

Southern Illinois University

General Evaluation of Soil Residual Herbicides in Soybean - Palmer.

Trial ID: 13-COL-Residual Location: Collinsville, IL Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 6-5-13 Completion Date: 7-31-13		Trial Location
City: Collinsville Country: USA State/Prov.: Illinois IL Postal Code: 62234		

Objectives:
Determine which herbicide for use in soybean has the greatest level of residual Palmer amaranth control.

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	
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Crop 1: GLXMA Glycine max Soybean Variety: AG3832 Description: RR2Y Planting Date: 6-5-13 Planting Rate, Unit: 145000 S/A Planting Method: SEEDED Depth, Unit: 1.25 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 amaranth	
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Treated Plot Width: 6.67 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: REDTIL reduced-till Replications: 3 Study Design: RACOB� Randomized Complete Block (RCB) Untreated Arrangement: INCLUDED single control randomized in each block	
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No.	Previous Crop	Year
1.	GLXMA	2012

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
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1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A				

% Sand: 5.26 % OM: 1.95 Texture: SIL silt loam % Silt: 84.13 pH: 5.7 Soil Name: Worthen/Littleton % Clay: 10.61 CEC: 11.77	
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Element	Quantity	Unit
P1	88	lb/A
K	338	lb/A

Overall Moisture Conditions: ABONOR Closest Weather Station: On-site Watch Dog Station	Moisture and Weather Conditions Distance, Unit: 0.25 MI
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	6-2-13					7	DAY	50	80	F
2.	6-4-13	0.24	IN	RAIN	rain					
3.	6-5-13	0.04	IN	RAIN	rain					
4.	6-7-13	0.06	IN	RAIN	rain					
5.	6-9-13					7	DAY	59	94	F
6.	6-9-13	0.17	IN	RAIN	rain	2	DAY			
7.	6-16-13					7	DAY	61	90	F
8.	6-17-13	2.35	IN	RAIN	rain	3	DAY			
9.	6-23-13					7	DAY	64	92	F
10.	6-23-13	3.31	IN	RAIN	rain	2	DAY			
11.	6-26-13	0.67	IN	RAIN	rain	1	DAY			
12.	6-30-13	0.53	IN	RAIN	rain	2	DAY			
13.	6-30-13					7	DAY	61	86	F
14.	7-2-13	1.42	IN	RAIN	rain	2	DAY			
15.	7-6-13	0.92	IN	RAIN	rain	1	DAY			
16.	7-7-13					7	DAY	62	94	F
17.	7-10-13	0.14	IN	RAIN	rain	1	DAY			
18.	7-14-13					7	DAY	64	94	F
19.	7-19-13	0.03	IN	RAIN	rain	1	DAY			
20.	7-21-13	0.47	IN	RAIN	rain	2	DAY			
21.	7-21-13					7	DAY	56	91	F
22.	7-26-13	0.03	IN	RAIN	rain	1	DAY			
23.	7-30-13	0.5	IN	RAIN	rain	2	DAY			

Application Description

	A
Application Date:	6-5-13
Appl. Start Time:	14:30
Appl. Stop Time:	15:30
Application Method:	Spray
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	BCS
Air Temperature, Unit:	85 F
% Relative Humidity:	43
Wind Velocity, Unit:	3 MPH
Wind Direction:	E
Dew Presence (Y/N):	N
Soil Temperature, Unit:	76 F
Soil Moisture:	NORMAL
% Cloud Cover:	60
Next Moisture Occurred On:	6-5-13
Time to Next Moisture, Unit:	5 HR

Crop Stage At Each Application

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

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMAPA W
Stage Majority, Percent:	NA

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Investigator: Bryan Young**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 6-19-13 Injury Percent	GLXMA 7-3-13 Injury Percent	GLXMA 7-31-13 Injury Percent	AMAPA-HR 6-19-13 Control Percent	AMAPA-HR 7-3-13 Control Percent	AMAPA-HR 7-31-13 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 Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code			
1	NONTREATED									0 f	0 c	0 a
2	SONIC	70	WG	0.28 lb ai/a	6.4 oz/a		PRE	A		13 d	10 a	0 a
3	ENVIVE	41.3	WG	0.129 lb ai/a	5 oz/a		PRE	A		22 c	10 a	0 a
4	MATADOR S	100	SC	3 pt/a	3 pt/a		PRE	A		0 f	0 c	0 a
5	INTIMIDATOR	4.81	SL	1.8 lb ai/a	3 pt/a		PRE	A		0 f	0 c	0 a
6	ZIDUA	85	WG	0.133 lb ai/a	2.5 oz/a		PRE	A		0 f	2 bc	0 a
7	STATEMENT	5.25	EC	1.31 lb ai/a	32 fl oz/a		PRE	A		0 f	0 c	0 a
8	STATEMENT	5.25	EC	1.64 lb ai/a	40 fl oz/a		PRE	A		0 f	0 c	0 a
9	PREFIX	5.29	EC	1.32 lb ai/a	32 fl oz/a		PRE	A		0 f	0 c	0 a
10	PREFIX	5.29	EC	1.65 lb ai/a	40 fl oz/a		PRE	A		0 f	2 bc	0 a
11	VALOR SX	51	WG	0.08 lb ai/a	2.5 oz/a		PRE	A		19 c	3 b	0 a
12	FIERCE	76	WG	0.178 lb ai/a	3.75 oz/a		PRE	A		30 a	8 a	0 a
13	FIERCE VALOR SX	76 WG 51 WG		0.178 lb ai/a 0.016 lb ai/a	3.75 oz/a 0.5 oz/a		PRE PRE	A A		30 a	8 a	0 a
14	FIERCE XLT FIERCE CLASSIC	76 WG 25 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		25 b	10 a	2 a
15	BOUNDARY	6.5	EC	1.22 lb ai/a	1.5 pt/a		PRE	A		0 f	2 bc	0 a
16	VERDICT OUTLOOK	5.57 EC 6 EC		0.218 lb ai/a 0.47 lb ai/a	5 fl oz/a 10 fl oz/a		PRE PRE	A A		10 e	10 a	0 a
17	LINEX	4	SC	1 lb ai/a	2 pt/a		PRE	A		0 f	0 c	0 a
18	SENCOR	75	WG	0.375 lb ai/a	8 oz/a		PRE	A		0 f	0 c	0 a
LSD (P=.05)							2.6	2.5	1.1	1.0	3.0	6.8
Standard Deviation							1.6	1.5	0.7	0.6	1.8	4.1
CV							18.84	41.13	734.85	0.63	1.97	4.74
Replicate F							0.599	5.667	1.000	0.486	0.123	1.545
Replicate Prob(F)							0.5552	0.0075	0.3784	0.6195	0.8850	0.2278
Treatment F							166.629	25.889	1.000	4706.972	506.904	98.184
Treatment Prob(F)							0.0001	0.0001	0.4813	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.

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Trial Comments

1. Protocol: SIU, Loveland, Cheminova, Valent.
2. Ratings: CI at 14 DAT; CI/WC at 28 and 56 DAT.
3. No yield.
4. AMAPA-HR = Herbicide-resistant Palmer amaranth (glyphosate).
5. Weeds that had emerged prior to planting were controlled with tillage and Gramoxone.
6. Rainfall following the PRE application was 0.27 inch within 4 days, then 2.35 inch 12 days after the PRE.
7. Not harvested.