

Southern Illinois University

General Evaluation of Soil Residual Herbicides in Soybean - Palmer.

Trial ID: 14-COL-SIUresidual-W80 Location: Collinsville, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: F one-year/final Initiation Date: 6-3-14 Completion Date: 7-30-14	Trial Location City: Collinsville Country: USA State/Prov.: Illinois IL Postal Code: 62234
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Objectives:
Evaluate soybean preemergence herbicide control of Palmer amaranth.

Study Director: Ronald F. Krausz Organization: Belleville Research Center - Southern Illinois Univ Carbondale Address: 2036 Charles Lane City+State/Prov: Belleville, IL Postal Code: 62221 Country: USA	Contacts Title: Researcher/Farm Manager Phone No.: 618-566-4761 E-mail: rkrausz@siu.edu
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Crop 1: GLXMA Glycine max Soybean Variety: P43T14L BBCH Scale: BSOY Description: LL/RR2	Crop Description Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN
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Pest 1 Type: W Code: AMAPA Amaranthus palmeri S.Wats. Common Name: amaranth, Palmer Description: glyphosate-resistant Palmer amaran h	Pest Description
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Treated Plot Width: 6.67 FT Total Plot Width: 10 FT Treated Plot Length: 25 FT Total Plot Length: 25 FT Replications: 3 Untreated Arrangement: INCLUDED single control randomized in each block	Site and Design Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: REDTIL reduced-till Study Design: RACOB L Randomized Complete Block (RCB)
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No.	Previous Crop	Year
1.	GLXMA	2013

Maintenance <table border="1"> <thead> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A
No.	Maintenance Product Name			
1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A			

% Sand: 14 % OM: 2.8 Texture: SIL silt loam % Silt: 70 pH: 7.07 Soil Name: Littleton/Haymond/Orion % Clay: 16 CEC: 11.2	Soil Description
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Element	Quantity	Unit
P1	63	lb/A
K	346	lb/A

Overall Moisture Conditions: NORMAL Closest Weather Station: WatchDog on-site	Moisture and Weather Conditions 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.	5-6-14					7	DAY	56	86	F
2.	5-8-14	0.13	IN	RAIN	rain	2	DAY			
3.	5-12-14	0.88	IN	RAIN	rain	4	DAY			
4.	5-13-14					7	DAY	37	76	F
5.	5-20-14					7	DAY	55	87	F
6.	5-21-14	0.06	IN	RAIN	rain	1	DAY			
7.	5-25-14	0.49	IN	RAIN	rain	2	DAY			
8.	5-27-14	0.08	IN	RAIN	rain	2	DAY			
9.	5-27-14					7	DAY	60	86	F
10.	5-31-14	0.14	IN	RAIN	rain	1	DAY			
11.	6-2-14	0.27	IN	RAIN	rain	1	DAY			
12.	6-3-14					7	DAY	62	91	F
13.	6-4-14	1.46	IN	RAIN	rain	1	DAY			
14.	6-7-14	0.22	IN	RAIN	rain	1	DAY			
15.	6-8-14	0.01	IN	RAIN	rain	1	DAY			
16.	6-9-14	0.6	IN	RAIN	rain	1	DAY			
17.	6-10-14	0.79	IN	RAIN	rain	1	DAY			
18.	6-10-14					7	DAY	54	90	F
19.	6-12-14	0.3	IN	RAIN	rain	1	DAY			
20.	6-13-14	0.01	IN	RAIN	rain	1	DAY			
21.	6-16-14	0.01	IN	RAIN	rain	1	DAY			
22.	6-17-14					7	DAY	67	94	F
23.	6-20-14	0.01	IN	RAIN	rain	1	DAY			
24.	6-21-14	0.39	IN	RAIN	rain	1	DAY			
25.	6-22-14	0.09	IN	RAIN	rain	1	DAY			
26.	6-23-14	0.02	IN	RAIN	rain	1	DAY			
27.	6-24-14	0.08	IN	RAIN	rain	1	DAY			
28.	6-24-14					7	DAY	67	92	F
29.	6-27-14	0.02	IN	RAIN	rain	1	DAY			
30.	7-1-14					7	DAY	56	92	F
31.	7-3-14	0.02	IN	RAIN	rain	1	DAY			
32.	7-7-14	0.03	IN	RAIN	rain	1	DAY			
33.	7-8-14	0.48	IN	RAIN	rain	1	DAY			
34.	7-8-14					7	DAY	59	95	F
35.	7-13-14	0.23	IN	RAIN	rain	1	DAY			
36.	7-14-14	0.2	IN	RAIN	rain	1	DAY			
37.	7-15-14	0.01	IN	RAIN	rain	1	DAY			
38.	7-15-14					7	DAY	54	90	F
39.	7-22-14					7	DAY	55	100	F
40.	7-25-14	0.03	IN	RAIN	rain	1	DAY			
41.	7-29-14					7	DAY	51	93	F
42.	8-5-14	0.33	IN	RAIN	rain	1	DAY			
43.	8-5-14					7	DAY	67	90	F

Application Description

	A
Application Date:	6-4-14
Appl. Start Time:	10:30
Appl. Stop Time:	11:30
Application Method:	Spray
Application Timing:	PRE
Application Placement:	BROSOL
Applied By:	LXF
Air Temperature, Unit:	87 F
% Relative Humidity:	56
Wind Velocity, Unit:	8 MPH
Wind Direction:	W
Dew Presence (Y/N):	N
Soil Temperature, Unit:	79 F
Soil Moisture:	ABONOR
% Cloud Cover:	20
Next Moisture Occurred On:	6-4-14
Time to Next Moisture, Unit:	6 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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	A
Pest 1 Code, Type, Scale:	AMAPA 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:	6.67 FT
Spray Volume, Unit:	15 GPA

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval							GLXMA 6-18-14 Injury Percent	GLXMA 7-2-14 Injury Percent	GLXMA 7-30-14 Injury Percent	AMAPA-HR 6-18-14 Control Percent	AMAPA-HR 7-2-14 Control Percent	AMAPA-HR 7-30-14 Control Percent
							14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	O her Rate Unit	Growth Stage	Appl Code				
1	NONTREATED								0	0	0	0
2	SONIC	70	WG	0.28 lb ai/a	6.4 oz/a		PRE	A	0a	0a	0a	99a
3	ENVIVE	41.3	WG	0.129 lb ai/a	5 oz/a		PRE	A	0a	0a	0a	99a
4	MATADOR S	100	SC	3 pt/a	3 pt/a		PRE	A	0a	0a	0a	99a
5	INTIMIDATOR	4.81	SL	1.8 lb ai/a	3 pt/a		PRE	A	0a	0a	0a	99a
6	ZIDUA	85	WG	0.133 lb ai/a	2.5 oz/a		PRE	A	0a	0a	0a	99a
7	STATEMENT	5.25	EC	1.31 lb ai/a	32 fl oz/a		PRE	A	0a	0a	0a	99a
8	STATEMENT	5.25	EC	1.64 lb ai/a	40 fl oz/a		PRE	A	0a	0a	0a	99a
9	PREFIX	5.29	EC	1.32 lb ai/a	32 fl oz/a		PRE	A	0a	0a	0a	99a
10	PREFIX	5.29	EC	1.65 lb ai/a	40 fl oz/a		PRE	A	0a	0a	0a	99a
11	VALOR SX	51	WG	0.08 lb ai/a	2.5 oz/a		PRE	A	0a	0a	0a	99a
12	FIERCE	76	WG	0.178 lb ai/a	3.75 oz/a		PRE	A	0a	0a	0a	99a
13	FIERCE VALOR SX	76 51	WG WG	0.178 lb ai/a 0.016 lb ai/a	3.75 oz/a 0.5 oz/a		PRE PRE	A A	0a	0a	0a	99a
14	FIERCE XLT FIERCE CLASSIC	76 25	WG WG	0.178 lb ai/a 0.0213 lb ai/a	3.75 oz/a 1.36 oz/a		PRE PRE PRE	A A A	0a	0a	0a	99a
15	BOUNDARY	6.5	EC	1.22 lb ai/a	1.5 pt/a		PRE	A	0a	0a	0a	99a
16	VERDICT OUTLOOK	5.57 6	EC EC	0.218 lb ai/a 0.47 lb ai/a	5 fl oz/a 10 fl oz/a		PRE PRE	A A	0a	0a	0a	99a
17	LINEX	4	SC	1 lb ai/a	2 pt/a		PRE	A	0a	0a	0a	99a
18	SENCOR	75	WG	0.375 lb ai/a	8 oz/a		PRE	A	1a	0a	0a	99a
19	AUTHORITY XL	70	WG	0.28 lb ai/a	6.4 oz/a		PRE	A	1a	0a	0a	99a
20	AUTHORITY MAXX	66	WG	0.33 lb ai/a	8 oz/a		PRE	A	0a	0a	0a	99a
21	AUTHORITY ELITE	7	SC	1.75 lb ai/a	32 fl oz/a		PRE	A	0a	0a	0a	99a
22	AUTHORITY MTZ	45	WG	0.45 lb ai/a	16 oz/a		PRE	A	0a	0a	0a	99a
23	AUTHORITY ASSIST	4	SC	0.313 lb ai/a	10 fl oz/a		PRE	A	0a	0a	0a	99a
24	SURVEIL CO-PACK VALOR SX FIRSTRATE	51 84	WG WG	0.064 lb ai/a 0.021 lb ai/a	2 oz/a 0.4 oz/a		PRE PRE PRE	A A A	0a	0a	0a	99a
LSD (P=.05)							0.6	0.0	0.0	0.0	14.3	21.5
Standard Deviation							0.3	0.0	0.0	0.0	8.7	13.0
CV							477.84	0.0	0.0	0.0	9.34	15.3
Replicate F							3.022	0.000	0.000	0.000	3.872	5.252
Replicate Prob(F)							0.0589	1.0000	1.0000	1.0000	0.0282	0.0090
Treatment F							1.000	0.000	0.000	0.000	1.352	1.760
Treatment Prob(F)							0.4836	1.0000	1.0000	1.0000	0.1938	0.0549

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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Trial Comments

1. Protocol: SIU.
2. Ratings: CI 14, 28, and 56 DA-A; WC 14, 28, and 56 DA-A.
3. No yield.
4. Photos at 28 and 56 DA-A.
5. Blanket at PRE timing (start-clean) of Gramoxone (3 pt/A) was applied to all plots on 6-5-14.
On 6-18-14 at 14 DA-A AMAPA-HR control in the nontreated plots was 90-97 percent.
6. AMAPA-HR = Herbicide-resistant Palmer amaranth (glyphosate).
7. Rainfall following the PRE application was 3.08 inch within the next week.
8. Not harvested.