

Common Cocklebur and Giant Foxtail Control in Roundup Ready Corn.

Project Code: 03-21M-W100 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 11-4-03

Objective:

Identify effective programs for consistent control of common cocklebur and giant foxtail in Roundup Ready Corn.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. XANST	cocklebur, common	Xanthium strumarium L.

Crop 1: ZEAMX corn, field Variety: DKC 60-17 RR
 Planting Method: Seeded Planting Date: 6-5-03
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Reps: 3
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2002

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Name: Ebbert % OM: 1.4 pH: 5.7 CEC: 14
 Texture: Silt loam Fert. Level: P1: 97 LB/A, K: 291 LB/A

APPLICATION DESCRIPTION

	A	B	C
Application Date:	6-6-03	6-20-03	6-24-03
Time of Day:	18:00	19:00	8:30
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	V2	V4
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	68 F	80 F	74 F
% Relative Humidity:	96	32	60
Wind Velocity, Unit:	0 MPH	0 MPH	5 MPH
Soil Moisture:	ABONOR	NORMAL	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX V3	ZEAMX V4
Height, Unit:	NA NA	4-6 IN	6-8 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		SETFA	SETFA
Stage(leaves):		2-4	3-5
Height(inches):		1-2	2-4
Density:		Medium	Medium
Weed 2 Code:		XANST	XANST
Stage(leaves):		5-6	6-8
Height(inches):		1-2	4-6
Density:		High	High

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	8003	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

NOTES:

Harvested Oct-29-03, (2) 30 inch rows by 27 ft.

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Weed Code									SETFA	SETFA	SETFA	XANST	XANST	XANST	
Crop Code									ZEAMX	ZEAMX	ZEAMX	ZEAMX			
Rating Data Type									Yield	Injury	Injury	Injury	Control	Control	Control
Rating Unit									bu/A	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									10-29-03						
Trt-Eval Interval									14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT				
1	NONTREATED									67	0	0	0	0	0				
2	BICEP II MAGNUM	5.5	L	3.3	LB A/A	2.4	QT/A	PRE	A	157	0	0	0	100	100	100	90	90	88
3	BICEP II MAGNUM	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	148	0	0	0	100	100	100	93	91	89
4	BICEP II MAGNUM	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	160	0	0	0	100	100	100	95	94	94
4	AATREX	90	WG	0.9	LB A/A	1	LB/A	V4	C										
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
5	BICEP LITE II MAGNUM	6	L	2.25	LB A/A	1.5	QT/A	PRE	A	119	0	0	0	100	100	100	88	77	73
6	BICEP LITE II MAGNUM	6	L	2.25	LB A/A	1.5	QT/A	PRE	A	168	0	0	0	99	99	99	93	92	92
6	AATREX	90	WG	1.5	LB A/A	1.67	LB/A	V4	C										
6	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
7	LUMAX	3.94	L	2.96	LB A/A	3	QT/A	PRE	A	148	0	0	0	100	100	100	92	85	92
8	LUMAX	3.94	L	2.96	LB A/A	3	QT/A	PRE	A	165	0	0	0	99	99	99	97	96	96
8	AATREX	90	WG	1.75	LB A/A	1.94	LB/A	V4	C										
8	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
9	LUMAX	3.94	L	2.96	LB A/A	3	QT/A	PRE	A	173	0	0	0	100	100	100	98	98	98
9	AATREX	90	WG	1.25	LB A/A	1.39	LB/A	V4	C										
9	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
10	LUMAX	3.94	L	2.5	LB A/A	2.54	QT/A	PRE	A	157	0	0	0	100	100	100	94	94	91
11	LUMAX	3.94	L	2.5	LB A/A	2.54	QT/A	PRE	A	174	0	0	0	100	100	100	98	98	98
11	AATREX	90	WG	1.9	LB A/A	2.11	LB/A	V4	C										
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
12	LUMAX	3.94	L	2.5	LB A/A	2.54	QT/A	PRE	A	173	0	0	0	100	100	100	98	97	97
12	AATREX	90	WG	1.4	LB A/A	1.56	LB/A	V4	C										
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
13	LUMAX	3.94	L	1.9	LB A/A	1.93	QT/A	PRE	A	168	0	0	0	100	100	100	98	94	95
13	AATREX	90	WG	2.0	LB A/A	2.22	LB/A	V4	C										
13	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
14	LUMAX	3.94	L	1.9	LB A/A	1.93	QT/A	PRE	A	162	0	0	0	100	100	100	96	92	92
14	AATREX	90	WG	1.6	LB A/A	1.78	LB/A	V4	C										
14	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
15	CAMIX	3.67	EC	1.8	LB A/A	1.96	QT/A	PRE	A	121	0	0	0	100	100	98	85	72	72

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Rating Data Type									Yield	Injury	Injury	Injury	Control	Control	Control
Rating Unit									bu/A	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									10-29-03						
Trt-Eval Interval										14 DAT	28 DAT	56 DAT	14 DAT	28 DAT	56 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Yield	Injury	Injury	Injury	Control	Control	Control	Control	Control	Control
16	CAMIX	3.67	EC	1.4	LB A/A	1.53	QT/A	PRE	A	156	0	0	0	93	91	91	97	96	96
16	AATREX	90	WG	2.0	LB A/A	2.22	LB/A	V4	C										
16	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V4	C										
17	CALLISTO	4	SC	0.188	LB A/A	6	FL OZ/A	PRE	A	157	0	0	0	100	97	97	87	83	83
17	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C										
18	CALLISTO	4	SC	0.094	LB A/A	3	FL OZ/A	V4	C	164	0	0	0	97	95	95	93	86	86
18	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C										
19	BICEP II MAGNUM	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	165	0	0	0	97	91	91	94	89	89
19	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C										
20	BICEP LITE II MAGNUM	6	L	2.25	LB A/A	1.5	QT/A	PRE	A	166	0	0	0	99	96	96	95	92	92
20	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C										
21	LUMAX	3.94	L	1.9	LB A/A	1.93	QT/A	PRE	A	150	0	0	0	98	95	95	92	87	85
21	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C										
22	CAMIX	3.67	EC	1.4	LB A/A	1.53	QT/A	PRE	A	156	0	0	0	93	88	88	88	83	83
22	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C										
23	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C	169	0	0	0	100	100	100	100	99	99
23	AATREX	90	WG	2.0	LB A/A	2.22	LB/A	V4	C										
24	TOUCHDOWN	3	SL	0.75	LB AE/A	32	FL OZ/A	V4	C	151	0	0	0	93	90	90	87	80	80
25	AATREX	90	WG	2.0	LB A/A	2.22	LB/A	V2	B	137	0	0	0	70	53	53	98	97	97
25	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V2	B										
26	CELEBRITY PLUS	70	WG	0.20	LB A/A	4.57	OZ/A	V4	C	137	0	0	0	98	95	95	97	88	88
26	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	V4	C										
26	28% UAN	100	LIQ	2.0	QT/A	2	QT/A	V4	C										
27	STEADFAST	75	WG	0.035	LB A/A	0.75	OZ/A	V4	C	145	0	0	0	100	98	98	95	93	92
27	CLARITY	4	EC	0.188	LB A/A	6	FL OZ/A	V4	C										
27	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	V4	C										
27	28% UAN	100	LIQ	2.0	QT/A	2	QT/A	V4	C										
LSD (P=.05)										39.0	0.0	0.0	0.0	6.5	15.5	15.4	6.2	11.7	10.8
Replicate F										23.069	0.000	0.000	0.000	4.410	1.324	1.465	3.437	7.368	7.046
Replicate Prob(F)										0.0001	1.0000	1.0000	1.0000	0.0170	0.2749	0.2405	0.0396	0.0015	0.0020
Treatment F										2.639	0.000	0.000	0.000	74.497	14.184	14.179	72.020	20.359	24.002
Treatment Prob(F)										0.0014	1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: SIU/RFK.
2. Ratings:
3. DAT = days after treatment.
 - 14 days after PRE, V2 and V4 was on 6-20-03, 7-4-03 and 7-8-03, respectively.
 - 28 days after PRE, V2 and V4 was on 7-4-03, 7-18-03 and 7-22-03, respectively.
 - 56 days after PRE, V2 and V4 was on 8-1-03, 8-15-03 and 8-19-03, respectively.