

Weed Control in Roundup Ready Corn.

00-21S-W60

OBJECTIVE: To evaluate weed control in Roundup Ready corn.

SUMMARY: Harness Extra plus Aatrex applied preemergence controlled giant foxtail, yellow nutsedge, velvetleaf, and ivyleaf morningglory, 100%, but controlled common cocklebur only 78%. Harness applied preemergence followed by Aatrex postemergence controlled weeds 90 to 100%, whereas Harness applied preemergence followed by Roundup Ultra or Touchdown 5 postemergence controlled weeds 78 to 100%. Roundup Ultra and Touchdown 5 alone applied postemergence at 2 to 4 inch weeds controlled weeds 58 to 100%. Roundup Ultra or Touchdown 5 plus Aatrex increased common cocklebur control by 32% compared with Roundup Ultra or Touchdown 5 alone. Basis Gold provided no control of common cocklebur. Roundup Ultra and Touchdown 5 alone applied postemergence at 6 to 8 inch weeds controlled weeds 93 to 100%. Fieldmaster controlled weeds 97 to 100%. Yield ranged from 64 to 158 bu/A.

HERBICIDES

AATREX 90 WG
BASIS GOLD 90 WG
FIELDMASTER 4.25 L
HARNESS 7 EC
HARNESS XTRA 5.6 L
PERMIT 75 WG
ROUNDUP ULTRA 3 SL
TOUCHDOWN 5 5 SL

WEEDS

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

CROP

CORN, FIELD

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Weed Control in Roundup Ready Corn.

Project Code: 00-21S-W60 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. ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4. IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
5. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1:	ZEAMX CORN, FIELD	Variety:	DK 626 RR
Planting Method:	SEEDED	Planting Date:	May-4-00
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:	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:	2.6	pH:	5.7	CEC:	14
Texture:	SILT LOAM	P ₁ :	72 LB/A,	K:	351 LB/A		

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-5-00	May-24-00	May-3-00
Time of Day:	6:00	16:45	15:00
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	2-4"W	6-8"W
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	70 F	88 F	68 F
% Relative Humidity:	94	40	96
Wind Velocity, Unit:	5 MPH	2-4 MPH	5-7 MPH
Soil Moisture:	DRY	NORMAL	NORMAL
% Cloud Cover:			0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	NA	ZEAMX V3	ZEAMX V4
Height, Unit:	NA	7-9 IN	13-14 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		SETFA	SETFA
Stage(leaves):		2-4	6-7
Height(inches):		2-5	5-8
Density:		HIGH	HIGH
Weed 2 Code:		CYPES	CYPES
Stage(leaves):		3-4	7-8
Height(inches):		2-4	5-7
Density:		LOW	MEDIUM
Weed 3 Code:		ABUTH	ABUTH
Stage(leaves):		1-3	4-5
Height(inches):		1-4	3-5
Density:		MEDIUM	MEDIUM
Weed 4 Code:		IPOHE	IPOHE
Stage(leaves):		COTL-2	4-5
Height(inches):		2-4	3-5
Density:		LOW	MEDIUM
Weed 5 Code:		XANST	XANST
Stage(leaves):		COTL-4	5-7
Height(inches):		2-4	5-9
Density:			HIGH

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:	24.2 GPA	24.2 GPA	24.2 GPA

NOTES:

Harvested Sep-27-00, (2) 30 inch rows by 22 ft.

TABLE. WEED CONTROL IN ROUNDUP READY CORN. PROJECT CODE:00-21S-W60

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	ZEAMX				CONTROL, DAYS AFTER TREATMENT														
								INJURY, DAT			HEIGHT	SETFA			CYPES			XANST			ABUTH			IPOHE		
								14	28	56	EOS	14	28	56	14	28	56	14	28	56	14	28	56	14	28	56
1 NONTREATED							BU/A	%	%	%	INCH	%	%	%	%	%	%	%	%	%	%	%	%	%		
							64	0	0	0	94	0	0	0	0	0	0	0	0	0	0	0	0	0		
2 HARNESS XTRA	5.6 L	3.36	LB A/A	4.8	PT/A	PRE	A	144	0	0	0	109	100	100	100	100	100	100	85	82	78	100	100	100		
2 AATREX	90 WG	0.5	LB A/A	0.56	LB/A	PRE	A																			
3 HARNESS XTRA	5.6 L	3.36	LB A/A	4.8	PT/A	PRE	A	150	0	0	0	114	100	100	100	100	97	97	90	83	83	100	98	98		
3 AATREX	90 WG	0.75	LB A/A	0.83	LB/A	2-4"W	B																			
3 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	2-4"W	B																			
4 HARNESS	7 EC	1.8	LB A/A	2.06	PT/A	PRE	A	153	0	0	0	111	100	100	100	100	100	100	98	90	90	100	100	100		
4 AATREX	90 WG	2.0	LB A/A	2.22	LB/A	2-4"W	B																			
4 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	2-4"W	B																			
5 HARNESS	7 EC	1.8	LB A/A	2.06	PT/A	PRE	A	157	0	0	0	109	100	100	100	100	97	97	85	80	80	100	93	93		
5 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	2-4"W	B																			
6 HARNESS	7 EC	1.8	LB A/A	2.1	PT/A	PRE	A	158	0	0	0	111	100	100	100	100	97	97	85	82	82	100	93	93		
6 TOUCHDOWN 5	5 SL	0.75	LB A/A	1.2	PT/A	2-4"W	B																			
7 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	2-4"W	B	137	0	0	0	110	100	100	100	90	75	75	87	58	58	100	90	90		
8 TOUCHDOWN 5	5 SL	0.75	LB A/A	1.2	PT/A	2-4"W	B	121	0	0	0	106	100	100	100	88	75	75	85	58	58	100	90	90		
9 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	2-4"W	B	140	0	0	0	110	100	100	100	93	88	88	98	90	90	100	100	100		
9 AATREX	90 WG	0.75	LB A/A	0.83	LB/A	2-4"W	B																			
10 TOUCHDOWN 5	5 SL	0.75	LB A/A	1.2	PT/A	2-4"W	B	133	0	0	0	110	100	100	100	92	85	85	97	90	90	100	93	93		
10 AATREX	90 WG	0.75	LB A/A	0.83	LB/A	2-4"W	B																			
11 BASIS GOLD	90 WG	0.79	LB A/A	14.0	OZ/A	2-4"W	B	126	0	0	0	110	100	100	100	90	90	90	75	0	0	100	100	100		
11 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	2-4"W	B																			
12 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	6-8"W	C	112	0	0	0	108	100	100	100	88	93	93	98	93	93	100	100	100		
13 TOUCHDOWN 5	5 SL	1.0	LB A/A	1.6	PT/A	6-8"W	C	140	2	1	0	108	100	100	100	85	93	93	100	95	95	100	100	100		
14 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	6-8"W	C	126	0	0	0	107	100	100	100	88	90	90	100	99	99	100	100	100		
14 AATREX	90 WG	0.75	LB A/A	0.83	LB/A	6-8"W	C																			
15 TOUCHDOWN 5	5 SL	1.0	LB A/A	1.6	PT/A	6-8"W	C	131	2	2	0	109	100	100	100	88	93	93	100	94	94	100	100	100		
15 AATREX	90 WG	0.75	LB A/A	0.83	LB/A	6-8"W	C																			
16 ROUNDUP ULTRA	3 SL	0.56	LB AE/A	1.5	PT/A	2-4"W	B	145	0	0	0	111	100	100	100	100	100	100	100	95	95	100	100	100		
16 PERMIT	75 WG	0.031	LB A/A	0.66	OZ/A	2-4"W	B																			
16 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25	% V/V	2-4"W	B																			
17 FIELDMASTER	4.25 L	4.8	LB A/A	9.0	PT/A	2-4"W	B	135	0	0	0	113	100	100	100	100	100	100	100	100	100	100	100	100		
18 HANDWEED								145	0	0	0	112	100	100	100	100	100	100	100	100	100	100	100	100		
LSD								29	1	0.5	0	8	0	0	0	5	5	5	3	9	9	0	4	4		
P								0.01	0.01	0.01	1.0	0.01	1.0	1.0	1.0	0.01	0.01	0.01	0.01	0.01	0.01	1.0	0.01	0.01		

1. PROTOCOL: SIU/RFK (SAME AS 99-21M-W60).

2. EOS= END OF SEASON.

3. RATING DATES:

14 DAYS AFTER PRE, 2-4"W, AND 6-8"W ON MAY-19-00, JUN-7-00, AND JUN-13-00, RESPECTIVELY.

28 DAYS AFTER PRE, 2-4"W, AND 6-8"W ON JUN-2-00, JUN-21-00, AND JUN-27-00, RESPECTIVELY.

56 DAYS AFTER PRE, 2-4"W, AND 6-8"W ON JUN-30-00, JUL-19-00, AND JUL-25-00, RESPECTIVELY.