

Total Preemergence and Sequential Herbicide Programs.

00-26C

OBJECTIVE: Compare standard preemergence and sequential herbicide programs.

SUMMARY: Corn injury was 22 and 37% at 28 days after planting in plots treated with Epic and Axiom AT, respectively. Injury from these 2 treatments was still 23 to 25% at the last evaluation timing on June 22. Corn injury ranging from 2 to 17% at 14 days after planting was also observed in plots treated with Balance or Balance Pro. Injury in these plots declined rapidly and no injury was observed by June 22.

All treatments controlled at least 97% of giant foxtail on June 22. Common cocklebur control ranged from 81 to 99%. Velvetleaf control was at least 85% from all herbicide treatments and tended to be greatest from treatments that included Balance Pro. All herbicide treatments provided good control of common ragweed.

Corn yield was 128 bu/A in nontreated plots. Plots treated with Epic and Axiom AT yielded less than nontreated plots (116 to 118 bu/A), most likely due to herbicide injury. With the exception of Epic and Axiom AT treated plots, corn yield was generally similar for all herbicide treatments.

HERBICIDES

AATREX 90 WG
 AXIOM AT 75 WG
 BALANCE 75 WG
 BALANCE PRO 4 SC
 BASIS GOLD 90 WG
 BICEP II MAGNUM 5.5 L
 DEGREE EXTRA 4 L
 DISTINCT 70 WG
 EPIC 58 WG
 FULTIME 4 SC
 GUARDSMAN 5 L
 HARNESS 7 EC
 HARNESS XTRA 5.6 L
 HORNET 68.5 WG
 LEADOFF 5 L
 LIBERTY 1.67 EC
 LIBERTY ATZ 4.32 EC
 MARKSMAN 3.2 L
 OUTLOOK 6 EC

WEEDS

COCKLEBUR, COMMON
 FOXTAIL, GIANT
 RAGWEED, COMMON
 VELVETLEAF

CROP

CORN, FIELD

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Total Preemergence and Sequential Herbicide Programs.

Project Code: 00-26C Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3. ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1:	ZEAMX CORN, FIELD	Variety:	P33G28 LL
Planting Method:	SEEDED	Planting Date:	May-3-00
Rate:	28000 S/A	Depth:	1.5 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	25 FT	Reps:	3
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	GLXMA, 1999	Fertilizer applied:	N 150 LB/A,	P ₂ O ₅ 0 LB/A,	K ₂ O 0 LB/A

Soil Name:	RUSHVILLE	% OM:	1.9	pH:	5.8	CEC:	8
Texture:	SILT LOAM	P ₁ :	70 LB/A,	K:	427 LB/A		

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-4-00	May-9-00	May-25-00
Time of Day:	10:30	8:00	20:00
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	SPIKE	8-10"CN
Applic. Placement:	BROSOL	BROFOL	BROFOL
Air Temp., Unit:	72 F	74 F	80 F
% Relative Humidity:	82	96	18
Wind Velocity, Unit:	4-6 MPH	0 MPH	0-2 MPH
Soil Moisture:	NORMAL	ABONOR	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	NA	ZEAMX SPIKE	ZEAMX V3-V4
Height, Unit:	NA	1 IN	8-10 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		SETFA	SETFA
Stage(leaves):		1-2	1-3
Height(inches):		0-0.5	1-3
Density:		LOW	LOW
Weed 2 Code:		AMBEL	AMBEL
Stage(leaves):		1-2	2-4
Height(inches):		0-0.5	1-3
Density:		LOW	LOW
Weed 3 Code:		ABUTH	ABUTH
Stage(leaves):		1-2	1-3
Height(inches):		0-0.5	1-3
Density:		MEDIUM	LOW
Weed 4 Code:		XANST	XANST
Stage(leaves):		1-2	2-4
Height(inches):		0-1	2-4
Density:		LOW	LOW

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO ₂ SPRAY	CO ₂ SPRAY	CO ₂ SPRAY
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	8003	8002	8002
Boom Length, Unit:	7.33 FT	7.33 FT	7.33 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

NOTES:

Harvested Sep-29-00, (2) 30 inch rows by 22 ft.

TABLE. TOTAL PREEMERGENCE AND SEQUENTIAL HERBICIDE PROGRAMS. PROJECT CODE:00-26C

TREATMENT	FORM.	RATE	UNIT	PROD	RATE	APPL TIME	APPL CODE	YIELD	ZEAMX INJURY		CONTROL													
									DAP		DA		SETFA		XANST			ABUTH			AMBEL			
									14	28	14	28	8-10"CN	LATE	8-10"CN	LATE	8-10"CN	LATE	8-10"CN	LATE	8-10"CN	LATE		
									BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1 NONTREATED								128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2 BICEP II MAGNUM	5.5 L	2.89	LB A/A	2.1	QT/A	PRE	A	168	0	2	0	0	99	99	95	93	91	83	93	88	90	98	98	98
3 GUARDSMAN	5 L	2.81	LB A/A	2.25	QT/A	PRE	A	153	2	2	0	0	99	97	90	87	83	80	95	87	85	99	96	94
4 HARNESS XTRA	5.6 L	3.08	LB A/A	2.2	QT/A	PRE	A	148	0	0	0	0	99	99	95	95	94	90	96	95	92	99	99	99
5 DEGREE EXTRA	4 L	3.03	LB A/A	3.03	QT/A	PRE	A	162	0	2	0	0	99	99	97	92	88	87	97	96	95	99	96	96
6 FULTIME	4 SC	3.0	LB A/A	3.0	QT/A	PRE	A	162	0	1	0	0	99	98	94	88	88	88	97	94	92	98	98	92
7 GUARDSMAN	5 L	2.81	LB A/A	2.25	QT/A	PRE	A	163	17	3	0	0	98	98	79	92	93	84	99	99	98	99	99	94
7 BALANCE	75 WG	0.047	LB A/A	1.0	OZ/A	PRE	A																	
8 GUARDSMAN	5 L	2.81	LB A/A	2.25	QT/A	PRE	A	173	0	0	0	0	98	98	90	93	96	92	97	97	96	99	98	96
8 HORNET	68.5 WG	0.128	LB A/A	3.0	OZ/A	PRE	A																	
9 AXIOM AT	75 WG	2.063	LB A/A	2.75	LB/A	PRE	A	118	5	37	33	25	99	99	91	85	81	77	95	90	88	98	93	90
10 EPIC	58 WG	0.435	LB A/A	12.0	OZ/A	PRE	A	116	35	22	23	23	98	99	93	93	92	87	97	98	97	99	95	93
11 HARNESS	7 EC	1.53	LB A/A	1.75	PT/A	PRE	A	149	0	0	0	0	99	98	92	97	97	95	96	99	98	98	98	97
11 HORNET	68.5 WG	0.171	LB A/A	4.0	OZ/A	PRE	A																	
12 OUTLOOK	6 EC	0.75	LB A/A	1.0	PT/A	SPIKE	B	156	0	0	0	0	98	98	77	96	96	92	97	96	94	99	98	93
12 MARKSMAN	3.2 L	1.4	LB A/A	3.5	PT/A	SPIKE	B																	
12 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	SPIKE	B																	
13 GUARDSMAN	5 L	2.81	LB A/A	2.25	QT/A	PRE	A	155	0	2	2	0	99	99	88	95	95	88	96	97	94	99	98	95
13 DISTINCT	70 WG	0.175	LB A/A	4.0	OZ/A	8-10"CN	C																	
13 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25	%V/V	8-10"CN	C																	
13 28% UAN	100 LIQ	1.25	% V/V	1.25	%V/V	8-10"CN	C																	
14 BALANCE PRO	4 SC	0.09375	LB A/A	3.0	OZ/A	PRE	A	167	5	0	0	0	98	98	87	96	93	92	99	99	98	99	99	98
14 AATREX	90 WG	1.0	LB A/A	1.11	LB/A	PRE	A																	
15 LIBERTY ATZ	4.32 EC	1.35	LB A/A	40.0	OZ/A	8-10"CN	C	167		0	0	0	97	98	83	99	99	95	95	95	98	99	99	98
15 AMS	100 DRY	3.0	LB A/A	3.0	LB/A	8-10"CN	C																	

(CONTINUED)

TABLE. TOTAL PREEMERGENCE AND SEQUENTIAL HERBICIDE PROGRAMS. PROJECT CODE:00-26C (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	ZEAMX INJURY				CONTROL											
								DAP		DA		SETFA		XANST		ABUTH		AMBEL					
								14	28	14	28	8-10"CN	LATE	8-10"CN	LATE	8-10"CN	LATE	8-10"CN	LATE				
								%	%	%	%	%	%	%	%	%	%	%	%				
16 BALANCE PRO	4 SC	0.05469	LB A/A	1.75 OZ/A	PRE	A	171	2	0	0	0	99	99	89	97	97	92	99	99	99	99	99	98
16 LIBERTY	1.67 EC	0.313	LB A/A	24.0 OZ/A	8-10"CN	C																	
16 AATREX	90 WG	0.75	LB A/A	13.3 OZ/A	8-10"CN	C																	
16 AMS	100 DRY	3.0	LB A/A	3.0 LB/A	8-10"CN	C																	
17 BALANCE PRO	4 SC	0.05469	LB A/A	1.75 OZ/A	PRE	A	141	7	0	2	0	99	98	88	93	95	89	99	99	99	99	99	99
17 AATREX	90 WG	0.75	LB A/A	13.3 OZ/A	PRE	A																	
17 LIBERTY	1.67 EC	0.313	LB A/A	24.0 OZ/A	8-10"CN	C																	
17 AATREX	90 WG	0.75	LB A/A	13.3 OZ/A	8-10"CN	C																	
17 AMS	100 DRY	3.0	LB A/A	3.0 LB/A	8-10"CN	C																	
18 BALANCE PRO	4 SC	0.05469	LB A/A	1.75 OZ/A	PRE	A	162	3	0	0	0	98	97	77	94	93	90	97	95	95	99	98	98
18 AATREX	90 WG	0.75	LB A/A	13.3 OZ/A	PRE	A																	
18 LIBERTY	1.67 EC	0.313	LB A/A	24.0 OZ/A	8-10"CN	C																	
18 AMS	100 DRY	3.0	LB A/A	3.0 LB/A	8-10"CN	C																	
19 BALANCE PRO	4 SC	0.05469	LB A/A	1.75 OZ/A	PRE	A	170	2	1	0	0	98	97	81	91	90	90	97	95	95	99	99	98
19 LIBERTY	1.67 EC	0.365	LB A/A	28.0 OZ/A	8-10"CN	C																	
19 AMS	100 DRY	3.0	LB A/A	3.0 LB/A	8-10"CN	C																	
20 BALANCE PRO	4 SC	0.09375	LB A/A	3.0 OZ/A	PRE	A	177	15	0	0	0	98	99	93	91	92	87	98	98	95	99	99	96
20 BICEP II MAGNUM	5.5 L	1.45	LB A/A	1.05 QT/A	PRE	A																	
21 LEADOFF	5 L	0.9375	LB A/A	24.0 OZ/A	PRE	A	163	0	0	0	0	99	99	93	96	95	93	96	96	98	99	99	98
21 BASIS GOLD	90 WG	0.7875	LB A/A	14.0 OZ/A	8-10"CN	C																	
21 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	8-10"CN	C																	
21 28% UAN	100 LIQ	2.0	QT/A	2.0 QT/A	8-10"CN	C																	
22 FULTIME	4 SC	3.0	LB A/A	3.0 QT/A	PRE	A	160	2	0	0	0	99	99	94	98	99	98	99	99	99	99	99	97
22 HORNET	68.5 WG	0.128	LB A/A	3.0 OZ/A	8-10"CN	C																	
22 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0 %V/V	8-10"CN	C																	
22 28% UAN	100 LIQ	2.0	QT/A	2.0 QT/A	8-10"CN	C																	
LSD							30	7	5	4	3	2	2	18	12	13	18	4	5	6	2	5	8
P							0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

1. PROTOCOL: BASF TRTS 1-13 (H401GLS3); AVENTIS TRTS 14-22 (C2E).
 2. DAP = DAYS AFTER PLANTING.
 3. RATING DATES:
 14 DAP, 28 DAP, 14 DA 8-10"CN, 28 DA 8-10"CN, AND LATE JULY ON MAY-18-00, JUN-1-00, JUN-8-00, JUN-22-00, AND JUL-31-00, RESPECTIVELY.