



# Corn Yield Response to Tillage

## Trial Objective

- Different tillage practices are utilized by farmers for various reasons including:
  - Enhance residue decomposition
  - Control of pests
  - Conserve soil moisture
  - Deliver fertilizer to the root zone
  - Relieve soil compaction
- This trial has been repeated at the Monmouth Learning Center over the last three years to compare different tillage practices and to examine their impact on corn yield.

## Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Planting Rate (seeds/acre)
Monmouth, IL	Silt loam	Corn	Various	4/25/19	10/9/19	250	36K

- Two SmartStax® RIB Complete® corn products were planted:
  - 108-day RM
  - 114-day RM
  - No difference was noted in corn product response, so the results were averaged together.
- Three tillage practices were compared:
  - Conventional tillage with a chisel plow in the fall followed by one pass in the spring to prepare the seedbed for planting.
  - Strip tillage on 30-inch centers in the fall.
  - Vertical tillage in the fall.
- The experiment was replicated five times.
- Results were combined with the previous two years of data to produce a three-year average.

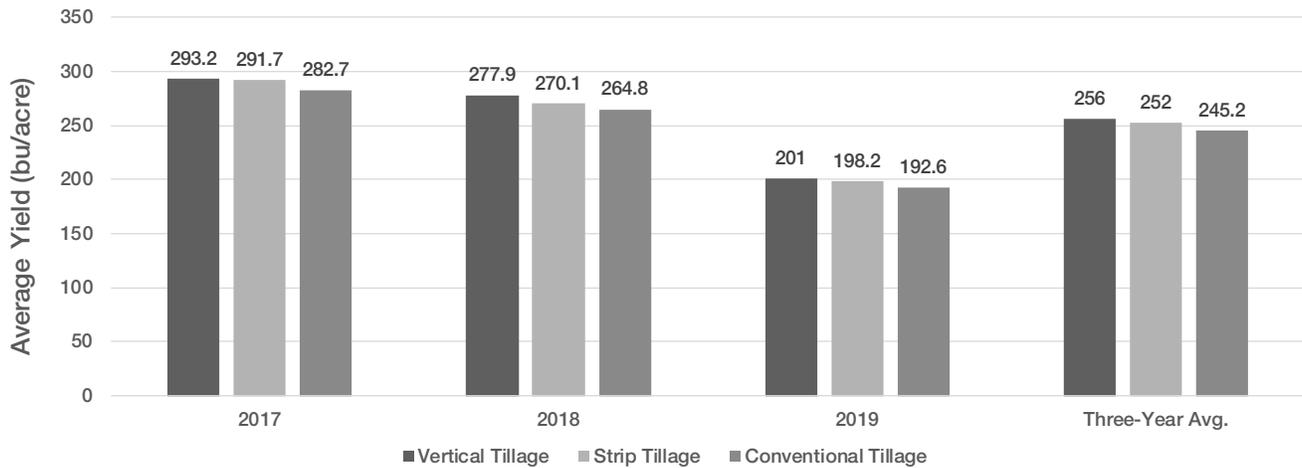
## Understanding the Results

- In 2019, the conventionally-tilled plots underperformed compared to vertical tillage and strip tillage by 8.4 bu/acre and 2.8 bu/acre, respectively. These results were similar to previous years at the Learning Center (Figure 1).



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Effect of Tillage on Corn Yield



## Key Learnings

- Although the results were not substantially different, the tendency at the Monmouth Learning Center has been for conventional tillage to underperform compared to reduced tillage practices.
  - This may be a result of multiple factors such as improved soil structure in reduced tillage fields or better water conservation.
- Reduced tillage practices may provide additional benefits besides yield, such as:
  - Reduced soil erosion
  - Reduced nutrient loss
  - Reduced fuel costs
- Factors such as weather, soil type, or field topography may influence results. Consult your local Field Sales Representative or Technical Agronomist for recommendations for your farm.

## Legal Statements

The information discussed in this report is from a single site, replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

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**IMPORTANT IRM INFORMATION: RIB Complete®** corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.

**Performance may vary,** from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

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