



Conservation Tillage Reduces Operating Costs

The positive financial impact of conservation tillage was one of the key findings that arose from our 2021 report, **Conservation's Impact on the Farm Bottom Line**, which evaluated the economics of conservation practices for seven Midwest farmers. Here we highlight some of our takeaways related to conservation tillage. Be sure to visit soilhealthpartnership.org/farmfinance to explore the full report.



Conservation tillage practices – including no-till, strip-till, or a reduced number of tillage passes – can provide important cost savings for corn and soybean production.

Conservation tillage systems show higher net returns vs. conventional tillage

Fields in our study using conservation tillage practices achieved higher net returns per acre than conventionally tilled fields for both corn (Table 1) and soybeans (Table 2). Fields using conservation tillage and cover crops had lower net returns per acre than fields with conventional tillage and fields with conservation tillage and no cover crops. Tables 1 and 2 show high-level budgets for conventional tillage, conservation tillage and conservation tillage with cover crops.

Table 1: Average corn crop budgets by tillage type

Corn			
	Conventional tillage	Conservation tillage + no cover crops	Conservation tillage + cover crop
Sample size (farms with fields under each practice system)	2	3	7
Acres	3,102.00	319.39	6,020.65
Revenue			
Yield (bu)	205.98	208.28	197.95
Price/bu	\$3.75	\$3.75	\$3.75
Gross income/acre	\$772.43	\$781.05	\$742.31
Direct costs per acre	\$447.97	\$404.42	\$435.22
Net returns per acre	\$324.46	\$376.63	\$307.09

Table 2: Average soybean crop budgets by tillage type

Soybeans			
	Conventional tillage	Conservation tillage + no cover crops	Conservation tillage + cover crop
Sample size (farms with fields under each practice system)	2	2	7
Acres	3,115.00	216.73	5,072.20
Revenue			
Yield (bu)	60.25	53.50	55.24
Price/bu	\$8.75	\$8.75	\$8.75
Gross Income/Acre	\$527.19	\$468.13	\$483.35
Direct costs per acre	\$311.48	\$217.09	\$310.69
Net returns per acre	\$215.71	\$251.04	\$172.66



The most substantial savings from conservation tillage (in both corn and soybeans) came from equipment and fuel costs.

Conservation tillage fields had lower costs than conventionally tilled fields

Conservation tillage practices – including no-till, strip-till, or a reduced number of tillage passes – can provide important cost savings for corn and soybean production. In this study:

- Per-acre costs for corn fields with conservation tillage were lower (\$404/acre) than those for conventionally tilled fields (\$448/acre). Even after adding cover crop costs, fields using conservation tillage and cover crops had lower per acre costs (\$435/acre) than conventionally tilled fields (\$448/acre).
- Soybean fields with conservation tillage and no cover crops (\$217/acre) had substantially lower per-acre costs than conventionally tilled fields (\$311/acre).
- Soybean fields using conservation tillage and cover crops had similar costs to conventional tillage.

Savings on fuel, repairs, and equipment make conservation tillage systems more profitable

By decreasing the number and/or intensity of tillage passes, farmers saved money. The most substantial savings from conservation tillage (in both corn and soybeans) came from equipment and fuel costs. Conservation tillage acres with and without cover crops did, however, have increased burndown costs and, in soybeans, added machine hire and application expenses.

Note: In our sample, yield was not significantly different between tillage practices.

To learn more about our report, *Conservation's Impact on the Farm Bottom Line*, visit soilhealthpartnership.org/farmfinance.



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