



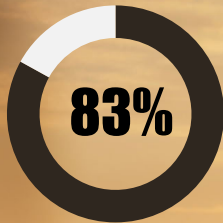
Economics of Cover Crops on Minnesota and Wisconsin Farms

2023 Data Insights



Lack of data

holds farmers back from making investments in climate-smart practices.



identified 'no measurable economic return' as a concern to planting cover crops

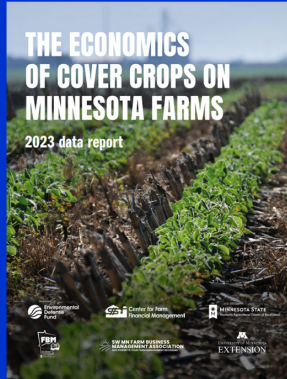
OUR GOAL: Provide farmers with the information needed to make these decisions



We are gathering detailed financial data on cover crops between 2022-2024 from corn, soybean and other row crop farms.



z.umn.edu/CoverCropEcon22



z.umn.edu/CoverCropEcon23



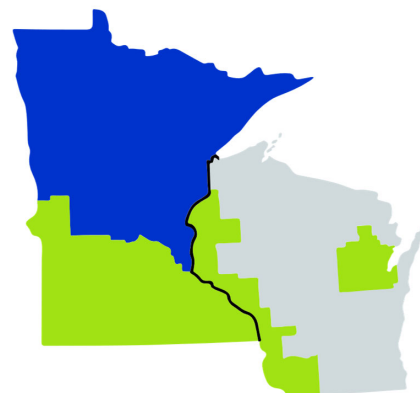
Demographics of the farms in 2023

■ Southern MN & WI cohort ■ Northern MN cohort

141 Farms in the cover crop group

129 Minnesota farms

12 Wisconsin farms



Farms using cover crops are similar to the average Minnesota farm

	Cover crop cohort	All Minnesota farms in FINBIN
Number of farms (Total)	141	2,448
Total crop acres per farm	822	794
Operator age	47	48
Years farming	24	23
Percentage of farms that are beginning farmers*	21%	29%
Share of farms that are crop farms	52%	60%
Average net farm income	\$96,741	\$89,359
Median net farm income	\$68,846	\$44,719
Net worth	\$2,691,280	\$ 2,754,311
Debt-to-asset ratio	34%	32%
Operating expense ratio	80%	82%

*Beginning farmers are defined as someone who has operated a farm for 10 years or less.

2023 crop and financial conditions



Cover crops planted in fall 2022, harvested or terminated in winter or spring 2023

Primary crops planted in spring 2023 and harvested in fall 2023



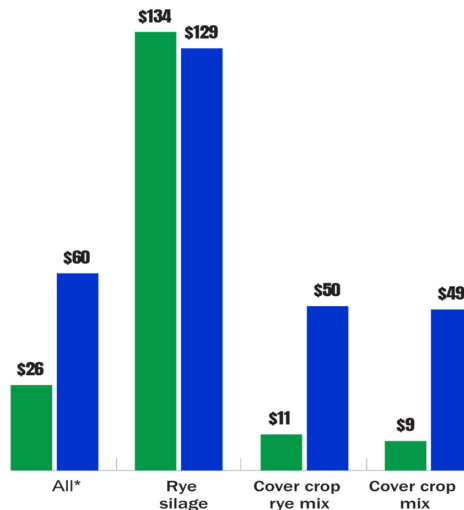
Dry conditions affected cover crop planting and establishment



Low profitability due to high input costs and low commodity prices

Cover crop costs vary significantly based on their intended purpose.

■ Average gross return ■ Average total direct expense

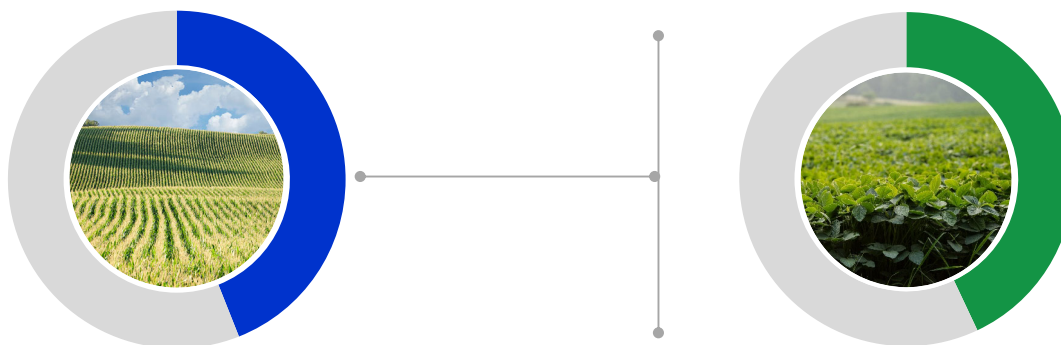


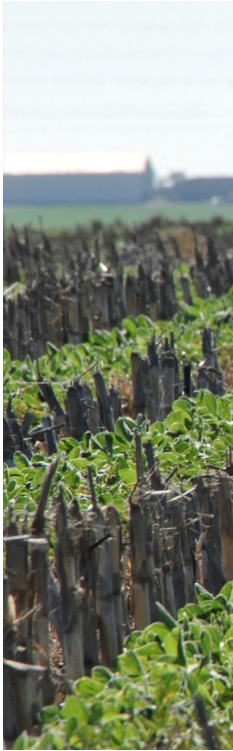
All includes the cover crop enterprises of rye silage, cover crop rye mix, cover crop mix, rye and cover crop forage from FINBIN in 2023.

Cost-share payments can reduce cover crop costs

44% of cover crop fields received cost-share payments.

These payments covered **43%** of the total cover crop costs for those fields on average.





Cover crop impacts on crop enterprises

Commodity Crops Analyzed



Corn



Corn Silage



Soybeans



Wheat

Farms in the cohort were compared to the average farm in the region



Combined enterprise

Commodity crop grown after a cover crop + Cover crop enterprise



Benchmark

Average of all fields for the crops in the region that were grown without a cover crop

Summary of key insights



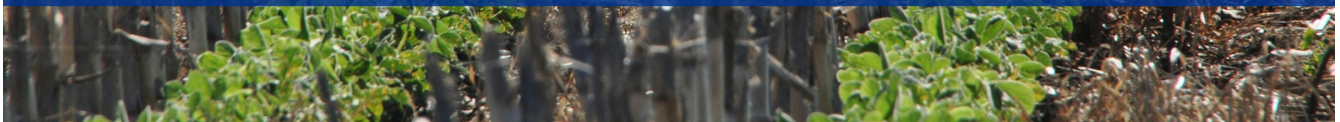
The gross returns of fields with cover crops planted ahead of the commodity crop were similar to fields without cover crops in most of the crops evaluated.



For the majority of commodity crops, the average fertilizer expense for fields planted with a cover crop was lower than the area average.



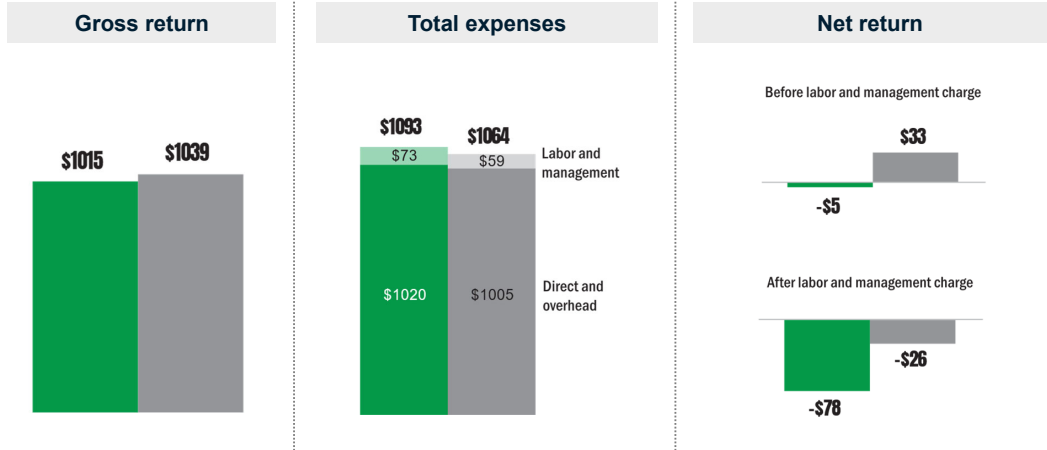
For all regions and commodity crops analyzed, the average net return after accounting for labor and management of the cover crop and the following commodity crop was lower than the average net return of the same commodity grown without a cover crop.



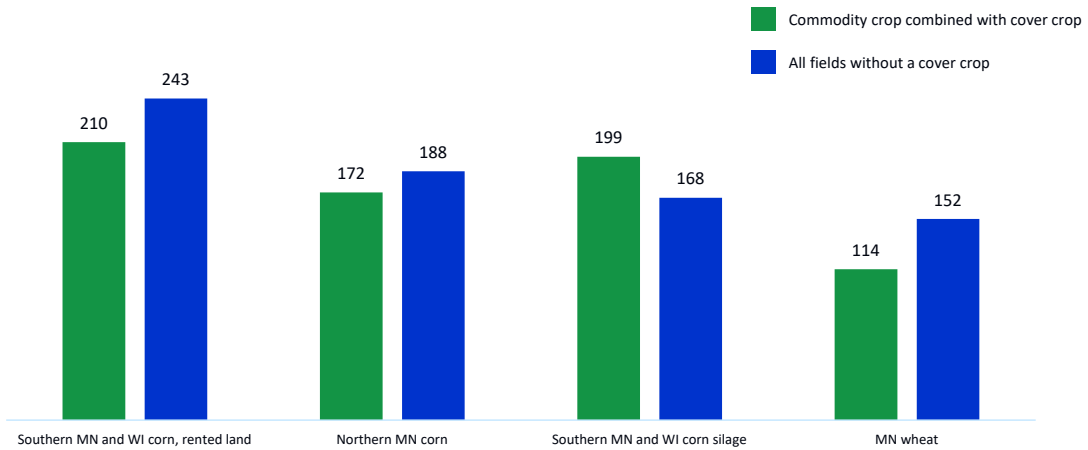


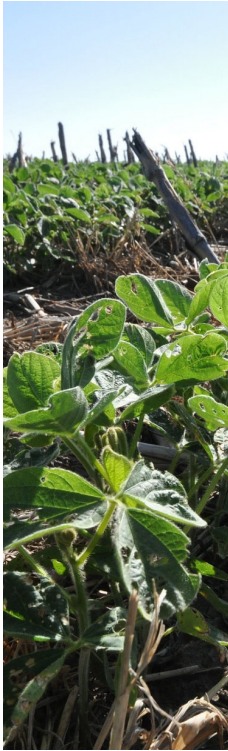
Corn in Southern MN and WI on rented land

■ Corn combined with cover crop
 ■ All corn fields without a cover crop



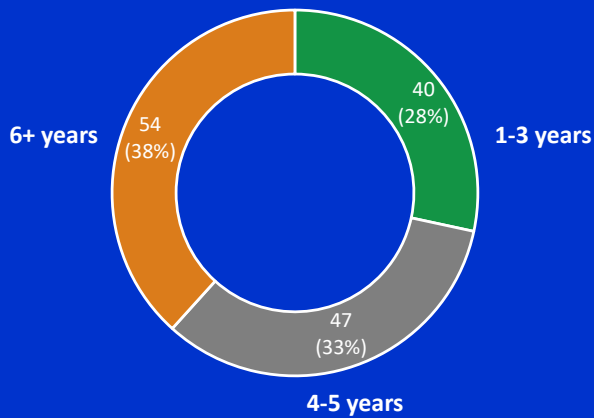
The average fertilizer cost for fields with cover crops was lower than the benchmark in most cases





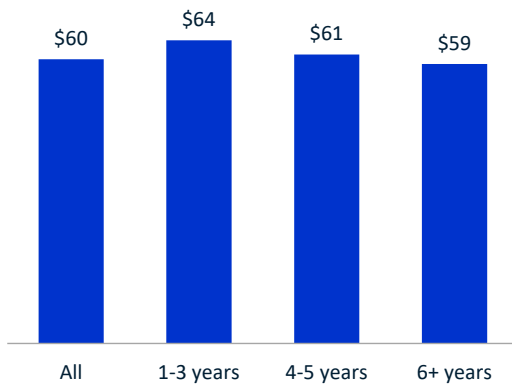
Comparison across years of cover crop experience

Participating farms have a wide range of years of production experience with cover crops.



Producers with more cover crop production experience had lower expenses

Average total direct expense (\$/acre)



Median total direct expense (\$/acre)



Key takeaways

- The costs and returns of cover crops depend on their end use.
- Cost-share payments can reduce cover crop costs.
- The average net return of commodity crops combined with a cover crop was lower than that of the same crops grown without a cover crop.
- Farmers with more experience in growing cover crops had lower expenses than those with less experience.

