

Adjuvant Evaluation with Clethodim and Glyphosate.

Trial ID: 13-21M-MME30 Location: Belleville Res. Center Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 6-14-13 Completion Date: 7-18-13		Trial Location
City: Belleville State/Prov.: Illinois IL Postal Code: 62221	Country: USA	

Objectives:
Evaluate volunteer corn and weed control from Drexel adjuvants in combination with clethodim 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: ZEAMD Zea mays indentata Dent corn Variety: DKC 63-33 Description: SS RIB		Planting Date: 6-14-13 Planting Method: SEEDED
Planting Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN Row Spacing, Unit: 30 IN		

Pest 1 Type: W Code: ZEAMX Zea mays L. Common Name: corn, volunteer Description: Roundup Ready corn	
Pest 2 Type: W Code: XANST Xanthium strumarium L. Common Name: cocklebur, common	
Pest 3 Type: W Code: SETFA Setaria faberi Herm. Common Name: foxtail, giant	
Pest 4 Type: W Code: AMBTR Ambrosia trifida L. Common Name: ragweed, giant	
Pest 5 Type: W Code: AMATA Amaranthus rudis Sauer Common Name: waterhemp, common	
Pest 6 Type: W Code: IPOHE Ipomoea hederacea (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 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		
No.	Previous Crop	Year
1.	GLXMA	2012

Maintenance	
No.	Maintenance Product Name
1.	N 150 LB/A, P2O5 0 LB/A, K2O 150 LB/A

% OM: 3.4 Texture: SIL silt loam pH: 6.5 Soil Name: Bethalto CEC: 12		
Soil Description		
Additional Measured Elements		
Element	Quantity	Unit
P1	71	lb/A
K	297	lb/A

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Moisture and Weather Conditions										
Overall Moisture Conditions:				ABONOR						
Closest Weather Station: ICN - Belleville IL				Distance, Unit: 0.5 MI						
No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	6-2-13					7	DAY	50	80	F
2.	6-9-13					7	DAY	59	94	F
3.	6-10-13	0.48	IN	RAIN	rain	2	DAY			
4.	6-16-13					7	DAY	61	90	F
5.	6-17-13	2.16	IN	RAIN	rain	3	DAY			
6.	6-23-13					7	DAY	64	92	F
7.	6-23-13	5.33	IN	RAIN	rain	2	DAY			
8.	6-26-13	0.46	IN	RAIN	rain	1	DAY			
9.	6-29-13	0.19	IN	RAIN	rain	2	DAY			
10.	6-30-13					7	DAY	61	86	F
11.	7-2-13	2.08	IN	RAIN	rain	2	DAY			
12.	7-7-13					7	DAY	62	94	F
13.	7-10-13	0.2	IN	RAIN	rain	1	DAY			
14.	7-14-13					7	DAY	64	94	F
15.	7-15-13	0.03	IN	RAIN	rain	1	DAY			
16.	7-20-13	0.59	IN	RAIN	rain	1	DAY			
17.	7-21-13					7	DAY	56	91	F
18.	7-26-13	0.03	IN	RAIN	rain	1	DAY			
19.	7-28-13					7	DAY	52	87	F
20.	7-30-13	0.46	IN	RAIN	rain	1	DAY			

Application Description	
	A
Application Date:	7-4-13
Appl. Start Time:	13:00
Appl. Stop Time:	13:40
Application Method:	Spray
Application Timing:	6"W
Application Placement:	BROFOL
Applied By:	RJW
Air Temperature, Unit:	82 F
% Relative Humidity:	55
Wind Velocity, Unit:	2 MPH
Wind Direction:	E
Dew Presence (Y/N):	N
Soil Temperature, Unit:	74 F
Soil Moisture:	ABONOR
% Cloud Cover:	25
Next Moisture Occurred On:	7-10-13
Time to Next Moisture, Unit:	6 DAY

Crop Stage At Each Application	
	A
Crop 1 Code, BBCH Scale:	ZEAMD
Stage Scale Used:	DESC
Stage Majority, Percent:	V5
Stage Minimum, Percent:	V4
Stage Maximum, Percent:	V5
Height, Unit:	12 IN
Height Minimum, Maximum:	10 12

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Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	ZEAMX W
Stage Majority, Percent:	5
Stage Minimum, Percent:	4
Stage Maximum, Percent:	5
Height, Unit:	12 IN
Height Minimum, Maximum:	10 12
Density, Unit:	0.64 FT2
Pest 2 Code, Type, Scale:	XANST W
Stage Majority, Percent:	6
Stage Minimum, Percent:	4
Stage Maximum, Percent:	10
Height, Unit:	6 IN
Height Minimum, Maximum:	3 8
Density, Unit:	3 FT2
Pest 3 Code, Type, Scale:	SETFA W
Stage Majority, Percent:	6
Stage Minimum, Percent:	3
Stage Maximum, Percent:	8
Height, Unit:	6 IN
Height Minimum, Maximum:	4 8
Density, Unit:	1 FT2
Pest 4 Code, Type, Scale:	AMBTR W
Stage Majority, Percent:	8
Stage Minimum, Percent:	6
Stage Maximum, Percent:	12
Height, Unit:	8 IN
Height Minimum, Maximum:	4 10
Density, Unit:	1 FT2
Pest 5 Code, Type, Scale:	AMATA W
Stage Majority, Percent:	10
Stage Minimum, Percent:	3
Stage Maximum, Percent:	12
Height, Unit:	6 IN
Height Minimum, Maximum:	1 8
Density, Unit:	10 FT2
Pest 6 Code, Type, Scale:	IPOHE W
Stage Majority, Percent:	4
Stage Minimum, Percent:	4
Stage Maximum, Percent:	6
Height, Unit:	3.5 IN
Height Minimum, Maximum:	2 4
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								ZEAMX	ZEAMX	ZEAMX	XANST	XANST	XANST
Crop Code								7-7-13	7-11-13	7-18-13	7-7-13	7-11-13	7-18-13
Rating Date								Control	Control	Control	Control	Control	Control
Rating Type								Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit													
Rating Timing													
Trt-Eval Interval								3 DA-A	7 DA-A	14 DA-A	3 DA-A	7 DA-A	14 DA-A
Trt Treatment No. Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code						
1 NONTREATED								0 c	0 c	0 c	0 b	0 b	0 a
2 ARROW IMITATOR PLUS DRX 101	2 EC 3 SL 100 SL	0.094 lb ai/a 0.75 lb ae/a 1 pt/a	6 fl oz/a 32 fl oz/a 0.83 % v/v	6"W 6"W 6"W	A A A			58 ab	75 b	86 b	96 a	99 a	99 a
3 ARROW IMITATOR PLUS DRX 102	2 EC 3 SL 100 SL	0.094 lb ai/a 0.75 lb ae/a 0.5 pt/a	6 fl oz/a 32 fl oz/a 0.417 % v/v	6"W 6"W 6"W	A A A			62 a	75 b	86 b	96 a	99 a	99 a
4 ARROW IMITATOR PLUS COC (PRIME OIL)	2 EC 3 SL 100 SL	0.094 lb ai/a 0.75 lb ae/a 1 % v/v	6 fl oz/a 32 fl oz/a 1 % v/v	6"W 6"W 6"W	A A A			50 b	76 b	86 b	97 a	99 a	99 a
5 SELECT MAX IMITATOR PLUS	0.97 EC 3 SL	0.094 lb ai/a 0.75 lb ae/a	12.4 fl oz/a 32 fl oz/a	6"W 6"W	A A			67 a	82 a	96 a	96 a	99 a	99 a
LSD (P=.05)								9.6	3.0	1.8	1.6	0.6	0.0
Standard Deviation								5.1	1.6	1.0	0.9	0.3	0.0
CV								10.74	2.58	1.36	1.11	0.4	0.0
Replicate F								0.839	0.503	6.000	1.455	6.000	0.000
Replicate Prob(F)								0.4670	0.6225	0.0256	0.2892	0.0256	1.0000
Treatment F								85.581	1419.643	5090.286	7593.728	58510.006	0.000
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001	0.0001	1.0000

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							SETFA	SETFA	SETFA	AMBTR	AMBTR	AMBTR
Crop Code							7-7-13	7-11-13	7-18-13	7-7-13	7-11-13	7-18-13
Rating Date							Control	Control	Control	Control	Control	Control
Rating Type							Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit												
Rating Timing												
Trt-Eval Interval							3 DA-A	7 DA-A	14 DA-A	3 DA-A	7 DA-A	14 DA-A
Trt Treatment No. Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Stage	Appl Code				
1 NONTREATED									0 c	0 b	0 a	0 b
2 ARROW IMITATOR PLUS DRX 101	2 EC 3 SL 100 SL	0.094 lb ai/a 0.75 lb ae/a 1 pt/a	6 fl oz/a 32 fl oz/a 0.83 % v/v	6"W 6"W 6"W	A A A				89 a	99 a	99 a	92 a
3 ARROW IMITATOR PLUS DRX 102	2 EC 3 SL 100 SL	0.094 lb ai/a 0.75 lb ae/a 0.5 pt/a	6 fl oz/a 32 fl oz/a 0.417 % v/v	6"W 6"W 6"W	A A A				88 a	99 a	99 a	91 a
4 ARROW IMITATOR PLUS COC (PRIME OIL)	2 EC 3 SL 100 SL	0.094 lb ai/a 0.75 lb ae/a 1 % v/v	6 fl oz/a 32 fl oz/a 1 % v/v	6"W 6"W 6"W	A A A				82 b	99 a	99 a	86 b
5 SELECT MAX IMITATOR PLUS	0.97 EC 3 SL	0.094 lb ai/a 0.75 lb ae/a	12.4 fl oz/a 32 fl oz/a	6"W 6"W	A A				89 a	99 a	99 a	90 a
LSD (P=.05)									5.6	0.5	0.0	3.2
Standard Deviation									3.0	0.3	0.0	1.7
CV									4.25	0.33	0.0	2.34
Replicate F									0.053	1.000	0.000	4.994
Replicate Prob(F)									0.9487	0.4096	1.0000	0.0391
Treatment F									520.727	88061.509	0.000	1718.900
Treatment Prob(F)									0.0001	0.0001	1.0000	0.0001

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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
							7-7-13 Control Percent	7-11-13 Control Percent	7-18-13 Control Percent	7-7-13 Control Percent	7-11-13 Control Percent	7-18-13 Control Percent
							3 DA-A	7 DA-A	14 DA-A	3 DA-A	7 DA-A	14 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	NONTREATED										0 b	0 b
2	ARROW IMITATOR PLUS DRX 101	2 EC 3 SL 100 SL		0.094 lb ai/a 0.75 lb ae/a 1 pt/a		6 fl oz/a 32 fl oz/a 0.83 % v/v		6"W 6"W 6"W	A A A		93 a	97 a
3	ARROW IMITATOR PLUS DRX 102	2 EC 3 SL 100 SL		0.094 lb ai/a 0.75 lb ae/a 0.5 pt/a		6 fl oz/a 32 fl oz/a 0.417 % v/v		6"W 6"W 6"W	A A A		90 a	95 a
4	ARROW IMITATOR PLUS COC (PRIME OIL)	2 EC 3 SL 100 SL		0.094 lb ai/a 0.75 lb ae/a 1 % v/v		6 fl oz/a 32 fl oz/a 1 % v/v		6"W 6"W 6"W	A A A		94 a	97 a
5	SELECT MAX IMITATOR PLUS	0.97 EC 3 SL		0.094 lb ai/a 0.75 lb ae/a		12.4 fl oz/a 32 fl oz/a		6"W 6"W	A A		89 a	95 a
LSD (P=.05)							8.9	4.8	4.7	9.5	8.4	6.7
Standard Deviation							4.7	2.5	2.5	5.0	4.5	3.6
CV							6.44	3.29	3.4	16.8	9.65	5.25
Replicate F							0.361	0.450	1.026	2.557	3.083	1.361
Replicate Prob(F)							0.7075	0.6527	0.4010	0.1385	0.1017	0.3098
Treatment F							226.385	867.576	812.397	33.607	101.125	340.796
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: Drexel.
2. Ratings: WC at 3, 7, and 14 DA-A.
3. No yield.
4. Following the 6"W application the first rainfall event, beginning 6 days later, was 0.20 inch over 1 day.
5. Not harvested.