Southern Illinois University

Influence of Spray pH on Laudis Efficacy.

Project Code: 07-52-W40 Location: Belleville Research Center
Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final **Updated:** 1-23-08

Objective:
Determine how variation in spray pH may influence the efficacy of Laudis.

	Weed Code	Common Name	Scientific Name
1.	SETFA	foxtail, giant	Setaria faberi Herrm.
2.	AMBTR	ragweed, giant	Ambrosia trifida L.
3.	ABUTH	velvetleaf	Abutilon theophrasti Medicus
4.	IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.

Crop 1: ZEAMX corn, field **Variety:** 33K44
Planting Method: Seeded **Planting Date:** 5-21-07
Rate: 28000 S/A **Depth:** 1.5 IN
Row Spacing: 30 IN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Tillage Type: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2006
Field Prep./Maintenance: N 150 LB/A, P2O5 0 LB/A, K2O 0 LB/A

Soil Name: Weir **% OM:** 2 **pH:** 6.9 **CEC:** 9
Texture: Silt loam **Fert. Level:** P1: 131 LB/A, K: 401 LB/A

APPLICATION DESCRIPTION

	A
Application Date:	6-15-07
Time of Day:	8:00
Application Method:	Spray
Application Timing:	6-8"W
Applic. Placement:	BROFOL
Air Temp., Unit:	76 F
% Relative Humidity:	84
Wind Velocity, Unit:	0 MPH
Dew Presence (Y/N):	N
Soil Moisture:	NORMAL
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMX V6
Height, Unit:	22 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code:	SETFA
Stage(leaves):	3-6
Height(inches):	5-9
Density:	Medium
Weed 2 Code:	AMBTR
Stage(leaves):	6-10
Height(inches):	5-12
Density:	High
Weed 3 Code:	ABUTH
Stage(leaves):	4-7
Height(inches):	6-9
Density:	High
Weed 4 Code:	IPOHE
Stage(leaves):	4-7
Height(inches):	4-8
Density:	Low

APPLICATION EQUIPMENT

	A
Appl. Equipment:	CO2 sprayer
Operating Pressure:	40 PSI
Nozzle Type:	Flat fan
Nozzle Size:	XR 8002
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	15 GPA

NOTES:

1-25-08 (07-52-W40)

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ZEAMX Injury	ZEAMX Injury	SETFA Control	SETFA Control	AMBTR Control	AMBTR Control	ABUTH Control	ABUTH Control	IPOHE Control	IPOHE Control
	Weed Code																		
	Crop Code																		
	Rating Data Type																		
	Rating Unit									Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	Rating Date									6-29-07	7-13-07	6-29-07	7-13-07	6-29-07	7-13-07	6-29-07	7-13-07	6-29-07	7-13-07
	Trt-Eval Interval									14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A	14 DA-A	28 DA-A
1	NONTREATED									0 a	0 a	0 e	0 e	0 c	0 c	0 d	0 b	0 e	0 d
2	SPRAY pH 5									0 a	0 a	25 d	30 cd	98 ab	99 a	98 ab	99 a	12 de	25 c
2	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
2	PREFERENCE	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A										
2	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
3	SPRAY pH 5									0 a	0 a	35 cd	33 cd	98 ab	99 a	98 abc	98 a	25 cd	22 c
3	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	6-8"W	A										
3	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
4	SPRAY pH 5									0 a	0 a	53 abc	53 ab	99 a	99 a	98 ab	99 a	52 a	38 b
4	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
4	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	6-8"W	A										
4	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
5	SPRAY pH 7									0 a	0 a	17 de	23 d	96 b	99 a	97 bc	98 a	17 d	23 c
5	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
5	PREFERENCE	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A										
5	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
6	SPRAY pH 7									0 a	0 a	70 a	60 a	99 a	98 b	99 a	99 a	35 bc	37 b
6	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
6	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	6-8"W	A										
6	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
7	SPRAY pH 7									0 a	0 a	65 ab	60 a	99 a	99 a	99 a	99 a	45 ab	37 b
7	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
7	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	6-8"W	A										
7	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
8	SPRAY pH 9									0 a	0 a	37 cd	43 bc	99 a	99 a	96 c	98 a	23 cd	32 bc
8	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
8	PREFERENCE	100	LIQ	0.25	% v/v	0.25	% v/v	6-8"W	A										
8	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
9	SPRAY pH 9									0 a	0 a	48 bc	57 ab	98 ab	99 a	99 a	99 a	35 bc	40 b
9	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
9	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	6-8"W	A										
9	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
10	SPRAY pH 9									0 a	0 a	58 ab	60 a	99 a	99 a	99 a	99 a	57 a	53 a
10	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	6-8"W	A										
10	DESTINY MSO	100	LIQ	1.0	% v/v	1	% v/v	6-8"W	A										
10	28% UAN	100	LIQ	2.5	% v/v	2.5	% v/v	6-8"W	A										
	LSD (P=.05)									0.0	0.0	20.3	16.6	2.3	0.6	1.9	1.6	15.1	11.5
	Replicate F									0.000	0.000	1.072	1.039	0.512	1.000	1.714	0.643	6.126	1.675
	Replicate Prob(F)									1.0000	1.0000	0.3631	0.3739	0.6077	0.3874	0.2082	0.5374	0.0093	0.2152
	Treatment F									0.000	0.000	10.681	12.967	1590.897	22020.252	2326.098	3523.683	12.701	13.546
	Treatment Prob(F)									1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Trial Comments

1. Protocol: NDSU, UNL, SIU.
2. Ratings: CI/WC at 14 + 28 DAT.
3. Add all the water and other tank-mix components to each treatment bottle.
   Then test the initial pH and add either NH4OH or HCl to adjust pH up or down.
4. DA-A = Days after 6-8"W application.