

Southern Illinois University

Winfield Solutions - Adjuvants with Rugged and Glyphosate.

Trial ID: 13-10C-M100 Location: Belleville Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 7-12-13 Completion Date: 8-18-13		Trial Location
City: Belleville State/Prov.: Illinois IL Postal Code: 62221	Country: USA	

Objectives:
Evaluate the influence of adjuvants on the efficacy of Rugged plus glyphosate.

Study Director: Bryan Young Organization: Southern Illinois University Address: 1205 Lincoln Drive - AG 176 - MC 4415 City+State/Prov: Carbondale IL Postal Code: 62901 Country: USA		Title: Professor Phone No.: 618-453-7679 Mobile No.: 618-713-6471 E-mail: bgyoung@siu.edu
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Crop 1: NONE - Non-crop Variety: NON-CROP	Crop Description
Planting Method: NA	

Pest Description	
Pest 1 Type: W Code: SETFA <i>Setaria faberi</i> Herm. Common Name: foxtail, giant	
Pest 2 Type: W Code: ABUTH <i>Abutilon theophrasti</i> Medik. Common Name: velvetleaf	
Pest 3 Type: W Code: AMATA <i>Amaranthus rudis</i> Sauer Common Name: waterhemp, common	
Pest 4 Type: W Code: IPOHE <i>Ipomoea hederacea</i> (L.) Jacq. Common Name: morningglory, ivyleaf	

Treated Plot Width: 7.5 FT Total Plot Width: 10 FT Treated Plot Length: 30 FT Total Plot Length: 30 FT		Site and Design Site Type: FIELD 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
No.	Previous Crop	Year						
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 50 LB/A, K2O 150 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A	
No.	Maintenance Product Name				
1.	N 0 LB/A, P2O5 50 LB/A, K2O 150 LB/A				

% OM: 2.9 Texture: SIL silt loam pH: 6.7 Soil Name: Pierron CEC: 9		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>52</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>297</td> <td>lb/A</td> </tr> </tbody> </table>	Element	Quantity	Unit	P1	52	lb/A	K	297	lb/A		
Element	Quantity	Unit									
P1	52	lb/A									
K	297	lb/A									

Overall Moisture Conditions: ABONOR Closest Weather Station: ICN - Belleville IL		Moisture and Weather Conditions 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.	7-2-13	2.08	IN	RAIN	rain	2	DAY			
2.	7-7-13					7	DAY	62	94	F
3.	7-10-13	0.2	IN	RAIN	rain	1	DAY			
4.	7-14-13					7	DAY	64	94	F
5.	7-15-13	0.03	IN	RAIN	rain	1	DAY			
6.	7-20-13	0.59	IN	RAIN	rain	1	DAY			
7.	7-21-13					7	DAY	56	91	F
8.	7-26-13	0.03	IN	RAIN	rain	1	DAY			
9.	7-28-13					7	DAY	52	87	F
10.	7-30-13	0.46	IN	RAIN	rain	1	DAY			
11.	8-2-13	0.24	IN	RAIN	rain	1	DAY			
12.	8-4-13					7	DAY	62	87	F
13.	8-8-13	0.03	IN	RAIN	rain	3	DAY			
14.	8-11-13					7	DAY	54	85	F
15.	8-12-13	0.57	IN	RAIN	rain	1	DAY			
16.	8-18-13	0.1	IN	RAIN	rain	1	DAY			
17.	8-18-13					7	DAY	61	91	F

Application Description

	A
Application Date:	8-4-13
Appl. Start Time:	14:30
Appl. Stop Time:	15:00
Application Method:	Spray
Application Timing:	4-6"W
Application Placement:	BROFOL
Applied By:	NTH
Air Temperature, Unit:	78 F
% Relative Humidity:	58
Wind Velocity, Unit:	3 MPH
Wind Direction:	NE
Dew Presence (Y/N):	N
Soil Temperature, Unit:	74 F
Soil Moisture:	NORMAL
% Cloud Cover:	100
Next Moisture Occurred On:	8-8-13
Time to Next Moisture, Unit:	4 DAY

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE
Stage Scale Used:	DESC
Stage Majority, Percent:	NA

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Investigator: Bryan Young**Pest Stage At Each Application**

	A
Pest 1 Code, Type, Scale:	SETFA W
Stage Majority, Percent:	4
Stage Minimum, Percent:	2
Stage Maximum, Percent:	8
Height, Unit:	6 IN
Height Minimum, Maximum:	2 8
Density, Unit:	3 FT2
Pest 2 Code, Type, Scale:	ABUTH W
Stage Majority, Percent:	6
Stage Minimum, Percent:	4
Stage Maximum, Percent:	8
Height, Unit:	4 IN
Height Minimum, Maximum:	1 6
Density, Unit:	1 FT2
Pest 3 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	4
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	18
Height, Unit:	1 IN
Height Minimum, Maximum:	0.5 6
Density, Unit:	10 FT2
Pest 4 Code, Type, Scale:	IPOHE W
Stage Majority, Percent:	12
Stage Minimum, Percent:	4
Stage Maximum, Percent:	14
Height, Unit:	4 IN
Height Minimum, Maximum:	1 5
Density, Unit:	1 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:	7.5 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								SETFA	SETFA	SETFA	ABUTH	ABUTH	ABUTH
								8-11-13 Control Percent	8-18-13 Control Percent	9-1-13 Control Percent	8-11-13 Control Percent	8-18-13 Control Percent	9-1-13 Control Percent
								7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	TOUCHDOWN HI-TECH RUGGED	5 SL 3.49 EC		0.1875 lb ae/a 0.218 lb ae/a		4.8 fl oz/a 8 fl oz/a		4-6"W 4-6"W	A A	95 c	99 a	99 a	83 bc 90 c 93 e
2	TOUCHDOWN HI-TECH RUGGED N-PAK AMS	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 2.5 % v/v		4.8 fl oz/a 8 fl oz/a 2.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	92 a 97 ab 97 bc
3	TOUCHDOWN HI-TECH RUGGED CLASS ACT NG	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 2.5 % v/v		4.8 fl oz/a 8 fl oz/a 2.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	99 a	99 a	99 a	94 a 98 a 98 a
4	TOUCHDOWN HI-TECH RUGGED CLASS ACT NG	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 1.25 % v/v		4.8 fl oz/a 8 fl oz/a 1.25 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	92 a 97 ab 97 bc
5	TOUCHDOWN HI-TECH RUGGED AG 08034	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 2 % v/v		4.8 fl oz/a 8 fl oz/a 2 % v/v		4-6"W 4-6"W 4-6"W	A A A	99 ab	99 a	99 a	92 a 97 ab 97 ab
6	TOUCHDOWN HI-TECH RUGGED AG 08034	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 1 % v/v		4.8 fl oz/a 8 fl oz/a 1 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	85 b 96 ab 97 bc
7	TOUCHDOWN HI-TECH RUGGED AG 07043	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 1 % v/v		4.8 fl oz/a 8 fl oz/a 1 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	82 bc 96 ab 96 bc
8	TOUCHDOWN HI-TECH RUGGED AG 11011	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 1 % v/v		4.8 fl oz/a 8 fl oz/a 1 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	84 b 95 b 96 c
9	TOUCHDOWN HI-TECH RUGGED AG 11011	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 1.25 % v/v		4.8 fl oz/a 8 fl oz/a 1.25 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	82 bc 96 ab 97 bc
10	TOUCHDOWN HI-TECH RUGGED AG 13061	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 0.5 % v/v		4.8 fl oz/a 8 fl oz/a 0.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	96 bc	99 a	99 a	80 c 96 ab 96 bc
11	TOUCHDOWN HI-TECH RUGGED AG 13062	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 0.5 % v/v		4.8 fl oz/a 8 fl oz/a 0.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	98 ab	99 a	99 a	83 bc 90 c 95 d
12	TOUCHDOWN HI-TECH RUGGED AG 13063	5 SL 3.49 EC 100 SL		0.1875 lb ae/a 0.218 lb ae/a 0.5 % v/v		4.8 fl oz/a 8 fl oz/a 0.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	97 abc	99 a	99 a	83 bc 89 c 94 de
13	NONTREATED									0 d	0 a	0 a	0 d 0 d 0 f
LSD (P=.05)								2.4	0.0	0.0	4.0	2.7	1.3
Standard Deviation								1.4	0.0	0.0	2.4	1.6	0.8
CV								1.56	0.0	0.0	3.01	1.86	0.85
Replicate F								3.905	0.000	0.000	1.710	1.642	0.316
Replicate Prob(F)								0.0340	1.0000	1.0000	0.2022	0.2146	0.7322
Treatment F								1119.343	0.000	0.000	311.373	796.855	3767.512
Treatment Prob(F)								0.0001	1.0000	1.0000	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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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								AMATA	AMATA	AMATA	IPOHE	IPOHE	IPOHE
								8-11-13 Control Percent	8-18-13 Control Percent	9-1-13 Control Percent	8-11-13 Control Percent	8-18-13 Control Percent	9-1-13 Control Percent
								7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A
Trt Treatment No. Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1 TOUCHDOWN HI-TECH RUGGED	5 SL 3.49 EC	0.1875 lb ae/a 0.218 lb ae/a	4.8 fl oz/a 8 fl oz/a	4-6"W A 4-6"W A					90 c	95 e	95 d	91 bc	99 a
2 TOUCHDOWN HI-TECH RUGGED N-PAK AMS	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 2.5 % v/v	4.8 fl oz/a 8 fl oz/a 2.5 % v/v	4-6"W A 4-6"W A 4-6"W A					91 bc	97 a	97 a	94 abc	99 a
3 TOUCHDOWN HI-TECH RUGGED CLASS ACT NG	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 2.5 % v/v	4.8 fl oz/a 8 fl oz/a 2.5 % v/v	4-6"W A 4-6"W A 4-6"W A					95 ab	97 a	97 ab	97 a	99 a
4 TOUCHDOWN HI-TECH RUGGED CLASS ACT NG	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 1.25 % v/v	4.8 fl oz/a 8 fl oz/a 1.25 % v/v	4-6"W A 4-6"W A 4-6"W A					93 abc	97 ab	97 ab	95 ab	99 a
5 TOUCHDOWN HI-TECH RUGGED AG 08034	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 2 % v/v	4.8 fl oz/a 8 fl oz/a 2 % v/v	4-6"W A 4-6"W A 4-6"W A					96 a	97 ab	97 a	95 ab	99 a
6 TOUCHDOWN HI-TECH RUGGED AG 08034	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 1 % v/v	4.8 fl oz/a 8 fl oz/a 1 % v/v	4-6"W A 4-6"W A 4-6"W A					93 abc	97 ab	96 a-d	92 bc	99 a
7 TOUCHDOWN HI-TECH RUGGED AG 07043	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 1 % v/v	4.8 fl oz/a 8 fl oz/a 1 % v/v	4-6"W A 4-6"W A 4-6"W A					93 abc	96 cde	95 cd	93 abc	98 a
8 TOUCHDOWN HI-TECH RUGGED AG 11011	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 1 % v/v	4.8 fl oz/a 8 fl oz/a 1 % v/v	4-6"W A 4-6"W A 4-6"W A					96 a	97 abc	96 abc	89 c	98 a
9 TOUCHDOWN HI-TECH RUGGED AG 11011	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 1.25 % v/v	4.8 fl oz/a 8 fl oz/a 1.25 % v/v	4-6"W A 4-6"W A 4-6"W A					93 abc	97 abc	97 a	95 ab	99 a
10 TOUCHDOWN HI-TECH RUGGED AG 13061	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 0.5 % v/v	4.8 fl oz/a 8 fl oz/a 0.5 % v/v	4-6"W A 4-6"W A 4-6"W A					92 abc	96 cde	96 bcd	94 ab	99 a
11 TOUCHDOWN HI-TECH RUGGED AG 13062	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 0.5 % v/v	4.8 fl oz/a 8 fl oz/a 0.5 % v/v	4-6"W A 4-6"W A 4-6"W A					91 bc	96 bcd	96 a-d	92 bc	99 a
12 TOUCHDOWN HI-TECH RUGGED AG 13063	5 SL 3.49 EC 100 SL	0.1875 lb ae/a 0.218 lb ae/a 0.5 % v/v	4.8 fl oz/a 8 fl oz/a 0.5 % v/v	4-6"W A 4-6"W A 4-6"W A					90 c	96 de	95 d	94 ab	99 a
13 NONTREATED									0 d	0 f	0 e	0 d	0 b
LSD (P=.05)									4.4	1.0	1.3	4.7	0.8
Standard Deviation									2.6	0.6	0.8	2.8	0.5
CV									3.04	0.64	0.88	3.25	0.52
Replicate F									0.318	1.520	0.545	0.904	1.500
Replicate Prob(F)									0.7303	0.2390	0.5866	0.4181	0.2433
Treatment F									295.637	6712.401	3492.833	258.289	10150.289
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001

Winfield Solutions - Adjuvants with Rugged and Glyphosate.

Trial ID: 13-10C-M100 Location: Belleville Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Comments

1. Protocol: Winfield Solutions.
2. Ratings: WC at 7, 14, and 28 DA-A.
3. No yield (non-crop).
4. At trial initiation, on 7-12-13, all emerged weeds were controlled with tillage.
5. Not harvested (non-crop).