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Laudis and various MSOs in corn

Trial ID: 09S-THP-CTC-03 Protocol ID: 09S-THP-CTC-03
 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Dave Lamore

General Trial Information

Study Director: Paul Marquardt/Melissa Kruger **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: F one-year/final
Initiation Date: 5/22/09 **Planned Completion Date:** 7/27/09

Trial Location

City: Lafayette
State/Prov.: in
Postal Code: 47909
Country: USA United States

Objectives:

Laudis and Various MSOs in corn

Personnel

Study Director: Paul Marquardt/Melissa Kruger **Title:** Research Associate
Affiliation: Purdue University
Address: 915 W. State Street, Department of Botany & Plant Path.
Location: West Lafayette, IN
Investigator: Dr. Bill Johnson **Title:** Professor
Affiliation: Purdue University
Address: 915 W. State Street, Department of Botany & Plant Path.
Location: West Lafayette, IN
Postal Code: 47907

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: Pioneer 33W84 **Description:** Roundup Ready/Liberty Link
BBCH Scale: BCOR **Planting Date:** 5/22/09
Planting Method: DIRDRI direct drilled **Rate, Unit:** 32000 s/a
Depth, Unit: 2 IN
Row Spacing, Unit: 30 IN **Spacing Within Row, Unit:** 6 IN
Seed Bed: MEDIUM medium **Soil Temperature, Unit:** 72 F
Soil Moisture: NORMAL normal **Emergence Date:** 5/27/09

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 2 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 3 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed

Pest 4 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: Velvetleaf

Pest 5 Type: W **Code:** IPOHE Ipomoea hederacea
Common Name: Ivyleaf morningglory

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 300 FT2 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Field Prep./Maintenance:

Field cultivation and disc 1 day before planting

Soil Description

Description Name: Silty Loam
% OM: 2.9 **Texture:** SIL silt loam
pH: 6.2 **Soil Name:** Tornonto-Millbrook
CEC: 13.3

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Application Description	
	A
Application Date:	6/15/09
Time of Day:	10:11 AM
Application Method:	SPRAY
Application Timing:	MIPOWE
Application Placement:	BANT
Applied By:	AR
Air Temperature, Unit:	74 F
% Relative Humidity:	66
Wind Velocity, Unit:	4 MPH
Wind Direction:	SW
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	68 F
Soil Moisture:	SLIWET
% Cloud Cover:	85
Next Rain Occurred On:	6/16/09

Crop Stage At Each Application	
	A
Crop 1 Code, BBCH Scale:	ZEAMX BCOR
Stage Scale Used:	BBCH
Stage Majority, Percent:	V4 90
Stage Minimum, Percent:	V3 10
Stage Maximum, Percent:	V4 90
Height, Unit:	18 IN
Height Minimum, Maximum:	10 18

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Pest Stage At Each Application	
	A
Pest 1 Code, Type, Scale:	AMBTR W
Stage Majority, Percent:	33 50
Stage Minimum, Percent:	10 50
Stage Maximum, Percent:	33 50
Height, Unit:	4 IN
Height Minimum, Maximum:	1 8
Density, Unit:	10 YD2
Pest 2 Code, Type, Scale:	SETFA W
Stage Majority, Percent:	12 50
Stage Minimum, Percent:	11 20
Stage Maximum, Percent:	15 30
Height, Unit:	4 IN
Height Minimum, Maximum:	1 8
Density, Unit:	100 YD2
Pest 3 Code, Type, Scale:	AMARE W
Stage Majority, Percent:	33 50
Stage Minimum, Percent:	31 20
Stage Maximum, Percent:	35 30
Height, Unit:	2.5 IN
Height Minimum, Maximum:	2 5
Density, Unit:	25 YD2
Pest 4 Code, Type, Scale:	ABUTH W
Stage Majority, Percent:	12 50
Stage Minimum, Percent:	11 20
Stage Maximum, Percent:	14 30
Height, Unit:	1.5 IN
Height Minimum, Maximum:	1 3
Density, Unit:	1.5 YD2
Pest 5 Code, Type, Scale:	IPOHE W
Stage Majority, Percent:	10 50
Stage Minimum, Percent:	10 50
Stage Maximum, Percent:	12 50
Height, Unit:	1.5 IN
Height Minimum, Maximum:	1 3
Density, Unit:	1.5 YD2

Application Equipment	
	A
Appl. Equipment:	CO2 BACKPACK
Equipment Type:	SPRBAC
Operating Pressure, Unit:	17 psi
Nozzle Type:	FLAT FAN
Nozzle Size:	XR11002
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	6
Boom Length, Unit:	7.5 FT
Boom Height, Unit:	18 IN
Ground Speed, Unit:	3 MPH
Carrier:	H2O
Water Hardness (ppm CaCO3):	150
Spray Volume, Unit:	15 gal/ac
Mix Size, Unit:	1.8 liters
Propellant:	CO2
Tank Mix (Y/N):	N no

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 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Dave Lamore

Pest Type		W Weed SETFA	W Weed AMBTR		W Weed SETFA	W Weed AMBTR				
Pest Code		Setaria faberi	Ambrosia trifi>		Setaria faberi	Ambrosia trifi>				
Pest Scientific Name		Giant foxtail	Giant ragweed		Giant foxtail	Giant ragweed				
Pest Name										
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn			
Crop Variety	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84			
Description	36-42"	36-42"	36-42"	70-85"	70-85"	70-85"	10-12'			
Part Rated	PLATOT C	PLATOT P	PLATOT P							
Rating Date	6/29/09	6/29/09	6/29/09	7/13/09	7/13/09	7/13/09	7/31/09			
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN			
Rating Unit	%	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1	1			
Crop Stage Majority	V8-V9	V8-V9	V8-V9	V10-V11	V10-V11	V10-V11	BLISTER			
Crop Stage Scale	36-42"	36-42"	36-42"							
Pest Stage Majority		6-36"	12-42"							
Pest Density, Unit		55 YD2	17.5YD2							
Assessed By	CB/RH	CB/RH	CB/RH	MK/CS	MK/CS	MK/CS	PM/MH			
Days After First/Last Applic.	14 14	14 14	14 14	28 28	28 28	28 28	46 46			
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	28 DA-A	28 DA-A	28 DA-A	46 DA-A			
Plant-Eval Interval	38 DP-1	38 DP-1	38 DP-1	52 DP-1	52 DP-1	52 DP-1	70 DP-1			
Days After Emergence	33 DE-	33 DE-	33 DE-	47 DE-	47 DE-	47 DE-	65 DE-			
Trt No.	Treatment	Rate	Appl	1	2	3	4	5	6	7
	Name	Rate Unit	Code							
1	UNTREATED			0.0 a	0.0 b	0.0 b	0.0 b	0.0 b	0.0 b	0.0 a
2	Laudis	0.082 lb ai/a	A	0.0 a	98.8 a	99.3 a	0.0 b	98.3 a	99.8 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	MSO Concentrate	1 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							
3	Laudis	0.082 lb ai/a	A	0.0 a	98.5 a	99.5 a	0.0 b	98.0 a	98.5 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	MSO Concentrate	0.75 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							
4	Laudis	0.082 lb ai/a	A	0.0 a	98.5 a	99.8 a	0.0 b	97.3 a	99.8 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	MSO Concentrate	0.5 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							
5	Laudis	0.082 lb ai/a	A	0.0 a	98.0 a	100.0 a	0.0 b	97.8 a	99.8 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	Destiny HC	0.5 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							
6	Laudis	0.082 lb ai/a	A	0.5 a	97.5 a	100.0 a	0.3 b	97.5 a	99.5 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	Dyne-Amic	0.5 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							
7	Laudis	0.082 lb ai/a	A	0.0 a	98.8 a	99.8 a	0.0 b	98.5 a	100.0 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	Sundance II	1 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							
8	Laudis	0.082 lb ai/a	A	0.3 a	99.3 a	100.0 a	3.0 a	98.8 a	99.0 a	0.0 a
	Atrazine	0.5 lb ai/a	A							
	Soy-Stik	1 % v/v	A							
	Ammonium Sulfate	8.5 lb/100 gal	A							

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		W Weed SETFA Setaria faberi Giant foxtail	W Weed AMBTR Ambrosia trifi> Giant ragweed		W Weed SETFA Setaria faberi Giant foxtail	W Weed AMBTR Ambrosia trifi> Giant ragweed			
Pest Type									
Pest Code									
Pest Scientific Name									
Pest Name									
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX		
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR		
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays		
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn		
Crop Variety	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84	P33W84		
Description	36-42"	36-42"	36-42"	70-85"	70-85"	70-85"	10-12'		
Part Rated	PLATOT C	PLATOT P	PLATOT P						
Rating Date	6/29/09	6/29/09	6/29/09	7/13/09	7/13/09	7/13/09	7/31/09		
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN		
Rating Unit	%	%	%	%	%	%	%		
Number of Subsamples	1	1	1	1	1	1	1		
Crop Stage Majority	V8-V9	V8-V9	V8-V9	V10-V11	V10-V11	V10-V11	BLISTER		
Crop Stage Scale	36-42"	36-42"	36-42"						
Pest Stage Majority		6-36"	12-42"						
Pest Density, Unit		55 YD2	17.5YD2						
Assessed By	CB/RH	CB/RH	CB/RH	MK/CS	MK/CS	MK/CS	PM/MH		
Days After First/Last Applic.	14 14	14 14	14 14	28 28	28 28	28 28	46 46		
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	28 DA-A	28 DA-A	28 DA-A	46 DA-A		
Plant-Eval Interval	38 DP-1	38 DP-1	38 DP-1	52 DP-1	52 DP-1	52 DP-1	70 DP-1		
Days After Emergence	33 DE-	33 DE-	33 DE-	47 DE-	47 DE-	47 DE-	65 DE-		
Trt Treatment									
No. Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate		
	Unit	Unit	Unit	Unit	Unit	Unit	Unit		
	Appl	Appl	Appl	Appl	Appl	Appl	Appl		
	Code	Code	Code	Code	Code	Code	Code		
	1	2	3	4	5	6	7		
9 Laudis	0.082 lb ai/a	A	0.0 a	98.5 a	99.8 a	0.0 b	97.5 a	99.8 a	0.0 a
Atrazine	0.5 lb ai/a	A							
Persist Ultra	1 % v/v	A							
Ammonium Sulfate	8.5 lb/100 gal	A							
LSD (P=.05)		0.55	1.65	0.66	0.24	1.65	1.05	0.00	
Standard Deviation		0.38	1.13	0.45	0.17	1.13	0.72	0.00	
CV		454.61	1.29	0.51	46.15	1.3	0.81	0.0	
Bartlett's X2		1.315	7.207	2.161	0.0	10.141	7.174	0.0	
P(Bartlett's X2)		0.252	0.408	0.706	.	0.181	0.305	.	
Replicate F		0.710	1.474	1.818	1.000	8.635	0.432	0.000	
Replicate Prob(F)		0.5557	0.2468	0.1708	0.4098	0.0005	0.7317	1.0000	
Treatment F		0.871	3379.432	21710.457	142.000	3324.986	8564.082	0.000	
Treatment Prob(F)		0.5538	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000	

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Type		W Weed	W Weed
Pest Code		AMBTR	SETFA
Pest Scientific Name		Ambrosia trifid	Setaria faberi
Pest Name		Giant ragweed	Giant foxtail
Crop Code		ZEAMX	ZEAMX
BBCH Scale		BCOR	BCOR
Crop Scientific Name		Zea mays	Zea mays
Crop Name		Corn	Corn
Crop Variety		P33W84	P33W84
Description		10-12'	10-12'
Part Rated			
Rating Date		7/31/09	7/31/09
Rating Type		PHYGEN	PHYGEN
Rating Unit		%	%
Number of Subsamples		1	1
Crop Stage Majority		BLISTER	BLISTER
Crop Stage Scale			
Pest Stage Majority		12"-10'	2"-60"
Pest Density, Unit		10 YD2	80 YD2
Assessed By		PM/MH	PM/MH
Days After First/Last Applic.		46 46	46 46
Trt-Eval Interval		46 DA-A	46 DA-A
Plant-Eval Interval		70 DP-1	70 DP-1
Days After Emergence		65 DE-	65 DE-
Trt No.	Treatment Name	Rate	Appl Code
		Unit	
8			
9			
1	UNTREATED		
		0.0 b	0.0 b
2	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	MSO Concentrate	1 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		99.5 a	98.3 a
3	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	MSO Concentrate	0.75 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		97.3 a	96.5 a
4	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	MSO Concentrate	0.5 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		98.3 a	97.3 a
5	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	Destiny HC	0.5 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		99.5 a	97.8 a
6	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	Dyne-Amic	0.5 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		97.8 a	96.8 a
7	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	Sundance II	1 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		99.5 a	98.3 a
8	Laudis	0.082 lb ai/a	A
	Atrazine	0.5 lb ai/a	A
	Soy-Stik	1 % v/v	A
	Ammonium Sulfate	8.5 lb/100 gal	A
		99.0 a	97.0 a

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Pest Type	W Weed	W Weed
Pest Code	AMBTR	SETFA
Pest Scientific Name	Ambrosia trifida	Setaria faberii
Pest Name	Giant ragweed	Giant foxtail
Crop Code	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays
Crop Name	Corn	Corn
Crop Variety	P33W84	P33W84
Description	10-12'	10-12'
Part Rated		
Rating Date	7/31/09	7/31/09
Rating Type	PHYGEN	PHYGEN
Rating Unit	%	%
Number of Subsamples	1	1
Crop Stage Majority	BLISTER	BLISTER
Crop Stage Scale		
Pest Stage Majority	12"-10'	2"-60"
Pest Density, Unit	10 YD2	80 YD2
Assessed By	PM/MH	PM/MH
Days After First/Last Applic.	46 46	46 46
Trt-Eval Interval	46 DA-A	46 DA-A
Plant-Eval Interval	70 DP-1	70 DP-1
Days After Emergence	65 DE-	65 DE-
Trt Treatment	Rate	Appl
No. Name	Unit	Code
	8	9
9 Laudis	0.082 lb ai/a	A
Atrazine	0.5 lb ai/a	A
Persist Ultra	1 % v/v	A
Ammonium Sulfate	8.5 lb/100 gal	A
LSD (P=.05)	2.27	1.78
Standard Deviation	1.55	1.22
CV	1.77	1.41
Bartlett's X2	7.275	5.376
P(Bartlett's X2)	0.401	0.614
Replicate F	1.975	2.605
Replicate Prob(F)	0.1446	0.0752
Treatment F	1792.789	2820.014
Treatment Prob(F)	0.0001	0.0001

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 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact: Dave Lamore

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

SETFA, Setaria faberi, = US

AMBTR, Ambrosia trifida, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

Part Rated

PLATOT = plant - total

C = Crop is Part Rated

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

Rating Unit

% = percent

YD2 = per square yard

Plant-Eval Interval

38 DP-1 = 1 5/22/09

52 DP-1 = 1 5/22/09

70 DP-1 = 1 5/22/09