height, Unit:	12 IN
Height Minimum, Maximum:	6 12
Density, Unit:	1 FT2
Pest 3 Code, Type, Scale:	LAMPU W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10+
Stage Maximum, Percent:	10+
Height, Unit:	8 IN
Height Minimum, Maximum:	6 8
Density, Unit:	1 FT2
Pest 4 Code, Type, Scale:	HORPU W
Stage Majority, Percent:	6
Stage Minimum, Percent:	5
Stage Maximum, Percent:	6
Height, Unit:	5 IN
Height Minimum, Maximum:	4 6
Density, Unit:	0.1 FT2
Pest 5 Code, Type, Scale:	STEME W
Stage Majority, Percent:	10+
Stage Minimum, Percent:	10+
Stage Maximum, Percent:	10+
Height, Unit:	6 IN
Height Minimum, Maximum:	4 6
Density, Unit:	1 FT2
Pest 6 Code, Type, Scale:	AMBTR W
Stage Majority, Percent:	6
Stage Minimum, Percent:	5
Stage Maximum, Percent:	6
Height, Unit:	4 IN
Height Minimum, Maximum:	2 4
Density, Unit:	0.1 FT2
Pest 7 Code, Type, Scale:	SETFA W
Stage Majority, Percent:	NA
Pest 8 Code, Type, Scale:	CHEAL W
Stage Majority, Percent:	8
Stage Minimum, Percent:	5
Stage Maximum, Percent:	10
Height, Unit:	3 IN
Height Minimum, Maximum:	1 3
Density, Unit:	0.01 FT2
Pest 9 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	Grow h Stage	Appl Code	CAPBP	RANAB	LAMPU	HORPU	STEME	ZEAMD	ZEAMD	ZEAMD
	Rating Date									5-16-14	5-16-14	5-16-14	5-16-14	5-16-14	5-23-14	6-6-14	6-20-14
	Rating Type									Control	Control	Control	Control	Control	Injury	Injury	Injury
	Rating Unit									Percen	Percent	Percent	Percent	Percent	Percen	Percent	Percen
	Rating Timing																
	Trt-Eval Interval									14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DAP	28 DAP	42 DAP
1	HARROW	75	WG	0.0234	lb ai/a	0.50	oz/a	7DBP	A	99 a	99 a	99 a	99 a	99 a	0 a	0 a	0 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	7DBP	A								
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	7DBP	A								
2	BASIS	75	WG	0.0234	lb ai/a	0.50	oz/a	7DBP	A	99 a	99 a	99 a	99 a	99 a	0 a	0 a	0 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	7DBP	A								
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	7DBP	A								
3	NONTREATED									0	0	0	0	0	0	0	0
	LSD (P=.05)									0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Standard Deviation									0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CV									0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Replicate F									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Replicate Prob(F)									1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Treatment F									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Treatment Prob(F)									1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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.

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	AMBTR 5-16-14 Control Percent 14 DA-A	AMBTR 5-30-14 Control Percen 28 DA-A	AMBTR 6-13-14 Control Percent 42 DA-A	SETFA 5-16-14 Control Percent 14 DA-A	SETFA 5-30-14 Control Percent 28 DA-A	SETFA 6-13-14 Control Percent 42 DA-A
1	HARROW	75	WG	0.0234	lb ai/a	0.50	oz/a	7DBP	A	99 a	99 a	97 a	99 a	95 a	91 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	7DBP	A						
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	7DBP	A						
2	BASIS	75	WG	0.0234	lb ai/a	0.50	oz/a	7DBP	A	99 a	99 a	96 a	99 a	93 a	87 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	7DBP	A						
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	7DBP	A						
3	NONTREATED									0	0	0	0	0	0
LSD (P=.05)										0.0	0 8	3.2	0.0	19.7	26.0
Standard Deviation										0.0	0.4	1.4	0.0	8.8	11.6
CV										0.0	0 36	1.47	0.0	9.33	12.96
Replicate F										0.000	1 000	3.667	0.000	0.414	0.256
Replicate Prob(F)										1.0000	0 5000	0.1571	1.0000	0.7561	0.8539
Treatment F										0.000	1 000	1.000	0.000	0.041	0.211
Treatment Prob(F)										1.0000	0 3910	0.3910	1.0000	0.8530	0.6774

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	CHEAL	CHEAL	CHEAL	AMATA	AMATA
	Pest Code									CHEAL	CHEAL	CHEAL	AMATA	AMATA
	Crop Code													
	Rating Date									5-16-14	5-30-14	6-13-14	5-30-14	6-13-14
	Rating Type									Control	Control	Control	Control	Control
	Rating Unit									Percent	Percent	Percent	Percen	Percen
	Rating Timing													
	Trt-Eval Interval									14 DA-A	28 DA-A	42 DA-A	28 DA-A	42 DA-A
1	HARROW	75	WG	0.0234	lb ai/a	0.50	oz/a	7DBP	A	99 a	98 a	95 a	90 a	85 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	7DBP	A					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	7DBP	A					
2	BASIS	75	WG	0.0234	lb ai/a	0.50	oz/a	7DBP	A	99 a	97 a	94 a	93 a	86 a
	GLYFOS X-TRA	3	SL	0.75	lb ae/a	32	fl oz/a	7DBP	A					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	7DBP	A					
3	NONTREATED									0	0	0	0	0
	LSD (P=.05)									0.0	4.0	3.2	8 0	7.6
	Standard Deviation									0.0	1.8	1.4	3 5	3.4
	CV									0.0	1.82	1.5	3.87	3.95
	Replicate F									0.000	6.227	22.000	1.000	2.455
	Replicate Prob(F)									1.0000	0.0837	0.0152	0.5000	0.2401
	Treatment F									0.000	1.000	1.000	1.000	0.273
	Treatment Prob(F)									1.0000	0.3910	0.3910	0.3910	0.6376

Southern Illinois University

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Trial Comments

1. Protocol: Cheminova (HZEAMXRIM2THI1401).
2. Ratings: CI 14, 28, and 42 DAP, WC 14, 28, and 42 DA-A.
   Describe injury symptoms if present.
   No crop injury was observed.
   Photos of differences or significant injury only.
3. Yield not requested.
4. Provide date and amount of first rainfall after application.
   Provide daily rainfall, air temperature and RH for duration of trial.
5. Folliowing the 7DBP application on May 2, the first rainfall event was 0.13 inch
   over 2 days beginning on May 8.
   Total rainfall for the 14 days after application was 1.01 inch.
6. Detailed weather data collected on-site by the Illinois Climate Network is available at;
   http://www.isws.illinois.edu/warm/weather/
7. By 5-30-14 (28 DA-A), the winter annual weeds CAPBP, RANAB, LAMPU, HORPU, and STEME
   in the nontreated plots were senescing naturally and could no longer be evaluated.
8. Not harvested.