

Southern Illinois University

Winfield Solutions Adjuvant by Nozzle Evaluation with Acifluorfen.

Trial ID: 13-KRC-1-WinATVacif Location: Kuehn Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 5-27-13 Completion Date: 7-22-13		Trial Location
City: Dowell Country: USA State/Prov.: Illinois IL Postal Code: 62927		

Objectives:
Evaluate the influence of Winfield Solutions adjuvant and nozzles on efficacy with acifluoreen.

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: P94Y70 BBCH Scale: BSOY Description: RR Planting Rate, Unit: 140000 S/A Planting Date: 5-27-13 Depth, Unit: 1.5 IN Planting Method: SEEDED Row Spacing, Unit: 30 IN	
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Pest 1 Type: W Code: AMATA Amaranthus rudis Sauer Common Name: waterhemp, common Description: glyphosate-resistant waterhemp	
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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 Replications: 3 Tillage Type: NOTILL no-till Untreated Arrangement: INCLUDED single control randomized in each block Study Design: RACOB L Randomized Complete Block (RCB)	
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No.	Previous Crop	Year
1.	ZEAMD	2012

Maintenance	
No.	Maintenance Product Name
1.	N 29 LB/A, P2O5 74 LB/A, K2O 160 LB/A
2.	Variable-rate applied

% OM: 2.3 Texture: SIL silt loam pH: 6.7 Soil Name: Hoyleton/Wynoose CEC: 9.8	
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Element	Quantity	Unit
P1	59	lb/A
K	181	lb/A

Overall Moisture Conditions: NORMAL Closest Weather Station: SOUTHERN IL AIRPORT (93810) Distance, Unit: 11 MI	
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	5-3-13	1.33	IN	RAIN	rain	3	DAY			
2.	5-5-13	0.75	IN	RAIN	rain	2	DAY			
3.	5-6-13					7	DAY	41	80	F
4.	5-10-13	0.17	IN	RAIN	rain	3	DAY			
5.	5-13-13					7	DAY	37	87	F
6.	5-16-13	0.23	IN	RAIN	rain	2	DAY			
7.	5-20-13					7	DAY	43	85	F
8.	5-21-13	0.91	IN	RAIN	rain	1	DAY			
9.	5-27-13					7	DAY	59	86	F
10.	5-31-13	0.7	IN	RAIN	rain	3	DAY			
11.	6-1-13	1.67	IN	RAIN	rain	2	DAY			
12.	6-3-13					7	DAY	50	82	F
13.	6-10-13	0.13	IN	RAIN	rain	5	DAY			
14.	6-10-13					7	DAY	57	93	F
15.	6-17-13	0.36	IN	RAIN	rain	2	DAY			
16.	6-17-13					7	DAY	61	92	F
17.	6-22-13	0.34	IN	RAIN	rain	2	DAY			
18.	6-24-13					7	DAY	64	93	F
19.	6-26-13	1.25	IN	RAIN	rain	2	DAY			
20.	6-30-13	0.3	IN	RAIN	rain	2	DAY			
21.	7-1-13					7	DAY	57	88	F
22.	7-2-13	1.16	IN	RAIN	rain	2	DAY			
23.	7-8-13					7	DAY	59	92	F
24.	7-14-13	0.05	IN	RAIN	rain	5	DAY			
25.	7-15-13					7	DAY	68	93	F
26.	7-20-13	1.24	IN	RAIN	rain	2	DAY			

Application Description

	A
Application Date:	6-24-13
Appl. Start Time:	15:00
Appl. Stop Time:	15:35
Application Method:	Spray
Application Timing:	4-6"W
Application Placement:	BROFOL
Applied By:	RJW
Air Temperature, Unit:	89 F
% Relative Humidity:	97
Wind Velocity, Unit:	6 MPH
Wind Direction:	S
Dew Presence (Y/N):	N
Soil Temperature, Unit:	81 F
Soil Moisture:	NORMAL
% Cloud Cover:	50
Next Moisture Occurred On:	6-26-13
Time to Next Moisture, Unit:	40 HR

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA
Stage Scale Used:	DESC
Stage Majority, Percent:	V3
Stage Minimum, Percent:	V2
Stage Maximum, Percent:	V3
Height, Unit:	8 IN
Height Minimum, Maximum:	6 8

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	A
Pest 1 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	8
Stage Minimum, Percent:	4
Stage Maximum, Percent:	20
Height, Unit:	4 IN
Height Minimum, Maximum:	2 6
Density, Unit:	20 FT2

Application Equipment

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	ALTEVE
Nozzle Type:	See
Nozzle Size:	comment
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	10 GPA

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval						GLXMA 7-1-13 Injury Percent	GLXMA 7-8-13 Injury Percent	GLXMA 7-22-13 Injury Percent	AMATA-HR 7-1-13 Control Percent	AMATA-HR 7-8-13 Control Percent	AMATA-HR 7-22-13 Control Percent
Trt Treatment No. Name						7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A
1 XR 11003 at 43.5 PSI - 9 MPH 10 GPA - FINE AVALANCHE ULTRA CLASS ACT NG						13 bc	8 a	0 a	72 bc	81 ab	43 bc
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
2 XR 11003 at 43.5 PSI - 9 MPH 10 GPA - FINE AVALANCHE ULTRA AG 02013 CLASS ACT NG						13 bc	8 a	0 a	73 abc	78 b	43 bc
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	4 fl oz/a	4 fl oz/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
3 XR 11004 at 40 PSI - 12 MPH 10 GPA - MEDIUM AVALANCHE ULTRA CLASS ACT NG						12 c	9 a	0 a	75 abc	76 b	40 c
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
4 XR 11004 at 40 PSI - 12 MPH 10 GPA - MEDIUM AVALANCHE ULTRA AG 02013 CLASS ACT NG						18 a	11 a	0 a	80 a	82 ab	47 abc
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	4 fl oz/a	4 fl oz/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
5 AIXR 11004 at 50 PSI - 13.3 MPH 10 GPA - VERY COARSE AVALANCHE ULTRA CLASS ACT NG						13 bc	11 a	0 a	78 ab	81 ab	43 bc
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
6 AIXR 11004 at 50 PSI - 13.3 MPH 10 GPA - VERY COARSE AVALANCHE ULTRA AG 02013 CLASS ACT NG						17 ab	12 a	0 a	80 a	87 a	53 a
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	4 fl oz/a	4 fl oz/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
7 AI 11004 at 50 PSI - 13.3 MPH 10 GPA - EXTRA COARSE AVALANCHE ULTRA CLASS ACT NG						15 abc	10 a	0 a	70 c	76 b	44 abc
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
8 AI 11004 at 50 PSI - 13.3 MPH 10 GPA - EXTRA COARSE AVALANCHE ULTRA AG 02013 CLASS ACT NG						18 a	12 a	0 a	77 abc	82 ab	46 abc
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	4 fl oz/a	4 fl oz/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
9 TTI 11004 at 50 PSI - 13.3 MPH 10 GPA - ULTRA COARSE AVALANCHE ULTRA CLASS ACT NG						15 abc	12 a	0 a	72 bc	78 b	39 c
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						
10 TTI 11004 at 50 PSI - 13.3 MPH 10 GPA - ULTRA COARSE AVALANCHE ULTRA AG 02013 CLASS ACT NG						15 abc	12 a	0 a	78 ab	86 a	50 ab
	2 EC	0.25 lb ai/a	1 pt/a	4-6"W	A						
	100 SL	4 fl oz/a	4 fl oz/a	4-6"W	A						
	100 SL	2.5 % v/v	2.5 % v/v	4-6"W	A						

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	GLXMA	GLXMA	GLXMA	AMATA-HR	AMATA-HR	AMATA-HR
Crop Code	7-1-13	7-8-13	7-22-13	7-1-13	7-8-13	7-22-13
Rating Date	Injury	Injury	Injury	Control	Control	Control
Rating Type	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A
Rating Timing						
Trt-Eval Interval						
Trt Treatment	Form	Form	Rate	Other	Other	Growth
No. Name	Conc	Type	Rate	Unit	Rate	Unit
11 NONTREATED	0 d	0 b	0 a	0 d	0 c	0 d
LSD (P=.05)	4.4	5.3	0.0	7.3	6.9	8.9
Standard Deviation	2.6	3.1	0.0	4.3	4.0	5.2
CV	19.04	32.68	0.0	6.21	5.53	12.84
Replicate F	2.360	8.979	0.000	2.375	1.250	6.206
Replicate Prob(F)	0.1202	0.0016	1.0000	0.1187	0.3079	0.0080
Treatment F	11.079	3.935	0.000	87.525	110.290	21.683
Treatment Prob(F)	0.0001	0.0044	1.0000	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Winfield Solutions.
2. CI/WC at 7, 14, and 28 DA-A.
3. Nozzle type and size, spray pressure, and application speed are per treatment, see treatment list.
4. Mix size is 2.5 gallons, mix a single 2.5 gallon can for treatments 1, 3, 5, 7, and 9,
and another 2.5 gallon can for treatments 2, 4, 6, 8, and 10.
Change nozzles, PSI and speed per treatment using same 2.5 gallon can.
5. No yield.
6. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
7. Not harvested.