

Isoxadifen Crop Saftey Screen with Sulfonylurea Corn Herbicides.

Project Code: 07-26B 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 the level of corn safety with the new isoxadifen blends Steadfast, Stout, Resolve and Rim/dicamba blends on benchmark hybrids and select new hybrids which have shown sensitivity to rimsulfuron.

Crop 1: ZEAMX corn, field Variety: See comments
Planting Method: Seeded Planting Date: 5-21-07
Rate: 28000 S/A Depth: 1.5 IN
Row Spacing: 30 INPlot Width, Unit: 10 FT Plot Length, Unit: 33 FT Reps: 3
Tillage Type: Reduced-Till Study Design: Randomized complete block
Previous Crop, Year: _____, 2006
Field Prep./Maintenance: N 150 LB/A, P2O5 0 LB/A, K2O 100 LB/ASoil Name: Rushville % OM: 1.9 pH: 6.9 CEC: 9
Texture: Silt loam Fert. Level: P1: 99 LB/A, K: 332 LB/A**APPLICATION DESCRIPTION**

A

Application Date: 6-14-07
Time of Day: 9:00
Application Method: Spray
Application Timing: V5
Applic. Placement: BROFOL
Air Temp., Unit: 78 F
% Relative Humidity: 90
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 V5
Height, Unit: 15 IN
APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 sprayer
Operating Pressure: 40 PSI
Nozzle Type: Flat fan
Nozzle Size: XR 8002
Boom Length, Unit: 10 FT
Spray Volume, Unit: 15 GPA
NOTES:

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

Hybrid 1 Hybrid 2 Hybrid 3 Hybrid 4 Hybrid 1 Hybrid 2 Hybrid 3 Hybrid 4
 Injury Injury Injury Injury Injury Injury Injury Injury
 Percent Percent Percent Percent Percent Percent Percent Percent
 6-21-07 6-21-07 6-21-07 6-21-07 6-28-07 6-28-07 6-28-07 6-28-07
 7 DA-A 7 DA-A 7 DA-A 7 DA-A 14 DA-A 14 DA-A 14 DA-A 14 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Hybrid 1 Injury Percent	Hybrid 2 Injury Percent	Hybrid 3 Injury Percent	Hybrid 4 Injury Percent	Hybrid 1 Injury Percent	Hybrid 2 Injury Percent	Hybrid 3 Injury Percent	Hybrid 4 Injury Percent
1	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	37 bc	32 ab	35 abc	13 ab	57 ab	32 b	22 bcd	12 ab
1	ACCENT	75	WG	0.0234	lb ai/a	0.5	oz/a	V5	A								
1	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
1	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
2	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	10 ef	3 de	7 ef	3 b	8 def	2 e	3 fg	3 cd
2	ACCENT	75	WG	0.0234	lb ai/a	0.5	oz/a	V5	A								
2	DPX-4145	50	WG	0.0078	lb ai/a	0.25	oz/a	V5	A								
2	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
2	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
3	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	52 a	40 a	42 a	10 ab	62 a	43 a	35 a	7 bcd
3	ACCENT	75	WG	0.047	lb ai/a	1	oz/a	V5	A								
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
3	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
4	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	13 ef	3 de	12 def	3 b	11 de	2 e	3 fg	0 d
4	ACCENT	75	WG	0.047	lb ai/a	1	oz/a	V5	A								
4	DPX-4145	50	WG	0.0156	lb ai/a	0.5	oz/a	V5	A								
4	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
4	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
5	ACCENT	75	WG	0.0312	lb ai/a	0.67	oz/a	V5	A	28 cd	12 cde	17 c-f	12 ab	30 c	8 de	7 efg	3 cd
5	HARMONY GT XP	50	SG	0.00375	lb ai/a	0.12	oz/a	V5	A								
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
5	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
6	ACCENT	75	WG	0.0312	lb ai/a	0.67	oz/a	V5	A	3 f	8 cde	10 def	10 ab	3 ef	3 e	3 fg	3 cd
6	HARMONY GT XP	50	SG	0.00375	lb ai/a	0.12	oz/a	V5	A								
6	DPX-4145	50	WG	0.00625	lb ai/a	0.2	oz/a	V5	A								
6	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
6	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
7	ACCENT	75	WG	0.0625	lb ai/a	1.33	oz/a	V5	A	42 abc	22 bc	18 c-f	10 ab	53 ab	20 c	12 def	6 bcd
7	HARMONY GT XP	50	SG	0.0075	lb ai/a	0.24	oz/a	V5	A								
7	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
7	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
8	ACCENT	75	WG	0.0625	lb ai/a	1.33	oz/a	V5	A	13 ef	13 cde	15 def	12 ab	7 def	3 e	5 efg	2 cd
8	HARMONY GT XP	50	SG	0.0075	lb ai/a	0.24	oz/a	V5	A								
8	DPX-4145	50	WG	0.0125	lb ai/a	0.4	oz/a	V5	A								
8	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
8	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
9	DPX-E9636	25	WG	0.0143	lb ai/a	0.915	oz/a	V5	A	47 ab	32 ab	38 ab	20 a	53 ab	37 ab	25 abc	16 a
9	HARMONY GT XP	50	SG	0.00312	lb ai/a	0.1	oz/a	V5	A								
9	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
9	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
10	DPX-E9636	25	WG	0.0143	lb ai/a	0.915	oz/a	V5	A	12 ef	8 cde	13 def	3 b	11 de	3 e	3 fg	2 cd
10	HARMONY GT XP	50	SG	0.00312	lb ai/a	0.1	oz/a	V5	A								
10	DPX-4145	50	WG	0.0072	lb ai/a	0.23	oz/a	V5	A								
10	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
10	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
11	DPX-E9636	25	WG	0.0286	lb ai/a	1.83	oz/a	V5	A	40 abc	40 a	43 a	12 ab	60 a	43 a	32 ab	8 bc
11	HARMONY GT XP	50	SG	0.00625	lb ai/a	0.2	oz/a	V5	A								
11	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
11	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
12	DPX-E9636	25	WG	0.0286	lb ai/a	1.83	oz/a	V5	A	20 de	10 cde	13 def	0 b	12 de	5 e	7 efg	0 d
12	HARMONY GT XP	50	SG	0.00625	lb ai/a	0.2	oz/a	V5	A								
12	DPX-4145	50	WG	0.0144	lb ai/a	0.46	oz/a	V5	A								
12	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
12	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
13	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	37 bc	17 bcd	20 b-e	5 b	38 c	14 cd	15 cde	2 cd
13	DICAMBA	70	WG	0.121	lb ai/a	2.77	oz/a	V5	A								
13	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
13	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

Hybrid 1	Hybrid 2	Hybrid 3	Hybrid 4	Hybrid 1	Hybrid 2	Hybrid 3	Hybrid 4
Injury	Injury	Injury	Injury	Injury	Injury	Injury	Injury
Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
6-21-07	6-21-07	6-21-07	6-21-07	6-28-07	6-28-07	6-28-07	6-28-07
7 DA-A	7 DA-A	7 DA-A	7 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Hybrid 1	Hybrid 2	Hybrid 3	Hybrid 4	Hybrid 1	Hybrid 2	Hybrid 3	Hybrid 4
14	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	13 ef	10 cde	13 def	3 b	6 def	3 e	4 fg	0 d
14	DICAMBA	70	WG	0.121	lb ai/a	2.77	oz/a	V5	A								
14	DPX-4145	50	WG	0.0078	lb ai/a	0.25	oz/a	V5	A								
14	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
14	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
15	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	33 bcd	30 ab	27 a-d	8 ab	50 b	35 ab	27 ab	7 bcd
15	DICAMBA	70	WG	0.24	lb ai/a	5.5	oz/a	V5	A								
15	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
15	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
16	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	22 de	12 cde	20 b-e	5 b	14 d	3 e	6 efg	2 cd
16	DICAMBA	70	WG	0.24	lb ai/a	5.5	oz/a	V5	A								
16	DPX-4145	50	WG	0.0156	lb ai/a	0.5	oz/a	V5	A								
16	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A								
16	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A								
17	NONTREATED									0 f	0 e	0 f	0 b	0 f	0 e	0 g	0 d
LSD (P=.05)										14.9	15.0	18.4	14.9	9.9	8.9	10.9	7.5
Replicate F										3.008	0.169	0.441	2.154	0.932	2.819	1.544	0.168
Replicate Prob(F)										0.0635	0.8456	0.6472	0.1325	0.4042	0.0746	0.2289	0.8464
Treatment F										9.398	6.124	3.929	1.070	46.181	28.098	9.182	2.975
Treatment Prob(F)										0.0001	0.0001	0.0005	0.4192	0.0001	0.0001	0.0001	0.0042

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

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 Rating Unit
 Rating Date
 Trt-Eval Interval

Hybrid 1 Hybrid 2 Hybrid 3 Hybrid 4
 Injury Injury Injury Injury
 Percent Percent Percent Percent
 7-13-07 7-13-07 7-13-07 7-13-07
 28 DA-A 28 DA-A 28 DA-A 28 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Hybrid 1	Hybrid 2	Hybrid 3	Hybrid 4
1	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	60 b	27 b	17 b	7 abc
1	ACCENT	75	WG	0.0234	lb ai/a	0.5	oz/a	V5	A				
1	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
1	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
2	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	5 ef	2 e	2 c	2 cd
2	ACCENT	75	WG	0.0234	lb ai/a	0.5	oz/a	V5	A				
2	DPX-4145	50	WG	0.0078	lb ai/a	0.25	oz/a	V5	A				
2	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
2	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
3	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	72 a	48 a	35 a	7 abc
3	ACCENT	75	WG	0.047	lb ai/a	1	oz/a	V5	A				
3	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
3	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
4	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	8 e	0 e	1 c	0 d
4	ACCENT	75	WG	0.047	lb ai/a	1	oz/a	V5	A				
4	DPX-4145	50	WG	0.0156	lb ai/a	0.5	oz/a	V5	A				
4	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
4	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
5	ACCENT	75	WG	0.0312	lb ai/a	0.67	oz/a	V5	A	25 d	3 de	3 c	2 cd
5	HARMONY GT XP	50	SG	0.00375	lb ai/a	0.12	oz/a	V5	A				
5	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
5	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
6	ACCENT	75	WG	0.0312	lb ai/a	0.67	oz/a	V5	A	2 ef	2 e	2 c	2 cd
6	HARMONY GT XP	50	SG	0.00375	lb ai/a	0.12	oz/a	V5	A				
6	DPX-4145	50	WG	0.00625	lb ai/a	0.2	oz/a	V5	A				
6	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
6	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
7	ACCENT	75	WG	0.0625	lb ai/a	1.33	oz/a	V5	A	55 b	17 c	7 c	3 bcd
7	HARMONY GT XP	50	SG	0.0075	lb ai/a	0.24	oz/a	V5	A				
7	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
7	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
8	ACCENT	75	WG	0.0625	lb ai/a	1.33	oz/a	V5	A	4 ef	2 e	2 c	2 cd
8	HARMONY GT XP	50	SG	0.0075	lb ai/a	0.24	oz/a	V5	A				
8	DPX-4145	50	WG	0.0125	lb ai/a	0.4	oz/a	V5	A				
8	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
8	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
9	DPX-E9636	25	WG	0.0143	lb ai/a	0.915	oz/a	V5	A	58 b	32 b	18 b	10 a
9	HARMONY GT XP	50	SG	0.00312	lb ai/a	0.1	oz/a	V5	A				
9	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
9	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
10	DPX-E9636	25	WG	0.0143	lb ai/a	0.915	oz/a	V5	A	7 ef	0 e	0 c	0 d
10	HARMONY GT XP	50	SG	0.00312	lb ai/a	0.1	oz/a	V5	A				
10	DPX-4145	50	WG	0.0072	lb ai/a	0.23	oz/a	V5	A				
10	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
10	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
11	DPX-E9636	25	WG	0.0286	lb ai/a	1.83	oz/a	V5	A	70 a	45 a	30 a	8 ab
11	HARMONY GT XP	50	SG	0.00625	lb ai/a	0.2	oz/a	V5	A				
11	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
11	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
12	DPX-E9636	25	WG	0.0286	lb ai/a	1.83	oz/a	V5	A	8 e	1 e	3 c	0 d
12	HARMONY GT XP	50	SG	0.00625	lb ai/a	0.2	oz/a	V5	A				
12	DPX-4145	50	WG	0.0144	lb ai/a	0.46	oz/a	V5	A				
12	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
12	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
13	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	37 c	8 d	5 c	0 d
13	DICAMBA	70	WG	0.121	lb ai/a	2.77	oz/a	V5	A				
13	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
13	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				

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Weed Code													
Crop Code													
Rating Data Type									Hybrid 1	Hybrid 2	Hybrid 3	Hybrid 4	
Rating Unit									Injury	Injury	Injury	Injury	
Rating Date									Percent	Percent	Percent	Percent	
Trt-Eval Interval									7-13-07	7-13-07	7-13-07	7-13-07	
									28 DA-A	28 DA-A	28 DA-A	28 DA-A	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code				
14	DPX-E9636	25	WG	0.0156	lb ai/a	1	oz/a	V5	A	3	ef	1	e
14	DICAMBA	70	WG	0.121	lb ai/a	2.77	oz/a	V5	A			0	c
14	DPX-4145	50	WG	0.0078	lb ai/a	0.25	oz/a	V5	A				d
14	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
14	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
15	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	57	b	32	b
15	DICAMBA	70	WG	0.24	lb ai/a	5.5	oz/a	V5	A			20	b
15	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				3
15	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				bcd
16	DPX-E9636	25	WG	0.0312	lb ai/a	2	oz/a	V5	A	8	e	1	e
16	DICAMBA	70	WG	0.24	lb ai/a	5.5	oz/a	V5	A			2	c
16	DPX-4145	50	WG	0.0156	lb ai/a	0.5	oz/a	V5	A				d
16	PRIME OIL COC	100	LIQ	1.0	% v/v	1	% v/v	V5	A				
16	AMS	100	DRY	2.0	lb ai/a	2	lb/a	V5	A				
17	NONTREATED									0	f	0	e
												0	c
													d
	LSD (P=.05)									7.3		6.3	
												8.6	
													6.1
	Replicate F									0.508		1.155	
	Replicate Prob(F)									0.6062		0.3279	
	Treatment F									117.575		61.176	
	Treatment Prob(F)									0.0001		0.0001	
												0.512	
												0.6044	
												14.002	
												2.441	
												0.0155	

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

Trial Comments

1. Protocol: DuPont.
2. CI at 7, 14, 28 and 56 DAT. Monitor tassel emergence and ear development.
 Note any observed differences in weed control.
3. Corn hybrids 1 to 4 are Pioneer 3941, GH 2495, NK N58-D1, and Pioneer 34A15, respectively.
4. Blanket PRE application of Guardsman Max (2.0 qt/A) to all plots 10 ft wide.
5. DA-A = Days after V5 application.
6. Regarding tassel emergence and ear development; no differences in the time of tassel emergence were observed, injured corn plants had smaller ears, but no malformation of ears was observed.
7. There were no differences in weed control with good weed control from the PRE application.