

Preemergence and Postemergence Applications of ZA1296.

00-11C-W110

OBJECTIVE: Evaluate crop response and weed control from both preemergence and postemergence applications of the experimental herbicide ZA1296 compared to other standard herbicide programs.

SUMMARY: Little to no corn injury was observed in this study. All herbicide treatments provided good control of giant foxtail, common ragweed, and velvetleaf. Ivyleaf morningglory control was 82 to 92% from all treatments except Epic and ICIA5676/ ZA1296 at 4 and 4.5 pt/A. Increasing the rate of ICIA5676/ ZA1296 increased ivyleaf morningglory control. Corn yield ranged from 89 bu/A in nontreated plots to 174 bu/A. Corn yield was similar in all herbicide treated plots.

HERBICIDES

AATREX 90 WG
 AXIOM AT 75 WG
 BALANCE PRO 4 SC
 BICEP II MAGNUM 5.5 L
 DUAL II MAGNUM 7.64 EC
 EPIC 58 WG
 FRONTIER 6.0 6 EC
 FULTIME 4 SC
 HARNESS XTRA 5.6 L
 ICIA5676/ZA1296 3.5 CS
 LEADOFF 5 L
 MARKSMAN 3.2 L
 NORTHSTAR 47.4 WG
 PROWL 3.3 EC
 SPIRIT 57 WG
 TOPNOTCH 3.2 ME
 ZA1296 4 EC

WEEDS

FOXTAIL, GIANT
 MORNINGGLORY, IVYLEAF
 NUTSEDGE, YELLOW
 RAGWEED, COMMON
 VELVETLEAF

CROP

CORN, FIELD

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Preemergence and Postemergence Applications of ZA1296.

Project Code: 00-11C-W110 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. CYPES	NUTSEDGE, YELLOW	CYPERUS ESCULENTUS L.
2. ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3. IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
4. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
5. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.

Crop 1:	ZEAMX CORN, FIELD	Variety:	DK 683 SR
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:	27 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 50 LB/A,	K ₂ O 150 LB/A
Soil Name:	EBBERT	% OM:	2	pH:	6.9
Texture:	SILT LOAM	P:	66 LB/A,	K:	379 LB/A
				CEC:	12

APPLICATION DESCRIPTION

	A	B
Application Date:	May-4-00	May-24-00
Time of Day:	19:00	12:30
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	5-8"CN
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	77 F	82 F
% Relative Humidity:	56	34
Wind Velocity, Unit:	2-4 MPH	2-4 MPH
Soil Moisture:	NORMAL	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	NA	ZEAMX V3-V4
Height, Unit:	NA	5-8 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code:		CYPES
Stage(leaves):		3-4
Height(inches):		3-4
Density:		MEDIUM
Weed 2 Code:		ABUTH
Stage(leaves):		1-2
Height(inches):		1-3
Density:		LOW
Weed 3 Code:		IPOHE
Stage(leaves):		COTL-2
Height(inches):		1-3
Density:		LOW

APPLICATION EQUIPMENT

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

NOTES:

Harvested Oct-02-00, (2) 30 inch rows by 24 ft.

TABLE. PREEMERGENCE AND POSTEMERGENCE APPLICATIONS OF ZA1296. PROJECT CODE:00-11C-W110

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	ZEAMX INJURY						CONTROL, DAYS AFTER 5-8"CN										
								DA PRE			DA 5-8"CN			SETFA		CYPES		IPOHE		ABUTH		AMBEL		
								7	14	28	7	14	28	14	28	14	28	14	28	14	28	14	28	
						BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%				
1 ICIA5676/ZA1296	3.5 CS	1.75	LB A/A	4.0	PT/A	PRE	A	168	0	0	0				96	95	47	33	30	27	98	95	98	99
2 ICIA5676/ZA1296	3.5 CS	1.97	LB A/A	4.5	PT/A	PRE	A	152	0	0	0				98	95	82	77	81	78	98	98	96	94
3 ICIA5676/ZA1296	3.5 CS	2.19	LB A/A	5.0	PT/A	PRE	A	162	0	0	0				98	95	90	87	87	84	99	99	99	99
4 ICIA5676/ZA1296	3.5 CS	2.19	LB A/A	5.0	PT/A	PRE	A	168	0	0	0				99	98	95	92	89	86	99	99	99	99
4 AATREX	90 WG	0.5	LB A/A	8.9	OZ/A	PRE	A																	
5 ICIA5676/ZA1296	3.5 CS	2.19	LB A/A	5.0	PT/A	PRE	A	160	0	0	0				99	95	88	87	93	89	99	99	99	99
5 AATREX	90 WG	1.0	LB A/A	1.11	LB/A	PRE	A																	
6 FULTIME	4 SC	3.0	LB A/A	3.0	QT/A	PRE	A	159	0	0	0				98	97	58	55	88	84	90	90	99	99
7 FULTIME	4 SC	3.25	LB A/A	3.25	QT/A	PRE	A	164	0	0	0				99	95	70	57	85	82	93	93	99	99
8 FULTIME	4 SC	3.5	LB A/A	3.5	QT/A	PRE	A	163	0	0	0				99	95	77	50	90	84	96	95	99	99
9 FULTIME	4 SC	3.25	LB A/A	3.25	QT/A	PRE	A	164	0	0	0				99	93	75	43	90	86	99	98	99	99
9 AATREX	90 WG	0.5	LB A/A	8.9	OZ/A	PRE	A																	
10 FULTIME	4 SC	3.25	LB A/A	3.25	QT/A	PRE	A	170	0	0	0	0	0	0	99	95	88	70	93	87	99	99	99	99
10 NORTHSTAR	47.4 WG	0.148	LB A/A	5.0	OZ/A	5-8"CN	B																	
10 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25	%V/V	5-8"CN	B																	
10 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	5-8"CN	B																	
11 FULTIME	4 SC	3.0	LB A/A	3.0	QT/A	PRE	A	168	0	0	0	2	1	1	99	95	88	84	96	92	99	99	99	99
11 ZA1296	4 EC	0.094	LB A/A	3.0	OZ/A	5-8"CN	B																	
11 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	5-8"CN	B																	
11 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	5-8"CN	B																	
12 TOPNOTCH	3.2 ME	2.0	LB A/A	2.5	QT/A	PRE	A	154	0	0	0	5	4	4	99	96	87	78	95	89	99	99	99	99
12 ZA1296	4 EC	0.094	LB A/A	3.0	OZ/A	5-8"CN	B																	
12 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	5-8"CN	B																	
12 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	5-8"CN	B																	
13 TOPNOTCH	3.2 ME	2.0	LB A/A	2.5	QT/A	PRE	A	168	0	0	0	2	1	1	95	92	95	90	95	89	99	99	99	99
13 ZA1296	4 EC	0.094	LB A/A	3.0	OZ/A	5-8"CN	B																	
13 AATREX	90 WG	0.25	LB A/A	4.44	OZ/A	5-8"CN	B																	
13 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	5-8"CN	B																	
13 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	5-8"CN	B																	

(CONTINUED)

TABLE. PREEMERGENCE AND POSTEMERGENCE APPLICATIONS OF ZA1296. PROJECT CODE:00-11C-W110 (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	ZEAMX INJURY						CONTROL, DAYS AFTER 5-8"CN										
								DA PRE			DA 5-8"CN			SETFA		CYPES		IPOHE		ABUTH		AMBEL		
								7	14	28	7	14	28	14	28	14	28	14	28	14	28	14	28	
							BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%			
14 FRONTIER 6.0	6 EC	1.41	LB A/A	1.9	PT/A	PRE	A	157	0	0	0	0	0	0	99	96	77	70	95	90	98	99	99	99
14 MARKSMAN	3.2 L	1.4	LB A/A	3.5	PT/A	5-8"CN	B																	
15 DUAL II MAGNUM	7.64 EC	1.59	LB A/A	1.66	PT/A	PRE	A	163	0	0	0	0	0	0	99	95	88	88	86	84	98	98	99	99
15 SPIRIT	57 WG	0.0356	LB A/A	1.0	OZ/A	5-8"CN	B																	
15 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	5-8"CN	B																	
15 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	5-8"CN	B																	
16 EPIC	58 WG	0.47	LB A/A	13.0	OZ/A	PRE	A	162	2	0	0			93	93	13	7	38	23	96	96	99	99	
17 AXIOM AT	75 WG	2.25	LB A/A	3.0	LB/A	PRE	A	170	0	0	0			99	96	42	23	93	89	98	98	98	98	
18 HARNESS XTRA	5.6 L	3.5	LB A/A	2.5	QT/A	PRE	A	165	0	0	0			98	95	70	53	88	85	93	90	99	99	
19 LEADOFF	5 L	2.81	LB A/A	2.25	QT/A	PRE	A	174	0	0	0			96	95	69	60	90	84	93	93	99	99	
20 BICEP II MAGNUM	5.5 L	2.89	LB A/A	2.1	QT/A	PRE	A	163	0	0	0			99	95	91	85	89	85	95	95	99	99	
21 PROWL	3.3 EC	1.05	LB A/A	2.55	PT/A	PRE	A	152	0	0	0			98	95	17	8	91	87	98	98	99	98	
21 AATREX	90 WG	1.5	LB A/A	1.67	LB/A	PRE	A																	
21 BALANCE PRO	4 SC	0.047	LB A/A	1.5	OZ/A	PRE	A																	
22 NONTREATED								89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD								25	1	0	0	3	2	2	3	3	21	22	6	7	4	4	2	3
P								0.01	0.5	1.0	1.0	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: ZENECA TRTS 1-20; AMCY TRT21;

2. RATING DATES:

7 DA PRE, 14 DA PRE, AND 28 DA PRE ON MAY-11-00, MAY-18-00, AND JUN-1-00, RESPECTIVELY.

7 DA 5-8"CN, 14 DA 5-8"CN, AND 28 DA 5-8"CN ON MAY-31-00, JUN-7-00, AND JUN-21-00, RESPECTIVELY.