

Postemergence Applications of Pyroxasulfone and Glyphosate in Corn.

Trial ID: 11-11A-MW30

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: 5-23-11

Objectives: To determine the rate of pyroxasulfone (1, 1.5 and 2 oz/A) that is required, when mixed with glyphosate, to provide 2 to 3 weeks residual control of small seeded broadleaves and annual grasses.

Crop 1: ZEAMD Dent corn Variety: DKC 61-21 GENSS Description: RR2/LL
 Planting Method: SEEDED Planting Date: 6-5-11
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: GGGAN grasses, annual
 Pest Description: Mixture of SETFA and PANDI
 Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 3 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 25 FT Tillage Type: NO-TILL
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2010

Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 150 LB/A

% OM: 1.7 Texture: SILT LOAM
 pH: 7 Soil Name: PIERRON
 CEC: 9 Fert. Level: P1: 84 LB/A, K: 270 LB/A

Application Description

	A	B
Application Date:	5-23-11	6-13-11
Time of Day:	18:00	10:00
Application Method:	Spray	Spray
Application Timing:	PRE	2"W
Application Placement:	BROFOL	BROFOL
Applied By:	RFK	RFK
Air Temperature, Unit:	71 F	70 F
% Relative Humidity:	84	66
Wind Velocity, Unit:	0 MPH	3 MPH
Wind Direction:		E
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	67 F	74 F
Soil Moisture:	ABONOR	ABONOR
% Cloud Cover:	0	0

	23-5-11	13-6-11
Crop stage at application:	NA	V1
Height Min, Max (inch):	2	3

Pest Stage At Each Application

	5-23-11	6-13-11
Application Date:	5-23-11	6-13-11
Weed Code:	GGGAN	GGGAN
Stage Majority (leaves):	NA	NA
Weed Code:	AMATA	AMATA
Stage Majority (leaves):	NA	4
Stage Min, Max:		4 6
Height Majority:		2 IN
Height Min, Max:		2 3
Density, Unit:		0.01 FT2
Weed Code:	AMBTR	AMBTR
Stage Majority (leaves):	NA	4
Stage Min, Max:		4 5
Height Majority:		2 IN
Height Min, Max:		2 3
Density, Unit:		0.1 FT2

Application Equipment

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

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Pest Code	ZEAMD			GGGAN	GGGAN	AMATA	AMATA
Crop Code	6-20-11	6-27-11	7-11-11	6-27-11	7-11-11	6-27-11	7-11-11
Rating Date	Injury	Injury	Injury	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	7 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	28 DA-B
Rating Timing							
Trt-Eval Interval							

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
1	NONTREATED									0 b	0 a	0 a	0 c	0 c	0 c	
2	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	0 b	0 a	0 a	67 b	50 b	91 b	88 b
3	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	0 b	0 a	0 a	99 a	96 a	98 a	97 a
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B							
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B							
4	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	0 b	0 a	0 a	99 a	97 a	99 a	96 a
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B							
4	V-10206	85	WG	0.053	lb ai/a	1	oz/a	2"W	B							
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B							
5	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	0 b	0 a	0 a	98 a	97 a	99 a	95 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B							
5	V-10206	85	WG	0.08	lb ai/a	1.5	oz/a	2"W	B							
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B							
6	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	2 a	0 a	0 a	99 a	97 a	99 a	97 a
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B							
6	V-10206	85	WG	0.106	lb ai/a	2	oz/a	2"W	B							
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B							
LSD (P=.05)										1.3	0.0	0.0	2.5	7.5	1.5	4.3
Replicate F										1.000	0.000	0.000	0.357	0.992	1.610	0.717
Replicate Prob(F)										0.4019	1.0000	1.0000	0.7082	0.4045	0.2476	0.5117
Treatment F										4.000	0.000	0.000	2539.125	286.587	7261.102	801.558
Treatment Prob(F)										0.0297	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001

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

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Pest Code	AMBTR	AMBTR
Crop Code		
Rating Date	6-27-11	7-11-11
Rating Data Type	Control	Control
Rating Unit	Percent	Percent
Rating Timing		
Trt-Eval Interval	14 DA-B	28 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
1	NONTREATED									0 c	0 c
2	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	63 b	37 b
3	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	94 a	87 a
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B		
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B		
4	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	94 a	81 a
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B		
4	V-10206	85	WG	0.053	lb ai/a	1	oz/a	2"W	B		
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B		
5	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	94 a	78 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B		
5	V-10206	85	WG	0.08	lb ai/a	1.5	oz/a	2"W	B		
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B		
6	FIERCE	76	WG	0.143	lb ai/a	3	oz/a	PRE	A	95 a	83 a
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	2"W	B		
6	V-10206	85	WG	0.106	lb ai/a	2	oz/a	2"W	B		
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	2"W	B		
LSD (P=.05)										9.0	14.6
Replicate F										0.912	1.876
Replicate Prob(F)										0.4326	0.2033
Treatment F										179.187	57.950
Treatment Prob(F)										0.0001	0.0001

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

Trial Comments

1. Protocol: Valent (V10206 MD 68.02).
2. Ratings: CI at 7 and 14 DA-B; WC at 14 and 28 DA-B.
3. Blanket application of Roundup PowerMax (22 fl oz/A) plus 2,4-D (1 pt/A) at 7 DBP to entire study area 10 ft wide was applied 5-6-11.
4. Crop was planted 5-23-11 then replanted 6-5-11.
5. GGGAN = Annual grasses including SETFA (giant foxtail) and PANDI (fall panicum).