

## Comparison of Corn Soil-applied Herbicides for Control of Common Waterhemp.

00-52-E70

**OBJECTIVE:** Determine the effectiveness of various soil-applied herbicides used in corn for length of residual control of common waterhemp.

**SUMMARY:** No corn injury was observed from any treatment. At 28 days after planting (DAP), all preemergence (PRE) treatments provided at least 85% control of common waterhemp. Postemergence (POST) applications of Aatrex and ZA 1296 controlled 73 and 81% of common waterhemp, respectively, at 14 days after treatment. All PRE treatments maintained at least 90% common waterhemp control at 84 DAP except Princep at 1 lb, Balance Pro at 1.5 oz, and Prowl at 2.55 pt. Common waterhemp control from POST applications of Aatrex and ZA 1296 was 59 and 95%, respectively, at 57 days after treatment.

### HERBICIDES

AATREX 90 WG  
BALANCE PRO 4 SC  
BICEP II MAGNUM 5.5 L  
DUAL II MAGNUM 7.64 EC  
PRINCEP 90 WG  
PROWL 3.3 EC  
ZA1296 4 EC

### WEEDS

FOXTAIL, GIANT  
WATERHEMP, COMMON

### CROP

CORN, FIELD

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## Comparison of Corn Soil-applied Herbicides for Control of Common Waterhemp.

Project Code: 00-52-E70 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. AMATA	WATERHEMP, COMMON	AMARANTHUS RUDIS SAUER
2. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.

Crop 1:	ZEAMX CORN, FIELD	Variety:	P33G28 LL
Planting Method:	SEEDED	Planting Date:	May-16-00
Rate:	28000 S/A	Depth:	1.5 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	25 FT	Reps:	4
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	GLXMA, 1999	Fertilizer applied:	150 LB/A,	P <sub>2</sub> O <sub>5</sub>	0 LB/A, K <sub>2</sub> O 150 LB/A

Soil Name:	WEIR	% OM:	1.8	pH:	6.9	CEC:	12
Texture:	SILT LOAM	P <sub>1</sub> :	83 LB/A,	K:	302 LB/A		

## APPLICATION DESCRIPTION

	A	B
Application Date:	May-16-00	Jun-12-00
Time of Day:	15:30	15:30
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	4"WH
Applic. Placement:	BROSOL	BROFOL
Air Temp., Unit:	78 F	89 F
% Relative Humidity:	40	96
Wind Velocity, Unit:	5-10 MPH	5-10 MPH
Soil Moisture:	NORMAL	DRY
% Cloud Cover:	40	20

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	NA	ZEAMX V5
Height, Unit:	NA	14-17 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code:		AMATA
Stage(leaves):		6-10
Height(inches):		2-7
Density:		HIGH
Weed 2 Code:		SETFA
Stage(leaves):		6-7
Height(inches):		4-6
Density:		MEDIUM

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO <sub>2</sub> SPRAY	CO <sub>2</sub> 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-06-00, (2) 30 inch rows by 22 ft.

TABLE. COMPARISON OF CORN SOIL-APPLIED HERBICIDES FOR CONTROL OF COMMON WATERHEMP. PROJECT CODE:00-52-E70

TREATMENT	FORM.	RATE	UNIT	PROD	RATE	APPL TIME	APPL CODE	YIELD	ZEAMX INJURY				CONTROL							
									DAP		14 DA	JULY	SETFA				AMATA			
									14	28	4"WH	11	28 DAP	14 DA	JULY	AUG	28 DAP	14 DA	JULY	AUG
BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%					
1 AATREX	90 WG	1.0 LB A/A	1.11 LB/A	PRE	A	182	0	0	0	95		94	80	99		98	91			
2 AATREX	90 WG	2.0 LB A/A	2.22 LB/A	PRE	A	192	0	0	0	98		97	81	99		99	94			
3 PRINCEP	90 WG	1.0 LB A/A	1.11 LB/A	PRE	A	191	0	0	0	99		97	91	89		86	81			
4 PRINCEP	90 WG	2.0 LB A/A	2.22 LB/A	PRE	A	185	0	0	0	99		99	97	93		93	91			
5 BALANCE PRO	4 SC	0.047 LB A/A	1.5 OZ/A	PRE	A	183	0	0	0	84		80	85	85		83	65			
6 BALANCE PRO	4 SC	0.094 LB A/A	3.0 OZ/A	PRE	A	184	0	0	0	98		98	94	97		97	93			
7 ZA1296	4 EC	0.094 LB A/A	3.0 OZ/A	PRE	A	184	0	0	0	74		74	63	88		92	91			
8 ZA1296	4 EC	0.188 LB A/A	6.0 OZ/A	PRE	A	185	0	0	0	56		58	59	97		92	97			
9 DUAL II MAGNUM	7.64 EC	1.27 LB A/A	1.33 PT/A	PRE	A	188	0	0	0	99		99	98	99		98	98			
10 PROWL	3.3 EC	1.05 LB A/A	2.55 PT/A	PRE	A	183	0	0	0	97		96	88	90		89	71			
11 AATREX	90 WG	1.0 LB A/A	1.11 LB/A	4"WH	B	182	0	0	0	0	48	73	65	0	73	61	59			
11 PRIME OIL COC	100 LIQ	1.0 % V/V	1.0 %V/V	4"WH	B															
11 28% UAN	100 LIQ	2.5 % V/V	2.5 %V/V	4"WH	B															
12 ZA1296	4 EC	0.094 LB A/A	3.0 OZ/A	4"WH	B	184	0	0	0	0	19	74	71	0	81	48	95			
12 PRIME OIL COC	100 LIQ	1.0 % V/V	1.0 %V/V	4"WH	B															
12 28% UAN	100 LIQ	2.5 % V/V	2.5 %V/V	4"WH	B															
13 NONTREATED						121	0	0	0	0		0	0	0		0	0			
14 BICEP II MAGNUM	5.5 L	2.89 LB A/A	2.1 QT/A	PRE	A	187	0	0	0	99		99	99	99		99	99			
14 HANDWEED																				
LSD						18	0	0	0	12	21	12	20	6	10	8	8			
P						0.01	1.0	1.0	1.0	0.01	0.02	0.01	0.01	0.01	0.07	0.01	0.01			

1. PROTOCOL: SIU-BGY.
2. DAP = DAYS AFTER PLANTING; DA 4"WH = DAYS AFTER 4"WH APPLICATION.
3. RATING DATES:  
 14 DAP, 28 DAP AND 14 DA-B ON MAY-30-00, JUN-13-00 AND JUN-26-00, RESPECTIVELY.  
 RATINGS ON JUL-11-00 WERE 56 DAP AS WELL AS 29 DAYS AFTER 4"WH APPLICATION.  
 RATINGS ON AUG-8-00 WERE 84 DAP AS WELL AS 57 DAYS AFTER 4"WH APPLICATION.