

# Effect of Fall Strip Tillage on Corn Yield

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## Objective

To compare corn yields using fall strip tillage vs. conventional spring tillage.

## Background

Cooperator:	March Foundation/ Farm Focus	Fertilizer:	190 lbs/A UAN on April 26, 2000
County:	Van Wert	Herbicides:	PRE: Harness Xtra (2.4 qt/A), Roundup Ultra (1 pt/A)+ AMS (2 lb/A)
Nearest town:	Van Wert	Insecticide:	Lorsban 15G, 8 oz./1,000 row feet
Soil Type:	Millgrove silt loam/ Haney loam	Variety:	USA Hybrids 654
Previous Crop:	Soybeans	Planting Date:	April 28, 2000
Drainage:	Systematic tile	Planting Rate:	36,000 seeds/A
Tillage:	No-till	Row Width:	30 inches
Soil Test:	pH 6.2, P 76 ppm, K 168 ppm	Harvest Date:	October 18, 2000

## Methods

Two tillage methods, fall strip tillage, and spring field cultivation were replicated three times in a randomized complete block design. The fall strip-till work was performed on November 23, 1999, by using a six-row 30-inch Trail Blazer strip-till machine. The spring cultivation was performed twice on April 28, 2000, with a cultivator set at a depth of two to three inches. Each treatment was 45-feet wide by a minimum of 520 feet in length. The study was planted using a John Deere 7000 Max Emerge six-row planter. The target seeding rate of 28,500 seeds per acre was not achieved due to a program error with the variable rate seeder.

Harvest populations were evaluated by counting the number of plants on each side of a 17.5-foot tape at three different locations in each plot. The average of the number of plants counted per 17.5 feet was converted to plants per acre. Individual plot size harvested was a minimum of 0.54 acre. Each plot was harvested, then weighed by a calibrated weigh wagon, and grain yield was adjusted to 15% moisture.

## Results

**Table 1. Effects of Tillage.**

<b>Treatment</b>	<b>Harvest Population (plants/A)</b>
Spring Field Cultivation	32,900
Fall Strip Till	33,100
LSD (P = 0.05)	NS
CV (< 15% is credible)	4.30%

NS = Not Significant

## Summary and Notes

As indicated in the previous table, yield and harvest population stand counts were not significantly different between the two tillage practices. Even though the conventional tillage system mean yield was 5.1 bushels per acre better than the strip till, variation within the replications caused this difference to be statistically not significant.

Actual field conditions during the strip-tillage process were wetter than preferred. As such, the strips were not completely cleared of residue after strip tilling. This condition did not affect planting conditions the following spring, and there were no observed differences in plant emergence between the treatments. There also was no significant difference in the final stand counts just prior to harvest.

This was the first study conducted at Farm Focus looking at strip tillage as an alternative to conventional tillage. The results look very promising, and additional trials are planned for next year. As always, it is best to consider multiple years and sources of information to help in making the decision to adopt a new practice such as strip tillage in your farming operation.

## Acknowledgment

The authors wish to express their appreciation to the Van Wert County Soil and Water Conservation District for providing expertise and the strip-till machine used in this study.

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