

Southern Illinois University

Preemergence Palmer Amaranth Control with Fierce.

Trial ID: 13-COL-FierceTM 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:
Evaluate Palmer amaranth control from preemergence applications of Fierce and Valor.

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	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 Site Type: FIELD Treated Plot Length: 30 FT Total Plot Length: 30 FT Experimental Unit: 1 PLOT Tillage Type: REDTIL reduced-till Study Design: RACOB� Randomized Complete Block (RCB)							
Replications: 3 Untreated Arrangement: INCLUDED single control randomized in each block							
<table border="1"> <thead> <tr> <th>No.</th> <th>Previous Crop</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>GLXMA</td> <td>2012</td> </tr> </tbody> </table>		No.	Previous Crop	Year	1.	GLXMA	2012
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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	
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									
Additional Measured Elements										
<table border="1"> <thead> <tr> <th>Element</th> <th>Quantity</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>88</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>338</td> <td>lb/A</td> </tr> </tbody> </table>		Element	Quantity	Unit	P1	88	lb/A	K	338	lb/A
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:	14:15
Appl. Stop Time:	15:00
Application Method:	Spray
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	RJW
Air Temperature, Unit:	84 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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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 7-3-13 Injury Percent	GLXMA 7-17-13 Injury Percent	GLXMA 7-31-13 Injury Percent	AMAPA-HR 7-3-13 Control Percent	AMAPA-HR 7-17-13 Control Percent	AMAPA-HR 7-31-13 Control Percent
							28 DA-A	42 DA-A	56 DA-A	28 DA-A	42 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 d	0 a	0 d
2	VALOR SX	51 WG		0.064 lb ai/a	2 oz/a		PRE	A		5 bc	3 a	1 a
3	VALOR SX	51 WG		0.096 lb ai/a	3 oz/a		PRE	A		5 bc	1 a	0 a
4	FIERCE	76 WG		0.143 lb ai/a	3 oz/a		PRE	A		8 ab	4 a	1 a
5	FIERCE	76 WG		0.178 lb ai/a	3.75 oz/a		PRE	A		10 a	3 a	2 a
6	VALOR XLT	40.3 WG		0.0756 lb ai/a	3 oz/a		PRE	A		7 abc	3 a	3 a
7	GANGSTER (CO-PACK) GANGSTER FR GANGSTER V	84 WG 51 WG		0.021 lb ai/a 0.064 lb ai/a	2.4 oz/a		PRE PRE PRE	A A A		3 cd	1 a	1 a
8	AUTHORITY XL	70 WG		0.175 lb ai/a	4 oz/a		PRE	A		8 ab	6 a	1 a
9	SONIC	70 WG		0.14 lb ai/a	3.2 oz/a		PRE	A		5 bc	2 a	1 a
10	SONIC	70 WG		0.175 lb ai/a	4 oz/a		PRE	A		5 bc	2 a	1 a
11	ENLITE	47.86 WG		0.084 lb ai/a	2.8 oz/a		PRE	A		7 abc	2 a	0 a
12	FIERCE CLASSIC	76 WG 25 WG		0.119 lb ai/a 0.0156 lb ai/a	2.5 oz/a 1 oz/a		PRE PRE	A A		10 a	3 a	2 a
13	FIERCE CLASSIC	76 WG 25 WG		0.13 lb ai/a 0.0156 lb ai/a	2.75 oz/a 1 oz/a		PRE PRE	A A		7 abc	4 a	1 a
14	FIERCE CLASSIC	76 WG 25 WG		0.143 lb ai/a 0.0156 lb ai/a	3 oz/a 1 oz/a		PRE PRE	A A		10 a	4 a	1 a
15	FIERCE FIRSTRATE	76 WG 84 WG		0.119 lb ai/a 0.0158 lb ai/a	2.5 oz/a 0.3 oz/a		PRE PRE	A A		5 bc	0 a	0 a
16	FIERCE FIRSTRATE	76 WG 84 WG		0.13 lb ai/a 0.0158 lb ai/a	2.75 oz/a 0.3 oz/a		PRE PRE	A A		8 ab	4 a	1 a
17	FIERCE FIRSTRATE	76 WG 84 WG		0.143 lb ai/a 0.0158 lb ai/a	3 oz/a 0.3 oz/a		PRE PRE	A A		3 cd	3 a	1 a
18	FIERCE FIRSTRATE	76 WG 84 WG		0.13 lb ai/a 0.021 lb ai/a	2.75 oz/a 0.4 oz/a		PRE PRE	A A		5 bc	0 a	0 a
19	FIERCE CLASSIC	76 WG 25 WG		0.13 lb ai/a 0.00516 lb ai/a	2.75 oz/a 0.33 oz/a		PRE PRE	A A		7 abc	2 a	2 a
LSD (P=.05)							3.9	3.5	2.5	3.9	5.2	10.3
Standard Deviation							2.4	2.1	1.5	2.4	3.2	6.3
CV							38.26	89.94	156.24	2.58	3.53	7.3
Replicate F							4.017	3.375	4.292	2.022	0.597	1.203
Replicate Prob(F)							0.0266	0.0454	0.0213	0.1472	0.5556	0.3122
Treatment F							3.562	1.680	0.748	275.209	149.833	42.365
Treatment Prob(F)							0.0006	0.0909	0.7412	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: Valent (Fierce 64.04).
2. Ratings: CI/WC 28, 42, and 56 DA-A (PRE). Target Palmer Amaranth.
3. Blanket POST glyphosate after 56 DAT rating.
4. No yield.
5. AMAPA-HR = Herbicide-resistant Palmer amaranth (glyphosate).
6. Weeds that had emerged prior to planting were controlled with tillage and Gramoxone.
7. Rainfall following the PRE application was 0.27 inch within 4 days, then 2.35 inch 12 days after the PRE.
8. Not harvested.