

Southern Illinois University

Herbicide Response Screen of PRE Applications - Non-Crop.

Trial ID: 14-COL-PREscreen-60 Location: Collinsville, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: F one-year/final Initiation Date: 6-3-14 Completion Date: 7-29-14		Trial Location
City: Collinsville Country: USA		
State/Prov.: Illinois IL		
Postal Code: 62234		

Objectives:
Evaluate the efficacy of ALS, triazine, and HPPD, herbicides on Palmer amaranth control.

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: NONE - Non-crop _ Variety: NON-CROP	Crop Description Planting Method: NA
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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 Site Type: FIELD Treated Plot Length: 25 FT Total Plot Length: 25 FT Experimental Unit: 1 PLOT Tillage Type: REDTIL reduced-till Study Design: RACOB L 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>2013</td> </tr> </tbody> </table>	No.	Previous Crop	Year	1.	GLXMA	2013	
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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	
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1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A				

Soil Description										
% Sand: 14 % OM: 2.8 Texture: SIL silt loam % Silt: 70 pH: 7.07 Soil Name: Littleton/Haymond/Orion % Clay: 16 CEC: 11.2										
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>63</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>3463</td> <td>lb/A</td> </tr> </tbody> </table>	Element	Quantity	Unit	P1	63	lb/A	K	3463	lb/A	
Element	Quantity	Unit								
P1	63	lb/A								
K	3463	lb/A								

Moisture and Weather Conditions	
Overall Moisture Conditions: NORMAL Closest Weather Station: WatchDog on-site 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:	6-3-14
Appl. Start Time:	17:00
Appl. Stop Time:	17:15
Application Method:	Spray
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	EAE
Air Temperature, Unit:	90 F
% Relative Humidity:	60
Wind Velocity, Unit:	2 MPH
Wind Direction:	S
Dew Presence (Y/N):	N
Soil Temperature, Unit:	82 F
Soil Moisture:	NORMAL
% Cloud Cover:	25
Next Moisture Occurred On:	6-4-14
Time to Next Moisture, Unit:	14 HR

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE
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								AMAPA-HR	AMAPA-HR	AMAPA-HR
Crop Code								6-17-14	7-1-14	7-29-14
Rating Date								Control	Control	Control
Rating Type								Percent	Percent	Percent
Rating Unit								14 DA-A	28 DA-A	56 DA-A
Rating Timing										
Trt-Eval Interval										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
1	NONTREATED								0	0
2	AATREX 4L	4	SC	2 lb ai/a		2 qt/a	PRE	A	99 a	92 a
3	FLEXSTAR	1.88	EC	0.353 lb ai/a		24 fl oz/a	PRE	A	99 a	91 a
4	PURSUIT	2	SL	0.0625 lb ai/a		4 fl oz/a	PRE	A	99 a	45 a
5	CALLISTO	4	SC	0.188 lb ai/a		6 fl oz/a	PRE	A	99 a	82 a
6	BALANCE PRO	4	SC	0.0625 lb ai/a		2 fl oz/a	PRE	A	99 a	90 a
LSD (P=.05)									0.0	41.9
Standard Deviation									0.0	22.2
CV									0.0	27.8
Replicate F									0.000	0.331
Replicate Prob(F)									1.0000	0.7274
Treatment F									0.000	2.427
Treatment Prob(F)									1.0000	0.1330

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: WC 14, 28, and 56 DA-A.
3. No yield (non-crop).
4. Photos.
5. Blanket at PRE timing (start-clean) of Gramoxone (3 pt/A) was applied to all plots on 6-5-14.
On 6-17-14 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 (non-crop).