

Adjuvant Studies, Corn or Soybean

Southern Illinois University

Laudis Oil Adjuvant Study.

Trial ID: 09-10C-W80

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
City State Zip Country: Belleville IL 62221 USA
Trial Status: FINAL Initiation Date: 06-30-09

Objectives: Evaluate various oil-based adjuvants for use with Laudis in corn.

Crop 1: ZEAMD Dent corn Variety: DKC 61-73 Description: RR2/YGCB
Planting Method: SEEDS Planting Date: 06-30-09
Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: GGGAN grasses, annual
Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
Pest 3 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf
Pest 4 Type: W Code: IPOHE Ipomoea hederacea (L.) Jacq. morningglory, ivyleaf

Plot Width, Unit: 10 FT Site Type: FIELD
Plot Length, Unit: 24 FT Tillage Type: REDUCED-TILL
Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
1. GLXMA 2008

Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K2O 150 LB/A

% OM: 2.1 Texture: SILT LOAM
pH: 5.6 Soil Name: PIERRON
CEC: 12 Fert. Level: P1 80 LB/A, K 435 LB/A

Application Description

A
Application Date: 07-20-09
Time of Day: 15:45
Application Method: Spray
Application Timing: 4"W
Application Placement: BROFOL
Applied By: NVH
Air Temperature, Unit: 80 F
% Relative Humidity: 70
Wind Velocity, Unit: 4 MPH
Wind Direction: E
Dew Presence (Y/N): N
Soil Moisture: NORMAL
% Cloud Cover: 15

07-20-09
Crop stage at application: V5
Height Min, Max (inch): 8 10

Pest Stage At Each Application

Application Date: 07-20-09
Weed Code: GGGAN
Stage Majority (leaves): 4
Stage Min, Max: 2 6
Height Majority: 4 IN
Height Min, Max: 1.5 6.5
Density, Unit: 3 FT2
Weed Code: AMATA
Stage Majority (leaves): 6
Stage Min, Max: 3 8
Height Majority: 3 IN
Height Min, Max: 1 4
Density, Unit: 10 FT2
Weed Code: ABUTH
Stage Majority (leaves): 2
Stage Min, Max: 1 4
Height Majority: 3 IN
Height Min, Max: 1 4
Density, Unit: 1 FT2
Weed Code: IPOHE
Stage Majority (leaves): 6
Stage Min, Max: 4 8
Height Majority: 4 IN
Height Min, Max: 2 6
Density, Unit: 1 FT2

Application Equipment

Appl. Equipment: CO2 sprayer
Operating Pressure: 30 PSI
Nozzle Type: Flat fan
Nozzle Size: XR 8002
Boom Length, Unit: 7.5 FT
Spray Volume, Unit: 15 GPA

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Pest Code									GGGAN	GGGAN	GGGAN
Crop Code											
Rating Date											
Rating Data Type											
Rating Unit											
Rating Timing											
Trt-Eval Interval											
									ZEAMD	ZEAMD	ZEAMD
									08-03-09	08-17-09	08-31-09
									Injury	Injury	Injury
									Percent	Percent	Percent
									08-03-09	08-17-09	08-31-09
									Control	Control	Control
									Percent	Percent	Percent
									14 DA-A	28 DA-A	42 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED										0 a	0 a	0 a	0 d	0 d
2	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	96 a	93 abc
2	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						91 ab
2	MSO CONCENTRATE	100	SL	1	% v/v	1	% v/v	4"W	A						
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
3	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	96 a	93 abc
3	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						92 ab
3	MSO CONCENTRATE	100	SL	0.75	% v/v	0.75	% v/v	4"W	A						
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
4	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	96 ab	93 abc
4	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						91 ab
4	MSO CONCENTRATE	100	SL	0.5	% v/v	0.5	% v/v	4"W	A						
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
5	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	97 a	94 ab
5	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						92 ab
5	DESTINY HC	100	SL	0.5	% v/v	0.5	% v/v	4"W	A						
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
6	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	93 c	90 c
6	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						88 b
6	DYNE-AMIC	100	SL	0.5	% v/v	0.5	% v/v	4"W	A						
6	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
7	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	96 ab	95 ab
7	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						93 a
7	SUNDANCE II	100	SL	1	% v/v	1	% v/v	4"W	A						
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
8	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	94 bc	92 bc
8	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						91 ab
8	SOY-STIK	100	SL	1	% v/v	1	% v/v	4"W	A						
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
9	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	96 ab	95 ab
9	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						94 a
9	SUCCEED	100	SL	1	% v/v	1	% v/v	4"W	A						
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
10	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	97 a	96 a
10	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						95 a
10	PERSIST ULTRA	100	SL	1	% v/v	1	% v/v	4"W	A						
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
11	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A		0 a	0 a	0 a	96 a	94 ab
11	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A						94 a
11	SUPERSPREAD MSO	100	SL	1.5	pt/a	1.5	pt/a	4"W	A						
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A						
LSD (P=.05)											0.0	0.0	0.0	2.0	3.4
Replicate F											0.000	0.000	0.000	4.434	1.928
Replicate Prob(F)											1.0000	1.0000	1.0000	0.0255	0.1716
Treatment F											0.000	0.000	0.000	1869.674	596.075
Treatment Prob(F)											1.0000	1.0000	1.0000	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Laudis Oil Adjuvant Study.

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Location: Belleville Res. Center

Pest Code	AMATA	AMATA	AMATA	ABUTH	ABUTH	ABUTH
Crop Code						
Rating Date	08-03-09	08-17-09	08-31-09	08-03-09	08-17-09	08-31-09
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing						
Trt-Eval Interval	14 DA-A	28 DA-A	42 DA-A	14 DA-A	28 DA-A	42 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									0 b	0 b	0 b	0 b	0 c
2	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	98 a	99 a	97 b
2	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
2	MSO CONCENTRATE	100	SL	1 % v/v	1 % v/v	4"W	A							
2	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
3	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	99 a	99 a	97 b
3	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
3	MSO CONCENTRATE	100	SL	0.75 % v/v	0.75 % v/v	4"W	A							
3	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
4	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	98 a	99 a	97 b
4	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
4	MSO CONCENTRATE	100	SL	0.5 % v/v	0.5 % v/v	4"W	A							
4	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
5	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	99 a	99 a	97 b
5	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
5	DESTINY HC	100	SL	0.5 % v/v	0.5 % v/v	4"W	A							
5	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
6	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	99 a	99 a	97 b
6	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
6	DYNE-AMIC	100	SL	0.5 % v/v	0.5 % v/v	4"W	A							
6	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
7	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	99 a	99 a	98 ab
7	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
7	SUNDANCE II	100	SL	1 % v/v	1 % v/v	4"W	A							
7	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
8	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	99 a	99 a	97 b
8	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
8	SOY-STIK	100	SL	1 % v/v	1 % v/v	4"W	A							
8	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
9	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	98 a	99 a	97 b
9	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
9	SUCCEED	100	SL	1 % v/v	1 % v/v	4"W	A							
9	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
10	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	98 a	98 a	97 b
10	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
10	PERSIST ULTRA	100	SL	1 % v/v	1 % v/v	4"W	A							
10	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
11	LAUDIS	3.5	SC	0.082 lb ai/a	3 oz/a	4"W	A		99 a	99 a	99 a	99 a	99 a	98 a
11	AATREX	4	SC	0.5 lb ai/a	1 pt/a	4"W	A							
11	SUPERSPREAD MSO	100	SL	1.5 pt/a	1.5 pt/a	4"W	A							
11	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	4"W	A							
LSD (P=.05)									0.0	0.0	0.0	0.9	0.9	0.8
Replicate F									0.000	0.000	0.000	1.000	1.928	4.756
Replicate Prob(F)									1.0000	1.0000	1.0000	0.3855	0.1716	0.0204
Treatment F									0.000	0.000	0.000	9702.801	10578.098	10392.928
Treatment Prob(F)									1.0000	1.0000	1.0000	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Laudis Oil Adjuvant Study.

Trial ID: 09-10C-W80

Location: Belleville Res. Center

Pest Code			
Crop Code			
Rating Date	08-03-09	08-17-09	08-31-09
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	14 DA-A	28 DA-A	42 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 d	0 d	0 c
2	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	98 abc	97 abc	97 ab
2	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
2	MSO CONCENTRATE	100	SL	1	% v/v	1	% v/v	4"W	A			
2	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
3	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	98 abc	98 abc	98 a
3	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
3	MSO CONCENTRATE	100	SL	0.75	% v/v	0.75	% v/v	4"W	A			
3	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
4	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	98 abc	97 abc	97 ab
4	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
4	MSO CONCENTRATE	100	SL	0.5	% v/v	0.5	% v/v	4"W	A			
4	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
5	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	98 abc	98 ab	98 a
5	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
5	DESTINY HC	100	SL	0.5	% v/v	0.5	% v/v	4"W	A			
5	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
6	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	97 c	97 abc	97 ab
6	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
6	DYNE-AMIC	100	SL	0.5	% v/v	0.5	% v/v	4"W	A			
6	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
7	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	97 bc	96 bc	97 ab
7	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
7	SUNDANCE II	100	SL	1	% v/v	1	% v/v	4"W	A			
7	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
8	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	97 bc	97 abc	97 ab
8	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
8	SOY-STIK	100	SL	1	% v/v	1	% v/v	4"W	A			
8	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
9	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	99 ab	98 a	98 a
9	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
9	SUCCEED	100	SL	1	% v/v	1	% v/v	4"W	A			
9	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
10	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	99 a	98 ab	97 ab
10	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
10	PERSIST ULTRA	100	SL	1	% v/v	1	% v/v	4"W	A			
10	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			
11	LAUDIS	3.5	SC	0.082	lb ai/a	3	oz/a	4"W	A	97 c	96 c	96 b
11	AATREX	4	SC	0.5	lb ai/a	1	pt/a	4"W	A			
11	SUPERSPREAD MSO	100	SL	1.5	pt/a	1.5	pt/a	4"W	A			
11	N-PAK AMS	100	SL	2.5	% v/v	2.5	% v/v	4"W	A			

LSD (P=.05)	1.6	1.7	1.3
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Replicate F	6.982	3.548	2.908
Replicate Prob(F)	0.0050	0.0480	0.0779
Treatment F	3024.021	2496.763	4339.215
Treatment Prob(F)	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Bayer (DLY).
2. Ratings: CI/WC at 14, 28 + 42 DAT.
3. Estimate percent ground cover of each weed species at each application and evaluation timing.
4. GGGAN = Annual grasses including SETFA (giant foxtail) and PANDI (fall panicum).
5. Percent ground cover at application A for GGGAN, AMATA, ABUTH and IPOHE was 16, 10, 2 and 2, respectively.
Percent ground cover at 14 DA-A for GGGAN, AMATA, ABUTH and IPOHE was 20, 30, 30 and 20, respectively.
Percent ground cover at 28 DA-A for GGGAN, AMATA, ABUTH and IPOHE was 20, 30, 30 and 30, respectively.
6. Not harvested.