

Southern Illinois University

Palmer Amaranth Control with Statement Postemergence.

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

Trial Status: F one-year/final Initiation Date: 6-5-13 Completion Date: 8-2-13		Trial Location
City: Collinsville Country: USA State/Prov.: Illinois IL Postal Code: 62234		

Objectives:
Compare the efficacy of Statement and Prefix applied postemergence for 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		Contacts
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Crop 1: GLXMA Glycine max Soybean Variety: HS 42L02 Description: LL Planting Date: 6-5-13 Planting Rate, Unit: 160000 S/A Planting Method: SEEDED Depth, Unit: 1.25 IN Row Spacing, Unit: 30 IN		Crop Description
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Pest 1 Type: W Code: AMAPA Amaranthus palmeri S.Wats. Common Name: amaranth, Palmer Description: glyphosate-resistant Palmer amaranth		Pest Description
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Treated Plot Width: 6.67 FT Total Plot Width: 10 FT Treated Plot Length: 30 FT Total Plot Length: 30 FT Replications: 4 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� Randomized Complete Block (RCB)	
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No.	Previous Crop	Year
1.	GLXMA	2012

Maintenance	
No.	Maintenance Product Name
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		Soil Description
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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:	6-21-13
Appl. Start Time:	8:00
Appl. Stop Time:	8:30
Application Method:	Spray
Application Timing:	2"W
Application Placement:	BROFOL
Applied By:	NTH
Air Temperature, Unit:	85 F
% Relative Humidity:	72
Wind Velocity, Unit:	4 MPH
Wind Direction:	S
Dew Presence (Y/N):	N
Soil Temperature, Unit:	77 F
Soil Moisture:	NORMAL
% Cloud Cover:	0
Next Moisture Occurred On:	6-22-13
Time to Next Moisture, Unit:	32 HR

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA
Stage Scale Used:	DESC
Stage Majority, Percent:	V2
Stage Minimum, Percent:	V1
Stage Maximum, Percent:	V2
Height, Unit:	5 IN
Height Minimum, Maximum:	3 5

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	A
Pest 1 Code, Type, Scale:	AMAPA W
Stage Majority, Percent:	6
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	8
Height, Unit:	2 IN
Height Minimum, Maximum:	0.5 4
Density, Unit:	5 FT2

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 7-5-13 Injury Percent	GLXMA 7-19-13 Injury Percent	GLXMA 8-2-13 Injury Percent	GLXMA 7-5-13 Chlorosis Percent	GLXMA 7-19-13 Chlorosis Percent	GLXMA 8-2-13 Chlorosis Percent
								14 DA-A	28 DA-A	42 DA-A	14 DA-A	28 DA-A	42 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	STATEMENT LIBERTY 280 N-PAK AMS	5.25 EC 2.34 EC 100 SL		1.31 lb ai/a 0.53 lb ai/a 5 % v/v	32 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		11 c	2 b	0 a	0 a	0 a
2	STATEMENT LIBERTY 280 N-PAK AMS	5.25 EC 2.34 EC 100 SL		1.64 lb ai/a 0.53 lb ai/a 5 % v/v	40 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		17 a	4 a	0 a	0 a	0 a
3	RHYTHM LIBERTY 280 N-PAK AMS	1.88 ME 2.34 EC 100 SL		0.375 lb ai/a 0.53 lb ai/a 5 % v/v	25.5 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		5 d	0 c	0 a	0 a	0 a
4	DAWN LIBERTY 280 N-PAK AMS	2 AS 2.34 EC 100 SL		0.375 lb ai/a 0.53 lb ai/a 5 % v/v	24 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		5 d	0 c	0 a	0 a	0 a
5	PREFIX LIBERTY 280 N-PAK AMS	5.29 EC 2.34 EC 100 SL		1.32 lb ai/a 0.53 lb ai/a 5 % v/v	32 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		15 b	3 ab	0 a	0 a	0 a
6	PREFIX LIBERTY 280 N-PAK AMS	5.29 EC 2.34 EC 100 SL		1.65 lb ai/a 0.53 lb ai/a 5 % v/v	40 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		19 a	4 a	0 a	0 a	0 a
7	LIBERTY 280 N-PAK AMS	2.34 EC 100 SL		0.53 lb ai/a 5 % v/v	29 fl oz/a 5 % v/v	2"W 2"W	A A		0 e	0 c	0 a	0 a	0 a
8	NONTREATED								0 e	0 c	0 a	0 a	0 a
LSD (P=.05)								1.8	1.8	0.0	0.0	0.0	0.0
Standard Deviation								1.2	1.2	0.0	0.0	0.0	0.0
CV								13.96	72.05	0.0	0.0	0.0	0.0
Replicate F								0.488	3.006	0.000	0.000	0.000	0.000
Replicate Prob(F)								0.6941	0.0533	1.0000	1.0000	1.0000	1.0000
Treatment F								149.488	9.878	0.000	0.000	0.000	0.000
Treatment Prob(F)								0.0001	0.0001	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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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								GLXMA 7-5-13 Necrosis Percent	GLXMA 7-19-13 Necrosis Percent	GLXMA 8-2-13 Necrosis Percent	GLXMA 7-5-13 Stunt Percent	GLXMA 7-19-13 Stunt Percent	GLXMA 8-2-13 Stunt Percent
								14 DA-A	28 DA-A	42 DA-A	14 DA-A	28 DA-A	42 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	STATEMENT LIBERTY 280 N-PAK AMS	5.25 EC 2.34 EC 100 SL		1.31 lb ai/a 0.53 lb ai/a 5 % v/v		32 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A	5 ab	0 a	0 a	6 c	2 b 0 a
2	STATEMENT LIBERTY 280 N-PAK AMS	5.25 EC 2.34 EC 100 SL		1.64 lb ai/a 0.53 lb ai/a 5 % v/v		40 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A	5 ab	0 a	0 a	13 a	4 a 0 a
3	RHYTHM LIBERTY 280 N-PAK AMS	1.88 ME 2.34 EC 100 SL		0.375 lb ai/a 0.53 lb ai/a 5 % v/v		25.5 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A	4 c	0 a	0 a	0 d	0 c 0 a
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6	PREFIX LIBERTY 280 N-PAK AMS	5.29 EC 2.34 EC 100 SL		1.65 lb ai/a 0.53 lb ai/a 5 % v/v		40 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A	6 a	0 a	0 a	15 a	4 a 0 a
7	LIBERTY 280 N-PAK AMS	2.34 EC 100 SL		0.53 lb ai/a 5 % v/v		29 fl oz/a 5 % v/v	2"W 2"W	A A	0 d	0 a	0 a	0 d	0 c 0 a
8	NONTREATED								0 d	0 a	0 a	0 d	0 c 0 a
LSD (P=.05)								0.9	0.0	0.0	2.4	1.8	0.0
Standard Deviation								0.6	0.0	0.0	1.6	1.2	0.0
CV								17.55	0.0	0.0	29.5	72.05	0.0
Replicate F								1.235	0.000	0.000	1.358	3.006	0.000
Replicate Prob(F)								0.3219	1.0000	1.0000	0.2829	0.0533	1.0000
Treatment F								51.353	0.000	0.000	61.883	9.878	0.000
Treatment Prob(F)								0.0001	1.0000	1.0000	0.0001	0.0001	1.0000

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Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
1	STATEMENT LIBERTY 280 N-PAK AMS	5.25 EC 2.34 EC 100 SL		1.31 lb ai/a 0.53 lb ai/a 5 % v/v	32 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		
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6	PREFIX LIBERTY 280 N-PAK AMS	5.29 EC 2.34 EC 100 SL		1.65 lb ai/a 0.53 lb ai/a 5 % v/v	40 fl oz/a 29 fl oz/a 5 % v/v	2"W 2"W 2"W	A A A		
7	LIBERTY 280 N-PAK AMS	2.34 EC 100 SL		0.53 lb ai/a 5 % v/v	29 fl oz/a 5 % v/v	2"W 2"W	A A		
8	NONTREATED								
LSD (P=.05)							0.5	0.7	2.6
Standard Deviation							0.3	0.5	1.8
CV							0.37	0.55	2.11
Replicate F							1.928	3.595	1.711
Replicate Prob(F)							0.1561	0.0307	0.1953
Treatment F							47322.048	21906.083	1487.289
Treatment Prob(F)							0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Cheminova (fomme 1302).
2. Ratings: CI / necrosis / chlorosis / stunting at 14, 28, and 42 DA-A; WC 14, 21, and 35 DA-A.
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 2"W application was 3.31 inch over the next two days.
7. Not harvested.