Engenia Herbicide: Efficacy and Importance of Weed Size.

Trial ID: 14-26C-W-S90 Location: Belleville Res. Center Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: F one-year/final
Initiation Date: 7-11-14
Completion Date: 8-25-14

Trial Location

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

Objectives:
Demonstrate efficacy and the importance of weed size when applying Engenia in DT soybeans.

Contacts

Study Director: Ronald F. Krausz **Title:** Researcher/Farm Manager
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City+State/Prov: Belleville, IL
Postal Code: 62221 **E-mail:** rkrausz@siu.edu
Country: USA

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: Dicamba-Tolerant **BBCH Scale:** BSOY
Description: DT
Planting Date: 7-11-14
Planting Rate, Unit: 140000 S/A **Planting Method:** SEEDED
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN

Pest Description

Pest 1 Type: W **Code:** XANST Xanthium strumarium L.
Common Name: cocklebur, common

Pest 2 Type: W **Code:** ABUTH Abutilon theophrasti Medik.
Common Name: velvetleaf

Pest 3 Type: W **Code:** AMATA Amaranthus rudis Sauer
Common Name: waterhemp, common

Site and Design

Treated Plot Width: 10 FT **Total Plot Width:** 20 FT **Site Type:** FIELD
Treated Plot Length: 50 FT **Total Plot Length:** 50 FT **Experimental Unit:** 1 PLOT
Tillage Type: REDTIL reduced-till
Replications: 1 **Study Design:** RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: NONE control is other than an untreated

No.	Previous Crop	Year
1.	GLXMA	2013

Maintenance

No.	Maintenance Product Name
1.	N 0 LB/A, P2O5 50 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: NORMAL
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.	6-1-14	0.13	IN	RAIN	rain	1	DAY			
2.	6-3-14					7	DAY	59	90	F
3.	6-4-14	0.67	IN	RAIN	rain	1	DAY			
4.	6-7-14	0.6	IN	RAIN	rain	1	DAY			
5.	6-9-14	1.38	IN	RAIN	rain	2	DAY			
6.	6-10-14					7	DAY	51	90	F
7.	6-12-14	0.07	IN	RAIN	rain	1	DAY			
8.	6-15-14	0.02	IN	RAIN	rain	1	DAY			
9.	6-17-14					7	DAY	67	92	F
10.	6-20-14	2.09	IN	RAIN	rain	5	DAY			
11.	6-24-14					7	DAY	65	91	F
12.	6-27-14	0.11	IN	RAIN	rain	2	DAY			
13.	7-1-14	0.01	IN	RAIN	rain	1	DAY			
14.	7-1-14					7	DAY	55	90	F
15.	7-7-14	0.79	IN	RAIN	rain	2	DAY			
16.	7-8-14					7	DAY	59	89	F
17.	7-12-14	0.49	IN	RAIN	rain	3	DAY			
18.	7-15-14					7	DAY	54	85	F
19.	7-22-14					7	DAY	57	98	F
20.	7-25-14	0.02	IN	RAIN	rain	1	DAY			
21.	7-29-14					7	DAY	52	89	F
22.	8-1-14	0.04	IN	RAIN	rain	1	DAY			
23.	8-5-14	4.04	IN	RAIN	rain	4	DAY			
24.	8-5-14					7	DAY	66	88	F
25.	8-12-14					7	DAY	57	84	F
26.	8-15-14	1.21	IN	RAIN	rain	3	DAY			
27.	8-19-14					7	DAY	67	95	F
28.	8-20-14	0.11	IN	RAIN	rain	1	DAY			
29.	8-27-14	1.56	IN	RAIN	rain	2	DAY			
30.	9-1-14	1.69	IN	RAIN	rain	1	DAY			

Application Description

	A	B	C	D
Application Date:	7-11-14	7-28-14	8-5-14	8-8-14
Appl. Start Time:	10:00	6:30	16:15	10:30
Appl. Stop Time:	10:30	7:00	16:30	10:40
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	PRE	3-4"BL	6-8"BL	11-12"BL
Application Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Applied By:	RJW	RFK	LXF	LXF
Air Temperature, Unit:	83 F	69 F	87 F	75 F
% Relative Humidity:	61	79	65	100
Wind Velocity, Unit:	3 MPH	4 MPH	2 MPH	1 MPH
Wind Direction:	S	N	E	W
Dew Presence (Y/N):	N	N	N	N
Soil Temperature, Unit:	75 F	74 F	76 F	75 F
Soil Moisture:	NORMAL	BELNOR	NORMAL	ABONOR
% Cloud Cover:	0	0	25	25
Next Moisture Occurred On:	7-13-14	8-1-14	8-7-14	8-16-14
Time to Next Moisture, Unit:	2 DAY	3 DAY	2 DAY	8 DAY

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA	GLXMA	GLXMA	GLXMA
Stage Scale Used:	DESC	DESC	DESC	DESC
Stage Majority, Percent:	NA	V1	V2	V3
Stage Minimum, Percent:		V1	V1	V2
Stage Maximum, Percent:		V1	V2	V3
Height, Unit:		4 IN	8 IN	10 IN
Height Minimum, Maximum:		3 4	6 8	8 10

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Pest Stage At Each Application

	A	B	C	D
Pest 1 Code, Type, Scale:	XANST W	XANST W	XANST W	XANST W
Stage Majority, Percent:	NA	6	8	8
Stage Minimum, Percent:		6	6	8
Stage Maximum, Percent:		8	8	10
Height, Unit:		3 IN	6 IN	11 IN
Height Minimum, Maximum:		2 4	6 8	10 11
Density, Unit:		1 FT2	1 FT2	5 FT2
Pest 2 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:	NA	4	5	7
Stage Minimum, Percent:		4	4	5
Stage Maximum, Percent:		5	6	9
Height, Unit:		3 IN	6 IN	11 IN
Height Minimum, Maximum:		1 4	6 8	10 11
Density, Unit:		0.1 FT2	3 FT2	2 FT2
Pest 3 Code, Type, Scale:	AMATA W	AMATA W	AMATA W	AMATA W
Stage Majority, Percent:	NA	6	10	14
Stage Minimum, Percent:		6	6	10
Stage Maximum, Percent:		8	14	16
Height, Unit:		3 IN	6 IN	11 IN
Height Minimum, Maximum:		1 4	4 8	9 11
Density, Unit:		4 FT2	10 FT2	10 FT2

Application Equipment

	A	B	C	D
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Equipment Type:	BACSPR	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI	30 PSI
Nozzle Type:	TTI	TTI	TTI	TTI
Nozzle Size:	11002	11002	11002	11002
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

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Pest Code																	
Crop Code									GLXMA	GLXMA	XANST	XANST	ABUTH	ABUTH	AMATA	AMATA
Rating Date										8-25-14		8-25-14		8-25-14		8-25-14
Rating Type									Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Unit									Percen	Percent	Percen	Percent	Percen	Percent	Percent	Percent
Rating Timing																
Trt-Eval Interval									14 DAT		14 DAT		14 DAT		14 DAT	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	O her Rate	Other Rate Unit	Growth Stage	Appl Code								
1	ENGENIA	5	SL	0.5	lb ae/a	12.8	fl oz/a	PRE	A	0	0	95	0	90	0	85	0
	PREFERENCE	100	SL	0.25	% v/v	0.25	% v/v	PRE	A								
2	ENGENIA	5	SL	0.5	lb ae/a	12.8	fl oz/a	3-4"BL	B	0	0	99	99	50	50	80	75
	PREFERENCE	100	SL	0.25	% v/v	0.25	% v/v	3-4"BL	B								
3	ENGENIA	5	SL	0.5	lb ae/a	12.8	fl oz/a	6-8"BL	C	0	0	99	99	50	50	75	75
	PREFERENCE	100	SL	0.25	% v/v	0.25	% v/v	6-8"BL	C								
4	ENGENIA	5	SL	0.5	lb ae/a	12.8	fl oz/a	11-12"BL	D	0	0	99	99	85	85	50	50
	PREFERENCE	100	SL	0.25	% v/v	0.25	% v/v	11-12"BL	D								
LSD (P=.05)											.		.		.		.
Standard Deviation											.		.		.		.
CV											.		.		.		.

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.

Southern Illinois University

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Trial Comments

1. Protocol: BASF (MKD-H-2014-US-D04-A-01).
2. Ratings: CI 14 DA-A, 14 DA-B, 14 DA-C, and 14 DA-D,
   WC 14 DA-A, 14 DA-B, 14 DA-C, and 14 DA-D.
3. Crop destruct (no pods).
4. Photos.
5. Blanket application of Select Max (1 pt/A) plus COC (1%) at soybean stage V2 to control grass
   was applied 7-22-14 at soybean unifoliate stage.
6. Ratings at 14 DAT for the PRE, 3-4"BL, 6-8"BL and 11-12"BL applications were
   on 7-25-14, 8-11-14, 8-19-14, and 8-22-14, respectively.
7. Ratings on 8-25-14 (last rating prior to crop destruct) were 45, 28, 20, and 17 days
   after the PRE, 3-4"BL, 6-8"BL and 11-12"BL applications, respectively.
8. For ratings on 8-25-14, loss of weed control in treatment 1, was due to new emergence, not regrowth.
9. Not harvested.