

# Purdue University

## In Furrow Counter Soil Insecticide Interaction with Safened SU Herbicides Applied Post at Various Intervals after Planting

Trial ID: 11S-THP-CTC-03 Protocol ID: 11S-THP-CTC103  
 Location: Throckmorton Study Director: White/Marquardt  
 Project ID: USA-11-112 Investigator: Dr. Bill Johnson  
 Sponsor Contact: DuPont - Helen Flanigan

### General Trial Information

**Study Director:** White/Marquardt **Title:** Research Associate  
**Investigator:** Dr. Bill Johnson **Title:** Professor

**Discipline:** H herbicide  
**Trial Status:** Established  
**Initiation Date:** 4-8-2011

### Trial Location

**City:** Lafayette  
**State/Prov.:** IN  
**Postal Code:** 47909  
**Country:** USA

### Personnel

**Study Director:** White/Marquardt **Title:** Research Associate

**Affiliation:** Purdue University  
**Address:** 915 W State Street  
**Location:** West Lafayette, IN, USA

**Postal Code:** 47907 **E-mail:** mdwhite@purdue.edu  
**Phone No.:** 765-494-0891

**Investigator:** Dr. Bill Johnson **Title:** Professor

**Affiliation:** Purdue University  
**Address:** 915 W State Street  
**Location:** West Lafayette, IN, USA

**Postal Code:** 47907 **E-mail:** wji@purdue.edu  
**Phone No.:** 765-494-4656 **Mobile No.:** 765-404-9801

### Cooperator/Landowner

**Cooperator:** Throckmorton Purdue Ag Center **Role:** Purdue Ag Center

**Organization:** Purdue University  
**Address 1:** 8343 US 231 S

**City:** Lafayette

**Phone No.:** 765-538-3422  
**Fax No.:** 765-538-3423

**State/Prov:** IN  
**Postal Code:** 47909 **E-mail:** jayyoung@purdue.edu  
**Country:** USA United States

### Crop Description

**Crop 1:** ZEAMD Zea mays indentata Dent corn

**Variety:** Pioneer 33W84  
**BBCH Scale:** BCOR

**Description:** HXX JL RR2  
**Planting Date:** 5-12-2011

**Planting Method:** PLANTD planted  
**Depth, Unit:** 1.5 IN

**Rate, Unit:** 34000 S/A

**Row Spacing, Unit:** 30 IN

**Soil Moisture:** DRY dry

**Soil Temperature, Unit:** 70 F  
**Emergence Date:** 5-22-2011

### Pest Description

**Pest 1 Type:** W **Code:** AMBTR Ambrosia trifida

**Common Name:** Giant ragweed

**Pest 2 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 FT<sup>2</sup>

**Tillage Type:** CONTIL conventional-till

**Replications:** 4

**Study Design:** RACOB Randomized Complete Block (RCB)  
**Untreated Arrangement:** INCLUDED single control randomized in each block

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Description Name: TPAC - Field 4B		Soil Description	
% OM: 2.9	Texture: SIL	silt loam	
pH: 6.2	Soil Name: Toronto-Millbrook		
CEC: 13.3			

Application Description				
	A	B	C	D
Application Date:	5-13-2011	6-1-2011	6-13-2011	6-23-2011
Time of Day:	10:50 AM	8 AM	9:30-10AM	7 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	ATPLAN	EAPOCR	MIPOWE	LAPOCR
Application Placement:	FOLIAR	FOLIAR	FOLIAR	FOLIAR
Applied By:	MH	MW	AR	MH
Air Temperature, Unit:	76 F	74 F	61 F	70 F
% Relative Humidity:	66.2	47	76	67
Wind Velocity, Unit:	4.2 MPH	1.8 MPH	4.5 MPH	8 MPH
Wind Direction:	SE	SE		
Dew Presence (Y/N):	N no	Y yes	N no	Y yes
Soil Temperature, Unit:	72 F	70 F	60 F	
Soil Moisture:	DRY	SLIWET	DRY	
% Cloud Cover:	30	20	90	90

Crop Stage At Each Application				
	A	B	C	D
Crop 1 Code, BBCH Scale:	ZEAMD BCOR	ZEAMD BCOR	ZEAMD BCOR	ZEAMD BCOR
Stage Scale Used:			BBCH	BBCH
Stage Majority, Percent:			V4	V6

Pest Stage At Each Application				
	A	B	C	D
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W	AMBTR W
Height, Unit:		1.5 IN		
Density, Unit:		8 YD2		
Pest 2 Code, Type, Scale:	IPOHE W	IPOHE W	IPOHE W	IPOHE W
Height, Unit:		1 IN		
Density, Unit:		3 YD2		

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Application Equipment				
	A	B	C	D
<b>Appl. Equipment:</b>	CUB	CO2 FORD	CO2 BKP	CO2 BKP
<b>Equipment Type:</b>		SPTRMO	SPRBAC	SPRBAC
<b>Operation Pressure, Unit:</b>			17 PSI	17 PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	XR 110 02	XR 100 02	XR 110 02	XR 110 02
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	15 IN	15 IN
<b>Nozzles/Row:</b>	6	6	8	8
<b>Boom Length, Unit:</b>	10 FT	10 FT	10 FT	10 FT
<b>Boom Height, Unit:</b>	19 IN	20 IN	18 IN	18 IN
<b>Ground Speed, Unit:</b>	2.1 MPH	2.1 MPH	3 MPH	3 MPH
<b>Carrier:</b>	MEIGS	MEIGS	H2O	H2O
<b>Water Hardness (ppm CaCO3):</b>			150	150
<b>Spray Volume, Unit:</b>	20	20 gal/ac	15 gal/ac	15 gal/ac
<b>Mix Size, Unit:</b>		2.5 liters	1.8 liters	1.8 liters
<b>Propellant:</b>		CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>			N no	N no

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## In Furrow Counter Soil Insecticide Interaction with Safened SU Herbicides Applied Post at Various Intervals after Planting

Trial ID: 11S-THP-CTC-03      Protocol ID: 11S-THP-CTC103  
 Location: Throckmorton      Study Director: White/Marquardt  
 Project ID: USA-11-112      Investigator: Dr. Bill Johnson  
 Sponsor Contact: DuPont - Helen Flanigan

Crop Code	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR			
BBCH Scale														
Crop Scientific Name	Zea mays													
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn			
Description	V5	V5	V5	V5	V5	V5	V6	V6	V6	V11	V11			
Rating Date	6-9-2011	6-16-2011	6-21-2011	6-21-2011	6-21-2011	6-21-2011	6-29-2011	6-29-2011	6-29-2011	7-8-2011	7-8-2011			
Rating Type	PHYGEN	PHYGEN	PHYSTU	PHYLMA	PHYGEN	PHYSTU	PHYLMA	PHYNLS	PHYSTU	PHYLMA	PHYLMA			
Rating Unit	%	%	%	%	%	%	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1	1	1	1	1	1	1			
Crop Stage Majority Assessed By	15 IN AR/CB		MW	MW	MW	MW	MW	MW	MW	MW	MW			
Days After First/Last Applic. Plant-Eval Interval	27 8 28 DP-1	34 3 35 DP-1	39 8 40 DP-1	39 8 40 DP-1	39 8 40 DP-1	39 8 40 DP-1	47 6 48 DP-1	47 6 48 DP-1	47 6 48 DP-1	56 15 57 DP-1	56 15 57 DP-1			
Days After Emergence	18 DE-1	25 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1	38 DE-1	38 DE-1	38 DE-1	47 DE-1	47 DE-1			
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7	8	9	10
1	COUNTER 20 Lexar (3.7 SC)	1.2 oz ai/1000 row-ft 2.78 lb ai/a	row-ft A	A	0.0 c	0.0 c	0.0 c	0.0 d	0.0 c	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b
2	COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Mesotrione (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.3 oz ai/a 0.15 oz ai/a 1.25 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A B B B B B	A A B B B B B	57.5 a	31.3 a	13.8 a	9.3 a	6.5 a	11.3 a	5.0 a	0.0 c	8.3 a	4.5 a
3	COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Harmony SG (50 SG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.25 oz ai/a 0.115 oz ai/a 0.05 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A B B B B B	A A B B B B B	42.8 b	21.3 b	5.3 b	6.3 b	4.0 ab	4.5 b	2.0 bc	0.0 c	3.8 bc	3.8 ab
4	COUNTER 20 Lexar (3.7 SC) Steadfast (75 WG) Isoxadifen (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.56 oz ai/a 0.125 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A B B B B	A A B B B B	39.0 b	22.5 b	4.3 bc	5.0 bc	3.3 bc	4.3 b	4.0 ab	0.0 c	2.5 c	1.5 ab
5	COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Mesotrione (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.3 oz ai/a 0.15 oz ai/a 1.25 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A C C C C C	A A C C C C C	5.3 c	11.0 c	5.0 b	3.3 cd	6.8 a	0.8 b	2.0 bc	0.0 c	0.0 c	1.5 ab
6	COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Harmony SG (50 SG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.25 oz ai/a 0.115 oz ai/a 0.05 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A C C C C C	A A C C C C C	10.5 c	9.8 c	5.0 b	0.8 d	6.0 a	2.0 b	2.8 abc	0.0 c	0.0 c	2.3 ab

Means followed by same letter do not significantly differ (P=0.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Crop Code BBCH Scale Crop Scientific Name	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR			
	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name Description	Corn V5	Corn V5	Corn V5	Corn V5	Corn V5	Corn V5	Corn V6	Corn V6	Corn V6	Corn V11	Corn V11			
Rating Date	6-9-2011	6-16-2011	6-21-2011	6-21-2011	6-21-2011	6-21-2011	6-29-2011	6-29-2011	6-29-2011	7-8-2011	7-8-2011			
Rating Type	PHYGEN	PHYGEN	PHYSTU	PHYLMA	PHYGEN	PHYSTU	PHYLMA	PHYNLS	PHYSTU	PHYSTU	PHYLMA			
Rating Unit Number of Subsamples	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1			
Crop Stage Majority	15 IN													
Assessed By	AR/CB		MW	MW										
Days After First/Last Applic. Plant-Eval Interval	27 8 28 DP-1	34 3 35 DP-1	39 8 40 DP-1	39 8 40 DP-1	39 8 40 DP-1	39 8 40 DP-1	47 6 48 DP-1	47 6 48 DP-1	47 6 48 DP-1	56 15 57 DP-1	56 15 57 DP-1			
Days After Emergence	18 DE-1	25 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1	38 DE-1	38 DE-1	38 DE-1	47 DE-1	47 DE-1			
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7	8	9	10
7	COUNTER 20	1.2 oz ai/1000 row-ft	A	A	7.3 c	11.8 c	3.5 bc	1.5 d	4.0 ab	0.0 b	1.5 bc	0.0 c	0.0 c	0.8 ab
	Lexar (3.7 SC)	2.78 lb ai/a	A	A										
	Steadfast (75 WG)	0.56 oz ai/a	C	C										
	Isoxadifen (50 WG)	0.125 oz ai/a	C	C										
	COC	1 % v/v	C	C										
	AMS - Liquid	2 lb ai/a	C	C										
8	COUNTER 20	1.2 oz ai/1000 row-ft	A	A	7.0 c	0.0 c	0.0 c	0.0 d	0.0 c	4.0 b	4.0 ab	5.0 a	6.8 ab	3.0 ab
	Lexar (3.7 SC)	2.78 lb ai/a	A	A										
	Resolve (25 SG)	0.3 oz ai/a	D	D										
	Isoxadifen (50 WG)	0.15 oz ai/a	D	D										
	Mesotrione (50 WG)	1.25 oz ai/a	D	D										
	COC	1 % v/v	D	D										
	AMS - Liquid	2 lb ai/a	D	D										
9	COUNTER 20	1.2 oz ai/1000 row-ft	A	A	2.0 c	0.0 c	0.0 c	0.0 d	0.0 c	1.5 b	0.0 c	0.0 c	4.3 bc	1.5 ab
	Lexar (3.7 SC)	2.78 lb ai/a	A	A										
	Resolve (25 SG)	0.25 oz ai/a	D	D										
	Isoxadifen (50 WG)	0.115 oz ai/a	D	D										
	Harmony SG (50 SG)	0.05 oz ai/a	D	D										
	COC	1 % v/v	D	D										
	AMS - Liquid	2 lb ai/a	D	D										
10	COUNTER 20	1.2 oz ai/1000 row-ft	A	A	1.8 c	0.0 c	0.0 c	0.0 d	0.8 bc	0.8 b	1.5 bc	0.0 c	3.8 bc	0.8 ab
	Lexar (3.7 SC)	2.78 lb ai/a	A	A										
	Steadfast (75 WG)	0.56 oz ai/a	D	D										
	Isoxadifen (50 WG)	0.125 oz ai/a	D	D										
	COC	1 % v/v	D	D										
	AMS - Liquid	2 lb ai/a	D	D										
11	Lexar (3.7 SC)	2.78 lb ai/a	A	A	0.0 c	0.0 c	0.0 c	0.0 d	0.0 c	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b
12	Lexar (3.7 SC)	2.78 lb ai/a	A	A	9.3 c	1.3 c	0.8 c	0.0 d	0.8 bc	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b
	Resolve (25 SG)	0.3 oz ai/a	B	B										
	Isoxadifen (50 WG)	0.15 oz ai/a	B	B										
	Mesotrione (50 WG)	1.25 oz ai/a	B	B										
	COC	1 % v/v	B	B										
	AMS - Liquid	2 lb ai/a	B	B										
13	Lexar (3.7 SC)	2.78 lb ai/a	A	A	8.3 c	0.0 c	0.0 c	0.0 d	0.0 c	0.0 b	0.8 c	0.0 c	0.0 c	0.0 b
	Resolve (25 SG)	0.25 oz ai/a	B	B										
	Isoxadifen (50 WG)	0.115 oz ai/a	B	B										
	Harmony SG (50 SG)	0.05 oz ai/a	B	B										
	COC	1 % v/v	B	B										
	AMS - Liquid	2 lb ai/a	B	B										
14	Lexar (3.7 SC)	2.78 lb ai/a	A	A	7.0 c	0.8 c	0.0 c	0.0 d	0.8 bc	0.0 b	0.0 c	0.0 c	0.0 c	1.3 ab
	Steadfast (75 WG)	0.56 oz ai/a	B	B										
	Isoxadifen (50 WG)	0.125 oz ai/a	B	B										
	COC	1 % v/v	B	B										
	AMS - Liquid	2 lb ai/a	B	B										

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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Crop Code BBCH Scale Crop Scientific Name	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR			
	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name Description	Corn V5	Corn V5	Corn V5	Corn V5	Corn V5	Corn V5	Corn V6	Corn V6	Corn V6	Corn V11	Corn V11			
Rating Date	6-9-2011	6-16-2011	6-21-2011	6-21-2011	6-21-2011	6-21-2011	6-29-2011	6-29-2011	6-29-2011	7-8-2011	7-8-2011			
Rating Type	PHYGEN	PHYGEN	PHYSTU	PHYLMA	PHYGEN	PHYSTU	PHYLMA	PHYNLS	PHYSTU	PHYLMA	PHYLMA			
Rating Unit Number of Subsamples	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1	% 1			
Crop Stage Majority Assessed By	15 IN AR/CB		MW	MW	MW									
Days After First/Last Applic. Plant-Eval Interval	27 8 28 DP-1	34 3 35 DP-1	39 8 40 DP-1	39 8 40 DP-1	39 8 40 DP-1	47 6 48 DP-1	47 6 48 DP-1	47 6 48 DP-1	56 15 57 DP-1	56 15 57 DP-1	56 15 57 DP-1			
Days After Emergence	18 DE-1	25 DE-1	30 DE-1	30 DE-1	30 DE-1	38 DE-1	38 DE-1	38 DE-1	47 DE-1	47 DE-1	47 DE-1			
Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7	8	9	10
15	Lexar (3.7 SC)	2.78 lb	ai/a	A	6.5 c	8.8 c	0.8 c	2.3 d	1.5 bc	0.0 b	0.8 c	0.0 c	0.0 c	0.8 ab
	Resolve (25 SG)	0.3 oz	ai/a	C										
	Isoxadifen (50 WG)	0.15 oz	ai/a	C										
	Mesotrione (50 WG)	1.25 oz	ai/a	C										
	COC	1 %	v/v	C										
	AMS - Liquid	2 lb	ai/a	C										
16	Lexar (3.7 SC)	2.78 lb	ai/a	A	5.8 c	6.3 c	2.0 bc	1.5 d	2.0 bc	0.0 b	0.0 c	0.0 c	0.0 c	0.8 ab
	Resolve (25 SG)	0.25 oz	ai/a	C										
	Isoxadifen (50 WG)	0.115 oz	ai/a	C										
	Harmony SG (50 SG)	0.05 oz	ai/a	C										
	COC	1 %	v/v	C										
	AMS - Liquid	2 lb	ai/a	C										
17	Lexar (3.7 SC)	2.78 lb	ai/a	A	3.8 c	9.0 c	0.0 c	0.8 d	0.0 c	0.0 b	0.0 c	0.0 c	0.0 c	1.5 ab
	Steadfast (75 WG)	0.56 oz	ai/a	C										
	Isoxadifen (50 WG)	0.125 oz	ai/a	C										
	COC	1 %	v/v	C										
	AMS - Liquid	2 lb	ai/a	C										
18	Lexar (3.7 SC)	2.78 lb	ai/a	A	3.3 c	2.5 c	0.8 c	1.3 d	1.3 bc	0.8 b	0.8 c	1.5 b	0.0 c	2.3 ab
	Resolve (25 SG)	0.3 oz	ai/a	D										
	Isoxadifen (50 WG)	0.15 oz	ai/a	D										
	Mesotrione (50 WG)	1.25 oz	ai/a	D										
	COC	1 %	v/v	D										
	AMS - Liquid	2 lb	ai/a	D										
19	Lexar (3.7 SC)	2.78 lb	ai/a	A	4.5 c	1.3 c	0.0 c	0.0 d	0.0 c	0.0 b	1.5 bc	0.0 c	0.8 c	2.0 ab
	Resolve (25 SG)	0.25 oz	ai/a	D										
	Isoxadifen (50 WG)	0.115 oz	ai/a	D										
	Harmony SG (50 SG)	0.05 oz	ai/a	D										
	COC	1 %	v/v	D										
	AMS - Liquid	2 lb	ai/a	D										
20	Lexar (3.7 SC)	2.78 lb	ai/a	A	2.0 c	1.3 c	0.0 c	0.0 d	0.0 c	0.0 b	0.8 c	0.0 c	0.0 c	1.5 ab
	Steadfast (75 WG)	0.56 oz	ai/a	D										
	Isoxadifen (50 WG)	0.125 oz	ai/a	D										
	COC	1 %	v/v	D										
	AMS - Liquid	2 lb	ai/a	D										
LSD (P=.05)	8.75	7.17	2.44	2.23	2.03	3.07	1.89	0.55	2.89	2.11				
Standard Deviation	6.19	5.07	1.73	1.58	1.44	2.17	1.34	0.39	2.05	1.49				
CV	55.46	73.23	84.27	99.22	76.56	146.1	98.23	119.17	136.4	101.06				
Bartlett's X2	33.243	50.849	11.529	6.839	6.016	19.908	3.775	0.0	6.388	3.167				
P(Bartlett's X2)	0.01*	0.001*	0.173	0.654	0.872	0.011*	0.987	.	0.381	0.999				
Replicate F	3.552	2.017	0.827	1.053	0.817	2.155	3.096	1.000	5.487	3.803				
Replicate Prob(F)	0.0199	0.1217	0.4847	0.3763	0.4898	0.1033	0.0339	0.3995	0.0022	0.0148				
Treatment F	26.017	12.587	15.420	10.356	10.785	6.444	5.222	35.281	6.117	2.747				
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0017				

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
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Crop Code BBCH Scale Crop Scientific Name	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	
Crop Name Description	Corn V11	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn	
Rating Date Rating Type	7-8-2011 PHYNLT	7-12-2011 PHYSTU	7-12-2011 PHYLMA	7-12-2011 PHYNLS	7-21-2011 PHYNLS	10-18-2011 Pinched ear	10-24-2011 MOICON	10-24-2011 YIELD		
Rating Unit Number of Subsamples	% 1	% 1	% 1	% 1	% 1	NUMBER 1	% 1	bu/ac 1		
Crop Stage Majority Assessed By		VT MW	VT MW	VT MW	VT MW	R1 MW				
Days After First/Last Applic. Plant-Eval Interval	56 15 57 DP-1	60 19 61 DP-1	60 19 61 DP-1	60 19 61 DP-1	69 28 70 DP-1	158 117 159 DP-1	164 123 165 DP-1	164 123 165 DP-1		
Days After Emergence	47 DE-1	51 DE-1	51 DE-1	51 DE-1	60 DE-1	149 DE-1	155 DE-1	155 DE-1		
Trt Treatment No. Name	Rate Rate Unit	Appl Code	11	12	13	14	15	16	17	18
1 COUNTER 20 Lexar (3.7 SC)	1.2 oz ai/1000 row-ft A 2.78 lb ai/a	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	0.0 b	16.5850007 a	188.93 a
2 COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Mesotrione (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft A 2.78 lb ai/a 0.3 oz ai/a 0.15 oz ai/a 1.25 oz ai/a 1 % v/v 2 lb ai/a	A A B B B B B	0.0 b	6.5 a	6.8 a	0.0 a	2.3 a	1.8 b	16.6225011 a	140.90 bc
3 COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Harmony SG (50 SG) COC AMS - Liquid	1.2 oz ai/1000 row-ft A 2.78 lb ai/a 0.25 oz ai/a 0.115 oz ai/a 0.05 oz ai/a 1 % v/v 2 lb ai/a	A A B B B B B	0.0 b	2.8 b	3.8 bc	0.0 a	1.5 a	0.5 b	16.7725008 a	178.80 ab
4 COUNTER 20 Lexar (3.7 SC) Steadfast (75 WG) Isoxadifen (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft A 2.78 lb ai/a 0.56 oz ai/a 0.125 oz ai/a 1 % v/v 2 lb ai/a	A A B B B B	0.0 b	2.0 b	1.3 cd	0.0 a	0.0 a	0.8 b	16.6125009 a	157.95 abc
5 COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Mesotrione (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft A 2.78 lb ai/a 0.3 oz ai/a 0.15 oz ai/a 1.25 oz ai/a 1 % v/v 2 lb ai/a	A A C C C C C	0.0 b	0.0 b	2.3 bcd	0.0 a	0.0 a	1.3 b	16.8350008 a	179.58 ab
6 COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Harmony SG (50 SG) COC AMS - Liquid	1.2 oz ai/1000 row-ft A 2.78 lb ai/a 0.25 oz ai/a 0.115 oz ai/a 0.05 oz ai/a 1 % v/v 2 lb ai/a	A A C C C C C	0.0 b	0.0 b	1.5 cd	0.0 a	0.0 a	1.3 b	17.2525004 a	173.10 abc

Means followed by same letter do not significantly differ (P=0.05, Student-Newman-Keuls)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# Purdue University

Crop Code BBCH Scale Crop Scientific Name	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays	ZEAMX BCOR Zea mays				
Crop Name Description	Corn V11	Corn	Corn	Corn	Corn	Corn	Corn	Corn				
Rating Date Rating Type	7-8-2011 PHYNLT	7-12-2011 PHYSTU	7-12-2011 PHYLMA	7-12-2011 PHYNLS	7-21-2011 PHYNLS	10-18-2011 Pinched ear	10-24-2011 MOICON	10-24-2011 YIELD				
Rating Unit Number of Subsamples	% 1	% 1	% 1	% 1	% 1	NUMBER 1	% 1	bu/ac 1				
Crop Stage Majority Assessed By		VT MW	VT MW	VT MW	R1 MW							
Days After First/Last Applic. Plant-Eval Interval	56 15 57 DP-1	60 19 61 DP-1	60 19 61 DP-1	60 19 61 DP-1	69 28 70 DP-1	158 117 159 DP-1	164 123 165 DP-1	164 123 165 DP-1				
Days After Emergence	47 DE-1	51 DE-1	51 DE-1	51 DE-1	60 DE-1	149 DE-1	155 DE-1	155 DE-1				
Trt No.	Treatment Name	Rate	Unit	Appl Code	11	12	13	14	15	16	17	18
7	COUNTER 20 Lexar (3.7 SC) Steadfast (75 WG) Isoxadifen (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.56 oz ai/a 0.125 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A C C C	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	1.3 b	16.9900015 a	184.03 ab
8	COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Mesotrione (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.3 oz ai/a 0.15 oz ai/a 1.25 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A D D D D D	A	4.0 a	3.8 b	4.5 b	1.3 a	2.3 a	10.0 a	17.0325029 a	136.23 c
9	COUNTER 20 Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Harmony SG (50 SG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.25 oz ai/a 0.115 oz ai/a 0.05 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A D D D D D	A	0.0 b	2.5 b	0.8 cd	0.0 a	0.8 a	9.8 a	16.5650022 a	133.95 c
10	COUNTER 20 Lexar (3.7 SC) Steadfast (75 WG) Isoxadifen (50 WG) COC AMS - Liquid	1.2 oz ai/1000 row-ft 2.78 lb ai/a 0.56 oz ai/a 0.125 oz ai/a 1 % v/v 2 lb ai/a	row-ft A A D D D D	A	0.0 b	2.0 b	2.0 bcd	0.0 a	2.0 a	10.0 a	16.8950021 a	135.35 c
11	Lexar (3.7 SC)	2.78 lb ai/a	A	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	0.0 b	16.4100015 a	193.00 a
12	Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Mesotrione (50 WG) COC AMS - Liquid	2.78 lb ai/a 0.3 oz ai/a 0.15 oz ai/a 1.25 oz ai/a 1 % v/v 2 lb ai/a	A B B B B B	A	0.0 b	0.0 b	0.8 cd	0.0 a	0.0 a	0.0 b	16.5175016 a	187.85 a
13	Lexar (3.7 SC) Resolve (25 SG) Isoxadifen (50 WG) Harmony SG (50 SG) COC AMS - Liquid	2.78 lb ai/a 0.25 oz ai/a 0.115 oz ai/a 0.05 oz ai/a 1 % v/v 2 lb ai/a	A B B B B B	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	0.5 b	16.7500017 a	184.28 ab
14	Lexar (3.7 SC) Steadfast (75 WG) Isoxadifen (50 WG) COC AMS - Liquid	2.78 lb ai/a 0.56 oz ai/a 0.125 oz ai/a 1 % v/v 2 lb ai/a	A B B B B	A	0.8 b	0.0 b	0.0 d	0.0 a	0.0 a	0.5 b	16.5350015 a	171.93 abc

Means followed by same letter do not significantly differ (P=0.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# Purdue University

Crop Code	ZEAMX BCOR									
BBCH Scale										
Crop Scientific Name	Zea mays									
Crop Name	Corn									
Description	V11									
Rating Date	7-8-2011	7-12-2011	7-12-2011	7-12-2011	7-21-2011	10-18-2011	10-24-2011	10-24-2011		
Rating Type	PHYNLT	PHYSTU	PHYLMA	PHYNLS	PHYNLS	Pinched ear	MOICON	YIELD		
Rating Unit	%	%	%	%	%	NUMBER	%	bu/ac		
Number of Subsamples	1	1	1	1	1	1	1	1		
Crop Stage Majority		VT	VT	VT	R1					
Assessed By	MW	MW	MW	MW	MW					
Days After First/Last Applic.	56 15	60 19	60 19	60 19	69 28	158 117	164 123	164 123		
Plant-Eval Interval	57 DP-1	61 DP-1	61 DP-1	61 DP-1	70 DP-1	159 DP-1	165 DP-1	165 DP-1		
Days After Emergence	47 DE-1	51 DE-1	51 DE-1	51 DE-1	60 DE-1	149 DE-1	155 DE-1	155 DE-1		
Trt Treatment										
No. Name										
Rate										
Rate Unit										
Appl Code										
	11	12	13	14	15	16	17	18		
15 Lexar (3.7 SC)	2.78 lb ai/a	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	1.0 b	16.8050020 a	184.70 ab
Resolve (25 SG)	0.3 oz ai/a	C								
Isoxadifen (50 WG)	0.15 oz ai/a	C								
Mesotrione (50 WG)	1.25 oz ai/a	C								
COC	1 % v/v	C								
AMS - Liquid	2 lb ai/a	C								
16 Lexar (3.7 SC)	2.78 lb ai/a	A	0.8 b	0.0 b	0.0 d	0.0 a	0.0 a	1.0 b	16.8150003 a	183.70 ab
Resolve (25 SG)	0.25 oz ai/a	C								
Isoxadifen (50 WG)	0.115 oz ai/a	C								
Harmony SG (50 SG)	0.05 oz ai/a	C								
COC	1 % v/v	C								
AMS - Liquid	2 lb ai/a	C								
17 Lexar (3.7 SC)	2.78 lb ai/a	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	1.0 b	16.7000024 a	186.08 a
Steadfast (75 WG)	0.56 oz ai/a	C								
Isoxadifen (50 WG)	0.125 oz ai/a	C								
COC	1 % v/v	C								
AMS - Liquid	2 lb ai/a	C								
18 Lexar (3.7 SC)	2.78 lb ai/a	A	1.3 b	0.0 b	0.8 cd	0.0 a	0.0 a	10.0 a	17.1150015 a	167.13 abc
Resolve (25 SG)	0.3 oz ai/a	D								
Isoxadifen (50 WG)	0.15 oz ai/a	D								
Mesotrione (50 WG)	1.25 oz ai/a	D								
COC	1 % v/v	D								
AMS - Liquid	2 lb ai/a	D								
19 Lexar (3.7 SC)	2.78 lb ai/a	A	0.0 b	0.8 b	0.8 cd	0.0 a	0.8 a	10.0 a	16.7400014 a	161.20 abc
Resolve (25 SG)	0.25 oz ai/a	D								
Isoxadifen (50 WG)	0.115 oz ai/a	D								
Harmony SG (50 SG)	0.05 oz ai/a	D								
COC	1 % v/v	D								
AMS - Liquid	2 lb ai/a	D								
20 Lexar (3.7 SC)	2.78 lb ai/a	A	0.0 b	0.0 b	0.0 d	0.0 a	0.0 a	10.0 a	16.6775014 a	159.60 abc
Steadfast (75 WG)	0.56 oz ai/a	D								
Isoxadifen (50 WG)	0.125 oz ai/a	D								
COC	1 % v/v	D								
AMS - Liquid	2 lb ai/a	D								
LSD (P=.05)	1.07	2.16	2.00	0.79	1.26	1.33	0.61496699	25.550		
Standard Deviation	0.76	1.53	1.42	0.56	0.89	0.94	0.43484734	18.067		
CV	224.12	150.93	113.38	894.43	187.99	26.72	2.59	10.66		
Bartlett's X2	1.998	3.42	5.805	0.0	1.33	12.868	20.579	22.265		
P(Bartlett's X2)	0.573	0.755	0.831	.	0.932	0.231	0.361	0.271		
Replicate F	2.119	3.303	1.908	1.000	3.574	1.109	1.326	0.735		
Replicate Prob(F)	0.1078	0.0266	0.1385	0.3995	0.0194	0.3531	0.2748	0.5355		
Treatment F	6.038	5.245	6.681	1.000	3.429	85.131	0.979	4.690		
Treatment Prob(F)	0.0001	0.0001	0.0001	0.4750	0.0002	0.0001	0.4970	0.0001		

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.

# Purdue University

## In Furrow Counter Soil Insecticide Interaction with Safened SU Herbicides Applied Post at Various Intervals after Planting

Trial ID: 11S-THP-CTC-03

Protocol ID: 11S-THP-CTC103

Location: Throckmorton  
Project ID: USA-11-112

Study Director: White/Marquardt  
Investigator: Dr. Bill Johnson

Sponsor Contact: DuPont - Helen Flanigan

### Crop Code

ZEAMX, BCOR, Zea mays, = US

### Rating Type

PHYGEN = phytotoxicity - general / injury  
PHYSTU = phytotoxicity - stunting  
PHYLMA = phytotoxicity - leaf malformation  
PHYNLS = phytotoxicity - necrosis, leaf spot  
PHYNLT = phytotoxicity - necrosis, leaf tip  
MOICON = moisture content  
YIELD = yield

### Rating Unit

% = percent  
NUMBER = number  
bu/ac = bushels per acre

### Plant-Eval Interval

28 DP-1 = 1 ZEAMD 5-12-2011  
35 DP-1 = 1 ZEAMD 5-12-2011  
40 DP-1 = 1 ZEAMD 5-12-2011  
48 DP-1 = 1 ZEAMD 5-12-2011  
57 DP-1 = 1 ZEAMD 5-12-2011  
61 DP-1 = 1 ZEAMD 5-12-2011  
70 DP-1 = 1 ZEAMD 5-12-2011  
159 DP-1 = 1 ZEAMD 5-12-2011  
165 DP-1 = 1 ZEAMD 5-12-2011