

Southern Illinois University

Glyphosate Plus Armezon Adjuvant Study.

Trial ID: 12-50W-M70

Location: Belleville Res. Center

Investigator: Bryan Young

General Trial Information

Study Director: Bryan Young
Investigator: Bryan Young **Title:** Professor

Trial Status: F - one-year/final
Initiation Date: 5-22-12

Trial Location

City: Belleville
State/Prov.: IL
Postal Code: 62221
Country: USA

Objectives:

Evaluate the efficacy of experimental adjuvant replacements for oil adjuvants with Touchdown HiTech plus Armezon.

Personnel

Study Director: Bryan Young
Investigator: Bryan Young **Title:** Professor
Affiliation: Southern Illinois University
Address: 1205 Lincoln Drive - AG 176 - MC 4415
Location: Carbondale IL
Postal Code: 62901 **E-mail:** bgyoung@siu.edu
Phone No.: 618-453-7679 **Mobile No.:** 618-713-6471

Crop Description

Crop 1: ZEAMD Zea mays indentata Dent corn
Variety: DKC 61-06 **Description:** RR2/LL
BBCH Scale: BCOR **Planting Date:** 5-22-12
Planting Method: SEEDED Seeded **Rate, Unit:** 28000 S/A
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN

Pest Description

Pest 1 Type: W **Code:** ABUTH - Abutilon theophrasti Medik.
Common Name: velvetleaf

Pest 2 Type: W **Code:** AMBTR - Ambrosia trifida L.
Common Name: ragweed, giant

Pest 3 Type: W **Code:** AMATA - Amaranthus rudis Sauer
Common Name: waterhemp, common

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 27 FT
Plot Area, Unit: 270 FT2 **Tillage Type:** REDTIL reduced-till
Replications: 3 **Study Design:** RACOB L Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	GLXMA	2011

Maintenance

No.	Maintenance Treatment Name
1.	N 150 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Description

% OM: 1.7 **Texture:** SIL SILT LOAM
pH: 6.1 **Soil Name:** PIERRON
CEC: 9

Additional Measured Elements

Element	Quantity	Unit
P1	51	LB/A
K	285	LB/A

Moisture and Weather Conditions

Overall Moisture Conditions: BELNOR below normal
Closest Weather Station: ICN - Belleville IL **Distance, Unit:** 0.5 MI

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Application Description

	A
Application Date:	6-18-12
Time of Day:	7:30
Application Method:	Spray
Application Timing:	6-8"W
Application Placement:	BROFOL
Applied By:	RJW
Air Temperature, Unit:	80 F
% Relative Humidity:	67
Wind Velocity, Unit:	6 MPH
Wind Direction:	SW
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	78 F
Soil Moisture:	NORMAL
% Cloud Cover:	10
Next Rain Occurred On:	7-8-12

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	ZEAMD BCOR
Stage Scale Used:	DESC
Stage Majority, Percent:	V7
Stage Minimum, Percent:	V6
Stage Maximum, Percent:	V7
Height, Unit:	24 IN
Height Minimum, Maximum:	20 24

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	ABUTH W DESC
Stage Majority, Percent:	8
Stage Minimum, Percent:	Coty
Stage Maximum, Percent:	8
Height, Unit:	8 IN
Height Minimum, Maximum:	1 10
Density, Unit:	0.1 FT2
Pest 2 Code, Type, Scale:	AMBTR W DESC
Stage Majority, Percent:	14
Stage Minimum, Percent:	4
Stage Maximum, Percent:	20
Height, Unit:	8 IN
Height Minimum, Maximum:	2 14
Density, Unit:	0.3 FT2
Pest 3 Code, Type, Scale:	AMATA W DESC
Stage Majority, Percent:	16
Stage Minimum, Percent:	Coty
Stage Maximum, Percent:	20
Height, Unit:	8 IN
Height Minimum, Maximum:	1 12
Density, Unit:	0.5 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							ZEAMD 7-2-12 Injury Percent	ZEAMD 7-16-12 Injury Percent	ABUTH 7-2-12 Control Percent	ABUTH 7-16-12 Control Percent	AMBTR 7-2-12 Control Percent	AMBTR 7-16-12 Control Percent
							14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Unit Unit	Growth Stage	Appl Code		
1	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
2	TOUCHDOWN HI-TECH ARMEZON N-PAK AMS	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A						88 abc	96 ab
3	TOUCHDOWN HI-TECH ARMEZON CLASS ACT NG	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A						83 c	92 cd
4	TOUCHDOWN HI-TECH ARMEZON PRIME OIL COC N-PAK AMS	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 % v/v	1 % v/v	6-8"W A						85 bc	93 bcd
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A							95 ab
5	TOUCHDOWN HI-TECH ARMEZON SUPERB HC CLASS ACT NG	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 pt/a	1 pt/a	6-8"W A						87 bc	96 ab
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A							96 a
6	TOUCHDOWN HI-TECH ARMEZON SUPERB HC AG 8034	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 pt/a	1 pt/a	6-8"W A						87 bc	96 ab
		100 SL	2 % v/v	2 % v/v	6-8"W A							95 ab
7	TOUCHDOWN HI-TECH ARMEZON SUPERB HC AG 8034 INTERLOCK	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 pt/a	1 pt/a	6-8"W A						93 a	97 a
		100 SL	2 % v/v	2 % v/v	6-8"W A							96 ab
		100 SL	4 fl oz/a	4 fl oz/a	6-8"W A							98 a
8	TOUCHDOWN HI-TECH ARMEZON MSO (NOBLE) N-PAK AMS	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 % v/v	1 % v/v	6-8"W A						83 c	95 abc
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A							92 c
9	TOUCHDOWN HI-TECH ARMEZON DESTINY HC CLASS ACT NG	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 pt/a	1 pt/a	6-8"W A						90 ab	96 ab
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A							96 a
10	TOUCHDOWN HI-TECH ARMEZON DESTINY HC AG 8034	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	1 pt/a	1 pt/a	6-8"W A						87 bc	96 ab
		100 SL	2 % v/v	2 % v/v	6-8"W A							95 ab
11	TOUCHDOWN HI-TECH ARMEZON AG 12035	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	0 a	0 a
		100 SL	2.5 % v/v	2.5 % v/v	6-8"W A						86 bc	95 abc
												95 ab
12	TOUCHDOWN HI-TECH ARMEZON AG 11018	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W A	2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W A	A	1 a	0 a
		100 SL	1.5 % v/v	1.5 % v/v	6-8"W A						88 abc	97 a
												96 ab
												97 ab

Means followed by same letter do not significantly differ (P=0.05, 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										
Trt Treatment	Form	Form	Rate	Other	Other	Growth	Appl			
No. Name	Conc	Type	Rate	Unit	Rate	Rate	Unit	Stage	Code	
13 NONTREATED										
LSD (P=.05)	0.8		0.0		5.7		3.4		2.4	1.7
Standard Deviation	0.5		0.0		3.4		2.0		1.4	1.0
CV	624.5		0.0		4.23		2.3		1.65	1.12
Replicate F	1.000		0.000		6.205		0.421		0.337	3.129
Replicate Prob(F)	0.3827		1.0000		0.0067		0.6610		0.7171	0.0620
Treatment F	1.000		0.000		157.221		513.692		1009.459	2178.315
Treatment Prob(F)	0.4777		1.0000		0.0001		0.0001		0.0001	0.0001

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Trial ID: 12-50W-M70

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval							AMATA 7-2-12 Control Percent 14 DA-A	AMATA 7-16-12 Control Percent 28 DA-A				
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Unit Unit	Growth Stage	Appl Code		
1	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	62 d	90 b				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
2	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	93 ab	98 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	N-PAK AMS	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
3	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	83 abc	96 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	CLASS ACT NG	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
4	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	77 c	96 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	PRIME OIL COC	100 SL	1 % v/v	1 % v/v	6-8"W	A						
	N-PAK AMS	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
5	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	85 abc	98 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	SUPERB HC	100 SL	1 pt/a	1 pt/a	6-8"W	A						
	CLASS ACT NG	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
6	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	94 a	97 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	SUPERB HC	100 SL	1 pt/a	1 pt/a	6-8"W	A						
	AG 8034	100 SL	2 % v/v	2 % v/v	6-8"W	A						
7	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	94 a	98 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	SUPERB HC	100 SL	1 pt/a	1 pt/a	6-8"W	A						
	AG 8034	100 SL	2 % v/v	2 % v/v	6-8"W	A						
	INTERLOCK	100 SL	4 fl oz/a	4 fl oz/a	6-8"W	A						
8	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	83 abc	98 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	MSO (NOBLE)	100 SL	1 % v/v	1 % v/v	6-8"W	A						
	N-PAK AMS	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
9	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	88 abc	97 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	DESTINY HC	100 SL	1 pt/a	1 pt/a	6-8"W	A						
	CLASS ACT NG	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
10	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	88 abc	97 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	DESTINY HC	100 SL	1 pt/a	1 pt/a	6-8"W	A						
	AG 8034	100 SL	2 % v/v	2 % v/v	6-8"W	A						
11	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	82 bc	91 b				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	AG 12035	100 SL	2.5 % v/v	2.5 % v/v	6-8"W	A						
12	TOUCHDOWN HI-TECH ARMEZON	5 SL	0.375 lb ae/a	9.6 fl oz/a	6-8"W	A	89 abc	98 a				
		2.8 SL	0.0082 lb ai/a	0.375 fl oz/a	6-8"W	A						
	AG 11018	100 SL	1.5 % v/v	1.5 % v/v	6-8"W	A						

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Location: Belleville Res. Center

Investigator: Bryan Young

Pest Code		AMATA	AMATA
Crop Code			
Rating Date		7-2-12	7-16-12
Rating Type		Control	Control
Rating Unit		Percent	Percent
Rating Timing			
Trt-Eval Interval		14 DA-A	28 DA-A
Trt Treatment	Form Form		
No. Name	Conc Type Rate Unit Rate Rate Unit Stage Code		
13 NONTREATED		0 e	0 c
LSD (P=.05)		12.5	3.5
Standard Deviation		7.4	2.1
CV		9.46	2.36
Replicate F		7.069	2.182
Replicate Prob(F)		0.0039	0.1347
Treatment F		34.339	492.405
Treatment Prob(F)		0.0001	0.0001

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Trial Comments

1. Protocol: Winfield Solutions.
2. Ratings: CI/WC at 14 and 28 DAT.
3. Rainfall following the 6-8"W application was 0.28 inch 20 days later, and 0.15 inch 41 days later.
4. Not harvested.