

Southern Illinois University

Preemergence Residual Herbicides for Palmer Amaranth in Soybean.

Trial ID: 12-COL-Residual

Location: Collinsville, IL

Investigator: Bryan Young

General Trial Information

Study Director: Bryan Young
Investigator: Bryan Young **Title:** Professor

Trial Status: F - one-year/final
Initiation Date: 6-3-12

Trial Location

City: Collinsville
State/Prov.: IL
Postal Code: 62234
Country: USA

Objectives:

Determine which preemergence soybean herbicides provide the greatest residual control of Palmer amaranth.

Personnel

Study Director: Bryan Young
Investigator: Bryan Young **Title:** Professor
Affiliation: Southern Illinois University
Address: 1205 Lincoln Drive - AG 176 - MC 4415
Location: Carbondale IL
Postal Code: 62901 **E-mail:** bgyoung@siu.edu
Phone No.: 618-453-7679 **Mobile No.:** 618-713-6471

Crop Description

Crop 1: GLXMA Glycine max Soybean
BBCH Scale: BSOY
Planting Method: SEEDED Seeded **Rate, Unit:** 75 LB/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN

Pest Description

Pest 1 Type: W **Code:** AMAPA - Amaranthus palmeri S.Wats.
Common Name: amaranth, Palmer
Description: glyphosate-resistant Palmer amaranth

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT² **Tillage Type:** REDTIL reduced-till
Replications: 3 **Study Design:** RACOB L Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	GLXMA	2011

Maintenance

No.	Maintenance Treatment Name
1.	N 0 LB/A, P205 0 LB/A, K20 0 LB/A

Soil Description

% Sand: 8.48 **% OM:** 2.08 **Texture:** SIL SILT LOAM
% Silt: 79.03 **pH:** 8 **Soil Name:** Littleton / Haymond / Orion
% Clay: 12.49 **CEC:** 12.61

Additional Measured Elements

Element	Quantity	Unit
P1	279	LB/A
K	410	LB/A

Moisture and Weather Conditions

Overall Moisture Conditions: BELNOR below normal
Closest Weather Station: ICN - Belleville IL **Distance, Unit:** 15 MI

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No.	Date	Amount	Unit	Type	Type Description
1.	6-11-12	0.67	IN	RAIN	rain
2.	6-16-12	0.5	IN	RAIN	rain
3.	6-24-12	1.0	IN	SPWACA	sprinkler - water cannon/traveling gun
4.	7-6-12	1.0	IN	SPWACA	sprinkler - water cannon/traveling gun
5.	7-26-12	0.25	IN	RAIN	rain
6.	8-1-12	1.0	IN	SPWACA	sprinkler - water cannon/traveling gun

Application Description

	A
Application Date:	6-3-12
Time of Day:	10:00
Application Method:	Spray
Application Timing:	PRE
Application Placement:	BROFOL
Applied By:	JRK
Air Temperature, Unit:	80 F
% Relative Humidity:	57
Wind Velocity, Unit:	1 MPH
Wind Direction:	NW
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	74 F
Soil Moisture:	BELNOR
% Cloud Cover:	80
Next Rain Occurred On:	6-11-12

Crop Stage At Each Application

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

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMAPA W DESC
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:	10 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 6-24-12 Injury Percent	GLXMA 7-15-12 Injury Percent	AMAPA-HR 6-24-12 Control Percent	AMAPA-HR 7-15-12 Control Percent
							21 DA-A	42 DA-A	21 DA-A	42 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit Stage	Appl Code		
1	NONTREATED								0 a	0 d
2	SONIC	70 WG		0.28 lb ai/a	6.4 oz/a		PRE	A	0 a	53 ab
3	ENVIVE	41.3 WG		0.129 lb ai/a	5 oz/a		PRE	A	0 a	37 bc
4	VALOR XLT	40.3 WG		0.101 lb ai/a	4 oz/a		PRE	A	0 a	43 abc
5	FIERCE	76 WG		0.214 lb ai/a	4.5 oz/a		PRE	A	0 a	70 a
6	ZIDUA	85 WG		0.133 lb ai/a	2.5 oz/a		PRE	A	0 a	49 ab
7	PREFIX	5.29 EC		1.65 lb ai/a	2.5 pt/a		PRE	A	0 a	60 ab
8	BOUNDARY	6.5 EC		1.22 lb ai/a	1.5 pt/a		PRE	A	0 a	40 abc
9	MATADOR	4.7 SC		1.59 lb ai/a	2.7 pt/a		PRE	A	0 a	63 ab
10	VERDICT OUTLOOK	5.57 EC 6 EC		0.218 lb ai/a 0.47 lb ai/a	5 oz/a 10 fl oz/a		PRE PRE	A A	0 a	52 ab
11	LINEX	4 SC		1 lb ai/a	2 pt/a		PRE	A	0 a	13 cd
12	NONTREATED								0 a	0 d
LSD (P=.05)							0.0	0.0	7.6	31.6
Standard Deviation							0.0	0.0	4.5	18.7
CV							0.0	0.0	5.89	46.77
Replicate F							0.000	0.000	7.827	23.130
Replicate Prob(F)							1.0000	1.0000	0.0027	0.0001
Treatment F							0.000	0.000	205.632	4.785
Treatment Prob(F)							1.0000	1.0000	0.0001	0.0009

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/WC at 21, 42, and 63 DAT.
3. AMAPA-HR = Herbicide-resistant Palmer amaranth (glyphosate).
4. Rainfall following the PRE application was 0.67 inch 8 days later and 0.5 inch 13 days later.
5. Not harvested.