

# Chisel vs. No-Till Corn Following Soybeans

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## Objective

The objective of this trial was to determine the effect of tillage on corn yields when following soybeans in a rotation. Farmers in the area have suspected yield decreases due to tillage.

## Background

Cooperator:	Darke County Farm	Fertilizer:	0-0-60 (75 lbs/A)
Nearest Town:	Greenville		18-46-0 (125 lbs/A)
Soil Type:	Miami		150 lbs/A nitrogen with herb.
Drainage:	Tile	Herbicides:	Extrazine (5 qt/A), Banvel (1/4 pt/A)
Previous Crop:	Soybeans	Hybrid:	Pioneer 34G81
Soil Test:	pH 6.4, P 34 ppm, K 164 ppm	Planting Rate:	30,000 seeds/A

## Methods

A replicated study using six replicates in a randomized complete block design was planned to determine whether tillage affected corn yields when following soybeans. Individual strip plots averaged 30' x 1,045' in size. The field had been in a no-till corn and soybean rotation for the past four years. The tilled plots were prepared using a chisel plow and disk unit followed by two passes with a conventional disk. Pioneer 34G81 was planted on May 15 into adequate moisture and with adequate rainfall to activate herbicide and move nitrogen into the soil.

## Results

Treatment	Avg. Yield (Bu/A)
No-till	106.1
Chisel	138.18
LSD (0.05)	11.6

F = 124.5, Very significant differences among treatment means at P = 0.01, CV = 4.1%

## Summary and Notes

Emergence was uniform in all plots but as the corn grew, there became a very visible difference in corn height with the no-till being as much as 18 inches shorter. There was a significant yield increase when using tillage on this particular site when planting corn after soybeans.

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