

## Winter Annual Weed Control and Soybean Tolerance with Corn Herbicides Applied in Fall and Spring.

00-31-M

**OBJECTIVE:** This study was designed to evaluate winter annual weed control with Aatrex, Princep and Balance applied in the fall and spring and to evaluate soybean tolerance to these herbicides applied in the fall and spring.

**SUMMARY:** In no-till and fall-till, Aatrex and Princep applied in the fall, controlled winter annuals, 95 to 100%, at planting. In no-till Balance applied in the fall, controlled henbit, 83%, mouseear chickweed, 100%, and purple dead nettle, 81%, at planting. In fall-till Balance applied in the fall, controlled these weeds, 96 to 99%, at planting. Balance applied in the spring, controlled winter annuals, 100%, regardless of tillage. The herbicides applied in the fall or spring caused no soybean injury, regardless of tillage. Soybean yield ranged from 50 to 57 bu/A. There were no differences in yield due to herbicide treatment.

### **HERBICIDES**

AATREX 90 WG  
BALANCE 75 WG  
PRINCEP 90 WG  
ROUNDUP ULTRA 3 SL

### **WEEDS**

CHICKWEED, MOUSEEAR  
DEADNETTLE, PURPLE  
HENBIT

### **CROP**

SOYBEAN

Ronald Krausz

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Winter Annual Weed Control and Soybean Tolerance with Corn Herbicides Applied in Fall and Spring.

Project Code: 00-31- M      Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. LAMAM	HENBIT	LAMIUM AMPLEXICAULE L.
2. LAMPU	DEADNETTLE, PURPLE	LAMIUM PURPUREUM L.
3. CERVU	CHICKWEED, MOUSEEAR	CERASTIUM VULGATUM L.

  

Crop 1:	GLXMA SOYBEAN	Variety:	B-T 369CR
Planting Method:	SEEDED	Planting Date:	May-11-005-17-00
Rate:	75 LB/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	30 FT	Reps:	4
Tillage Type:	SEE NOTE	Study Design:	SPLIT-PLOT		
Previous Crop, Year:	ZEAMX, 1999	Fertilizer applied:	N 0 LB/A,	P <sub>2</sub> O <sub>5</sub>	50 LB/A,    K <sub>2</sub> O 150 LB/A
Soil Name:	HOSMER	% OM:	2.1	pH:	6.3
Texture:	SILT LOAM	P <sub>1</sub> :	51 LB/A,	K:	217 LB/A
				CEC:	12

#### APPLICATION DESCRIPTION

	A	B	C
Application Date:	Nov-18-99	Apr-18-00	Jun-15-00
Time of Day:	9:00	11:00	10:00
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	FALL EPP	SPRG EPP	POST-IN
Applic. Placement:	BROSOL	BROSOL	BROFOL
Air Temp., Unit:	60 F	58 F	77 F
% Relative Humidity:	40	88	55
Wind Velocity, Unit:	7 MPH	MPH	5 MPH
Soil Temp., Unit:	50 F		
Soil Moisture:	DRY	NORMAL	NORMAL

#### CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	NA	NA	GLXMA V2-V3
Height, Unit:	NA	NA	7 IN

#### WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:	LAMAM	LAMAM	
Stage(leaves):	8-10	10+	
Height(inches):	0-1	4-6	
Density:	HIGH	MEDIUM	
Weed 2 Code:	LAMPU	LAMPU	
Stage(leaves):	8-10	10+	
Height(inches):	0-1	4-6	
Density:	LOW	HIGH	
Weed 3 Code:	CERVU	CERVU	
Stage(leaves):	5-8	10+	
Height(inches):	0-1	3-4	
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:	8002	8002	8002
Boom Length, Unit:	10 FT	10 FT	10 FT
Spray Volume, Unit:	18.15 GPA	18.15 GPA	18.15 GPA

#### NOTES:

TILLAGES ARE NO-TILL AND REDUCED-TILL, SEE TREATMENT LIST.

Harvested Oct-13-00, (2) 30 inch rows by 27 ft.

TABLE. WINTER ANNUAL WEED CONTROL AND SOYBEAN TOLERANCE WITH CORN HERBICIDES APPLIED IN FALL AND SPRING. PROJECT CODE:00-31-M

TREATMENT	FORM.	RATE	UNIT	PROD	RATE	APPL TIME	APPL CODE	YIELD BU/A	CONTROL									GLXMA, DAYS AFTER PLANTING												
									LAMAM			CERVU			LAMPU			HEIGHT			REDUCTION			NECROSIS						
									DAT		AT	DAT		AT	DAT		AT	REDUCTION		NECROSIS										
									14	28	PLANT	14	28	PLANT	14	28	PLANT	14	28	56	14	28	56							
																		%	%	%	%	%	%	%	%	%	%	%	%	%
1 NO-TILL								53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1 NO SOIL HERBICIDE																														
1 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
2 NO-TILL								54	0	85	100	0	85	100	0	85	100	0	0	0	0	0	0	0	0	0				
2 AATREX	90 WG	1.0	LB A/A	1.11	LB/A	FALL EPP	A																							
2 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	FALL EPP	A																							
2 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
3 NO-TILL								55	0	0	98	0	0	100	0	0	95	0	0	0	0	0	0	0	0	0				
3 PRINCEP	90 WG	1.0	LB A/A	1.11	LB/A	FALL EPP	A																							
3 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	FALL EPP	A																							
3 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
4 NO-TILL								51	0	44	83	0	44	100	0	44	81	0	0	0	0	0	0	0	0	0				
4 BALANCE	75 WG	0.094	LB A/A	0.125	LB/A	FALL EPP	A																							
4 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	FALL EPP	A																							
4 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
5 NO-TILL								50	99	100	100	99	100	100	99	100	100	0	0	0	0	0	0	0	0	0				
5 AATREX	90 WG	1.0	LB A/A	1.11	LB/A	SPRNG EPP	B																							
5 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	SPRNG EPP	B																							
5 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
6 NO-TILL								52	74	100	100	74	100	100	74	100	100	0	0	0	0	0	0	0	0	0				
6 PRINCEP	90 WG	1.0	LB A/A	1.11	LB/A	SPRNG EPP	B																							
6 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	SPRNG EPP	B																							
6 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
7 NO-TILL								50	83	100	100	83	100	100	83	100	100	0	0	0	0	0	0	0	0	0				
7 BALANCE	75 WG	0.094	LB A/A	0.125	LB/A	SPRNG EPP	B																							
7 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	SPRNG EPP	B																							
7 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
8 NO-TILL								52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8 NO SOIL HERBICIDE																														
8 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
9 REDUCED-TILL								54	100	100	65	100	100	85	100	100	88	0	0	0	0	0	0	0	0	0				
9 NO SOIL HERBICIDE																														
9 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							
10 REDUCED-TILL								53	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0				
10 AATREX	90 WG	1.0	LB A/A	1.11	LB/A	FALL EPP	A																							
10 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	FALL EPP	A																							
10 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN	C																							

(CONTINUED)

TABLE. WINTER ANNUAL WEED CONTROL AND SOYBEAN TOLERANCE WITH CORN HERBICIDES APPLIED IN FALL AND SPRING. PROJECT CODE:00-31-M (CONTINUED)

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	CONTROL									GLXMA, DAYS AFTER PLANTING								
								LAMAM			CERVU			LAMPU			HEIGHT			REDUCTION			NECROSIS		
								DAT	AT	PLANT	DAT	AT	PLANT	DAT	AT	PLANT	DAT	AT	PLANT	14	28	56	14	28	56
BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%							
11 REDUCED-TILL							56	100	100	96	100	100	99	100	100	99	0	0	0	0	0	0			
11 PRINCEP	90 WG	1.0	LB A/A	1.11	LB/A	FALL EPP A																			
11 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	FALL EPP A																			
11 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN C																			
12 REDUCED-TILL							57	100	100	96	100	100	99	100	100	99	0	0	0	0	0	0			
12 BALANCE	75 WG	0.094	LB A/A	0.125	LB/A	FALL EPP A																			
12 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	FALL EPP A																			
12 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN C																			
13 REDUCED-TILL							52	99	100	100	99	100	100	99	100	100	0	0	0	0	0	0			
13 AATREX	90 WG	1.0	LB A/A	1.11	LB/A	SPRG EPP B																			
13 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	SPRG EPP B																			
13 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN C																			
14 REDUCED-TILL							53	10	69	69	10	69	69	10	69	69	0	0	0	0	0	0			
14 PRINCEP	90 WG	1.0	LB A/A	1.11	LB/A	SPRG EPP B																			
14 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	SPRG EPP B																			
14 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN C																			
15 REDUCED-TILL							52	50	100	100	50	100	100	50	100	100	0	0	0	0	0	0			
15 BALANCE	75 WG	0.094	LB A/A	0.125	LB/A	SPRG EPP B																			
15 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	% V/V	SPRG EPP B																			
15 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN C																			
16 REDUCED-TILL							52	100	100	71	100	100	95	100	100	90	0	0	0	0	0	0			
16 NO SOIL HERBICIDE																									
16 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0	PT/A	POST-IN C																			
LSD							5	3	10	12	3	10	13	3	10	10	0	0	0	0	0	0			
P							0.4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.0	1.0	1.0	1.0	1.0	1.0			

1. PROTOCOL = SIU/RFK.
2. DAT = DAYS AFTER TREATMENT.
3. RATING DATES:
  - 14 DAYS AFTER FALL EPP AND SPRG EPP APPLICATIONS ON DEC-2-99 AND MAY-2-00, RESPECTIVELY.
  - 28 DAYS AFTER FALL EPP AND SPRG EPP APPLICATIONS ON DEC-16-99 AND MAY-16-00, RESPECTIVELY.
  - 14 DAP, 28 DAP, AND 56 DAP ON MAY-31-00, JUN-14-00, AND JUL-11-00, RESPECTIVELY.
4. NO CROP STAND REDUCTION WAS NOTED AT ANY RATING TIME.