

Winfield Solutions - Adjuvants with Sterling Blue and Glyphosate.

Trial ID: 13-10C-E100 Location: Belleville Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 7-12-13 Completion Date: 8-30-13		Trial Location
City: Belleville State/Prov.: Illinois IL Postal Code: 62221	Country: USA	

Objectives:
Evaluate the influence of adjuvants on the efficacy of Sterling Blue 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: AMATA <i>Amaranthus rudis</i> Sauer Common Name: waterhemp, common	
Pest 2 Type: W Code: ABUTH <i>Abutilon theophrasti</i> Medik. Common Name: velvetleaf	
Pest 3 Type: W Code: IPOSS Common Name: morningglory, species Description: Mixture of IPOHE and IPOLA	

Treated Plot Width: 7.5 FT Total Plot Width: 10 FT Treated Plot Length: 30 FT Total Plot Length: 30 FT		Site Type: FIELD 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>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 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:	8-2-13
Appl. Start Time:	8:00
Appl. Stop Time:	8:45
Application Method:	Spray
Application Timing:	4-6"W
Application Placement:	BROFOL
Applied By:	RJW
Air Temperature, Unit:	74 F
% Relative Humidity:	87
Wind Velocity, Unit:	4 MPH
Wind Direction:	S
Dew Presence (Y/N):	Y
Soil Temperature, Unit:	74 F
Soil Moisture:	NORMAL
% Cloud Cover:	100
Next Moisture Occurred On:	8-2-13
Time to Next Moisture, Unit:	12 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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Investigator: Bryan Young**Pest Stage At Each Application**

	A
Pest 1 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	14
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	20
Height, Unit:	4 IN
Height Minimum, Maximum:	0.5 6
Density, Unit:	5 FT2
Pest 2 Code, Type, Scale:	ABUTH W
Stage Majority, Percent:	4
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	6
Height, Unit:	4 IN
Height Minimum, Maximum:	1 6
Density, Unit:	1 FT2
Pest 3 Code, Type, Scale:	IPOSS W
Stage Majority, Percent:	8
Stage Minimum, Percent:	COTY
Stage Maximum, Percent:	10
Height, Unit:	4 IN
Height Minimum, Maximum:	1 5
Density, Unit:	0.1 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	AMATA	AMATA	AMATA	ABUTH	ABUTH	ABUTH
							8-9-13 Control Percent	8-16-13 Control Percent	8-30-13 Control Percent	8-9-13 Control Percent	8-16-13 Control Percent	8-30-13 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 STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	62 e	78 b	81 b
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
2	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	81 abc	94 a	95 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v		4-6"W	A			
3	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	85 a	96 a	96 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	CLASS ACT NG	100 SL		2.5 % v/v		2.5 % v/v		4-6"W	A			
4	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	82 abc	93 a	95 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	CLASS ACT NG	100 SL		1.25 % v/v		1.25 % v/v		4-6"W	A			
5	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	83 ab	92 a	92 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 08034	100 SL		2 % v/v		2 % v/v		4-6"W	A			
6	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	78 a-d	93 a	93 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 08034	100 SL		1 % v/v		1 % v/v		4-6"W	A			
7	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	77 a-d	93 a	88 ab
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 07043	100 SL		1 % v/v		1 % v/v		4-6"W	A			
8	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	75 bcd	92 a	93 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 11011	100 SL		1 % v/v		1 % v/v		4-6"W	A			
9	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	83 ab	93 a	94 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 11011	100 SL		1.25 % v/v		1.25 % v/v		4-6"W	A			
10	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	73 cd	93 a	93 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 13061	100 SL		0.5 % v/v		0.5 % v/v		4-6"W	A			
11	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	77 a-d	91 a	91 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 13062	100 SL		0.5 % v/v		0.5 % v/v		4-6"W	A			
12	TOUCHDOWN HI-TECH STERLING BLUE	5 SL		0.1875 lb ae/a		4.8 fl oz/a		4-6"W	A	70 de	88 a	89 a
		4 SL		0.125 lb ae/a		4 fl oz/a		4-6"W	A			
	AG 13063	100 SL		0.5 % v/v		0.5 % v/v		4-6"W	A			
13	NONTREATED									0 f	0 c	0 c
										0 d	0 c	0 e
LSD (P=.05)										8.8	8.3	7.9
Standard Deviation										5.2	4.9	4.7
CV										7.35	5.85	5.56
Replicate F										2.052	1.222	1.191
Replicate Prob(F)										0.1505	0.3122	0.3214
Treatment F										54.414	81.515	89.790
Treatment Prob(F)										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							IPOSS 8-9-13 Control Percent 7 DA-A	IPOSS 8-16-13 Control Percent 14 DA-A	IPOSS 8-30-13 Control Percent 28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Unit	Growth Stage	Appl Code	
1	TOUCHDOWN HI-TECH STERLING BLUE	5 SL 4 SL		0.1875 lb ae/a 0.125 lb ae/a	4.8 fl oz/a 4 fl oz/a		4-6"W 4-6"W	A A	57 e 67 c 87 bc
2	TOUCHDOWN HI-TECH STERLING BLUE N-PAK AMS	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 2.5 % v/v	4.8 fl oz/a 4 fl oz/a 2.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	84 a 74 ab 87 bc
3	TOUCHDOWN HI-TECH STERLING BLUE CLASS ACT NG	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 2.5 % v/v	4.8 fl oz/a 4 fl oz/a 2.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	73 b 72 abc 90 a
4	TOUCHDOWN HI-TECH STERLING BLUE CLASS ACT NG	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 1.25 % v/v	4.8 fl oz/a 4 fl oz/a 1.25 % v/v		4-6"W 4-6"W 4-6"W	A A A	73 b 77 a 89 ab
5	TOUCHDOWN HI-TECH STERLING BLUE AG 08034	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 2 % v/v	4.8 fl oz/a 4 fl oz/a 2 % v/v		4-6"W 4-6"W 4-6"W	A A A	63 de 72 abc 88 abc
6	TOUCHDOWN HI-TECH STERLING BLUE AG 08034	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 1 % v/v	4.8 fl oz/a 4 fl oz/a 1 % v/v		4-6"W 4-6"W 4-6"W	A A A	65 cd 67 c 86 c
7	TOUCHDOWN HI-TECH STERLING BLUE AG 07043	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 1 % v/v	4.8 fl oz/a 4 fl oz/a 1 % v/v		4-6"W 4-6"W 4-6"W	A A A	72 bc 71 abc 87 bc
8	TOUCHDOWN HI-TECH STERLING BLUE AG 11011	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 1 % v/v	4.8 fl oz/a 4 fl oz/a 1 % v/v		4-6"W 4-6"W 4-6"W	A A A	73 b 74 ab 88 abc
9	TOUCHDOWN HI-TECH STERLING BLUE AG 11011	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 1.25 % v/v	4.8 fl oz/a 4 fl oz/a 1.25 % v/v		4-6"W 4-6"W 4-6"W	A A A	73 b 74 ab 88 abc
10	TOUCHDOWN HI-TECH STERLING BLUE AG 13061	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 0.5 % v/v	4.8 fl oz/a 4 fl oz/a 0.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	68 bcd 71 abc 89 ab
11	TOUCHDOWN HI-TECH STERLING BLUE AG 13062	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 0.5 % v/v	4.8 fl oz/a 4 fl oz/a 0.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	68 bcd 70 bc 86 bc
12	TOUCHDOWN HI-TECH STERLING BLUE AG 13063	5 SL 4 SL 100 SL		0.1875 lb ae/a 0.125 lb ae/a 0.5 % v/v	4.8 fl oz/a 4 fl oz/a 0.5 % v/v		4-6"W 4-6"W 4-6"W	A A A	67 bcd 68 c 86 bc
13	NONTREATED								0 f 0 d 0 d
LSD (P=.05)							7.0	6.3	3.0
Standard Deviation							4.2	3.8	1.8
CV							6.47	5.69	2.2
Replicate F							1.048	0.235	0.349
Replicate Prob(F)							0.3661	0.7925	0.7088
Treatment F							72.075	85.396	561.314
Treatment Prob(F)							0.0001	0.0001	0.0001

Winfield Solutions - Adjuvants with Sterling Blue and Glyphosate.

Trial ID: 13-10C-E100 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. IPOSS = Morningglory species including IPOHE (ivyleaf morningglory) and IPOLA (pitted morningglory).
6. Not harvested (non-crop).