

## Weed Management in Strip-Tillage Corn.

00-11B

**OBJECTIVE:** Determine the effect of tillage on weed control.

**SUMMARY:** Giant foxtail control was 87 to 93% in strip-tillage (ST) and conventional tillage (CT) regardless of herbicide treatment. However, Harness Xtra controlled only 58% of giant foxtail in no-till (NT). Common waterhemp control was 81 to 89 % in ST and CT regardless of herbicide treatment. However, common waterhemp control in NT was only 56 and 68%, respectively, from Harness Xtra and Roundup Ultra. Greater morningglory control was observed in CT compared to NT. Yellow nutsedge control was greater with Harness Xtra compared to Roundup Ultra in all tillage systems. Conversely, velvetleaf control was greater with Roundup Ultra compared to Harness Xtra in all tillage systems. Corn yield was similar between tillage systems in all herbicide treated plots except plots which received only a burndown application.

### HERBICIDES

BICEP II MAGNUM 5.5 L  
HARNESS XTRA 5.6 L  
ROUNDUP ULTRA 3 SL

### WEEDS

COCKLEBUR, COMMON  
FOXTAIL, GIANT  
MORNINGGLORY, IVYLEAF  
NUTSEDGE, YELLOW  
VELVETLEAF  
WATERHEMP, COMMON

### CROP

CORN, FIELD

Bryan Young and Byron Hendrix

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

## Weed Management in Strip-Tillage Corn.

Project Code: 00-11B 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. CYPES	NUTSEDGE, YELLOW	CYPERUS ESCULENTUS L.
3. AMATA	WATERHEMP, COMMON	AMARANTHUS RUDIS SAUER
4. ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
5. IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
6. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1:	ZEAMX CORN, FIELD	Variety:	DK 626 RR
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:	26 FT	Reps:	6
Tillage Type:	SEE NOTE	Study Design:	SPLIT-PLOT		
Previous Crop, Year:	GLXMA, 1999				
Texture:	SILT LOAM				

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-16-00	Jun-9-00	Jun-14-00
Time of Day:	10:30	10:00	8:45
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	4-6"W-1	4-6"W-2
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	72 F	74 F	82 F
% Relative Humidity:	40	40	90
Wind Velocity, Unit:	9-15 MPH	7-10 MPH	9-15 MPH
Soil Moisture:	NORMAL	NORMAL	NORMAL

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	NA	ZEAMX V3-V4	ZEAMX V4-V5
Height, Unit:	NA	13 IN	16-18 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		SETFA	SETFA
Stage(leaves):		3-5	4-10+
Height(inches):		4-6	3-6
Density:		HIGH	HIGH
Weed 2 Code:		CYPES	CYPES
Stage(leaves):		4-6	5-7
Height(inches):		3-5	3-5
Density:		MEDIUM	LOW
Weed 3 Code:		AMATA	AMATA
Stage(leaves):		3-6	5-10+
Height(inches):		1-4	0-10
Density:		HIGH	HIGH
Weed 4 Code:		ABUTH	ABUTH
Stage(leaves):		3-5	3-6
Height(inches):		2-5	2-6
Density:		MEDIUM	HIGH
Weed 5 Code:		IPOHE	IPOHE
Stage(leaves):		4-8	4-10+
Height(inches):		2-4	2-4
Density:		MEDIUM	MEDIUM
Weed 6 Code:		XANST	XANST
Stage(leaves):		4-6	3-5
Height(inches):		2-6	2-6
Density:		MEDIUM	MEDIUM

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO, SPRAY	CO, SPRAY	CO, SPRAY
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	8004	8004	8004
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	27.92 GPA	27.92 GPA	27.92 GPA

NOTES: TILLAGES ARE NO-TILL, STRIP-TILL, AND CONVENTIONAL-TILL, SEE TREATMENT LIST.

Harvested Oct-09-00 (2) 30 inch rows by 24 ft.

TABLE. WEED MANAGEMENT IN STRIP-TILLAGE CORN. PROJECT CODE:00-11B

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	CONTROL, DAYS AFTER TREATMENT																		ZEAMX PLANTS	
								SETFA			CYPES			AMATA			XANST			ABUTH			IPOHE			MAY	JUNE
								14	28	56	14	28	56	14	28	56	14	28	56	14	28	56	14	28	56	25	15
1 NO-TILL 1 NO HERBS AFTER BURN DOWN							139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.9	18.0
2 STRIP-TILL 2 NO HERBS AFTER BURN DOWN							181	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.9	29.6
3 CONV-TILL 3 NO HERBS AFTER BURN DOWN							136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.0	27.7
4 NO-TILL 4 BICEP II MAGNUM 4 HANDWEED	5.5 L	2.89 LB A/A	4.2 PT/A		PRE	A	196	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	19.8	20.3
5 STRIP-TILL 5 BICEP II MAGNUM 5 HANDWEED	5.5 L	2.89 LB A/A	4.2 PT/A		PRE	A	206	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	29.6	29.4
6 CONV-TILL 6 BICEP II MAGNUM 6 HANDWEED	5.5 L	2.89 LB A/A	4.2 PT/A		PRE	A	182	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	28.9	28.9
7 NO-TILL 7 HARNESS XTRA	5.6 L	3.36 LB A/A	4.8 PT/A		PRE	A	178	75	68	58	89	89	89	80	73	68	85	85	80	84	83	79	80	74	66	20.8	20.4
8 STRIP-TILL 8 HARNESS XTRA	5.6 L	3.36 LB A/A	4.8 PT/A		PRE	A	197	93	92	89	93	93	92	89	87	84	91	90	87	86	83	81	89	88	85	29.8	29.8
9 CONV-TILL 9 HARNESS XTRA	5.6 L	3.36 LB A/A	4.8 PT/A		PRE	A	194	93	93	90	94	91	90	94	93	89	87	83	82	83	76	70	86	82	77	29.0	29.0
10 NO-TILL 10 ROUNDUP ULTRA 10 AMS	3 SL 100 DRY	0.75 LB AE/A 2.0 % W/W	2.0 PT/A 17.0 LB/100 GAL	4-6"W-2 4-6"W-2	C C		209	98	86	85	82	78	78	68	59	56	92	89	87	93	93	93	94	93	91	15.1	14.5
11 STRIP-TILL 11 ROUNDUP ULTRA 11 AMS	3 SL 100 DRY	0.75 LB AE/A 2.0 % W/W	2.0 PT/A 17.0 LB/100 GAL	4-6"W-2 4-6"W-2	C C		210	98	94	93	87	86	86	78	82	81	95	94	94	92	91	91	89	89	88	28.7	29.0
12 CONV-TILL 12 ROUNDUP ULTRA 12 AMS	3 SL 100 DRY	0.75 LB AE/A 2.0 % W/W	2.0 PT/A 17.0 LB/100 GAL	4-6"W-1 4-6"W-1	B B		185	91	90	87	63	72	72	84	83	83	95	94	94	94	93	92	73	78	78	29.6	29.3
LSD							26	2	6	7	8	6	6	8	7	9	6	8	10	7	9	10	8	9	11	4.6	4.8
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	0.01	0.01	0.01	0.01

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1. PROTOCOL; SIU/BGY.

2. RATING DATES:

14 DAYS AFTER PRE, 4-6"W-1 AND 4-6"W-2 APPLICATIONS WAS ON MAY-30-00, JUN-23-00 AND JUN-28-00, RESPECTIVELY.  
 28 DAYS AFTER PRE, 4-6"W-1 AND 4-6"W-2 APPLICATIONS WAS ON JUN-13-00, JUL-7-00 AND JUL-12-00, RESPECTIVELY.  
 56 DAYS AFTER PRE, 4-6"W-1 AND 4-6"W-2 APPLICATIONS WAS ON JUL-11-00, AUG-4-00 AND AUG-9-00, RESPECTIVELY.