

Evaluation of Wheat Yield Following Corn and Soybean in No-Till and Reduced-Till.

02-23E

OBJECTIVE: This study was designed to evaluate wheat yield following corn and soybean in no-till and reduced-till.

SUMMARY: No-till drills facilitate the planting of no-till wheat after corn and soybean. Therefore, this study was designed to evaluate wheat yield following corn and soybean in no-till and reduced-till. Tillage prior to wheat planting had an effect on winter annual weed establishment with greater winter annual weed populations in no-till compared to reduced-till. After the March rating, Harmony Extra was applied to the entire area to control winter annual weeds. Tillage and crop rotation had no effect on test weight. The greatest wheat yield, 69 bu/A, was obtained in reduced-till following soybean. The lowest yield, 48 bu/A, was obtained in no-till following corn. Tillage increased wheat yield by 8 bu/A following corn and by 12 bu/A following soybean.

SEEDBEDS

NO-TILL CORN
 NO-TILL SOYBEAN
 REDUCED-TILL CORN
 REDUCED-TILL SOYBEAN

WEEDS

chickweed, common
 henbit

CROP

wheat, winter

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SOUTHERN ILLINOIS UNIVERSITY

Evaluation of Wheat Yield Following Corn and Soybean in No-Till and Reduced-Till.

Project Code: 02-23E Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University**City State Zip Country:** Belleville IL 62221 USA
Trial Status: Final **Updated:** 6-26-02

Weed Code	Common Name	Scientific Name
1.	LAMAM henbit	Lamium amplexicaule L.
2.	STEME chickweed, common	Stellaria media (L.) Vill.

Crop 1:	TRZAW wheat, winter	Variety:	Pioneer 25R78
Planting Method:	Seeded	Planting Date:	10-22-01
Rate:	100 lb/A	Depth:	1.0 IN
Row Spacing:	7.5 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	120 FT	Reps:	5
Tillage Type:	See note	Study Design:	Split-plot		
Previous Crop, Year:	See note				

Field Prep./Maintenance: N 115 LB/A, P2O5 0 LB/A, K2O 0 LB/A
Nitrogen applied as 30 Lb N/A in fall and 85 Lb N/A in spring.

Soil Name:	Rushville	% OM:	1.6	pH:	5.7	CEC:	7
Texture:	Silt loam	Fert. Level:	P1: 81 LB/A, K: 240 LB/A				

APPLICATION DESCRIPTION

A

Application Method: NA

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: TRZAW NA

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code: NA

APPLICATION EQUIPMENT

A

Appl. Equipment: NA

NOTES:

Tillage was either no-till or reduced-till, see treatment list.
Previous crop was either corn or soybean, see treatment list.
Harvested Jun-20-02, (7) 7.5 inch rows by 107 ft.

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Weed Code	LAMAM	STEME			
Crop Code			TRZAW	TRZAW	TRZAW
Rating Data Type	Control	Control	Moisture	Test wt.	Yield
Rating Unit	Percent	Percent	Percent	lb/bu	bu/A
Rating Date	3-14-02	3-14-02	6-20-02	6-20-02	6-20-02
Trt-Eval Interval					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Prod Rate	Prod Unit	Grow Stg	Appl Code
1	NO-TILL							
	1 CORN			51	32	15.5	57.6	48
2	REDUCED-TILL							
	2 CORN			93	93	13.8	59.4	56
3	NO-TILL							
	3 SOYBEAN			0	0	15.0	58.7	57
4	REDUCED-TILL							
	4 SOYBEAN			97	97	14.4	60.1	69
LSD (P=.05)				32.1	29.8	0.79	0.92	2.8
Replicate F				1.124	1.163	1.854	0.362	4.263
Replicate Prob(F)				0.3904	0.3750	0.1834	0.8307	0.0225
Treatment F				18.762	23.901	8.316	11.918	89.853
Treatment Prob(F)				0.0001	0.0001	0.0029	0.0007	0.0001

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Trial Comments

1. Protocol: SIU (RFK).
2. Harmoy Extra + Activator 90 at 0.023 lbai/A + 0 .25% v/v applied March 14, 2002 across entire area to control winter annuals.