



**2020 - 2021**

# **ORGANIC FARM PERFORMANCE IN THE UPPER MIDWEST**

**Whole Farm & Enterprise Reports**

# ACKNOWLEDGEMENTS

We begin with a hearty “thank you” to all the participating certified organic and organic transitioning farmers who shared their financial and production information for the *Organic Farm Financial Benchmarking in the Upper Midwest* project. Participating farms received a cost-share reduction in the tuition rate for enrolling in the farm business management program. Information regarding the cost-share opportunity has been included in numerous industry newsletters in addition to a website, [www.agcentric.org](http://www.agcentric.org), developed to promote the project and results.

Partner organizations on the project include farm business management educational programs of the Minnesota State Colleges and Universities’ Agriculture Centers of Excellence, the Wisconsin Technical College System, and North Dakota (ND) Farm Management. In 2020-2021, only data from Wisconsin’s and Minnesota’s participating organic producers were included in this publicly available annual report due to limited participation numbers in ND. At least ten aggregated farms per column were required for a data table to be included in this report; all columns with less than ten were omitted. This helps protect the privacy of participants and ensures that individual farm data remain confidential. Again, thank you to the participating colleges, instructors, and farmers.

Funding for the tuition cost-share, data collection and analysis was provided by the United States Department of Agriculture’s Organic Agriculture Research and Extension Initiative (Grant # 2019-51300-3084) during 2019 - 2022.

## Project Coordinators:

- Joleen Hadrich, PI, Professor, Department of Applied Economics, University of Minnesota, [jhadrich@umn.edu](mailto:jhadrich@umn.edu)
- Pauline Van Nurden, PI, Extension Economist, Center for Farm Financial Management, [pvannurd@umn.edu](mailto:pvannurd@umn.edu)

## Report Authors:

- Gigi DiGiacomo, Research Fellow, Department of Applied Economics, University of Minnesota, [gigid@umn.edu](mailto:gigid@umn.edu)
- Pauline Van Nurden, PI, Extension Economist, Center for Farm Financial Management, [pvannurd@umn.edu](mailto:pvannurd@umn.edu)

# CONTENTS

<b>INTRODUCTION .....</b>	<b>4</b>
<b>ORGANIC TERMS &amp; DEFINITIONS.....</b>	<b>5</b>
<b>REPORT HIGHLIGHTS .....</b>	<b>6</b>
MINNESOTA REGIONS.....	8
<b>WHOLE FARM FINANCIAL SUMMARY .....</b>	<b>9</b>
CERTIFICATION STATUS.....	10
FARM TYPE .....	20
FARM SIZE .....	26
<b>CROP ENTERPRISE SUMMARY .....</b>	<b>33</b>
CORN .....	36
CORN SILAGE .....	41
SOYBEAN .....	46
ALFALFA HAY .....	51
<b>LIVESTOCK ENTERPRISE SUMMARY .....</b>	<b>56</b>
PASTURE.....	57
DAIRY .....	60
<b>FARM FINANCE SCORECARD.....</b>	<b>68</b>
<b>FARM FINANCE CALCULATIONS .....</b>	<b>72</b>



# INTRODUCTION

This report was funded with a grant from the USDA OREI as part of a project called *Organic Farm Financial Benchmarking in the Upper Midwest (Organic Benchmarking Project)*. The Organic Benchmarking Project is an integrated regional effort led by University of Minnesota Extension with the long-term goal of enhancing the economic viability of organic farms in Minnesota (MN), Wisconsin (WI) and North Dakota (ND) through comprehensive financial benchmark analysis.

Benchmarking provides a summary of production and financial performance measures, allowing producers to evaluate their individual performance, compare it to a cohort with similar farm characteristics, and remain competitive. Conventional farming operators have numerous resources to complete benchmark analysis, while few are available for organic producers. Thus, this project helps generate the data and the tools needed by organic farms to better analyze and benchmark their business performance.

Specifically, the Organic Benchmarking Project aims to:

- collect data about farm production and financial performance measures for certified organic row crop, forage, dairy, and specialty crop farms to investigate the financial performance of certified and transitioning organic farms in the Upper Midwest;
- develop benchmark reports for certified organic row crops (corn, soybeans, and wheat), forage (hay and corn silage), dairy and specialty crop (fruits and vegetables) farms; and
- develop and deliver Extension programming to address the educational needs of organic producers and the agricultural professionals who advise them.

Organic farm financial data are collected as part of farm business management (FBM) instruction across the Upper Midwest. Tuition cost-share funding has been offered to certified organic and transitioning farmers in Minnesota and Wisconsin who enrolled in the FBM education program in 2018-2022. Data from farms participating in FBM have been aggregated and imported into FINBIN, a database maintained by the University of Minnesota's Center for Farm Financial Management (CFFM) ([finbin.umn.edu](http://finbin.umn.edu)). The tables in this report were created using the public facing [FINBIN.umn.edu](http://FINBIN.umn.edu) website in August 2022<sup>a</sup> and include MN-WI data. There are not enough organic records from ND to incorporate at this time.

If you are interested in learning more about the FBM program and organic cost-share for 2022-2023 visit <https://www.agcentric.org/farm-business-management/organic-farming-resources/>.

---

<sup>a</sup> FINBIN (2022). *Center for Farm Financial Management*: University of Minnesota. Retrieved from <http://finbin.umn.edu>.

# ORGANIC TERMS & DEFINITIONS

The USDA National Organic Program (NOP) regulates all organic crops, livestock and products – determining certification standards, compliance with those standards, enforcement of standards and labelling. Farmers, processors and retailers must follow USDA organic regulations in order to sell, label or represent their products as organic.

Organic, as defined by the USDA, is “a labeling term that indicates that the food or other agricultural product has been produced through approved methods. These methods integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation and genetic engineering may not be used.” The complete list of NOP standards can be found at [ams.usda.gov/rules-regulations/organic](https://ams.usda.gov/rules-regulations/organic).

When becoming certified organic, farmers must transition their land by eliminating any prohibited substances as defined by NOP. For crop land, the transition period is three years; crops cannot be certified or sold as organic until the transition has been completed. Some acreage, such as fallow (e.g., CRP land) or pasture land, may be certified more quickly if the farmer can show that it has been at least three years since prohibited substances have been applied.

Organic records in the FINBIN database can be sorted according to certification status (certified v. transitioning) and by the amount of acreage certified (total organic v. partial organic). In this report, the following terms are used to describe farms that manage organically.



**Total Organic:** 100% of land, livestock and products are certified organic.

**Partial Organic:** A portion of land, livestock and products are certified organic while the remainder is non-certified and may be farmed conventionally, in transition to organic, or some combination of both.

**Transitioning:** Some or all land, livestock and products are in transition to organic certification.

Financial analyses in this report make use of the **Farm Finance Scorecard** – a tool developed by the University of Vermont Extension and CFFM. The scorecard uses a red-yellow-green rating system to rank financial performance. Farm Finance Scorecard terms are highlighted in maroon throughout the report and can be found at the end of this report.



# REPORT HIGHLIGHTS

The 2020-2021 report highlights represent a snapshot of organic farm financial performance. As this Organic Benchmarking Project continues, longitudinal data will become available, allowing for a richer year-over-year comparison of profitability, solvency, and liquidity among organic farms and between organic and conventionally-managed farms.

In 2020-2021 there were 135 total organic, 55 partial organic and 17 transitioning to organic farms in the FINBIN database for MN-WI combined. Together, these FINBIN farms represented approximately **nine percent of all certified organic and transitioning farms** in Minnesota and Wisconsin<sup>b</sup>. Using the USDA ERS farm size metric<sup>c</sup> measurement, the majority of organic farms in FINBIN are considered small (52%) followed by mid-size (40%) and large (8%).

Unsurprisingly, **small organic farms with <100 acres had the lowest median net farm income**, \$39,361, suggesting that most of these farms may be operating part-time and/or require supplemental off-farm income to cover family living expenses. However, these small producers were financially efficient, posting some of the strongest farm financial benchmarks among their organic cohorts.

**Midsize farms with 501-1,000 acres posted the strongest median net farm income**, \$159,882 on average among all farm types, and did so while making efficient use of labor. The proportion of unpaid labor hours was substantially lower on farms that managed 501-1,000 acres compared to other organic farms. Mid-sized farms scored strong for profitability indicators but were more at risk when it came to liquidity and vulnerable in terms of **solvency** suggesting they were highly leveraged.

**Large organic farms averaged \$150,215 in median farm income** for 2020-2021 and the largest return to unpaid labor: \$130.31/hour. In terms of liquidity, these same farms maintained the largest share of working capital, \$430,006; more than sufficient to manage risk and optimize opportunities for future growth.

Total organic farms were the most profitable, generating **\$131,839 net farm income** on average compared to \$116,181 for partial organic farms and \$109,880 for transitioning farms during 2020-2021. The median net farm income, however, was almost half of net farm income for farms of any certification status (certified and transitioning), suggesting a large amount of variation across farms with the more profitable operations having skewed the average upwards.

---

<sup>b</sup> Minnesota and Wisconsin reported 2,368 organic and transitioning acres in the USDA 2019 Organic Survey.

<sup>c</sup> Small family farms are classified as those with less than \$350,000 in gross cash farm income. Midsize family farms are those with gross cash farm income of \$350,000 to \$999,999.

<https://www.ers.usda.gov/topics/farm-economy/farm-structure-and-organization/farm-structure-and-contracting/>.

Strong profitability led to **healthy liquidity gains** on certified organic farms allowing them to replenish working capital and boost net worth. Total organic and partial organic farms in MN-WI reported working capital-to-gross income ratios of more than 30% placing them in the strong (green) category. Transitioning farms ranked moderate (yellow) with a working capital-to-gross income ratio of less than 30%. This is not surprising given the investments and higher input expenses required to transition without the benefit of organic commodity sales premiums. The average MN-WI organic farm had a cost basis **net worth of \$850,958**. All farm types ranked moderate (yellow) on a cost and market basis with farm debt-to-asset ratios ranging from 33% (beef & crop) to 51% (dairy).

Turning to individual organic enterprises, most crops saw improved production and finances in 2021 compared to the previous year; they were profitable across the board regardless of size. **Crops represent the largest organic farm type** in the FINBIN database (65 out of 189 or 34%) followed by dairies (57 out of 189 or 30%). Despite early drought conditions in 2021, net income was positive for organic crops. MN-WI's top organic crops, corn and soybeans, saw moderate price increases. Organic corn and soybeans sold for **\$9.51/bu and \$29.62/bu**, respectively, on average in 2021; corn was up 28% and soybeans 46% compared to 2020 organic prices.<sup>d</sup>

Other notable highlights for organic and transitioning farms in 2020-2021:

- **Older, more experienced farmers** are paving the way in organic production. Total and partial organic farmers averaged 44.9 years and 43.3 years respectively, compared to their transitioning counterparts who were 40.7 years on average. The older farmers also had more production experience (18.1 years farming for total organic and 19.2 years for partial organic) compared to those who were transitioning to organic (9.2 years farming).
- Organic and transitioning farmers cash rent the majority of their cropland.
- Total organic operators reported using the most labor (hired and unpaid) averaging 4,252 hours/farm. **Hired labor accounted for half (50.7%) of total labor** on fully organic farms where operators paid \$17.88/hour on average or \$38,620.80 annually for hired labor.
- **Organic certification expenses increased** substantially for crop (12%) and dairy farms (36%) from 2020 to 2021. Overall, however, certification fees remained less than or equal to one percent of total direct expenses for organic farms.
- The average **term-debt coverage** for all MN-WI organic farms was 2.58. Crop farms, with a term-debt coverage ratio of 4.31 pulled the average up, nonetheless, all organic farm types scored well above the 1.75 benchmark metric signifying **strong repayment capacity**.

---

<sup>d</sup> Organic corn sold for \$7.42/bu on average in 2020; soybeans sold for \$20.29/bu.

## MINNESOTA REGIONS

The map below (Fig. 1) shows median farm income for total organic, partial organic and transitioning farms for MN farm business management regions. There were not enough farms reporting to break out regional performance in the Northeast/East Central MN for 2020, Southwest MN or WI. A minimum of 10 farms is needed to generate regional reports.

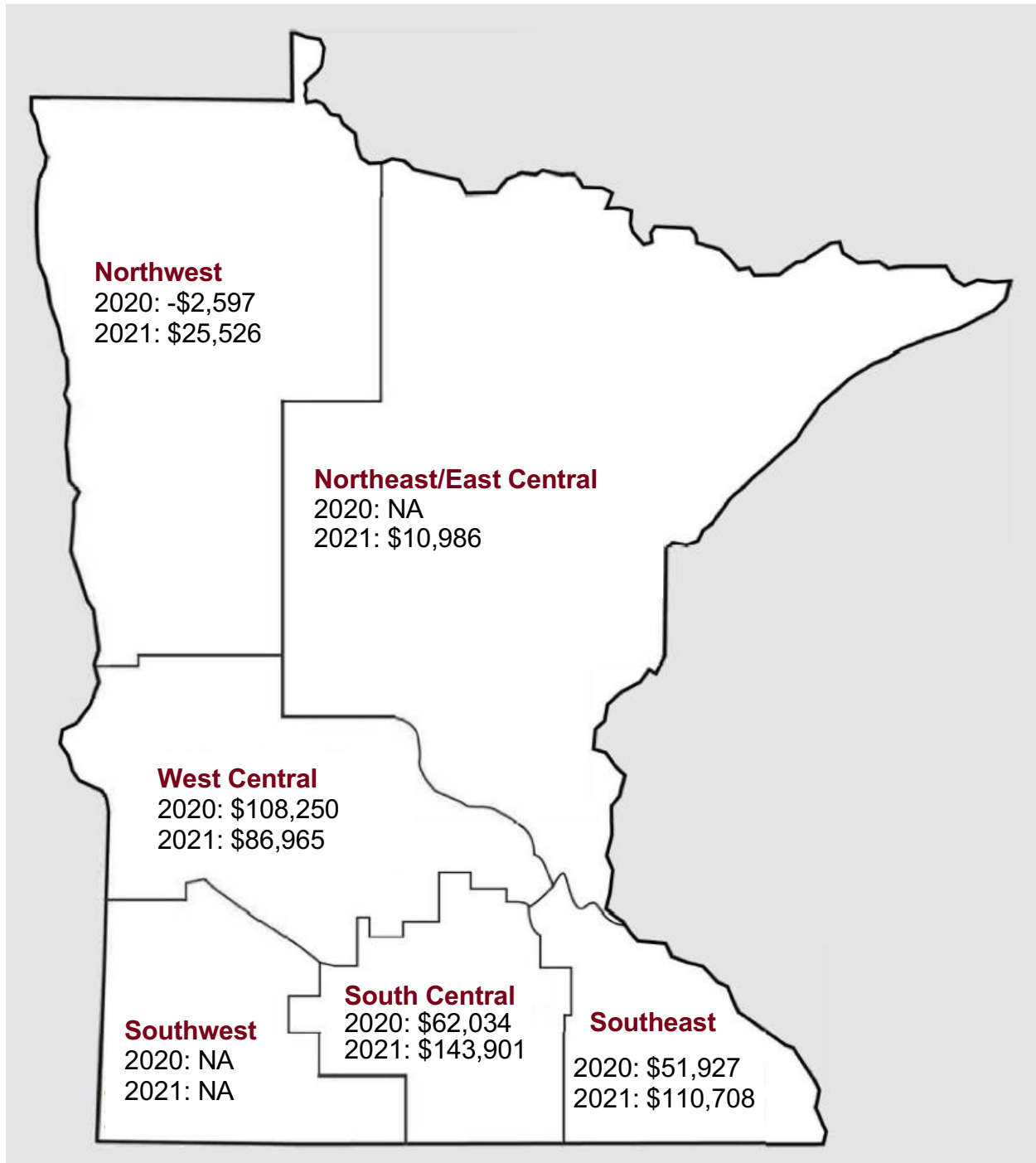


Fig. 1 source: Map figure reproduced from FINBIN 2020 Report on Minnesota Farm Finances.



# WHOLE FARM FINANCIAL SUMMARY

The 2020-2021 organic analysis begins with a whole farm summary report. This provides a high-level overview of financial and production characteristics of the 206 total organic, partial organic and transitioning organic farms from MN-WI combined.

The year 2020 was one that started with cautious optimism as many commodity prices were slowing rising, following several years of reduced profits across most agricultural commodities, particularly dairy. But by March, the COVID-19 pandemic brought significant uncertainty to agricultural markets; for example, most dairy producers saw milk prices in April and May of 2020 plummet and crop farmers experienced depressed pricing as well. Tides turned in the second half of the year, and 2020 turned into an unexpectedly profitable year for organic (and non-organic) producers, as gross farm income benefited from generally good yields, increasing commodity prices, and noteworthy government payments related to the pandemic.

In 2021, despite early drought conditions, farmers saw some continuation of improved yields with late summer moisture and a spike in commodity prices thanks to a slow-down in competing organic imports. Government support decreased substantially from the 2020 highs and input prices increased overall. Improved yields and commodity prices more than balanced out the loss in government income and upward shift in production costs leading to a 14.5% increase in net farm income above the previous year.

In the next section, whole farm financial data are broken down by certification status followed by farm type and farm size. Data sources for this section are shown below.

## **FINBIN data sources for organic whole farm financial summary by certification status 2020-2021 (# farms)**

MN State College & University South (122)

MN State College & University North (50)

Wisconsin Technical College System (29)

MN State College & University Red River Valley (3)

Other contributors (2)

Location: Minnesota, Wisconsin

Year(s): 2021, 2020

Special sorts included: Organic farm (total), Organic farm (partial), Organic transition

## CERTIFICATION STATUS

This section of the report describes operator information, farm acreage, income, profitability, liquidity, solvency and farm labor by certification status; total organic, partial organic and transitioning to organic. Data sources for this section of the report come from three FINBIN sorts – one for each certification type as described below. Note the data sources for transitioning farms cannot be disclosed because of low record numbers.

### **FINBIN data sources for organic whole farm financial summary by certification status 2020-2021**

#### **Total Organic**

MN State College & University South (72)

MN State College & University North (36)

MN State College & University Red River Valley (2)

Wisconsin Technical College System (24)

Years: 2020, 2021

Special sorts included: Organic farm (total)

Special sorts excluded: Organic farm (partial), Organic transition

#### **Partial Organic**

MN State College & University South (40)

MN State College & University North (8)

Wisconsin Technical College System (5)

Other Contributors (2)

Years: 2020, 2021

Special sorts included: Organic farm (partial)

Special sorts excluded: Organic farm (total), Organic transition

#### **Transitioning**

MN State College & University South (ND)

MN State College & University North (ND)

MN State College & University Red River Valley (ND)

Wisconsin Technical College System (ND)

Years: 2020, 2021

Special sorts included: Organic transition

Special sorts excluded: Organic Farm (total), Organic farm (partial)

**OVERALL STATUS & FARM TYPE.** Minnesota and Wisconsin reported farm financial data for 134 total organic, 55 partial organic, and 17 transitioning farms during 2020-2021. Fig.2 shows how farm type varied by certification status. A farm is classified by “type” when 70% or more of its net farm income is derived from dairy, field crops, beef & crop, hogs, poultry, specialty crops, or other.

During 2020-2021, total organic farms were almost equally split between dairy and crop farm types (39% and 32%, respectively). The remainder of total organic farms were classified as “other” – meaning that there were not 10 or more farms of any individual type to be labeled as such. Partial organic farms were, for the most part, managing field crops. Forty percent of partial organic farms are classified as crop farms, 25% as beef & crop, and the remaining farms as “other.”

Less than 10 farms of any one farm type was counted for transitioning farms, therefore we are unable to report on the farm type status for this group.

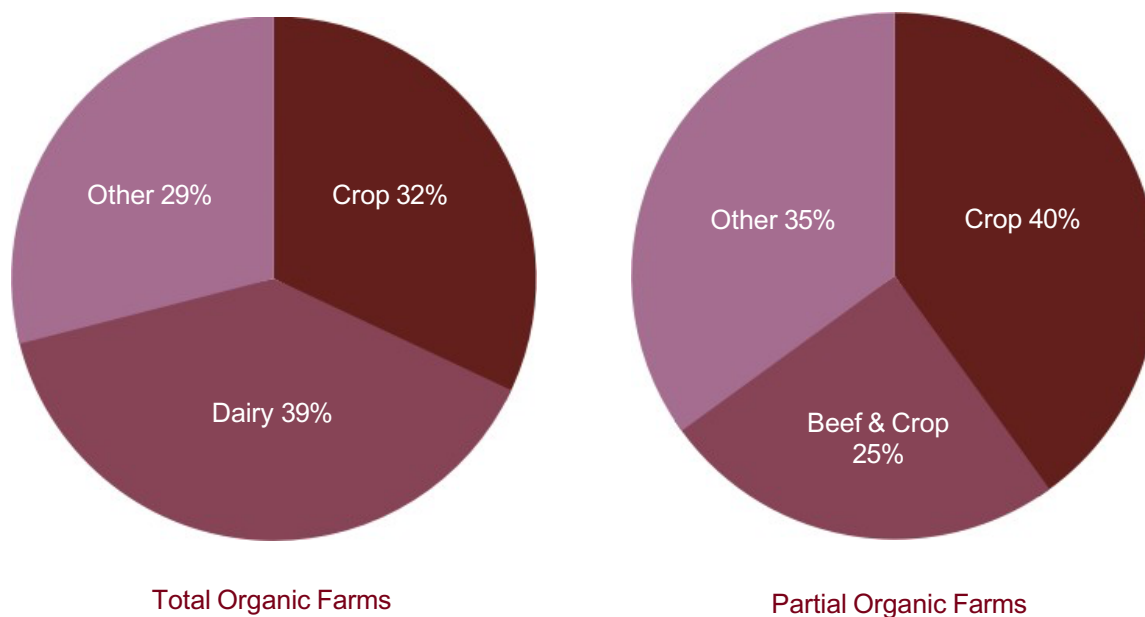


Fig. 2. Farm Type for Total Organic and Partial Organic Farms in MN-WI, 2020-2021

**OPERATOR AGE & EXPERIENCE.** Operator age and experience was similar on total and partial organic farms in FINBIN but differed for transitioning producers. The average age of FINBIN’s total organic farmers in MN-WI for 2020-2021 was 44.9 years compared to an average age of 43.3 for partial organic farmers and 40.7 for transitioning farmers. Generally, the older total and partially organic farmers had more experience (18.1 years farming for total organic and 19.2 years for partial organic) compared to their counterparts who were in the process of transitioning to organic (9.2 years farming).

**FARM LABOR.** Turning to labor on MN-WI farms, we explore the ratio of paid to unpaid labor by certification status (Fig. 3). Fully organic operators reported using the most labor (paid and unpaid) averaging 4,252 hours per farm during 2020-2021. Hired labor accounted for half (50.7%) of total labor on fully organic farms where operators paid \$17.88/hour on average or \$38,620.80 annually. Net returns for unpaid labor on these same farms averaged \$62.43/hour during 2020-2021.

Partial organic farm operators tracked the lowest number of labor hours averaging 2,284 hours annually for both paid and unpaid labor combined over the 2-year period reported. Partial organic farm managers relied primarily on unpaid labor (86.9%) versus paid labor (13.1%). Of the three farm groups, net returns for unpaid labor (\$52.61/hour) was the lowest on partial organic farms. These same farms paid \$17.26/hour on average for hired labor (\$5,178 annually) during 2020-2021.

Transitioning organic farm managers fell somewhere in the middle of their fully organic and partial organic counterparts. The transitioning farmers reported using 2,917 hours of labor annually on average during 2020-2021, 32.2% of which was hired and 67.8% unpaid. Transitioning farms paid the lowest wage for hired labor (\$14.33/hour), spending \$13,455.87 each year on average for hired labor. Net returns for unpaid labor on transitioning farms averaged \$55.53/hour.

Differences in total labor requirements (paid and unpaid) are likely explained by the predominant farm type for each certification group. As discussed previously, total organic farmers tended to be dairies, which require more labor on a daily basis than the partial organic crop farms.

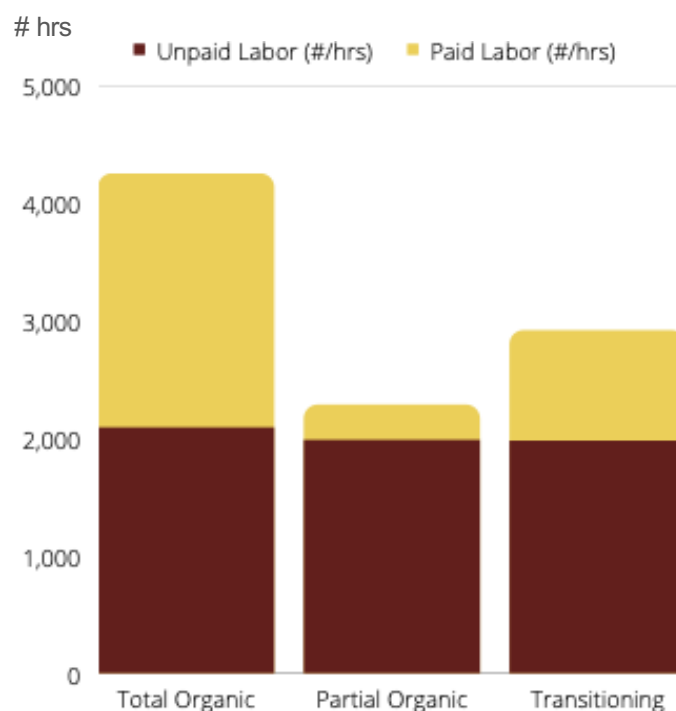


Fig. 3. Paid v. Unpaid Labor Hours for Organic and Transitioning Farms in MN-WI, 2020-2021

**FARMLAND OWNERSHIP & TENURE.** Farmland ownership and overall land tenure is particularly important in organic agriculture because it affects decisions related to transition and certification, in addition to overall access, conservation, and succession planning. Total and partial organic farms in MN-WI managed similar size farms on average; 279 acres and 293 acres, respectively. Transitioning farms were less than half the size of their organic counterparts; they managed 125 crop and pasture acres on average in 2020-2021.

The majority of organic cropland was not owner operated for farms in FINBIN; just 36% of cropland managed on total organic farms was owned in 2020-2021; 21% of managed cropland was owned by partial organic farmers and 16% by transitioning farmers (Fig. 4). The ownership rates of cropland for organic farmers are slightly lower than the overall ownership rate of cropland nationwide which averaged 46% according to the most recent data available from USDA National Agricultural Statistics Service.<sup>5</sup>

The majority of cropland managed by organic and transitioning farmers was cash rented. While cash rental is very common among farmers who manage conventionally, organic farmers take bigger risks when relying on cash rental due to the longer-term investments typically required for transition.

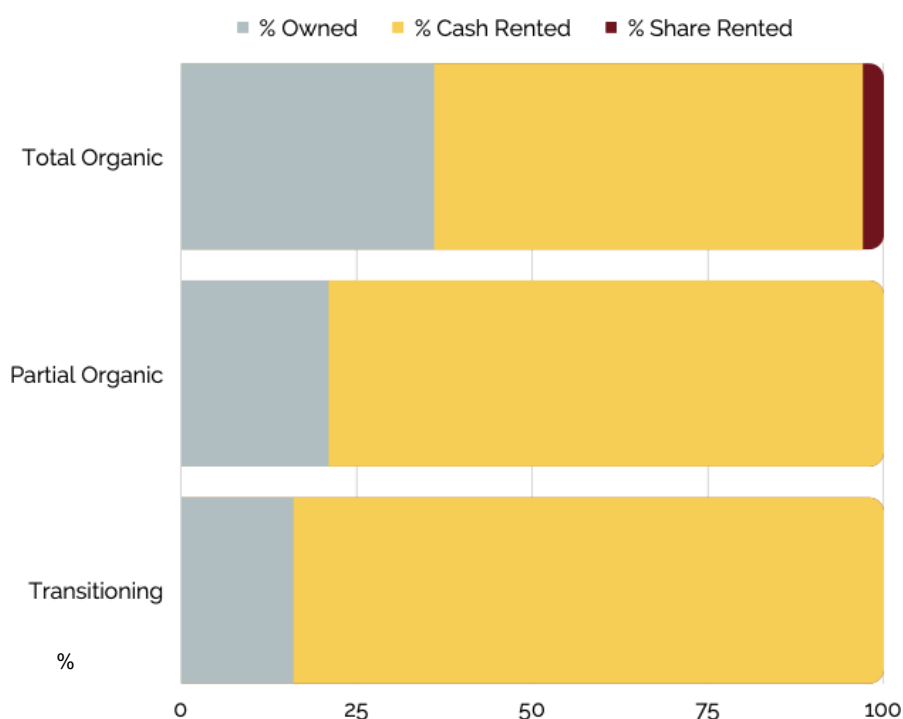


Fig. 4. Crop Acres for Organic and Transitioning Farms in MN-WI, 2020-2021

<sup>5</sup> “2014 Tenure, Ownership and Transition of Agricultural Land (TOTAL) Survey.” USDA, NASS.



**PROFITABILITY.** Farm income and **profitability** represent the difference between the value of goods produced and the cost of the resources used in their production (Farm Finance Scorecard 2014). FINBIN includes several measures of profitability including **average net farm income**, median net farm income, **rate of return on assets**, **rate of return on equity**, **operating profit margin** and **asset turnover rate**. We discuss all of these here and, as a reminder, definitions for financial terms colored **maroon** can be found at the back of this publication.

Average **net farm income** for total organic farms in MN-WI measured \$132,319 in 2020-2021 compared to \$105,687 for partial organic farms and \$109,880 for transitioning farms (Fig. 5). These averages, however, were skewed substantially by top performers and do not accurately reflect typical net farm income for the groups. A better measure, when there is a large amount of variation among farms, is the median net farm income. Median net farm income for total organic farms was \$76,404 (40% below average net farm income). Similar trends were observed for partial organic farms where median net farm income measured \$67,746 (36% below average net farm income) and \$54,025 for transitioning farms (51% below average net farm income).

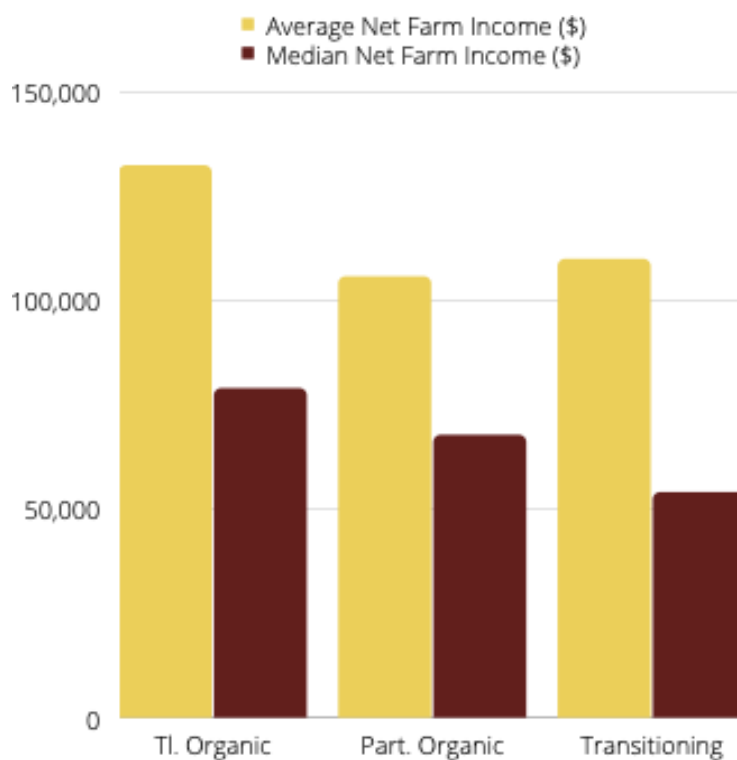


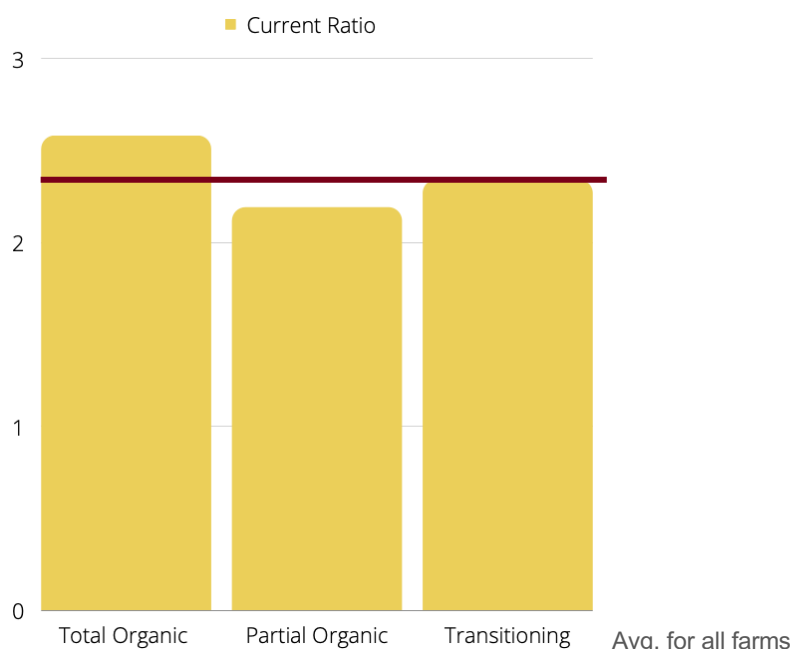
Fig. 5. Average v. Median Net Farm Income for Organic and Transitioning Farms in MN-WI, 2020-2021

Turning to the cost-basis profitability indicators, all three groups are ranked strong (green) for **rate of return on assets**, **rate of return on equity** and **operating profit margin**. These indicators suggest that farm profits generated a healthy return on investments in the farm businesses.

**LIQUIDITY & SOLVENCY.** In 2020-2021, strong profitability led to healthy liquidity allowing farms to replenish **working capital**. Working capital is an important liquidity measure of income and assets available in the short term to purchase inputs and to pay hired labor, interest and taxes.

For farms in FINBIN, total organic and partial organic farms in MN-WI reported working capital that ranged from \$95,281 for transitioning farms to \$175,640 for total organic farms. To put this in perspective, we look at **working capital-to-gross income ratio**. Working capital-to-gross income ratio measures the share of a farm's available operating capital in relation to the size of the overall business. Both total organic and partial organic farms had working capital-to-gross income ratios of more than 30% placing them in the strong (green) category. Only transitioning farms ranked moderate (yellow) with a **working capital-to-gross income ratio** of less than 30% (26.3%). This is not surprising as significant investments are required during transition without the benefit of organic price premiums, which can put a squeeze on short-term cash flow and available working capital.

The **current ratio** is another indicator of liquidity and measures the extent to which current farm assets, if sold tomorrow, would be able to pay off current liabilities. In 2020-2021, the average **current ratio** for MN-WI total organic, partial organic and transitioning farms measured between 2.18 – 2.58 (Fig. 6). A current ratio greater than 2.0 is considered strong (green), indicating that there are twice as many current assets as current liabilities.



**Fig. 6. Current Ratio for Organic and Transitioning Farms in MN-WI, 2020-2021**

Turning to solvency, farms in all three certification groups were ranked moderate (yellow) with **farm debt-to-asset ratios** of 40% to 46% (cost). The **farm debt-to-asset ratio** measures the bank's share of the farm business; it compares total farm debt to total farm assets. A higher debt-to-asset ratio is an indicator of greater financial risk and lower borrowing capacity.

## Farm Operator & Labor Information by Certification Status

	MN-WI	MN-WI	MN-WI
<b>Organic status</b>	<b>Total organic</b>	<b>Partial organic</b>	<b>Transitioning</b>
<b>Year</b>	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg
<b>Number of farms</b>	134	55	17
<b>Operator Information</b>			
Average number of operators	1.3	1.4	1.6
Average age of operators	44.9	43.3	40.7
Average number of years farming	18.1	19.2	9.2
Total acres owned	118.0	115.5	35.1
Total crop acres	233.1	266.6	124.5
Crop acres owned	83.2	55.2	20.4
Crop acres cash rented	142.3	211.4	104.1
Crop acres share rented	7.6	-	-
Total pasture acres	46.3	26.2	0.5
<b>Labor Analysis</b>			
Total unpaid labor hours	2,092	1,984	1,978
Total hired labor hours	2,160	300	939
Total labor hours per farm	4,252	2,284	2,917
Unpaid hours per operator	1,574	1,468	1,227
Value farm production/hr	104.36	161.85	93.16
Net farm income/unpaid hr	62.43	52.61	55.53
Average hourly hired labor wage	17.88	17.26	14.33

## Income & Profitability by Certification Status

	MN-WI	MN-WI	MN-WI
Organic status	Total organic	Partial organic	Transitioning
Year	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg
Number of farms	134	55	17
<b>Summary income statement</b>			
Gross cash farm income (\$)	468,909	381,167	305,514
Total cash farm expense (\$)	360,425	295,916	236,103
Net cash farm income (\$)	108,484	85,251	69,411
Inventory change (\$)	56,022	51,078	54,700
Depreciation (\$)	-33,873	-21,267	-14,275
Net farm income fm. operations (\$)	130,633	115,061	109,836
Gain or loss on capital sales (\$)	1,205	1,120	44
<b>Net farm income (\$)</b>	<b>131,839</b>	<b>116,181</b>	<b>109,880</b>
<b>Median net farm income (\$)</b>	<b>76,404</b>	<b>69,623</b>	<b>54,025</b>
<b>Profitability (cost)</b>			
Rate of return on assets	8.1	8.5	13.6
Rate of return on equity	11.6	12.7	20.3
Operating profit margin	24.3	25.5	31.8
Asset turnover rate	33.2	33.3	42.9
<b>Profitability (market)</b>			
Rate of return on assets	6.8	6.5	10.4
Rate of return on equity	9.1	9.0	15.2
Operating profit margin	25.8	24.2	28.7
Asset turnover rate	26.2	26.8	36.3
<b>Nonfarm Information</b>			
Net nonfarm income (\$)	38,573	22,705	34,800

This farm income statement reports information from the previous page in greater detail.

	MN-WI	MN-WI	MN-WI
Organic status	Total organic	Partial organic	Transitioning
Year	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	134	55	17
Crop sales	120,005	207,933	68,216
Crop inventory change	44,270	48,680	42,102
Gross crop income	164,275	256,613	110,318
Livestock sales	236,798	93,302	127,451
Livestock inventory change	1,948	729	1,324
Gross livestock income (\$)	238,746	94,031	128,774
Government payments	44,860	32,783	33,366
Other cash farm income	65,765	43,196	76,481
Change in accounts receivable	-623	-3,744	9,299
Gain or loss on hedging accounts	277	-14,984	-100
Change in other assets	5,441	4,742	2,694
Gain or loss on breeding livestock	-2,168	-384	1,093
<b>Gross farm income (\$)</b>	<b>516,573</b>	<b>412,253</b>	<b>361,926</b>
Cash operating expenses	332,568	273,006	228,036
Change in prepaids & supplies	-5,050	-178	-3,490
Change in growing crops	-1,385	-929	-523
Change in accounts payable	-244	-7,736	4,045
Depreciation	34,116	21,997	14,275
Total operating expense	360,025	286,160	242,342
Total interest expense	25,443	21,731	9,747
<b>Total expenses (\$)</b>	<b>385,468</b>	<b>307,891</b>	<b>252,090</b>
Net farm income from operations	131,104	104,363	109,836
Gain or loss on capital sales	1,214	1,324	44
<b>Avg. Net farm income (\$)</b>	<b>132,319</b>	<b>105,687</b>	<b>109,880</b>

1/ Farms represent “organic (total)” and “organic (partial).” Results for farms transitioning to organic are unavailable.



## Liquidity, Repayment Capacity & Solvency<sup>1</sup> by Certification Status

	MN-WI	MN-WI	MN-WI
Organic status	Total organic	Partial organic	Transitioning
Year	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg
Number of farms	134	55	17
<b>Liquidity &amp; Repayment<sup>2</sup></b>			
Current assets (\$)	287,003	303,320	166,246
Current liabilities (\$)	111,363	139,407	70,965
Current ratio	2.58	2.18	2.34
Working capital (\$)	175,640	163,913	95,281
Working capital to gross income (%)	34	39.8	26.3
Term debt coverage ratio	2.54	2.73	5.16
Replacement coverage ratio	2.06	1.97	3.93
Term debt to EBITDA <sup>3</sup>	2.51	2.78	1.19
<b>Solvency (cost)<sup>2</sup></b>			
Total assets (\$)	1,569,994	1,371,742	965,476
Total liabilities (\$)	689,285	593,268	347,776
Net worth (\$)	880,709	778,474	617,700
Farm debt to asset ratio (%)	46	46	40
Total debt to asset ratio (%)	44	43	36
<b>Solvency (market)<sup>2</sup></b>			
Total assets (\$)	1,981,657	1,733,279	1,115,493
Total liabilities (\$)	788,432	694,979	399,528
Net worth (\$)	1,193,225	1,038,299	715,965
Farm debt to asset ratio (%)	42	42	40
Total debt to asset ratio (%)	40	40	36

1/ A complete balance sheet at cost and market values are available online at [www.FINBIN.umn.edu](http://www.FINBIN.umn.edu).

2/ End of year

3/ EBITDA represents earnings before interest, taxes, depreciation and amortization.

## FARM TYPE

This section of the report provides “highlights” for total organic and partial organic farms by “type”. There are ten possible farm types included in FINBIN (crop, dairy, hog, beef, sheep, crop & dairy, crop & hog, crop & beef, crop & sheep, other). A farm is classified by type when 70% or more of its sales revenue comes from a particular category. The FINBIN database includes records for four MN-WI organic farm types: crops (34%), dairy (30%), beef & crops (9%), and other (26%) (Fig. 7). Note that seven percent of farm types were not disclosed due to insufficient enterprise numbers and have been included in the “other” category. Crops include primarily corn, soybeans and forages. Farms classified as “other” include field peas, dry edible beans, other livestock, and specialty crops. Detailed financial information can be found in the tables that follow the summary section.

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
<b>Farm type</b>	<b>Avg. of all farms</b>	<b>Crop</b>	<b>Dairy</b>	<b>Beef &amp; Crop</b>	<b>Other</b>
<b>Year</b>	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	189	65	57	17	36
Percent of all farms		34	30	9	19
Total crop acres	325	418	299	249	169
Total crop acres owned	100	98	109	91	75
Total crop acres cash rented	218	301	188	158	94
Total crop acres share rented	7	19	2	-	-
Machinery value per crop acre	1,013	618	1,523	1,273	1,171

Data sources for this section of the report are described below. Note that transitioning farms are excluded as there were not enough records to sort by type

### FINBIN data sources for organic whole farm financial summary by farm type 2020-2021 (# farms)

MN State College & University South (112)

MN State College & University North (44)

MN State College & University Red River Valley (2)

Wisconsin Technical College System (29)

Other Contributors (2)

Years: 2020, 2021

Special sorts included: Organic Farm (total), Organic farm (partial)

Special sorts excluded: Organic transition

## WHOLE FARM SUMMARY: FARM TYPE

**Crop.** Crop farmers were the youngest of all farm types (41.3 years), had the least experience (13.2 years), and net the largest return, \$177,247 after accounting for cash farm expenses, inventory adjustments and depreciation. Strong organic grain prices in 2020-2021 benefited crop farms contributing to their strong (green) showing across all profitability indicators. Crop farms also tracked the lowest number of labor hours (paid and unpaid) among farm types averaging 2,094 hours annually and paid the highest wage of all farm types - \$26.83/hour – approximately 50% more than the average hourly wage paid by all MN-WI organic farms in 2020-2021.

**Dairy.** Dairy farms reported the highest gross cash farm income and used almost four times as much labor combined as other organic farm types (6,300 hours annually). Hired labor accounted for more than half (51.7%) of total labor on dairy farms where operators paid \$17.04/hour on average or \$55,465 annually. These expenses were significant, with hired labor on dairy farms accounting for 9% of gross cash farm income. Operators contributed 3,045 hours of unpaid time on dairy farms, netting \$38.79/hour during 2020-2021 for their time. Dairy farms ranked moderate (yellow) in terms of **profitability**. Higher than average organic grain prices in 2020-2021 would have negatively impacting dairy farms through fed grain.

**Beef & Crop.** Owners/operators of beef & crop farms were the oldest (50.6 years) among all farm types, had the most experience (27.9 years), and the strongest solvency rating among all farm types with a net worth over \$1,000,000 likely due to the longevity of their operations. Despite these advantages, beef & crop farms ranked vulnerable (red) in terms of profitability overall and, like dairy farms, may have suffered from increased organic feed prices during 2020-2021.

All organic farm types showed strong **liquidity** and **repayment capacity** in 2020-2021. The **current ratio** and term-debt coverage ratios were strong (green) across the board for all farm types.

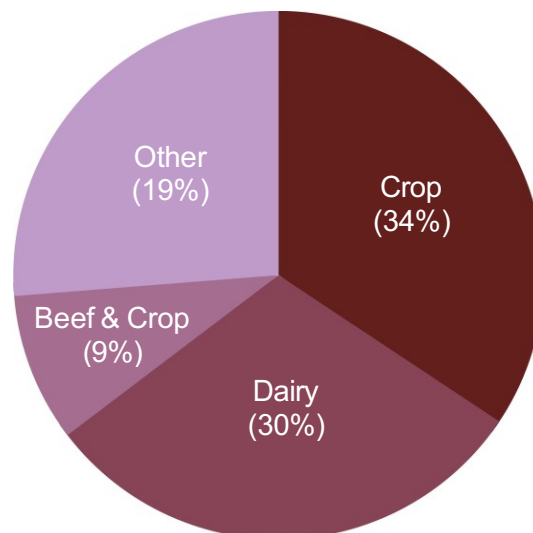


Fig. 7. Percent Organic Farms by Type in MN-WI, 2020-2021

## Farm Operator & Labor Information by Farm Type

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
Farm type	All	Crop	Dairy	Beef & Crop	Other
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
Number of farms <sup>1</sup>	189	65	57	17	36
<b>Operator Information</b>					
Average number of operators	1.3	1.2	1.6	1.2	1.3
Average age of operators	44.5	41.3	46.5	50.6	42.8
Average number of years farming	18.4	13.2	20.7	27.9	17.0
<b>Labor Analysis</b>					
Total unpaid labor hours	2,067	1,457	3,045	1,944	1,750
Total hired labor hours	1,629	637	3,255	-	818
Total labor hours per farm	3,696	2,094	6,300	1,944	2,568
Unpaid hours per operator	1,545	1,263	1,908	1,574	1,376
Value farm production/hr	114.60	219.35	79.21	131.83	103.54
Net farm income/unpaid hr	59.68	121.64	38.79	31.88	48.02
Average hired labor wage (\$/hour)	17.85	26.83	17.04	-	17.30

1/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

## Income & Profitability by Farm Type

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
Farm type	Avg. of all farms	Crop	Dairy	Beef & Crop	Other
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
Number of farms <sup>1</sup>	189	65	57	17	36
<b>Summary income statement (\$)</b>					
Gross cash farm income	441,175	388,375	621,378	286,771	246,689
Total cash farm expense	339,811	276,477	485,362	223,494	201,525
Net cash farm income	101,364	111,898	136,016	63,277	45,164
Inventory change	52,547	85,002	25,090	14,886	64,811
Depreciation	-30,589	-19,653	-42,973	-16,183	-25,931
Net farm income from operations	123,322	177,247	118,134	61,980	84,044
Gain or loss on capital sales	1,246	2,169	1,080	-149	248
<b>Average net farm income (\$)</b>	124,569	179,417	119,214	61,831	84,292
<b>Median net farm income (\$)</b>	74,109	105,379	90,163	50,159	33,393
<b>Profitability (cost)</b>					
Rate of return on assets (%)	7.9	12.2	6.1	2.5	7.3
Rate of return on equity (%)	11.3	18.9	8.4	1.7	9.7
Operating profit margin (%)	24.1	34.6	16.6	12.6	28.5
Asset turnover rate (%)	32.7	35.1	36.8	19.6	25.6
<b>Profitability (market)</b>					
Rate of return on assets (%)	6.4	9.7	5.3	1.8	5.9
Rate of return on equity (%)	8.6	14.5	6.7	1.2	7.5
Operating profit margin (%)	24.1	32.8	19.1	12.3	30.8
Asset turnover rate (%)	32.7	29.6	28.0	14.8	19.1

1/ Farms represent "organic (total)" and "organic (partial)." Does not include "organic transition" farms.



This farm income statement reports information from the previous page in greater detail.

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
Farm type	Avg. of all farms	Crop	Dairy	Beef & Crop	Other
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
Number of farms <sup>1</sup>	189	65	57	17	36
Crop sales	145,593	299,319	28,990	117,687	44,900
Crop inventory change	45,553	73,996	17,159	16,709	57,008
Gross crop income	191,146	373,315	46,149	134,397	101,908
Livestock sales	190,040	10,537	487,545	95,603	52,723
Livestock inventory change	1,594	3,155	-628	3,356	7,192
Gross livestock income (\$)	196,634	13,692	486,917	98,959	59,915
Government payments	41,346	35,260	55,882	37,237	23,621
Other cash farm income	59,197	43,259	48,961	36,244	125,445
Change in accounts receivable	-1,532	-4,673	-2,571	-2,778	7,492
Gain or loss on hedging accounts	-4,164	-11,282	-	-2,897	155
Change in other assets	5,238	16,877	-431	804	-2,916
Gain or loss on breeding livestock	-1,649	-1,664	-1,583	6	-1,320
<b>Gross farm income (\$)</b>	<b>486,215</b>	<b>464,784</b>	<b>633,323</b>	<b>301,970</b>	<b>314,300</b>
Cash operating expenses	315,235	256,497	456,542	207,205	183,489
Change in prepaids & supplies	-3,632	408	-6,819	-387	-5,776
Change in growing crops	-1,253	-3,560	700	-1,391	-102
Change in accounts payable	-2,410	-6,709	-5,424	838	8,367
Depreciation	30,589	19,653	42,973	16,183	25,931
Total operating expense	338,530	266,288	487,972	222,448	211,909
Total interest expense	24,363	21,249	27,217	17,542	18,347
<b>Total expenses (\$)</b>	<b>362,893</b>	<b>287,537</b>	<b>515,189</b>	<b>239,990</b>	<b>230,256</b>
Net farm income from operations	123,322	177,247	118,134	61,980	84,044
Gain or loss on capital sales	1,246	2,169	1,080	-149	248
<b>Avg. Net farm income (\$)</b>	<b>124,569</b>	<b>179,417</b>	<b>119,214</b>	<b>61,831</b>	<b>84,292</b>

1/ Farms represent "organic (total)" and "organic (partial)." Does not include "organic transition" farms.

## Liquidity, Repayment Capacity & Solvency<sup>1</sup> by Farm Type

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
Farm type	All	Crop	Dairy	Beef & Crop	Other
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
Number of farms <sup>2</sup>	189	65	57	17	36
<b>Liquidity &amp; Repayment<sup>3</sup></b>					
Current assets (\$)	291,751	358,413	230,729	249,908	250,535
Current liabilities (\$)	119,524	148,053	110,758	92,876	78,254
Current ratio	2.44	2.42	2.08	2.69	3.20
Working capital (\$)	172,227	210,360	119,971	157,032	172,281
Working capital to gross revenue (%)	35.4	45.3	18.9	52.0	54.8
Term debt coverage ratio	2.58	4.31	1.94	1.96	2.88
Replacement coverage ratio	2.04	3.50	1.57	1.10	2.02
Term debt to EBITDA <sup>4</sup>	2.57	1.77	2.84	3.11	3.01
<b>Solvency (cost)<sup>3</sup></b>					
Total assets (\$)	1,512,302	1,583,319	1,490,225	1,511,292	1,314,556
Total liabilities (\$)	661,344	658,148	739,088	473,104	472,480
Net worth (\$)	850,958	925,171	751,137	1,038,188	842,076
Farm debt to asset ratio (%)	46	43	51	33	41
Total debt to asset ratio (%)	44	42	50	31	36
<b>Solvency (market)<sup>3</sup></b>					
Total assets (\$)	1,512,302	1,899,663	1,954,377	1,974,591	1,705,893
Total liabilities (\$)	661,344	762,120	823,005	566,623	579,473
Net worth (\$)	850,958	1,137,543	1,131,373	1,407,968	1,126,420
Farm debt to asset ratio (%)	46	42	43	31	38
Total debt to asset ratio (%)	44	40	42	29	34

1/ A complete balance sheet at cost and market values are available on line at [www.FINBIN.umn.edu](http://www.FINBIN.umn.edu).

2/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

3/ End of year.

4/ EBITDA represents earnings before interest, taxes, depreciation and amortization.

## FARM SIZE

In this section, the whole farm financial summary is reported for total organic and partial organic operations by farm size. Farm size in FINBIN is measured by the number of crop acres with organic farms from <100 acres to 1,500 acres. Alternatively, farm size can be measured by income as is done by USDA ERS. According to the USDA ERS farm typology definition, *small farms* generate \$350,000 or less in gross sales, *mid-size farms* \$351,000 to \$999,999 in gross sales and *large farms* \$1,000,000 or more in gross sales. Using the USDA ERS farm size metric, the majority of organic farms in FINBIN are considered small (52%) followed by mid-size (40%) and large (8%) (Fig. 8). Data sources for this section of the report are described below.

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 100 acres	101–250 acres	251–500 acres	501–1,000 acres	1,001–1,500 acres
Year	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg	2020–2021 2-yr-avg
Number of farms <sup>1</sup>	189	40	59	52	23	15
Percent of all farms	-	21	31	28	12	8
TI. crop acres	325	34	184	341	619	1,153
TI. crop acres owned	100	21	96	84	178	262
% crop acres owned	31	62	52	25	29	23
TI. crop acres cash rented	218	13	90	246	440	871
% crop acres rented	67	38	49	72	71	76
TI. crop acres share rented	7	-	7	12	1	20

1/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

### FINBIN data sources for organic financial summary by farm size 2020-2021 (# farms)

MN State College & University South, (112)

MN State College & University North, (44)

Wisconsin Technical College System, (29)

MN State College & University Red River Valley, (2)

Other Contributors, (2)

Location: Minnesota, Wisconsin

Year(s): 2021, 2020

Special sorts included: Organic farm (total), Organic farm (partial)

Special sorts excluded: Organic transition

## WHOLE FARM SUMMARY: FARM SIZE

**Small farms (<250 acres; <\$350,000 gross sales).** Unsurprisingly, small organic farms with <100 acres had the lowest median net farm income, \$39,361, of all farm size groups. However, these small producers were financially efficient, posting some of the strongest farm financial benchmarks. In fact, the smallest farm size group often out-performed farms in the larger 1,001 to 1,500-acre category as well as mid-size farms of 101 to 1,000 acres. Small farms ranked strong or green, on average, for indicators of **profitability, liquidity and repayment capacity**. Small farms ranked yellow (moderate) for solvency. This is not surprising given that small farms were owned by younger operators with less farm experience and presumably fewer assets.

**Midsize farms (251–1,000 acres; \$351,000 - \$1,000,000 gross sales).** Midsize farm financial performance was mixed with 251-500-acre farms, scoring moderate (yellow) for **profitability** and **solvency** and vulnerable (red) in terms of financial efficiency (**asset turnover rate**). Conversely, midsize farms with 501-1,000 acres posted the strongest median net farm income, \$159,882 on average among all farm types, and did so while making efficient use of labor. The proportion of unpaid labor hours was substantially lower on farms that managed 501-1,000 acres compared to other organic farms. These same mid-sized farms scored green for profitability indicators such as **rate of return on assets** and **rate of return on equity** but were more vulnerable when it came to **liquidity** indicators (**current ratio**) and vulnerable or red in terms of **solvency** (**farm debt to asset ratio at cost**) suggesting they were highly leveraged.

**Large farms (1,001-1,500 acres; >\$1,000,000 gross sales).** Large organic farms averaged \$150,215 in median net farm income for 2020-2021 and the largest return to unpaid labor, \$130.31/hour. When **farm debt-to-asset ratios** were analyzed, farms with 1,001-1,500 acres scored less than 36% (cost basis) or moderate (yellow). In terms of **working capital**, these same farms managed the largest amount of working capital, \$430,006.

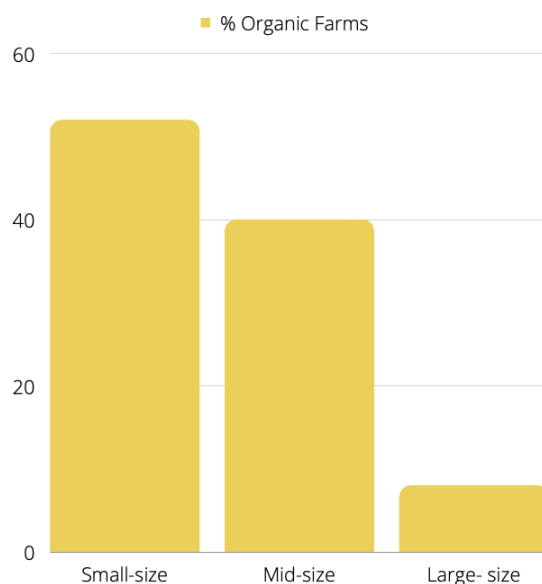


Fig. 8. Percent Organic Farms by Size in MN-WI, 2020-2021

## Farm Operator and Labor Information by Farm Size

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 100 acres	101–250 acres	251– 500 acres	501– 1,000 acres	1,001– 1,500 acres
Year	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	189	40	59	52	23	15
<b>Operator Information</b>						
Average number of operators	1.3	1.3	1.2	1.5	1.4	1.3
Average age of operators	44.5	38.7	44.7	47.0	45.3	47.8
Average number of years farming	18.4	9.0	18.6	21.3	20.5	28.2
<b>Labor Analysis</b>						
Total unpaid labor hours	2,067	1,721	1,952	2,655	1,340	2,511
Total hired labor hours	1,629	400	863	1,755	3,424	4,733
Total labor hours per farm	3,696	2,122	2,815	4,409	4,764	7,244
Unpaid hours per operator	1,545	1,342	1,611	1,747	963	1,982
Value farm production/hr (\$)	114.60	103.08	91.59	96.48	135.09	176.34
Net farm income/unpaid hr (\$)	59.68	59.29	36.43	46.24	121.29	130.31
Average hourly hired labor wage (\$)	17.85	14.73	13.37	16.59	18.18	23.01
<b>Partnerships &amp; LLCs</b>						
Number of farms	40	9	6	15	5	5

1/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.



## Income & Profitability by Farm Size

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 100 acres	101–250 acres	251–500 acres	501– 1,000 acres	1,001– 1,500 acres
Year	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	189	40	59	52	23	15
<b>Total crop acres</b>	325	34	184	341	619	1,153
<b>Income statement (\$)</b>						
Gross cash farm income	441,175	201,321	292,293	470,901	609,125	1,305,822
Total cash farm expense	339,811	145,223	234,115	356,915	471,700	1,012,926
Net cash farm income	101,364	56,098	58,178	113,986	137,425	292,896
Inventory change	52,547	55,098	36,326	40,558	76,404	113,157
Depreciation	-30,589	-9,646	-23,386	-31,781	-51,295	-78,891
Net farm income from operations	123,322	102,065	71,118	122,762	162,535	327,161
Gain or loss on capital sales	1,246	-14	907	1,979	-2,347	8,914
<b>Avg. net farm income (\$)</b>	124,569	102,051	72,024	124,741	160,188	336,075
<b>Median net farm income (\$)</b>	74,109	39,361	55,867	102,157	159,882	150,215
<b>Net nonfarm income (\$)</b>	32,241	34,862	47,479	22,870	13,113	52,335
<b>Profitability (cost)</b>						
Rate of return on assets (%)	7.9	12.5	5.3	7.3	8.1	9.5
Rate of return on equity (%)	11.3	21.2	5.9	10.8	14.5	13.0
Operating profit margin (%)	24.1	39.1	23.6	21.6	20.9	23.1
Asset turnover rate (%)	32.7	31.9	22.4	34.0	38.8	41.2
<b>Profitability (market)</b>						
Rate of return on assets (%)	6.4	11.4	4.8	6.2	6.1	7.0
Rate of return on equity (%)	8.6	18.4	5.5	10.8	8.5	9.5
Operating profit margin (%)	24.1	40.4	29.2	21.6	21.5	19.5
Asset turnover rate (%)	32.7	28.3	16.5	34.0	28.6	35.9

1/ Represents weighted average of “501-1,000” and “1,001-5,000” acre farms combined.

2/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

This farm income statement reports information from the previous page in greater detail.

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 100 acres	101–250 acres	251–500 acres	501– 1,000 acres	1,001– 1,500 acres
Year	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	189	40	59	52	23	15
Crop sales	145,593	36,870	55,956	112,401	324,249	629,212
Crop inventory change	45,553	48,400	12,702	25,957	102,717	147,458
Gross crop income	191,146	85,270	68,659	138,358	426,966	776,670
Livestock sales	195,040	104,143	148,983	268,312	143,998	442,843
Livestock inventory change	1,594	1,307	7,204	-840	1,048	-10,436
Gross livestock income (\$)	196,634	105,450	156,187	267,472	145,045	432,408
Government payments	41,346	16,490	30,411	44,664	58,338	113,078
Other cash farm income	59,197	43,817	56,942	45,524	82,540	120,668
Change in accounts receivable	-1,532	8,494	-1,414	-2,128	-7,962	-16,803
Gain or loss on hedging accounts	-4,164	139	-1,009	471	1,055	-52,120
Change in other assets	5,238	5,081	12,719	4,785	-17,796	13,119
Gain or loss on breeding livestock	-1,649	-992	-2,143	2,490	-6,403	-8,517
<b>Gross farm income (\$)</b>	<b>486,215</b>	<b>263,750</b>	<b>320,352</b>	<b>501,636</b>	<b>681,783</b>	<b>1,378,522</b>
Cash operating expenses	315,235	135,296	214,375	331,548	424,656	967,461
Change in prepaids & supplies	-3,632	-2,642	-5,838	-1,829	-2,598	-5,433
Change in growing crops	-1,253	-330	-157	-3,704	-32	-1,392
Change in accounts payable	-2,410	8,914	-2,676	-3,091	1,079	-34,547
Depreciation	30,589	9,646	23,386	31,781	51,295	78,891
Total operating expense	338,530	150,884	229,090	354,705	474,399	1,004,980
Total interest expense	24,363	10,081	20,144	24,168	44,849	46,381
<b>Total expenses (\$)</b>	<b>362,893</b>	<b>161,685</b>	<b>249,234</b>	<b>378,874</b>	<b>519,248</b>	<b>1,051,361</b>
Net farm income from operations	123,322	102,065	71,118	122,762	162,535	327,161
Gain or loss on capital sales	1,246	-14	907	1,979	-2,347	8,914
<b>Avg. Net farm income (\$)</b>	<b>124,569</b>	<b>102,051</b>	<b>72,024</b>	<b>124,741</b>	<b>160,188</b>	<b>336,075</b>

1/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

## Liquidity & Repayment Capacity by Farm Size

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 100 acres	101–250 acres	251–500 acres	501– 1,000 acres	1,001– 1,500 acres
Year	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	189	40	59	52	23	15
<b>Liquidity and repayment<sup>2</sup></b>						
Current ratio	2.44	3.44	2.71	2.52	1.88	2.23
Working capital (\$)	172,227	127,526	133,155	171,201	184,402	430,006
Working capital to gross income (%)	35.4	48.4	41.6	34.1	27.0	31.2
Current assets (\$)	291,751	179,846	210,916	283,565	393,933	779,814
Current liabilities (\$)	119,524	52,320	77,762	112,364	209,531	349,808
Gross revenues (accrual) (\$)	486,215	263,750	320,352	501,636	681,783	1,378,522
Interest on term debt (\$)	22,001	11,889	17,400	22,748	38,049	39,863
Term debt coverage ratio	2.58	3.63	2.58	2.08	2.11	3.45
Replacement coverage	2.04	3.10	1.81	1.73	1.76	2.64

1/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

2/ Reported as end of year.

## Solvency<sup>1</sup> by Farm Size

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 100 acres	101–250 acres	251–500 acres	501– 1,000 acres	1,001– 1,500 acres
Year	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
<b>Number of farms<sup>2</sup></b>	189	40	59	52	23	15
<b>Solvency (cost)<sup>3</sup></b>						
Total farm assets (\$)	1,358,196	756,216	1,184,928	1,313,471	1,745,963	3,205,468
Total assets (farm + nonfarm) (\$)	1,512,302	810,868	1,425,512	1,421,523	1,841,853	3,533,553
Total farm liabilities (\$)	623,371	363,510	470,403	645,831	1,066,417	1,160,813
Total liabilities (farm + nonfarm) (\$)	661,344	389,947	515,219	668,949	1,110,334	1,245,013
Net worth (farm + nonfarm) (\$)	850,958	420,921	910,293	752,574	731,520	2,288,540
Farm debt to asset ratio	46	48	40	49	61	36
Total debt to asset ratio	44	48	36	47	60	35
<b>Solvency (market)<sup>3</sup></b>						
Total farm assets (\$)	1,713,507	850,634	1,603,945	1,665,047	2,334,893	3,660,648
Total assets (farm + nonfarm) (\$)	1,909,377	973,389	1,893,697	1,803,421	2,459,336	3,991,068
Total farm liabilities (\$)	623,371	363,510	470,403	645,831	1,066,417	1,160,813
Total liabilities (farm + nonfarm) (\$)	761,237	420,727	614,607	774,248	1,222,002	1,494,391
Net worth (farm + nonfarm) (\$)	1,148,141	552,661	1,279,090	1,029,173	1,237,334	2,496,677
Farm debt to asset ratio (%)	40	43	32	43	50	37
Total debt to asset ratio (%)	12	23	9	11	11	13

1/ A complete balance sheet at cost and market values are available on line at [www.FINBIN.umn.edu](http://www.FINBIN.umn.edu).

2/ Farms represent “organic (total)” and “organic (partial).” Does not include “organic transition” farms.

3/ Reported as end of year.

# CROP ENTERPRISE SUMMARY

This section presents financial and production information for organic farms that produced commodity crops such as grains, oilseeds and forages. First, we take a look at organic commodity yield and prices for the 2020-2021 period and then dig a little deeper into 10-year averages for organic corn and soybeans represented in FINBIN. Rigorous longitudinal averages for organic corn and soybeans are possible because these two commodity crops have the largest number of organic farm records in FINBIN.

Next, we present enterprise analyses beginning with corn, followed by corn silage, soybeans, and alfalfa hay. Each crop enterprise summary begins with a financial benchmark report by performance ranking from the bottom 10% to the top 10% (shown as 100%) for all farms. Following the benchmarking summary are financial enterprise analyses depicted by year and by farm acreage to allow for comparisons across time and operation size. FINBIN lacked enough participating organic farms for wheat and other small grains enterprises. Recall, at least ten farms per column are required to generate specific sorts, so some tables will have farm acre size categories omitted.

General data sources for this section provided in the chart below.

## **FINBIN data sources for organic crop production and marketing summary 2020-2021 (# farms)**

MN State College & University South (112)

MN State College & University North (44)

Wisconsin Technical College System (29)

MN State College & University Red River Valley (2)

Location: Minnesota, Wisconsin

Year: 2020-2021

Special sorts included: Organic farm (total), Organic farm (partial)

Special sorts excluded: Organic transition

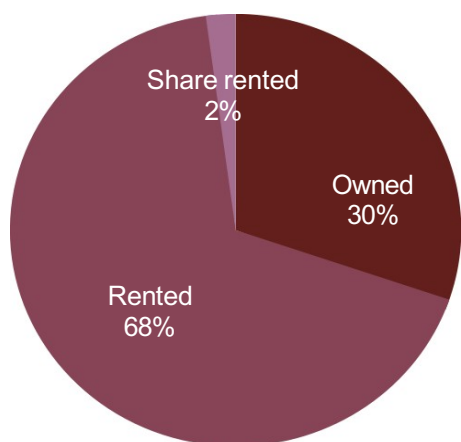


Fig. 9. Crop Acreage Summary for Total Organic and Partial Organic Farms

The organic crop production and marketing summaries include 189 farms from MN-WI for the two-year period 2020-2021. Of these, the majority of crop producing farms (71%) were total organic while the remainder were partial organic. Crop farms averaged 325 acres. Thirty percent of crop acres farmed were owned; the majority (68%) were rented (Fig. 9). Organic crop farmers also maintained 54 acres of pasture, on average.

Field and forage crop yields and prices for the two-year period are presented in the table below. All information in the table comes from FINBIN farm records representing enterprises from total organic farms in MN-WI.

	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021 2-yr-avg
Number of farms <sup>1</sup>	89	100	189
<b>Average yield, organic</b>			
Corn (bu/acre)	130.51	152.36	142.13
Corn silage (ton/acre)	18.51	15.89	17.01
Oatlage (\$/ton)	-	4.64	5.52
Oats (bu/acre)	43.93	55.26	49.44
Hay alfalfa (ton/acre)	3.34	3.65	3.50
Hay mixed (ton/acre)	2.42	2.91	2.77
Hay, grass (ton/acre)	-	2.06	2.38
Pasture intensive (aum/acre)	4.11	2.87	3.19
Pasture (aum/acre)	3.79	4.15	4.01
Soybeans (bu/acre)	32.98	34.21	33.72
Wheat, spring (bu/acre)	48.13	37.51	44.35
<b>Average price, organic<sup>2</sup></b>			
Corn (\$/bu)	7.53	8.50	8.05
Soybeans (\$/bu)	20.89	26.32	23.79
Oats (\$/bu)	5.22	5.67	5.48
Hay alfalfa (\$/ton)	148.15	109.80	122.398

1/ Farms represent “organic (total).” Does not include “organic (partial)” or “organic transition” farms.

2/ Prices unavailable for all crops.

## Organic Crop Prices and Yields, 2012-2021

MN and WI are some of the leading producers of organic corn and soybeans nationwide; combined, MN-WI account for 20% of U.S. organic corn acreage, 16% of organic soybean acreage, and 33% of MN-WI organic field crop acreage.<sup>6</sup> For this reason, we take a closer look at organic corn and soybean yield and price information for the 10-year period, 2012-2021. The organic yield and price data in Figures 10 and 11 come from FINBIN farm records representing 345 organic corn enterprises and 164 organic soybean enterprises during 2012-2021.

The 10-year average yield for organic corn is 122.67 bu/acre. Productivity generally moved in an upward direction across the 2012-2021 time period, spanning from a low of 80.07 bu/acre in 2014 to a near doubling in 2021 of 154.26 bu/acre (Fig. 4). Alternatively, organic corn prices, which averaged \$9.50/bu during the 10-year period, began at a high of \$13.94/bu in 2012 and gradually moved lower under pressure from imports<sup>7</sup>; the United States imported 42% of organic corn needs in 2016-2017<sup>8</sup>. In 2021 organic corn prices rebounded due to a slowing of imports (supply chain issues caused 5-fold increase in shipping costs)<sup>9</sup>. Soybean yields varied less than corn – increasing approximately 40% from a low of 24.52 bu/acre in 2015 to a high of 36.47 bu/acre the following year. The 10-year average organic soybean yield is 31.51 bu/acre. Like organic corn, organic soybean prices also followed a generally downward trend with an unusual spike in 2021 thanks to a slowing of imports. The 10-year average organic soybean price is \$23.51/bu.

Fig. 10. Organic Crop Yields from FINBIN 2012-2021 for MN-WI Farms

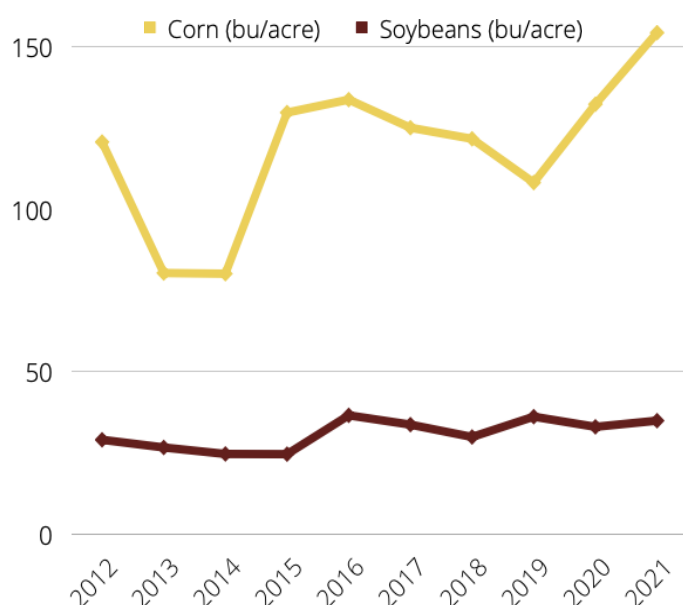
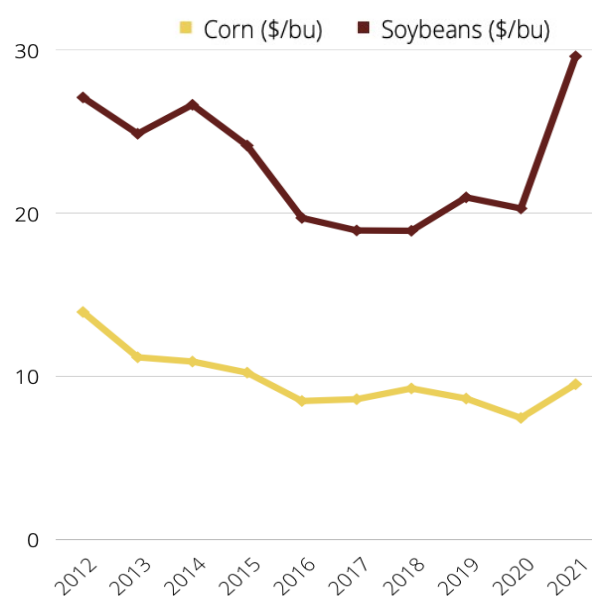


Fig. 11. Organic Crop Prices from FINBIN 2012-2021 for MN-WI Farms



<sup>6</sup> "Certified Organic Field Crops and Hay Harvested and Value of Sales: 2019." USDA, National Agricultural Statistics Service, 2019 Organic Farm Survey.

<sup>7</sup> "Organic Outlook: Organic Corn and Soy Import Trends Shift Drastically." Mercaris. April 28, 2021.

<sup>8</sup> "US Organic Corn Production Closes in on Import Gap." Feed&Grain. March 9, 2021.

<sup>9</sup> David Becker, "What a Year it Was for Organic Grains: 2021 Year in Review." FXEmpire. December 28, 2021.

# CORN

## Organic Corn Benchmark Report for MN-WI Farms, 2020-2021

	Median	#	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
	<i>Rounded to nearest dollar</i>											
Yield (bu/acre)	131.90	134	64	85	105	119	127	136	151	164	184	198
Value (\$/bu)	8.30	134	6	7	7	8	8	9	9	9	10	10
Total value	1,061.28	134	436	683	809	903	1004	1137	1281	1500	1616	1859
Crop insurance	182.10	35	37	56	70	82	136	200	251	305	357	617
Other income	39.90	66	11	18	26	30	34	44	49	71	89	135
<b>Gross return</b>	<b>1,143.59</b>	<b>134</b>	<b>642</b>	<b>790</b>	<b>880</b>	<b>993</b>	<b>1065</b>	<b>11207</b>	<b>1294</b>	<b>1515</b>	<b>1674</b>	<b>1898</b>
<b>Direct expenses (\$/acre)</b>												
Seed	90.46	134	136	113	108	98	93	89	84	77	67	54
Fertilizer	126.35	117	268	240	210	181	142	118	111	84	55	29
Crop insur.	22.66	106	51	43	33	30	25	22	17	13	9	4
Drying	15.36	63	51	39	28	19	16	15	11	9	4	2
Fuel & oil	33.31	133	72	58	49	43	36	32	26	22	14	6
Repairs	50.28	133	133	111	83	73	62	46	39	30	23	11
Custom hire	45.27	68	139	83	76	59	50	38	27	20	12	7
Land rent	179.79	74	313	258	236	211	199	170	155	121	82	42
Organic certification	3.79	134	15	9	8	6	4	3	2	2	1	1
Operating interest	5.08	97	47	24	17	11	7	4	3	2	1	0
Total direct expenses	522.61	134	805	694	643	595	551	505	464	381	333	265
<b>Return over dir. exp.</b>	<b>623.95</b>	<b>134</b>	<b>99</b>	<b>292</b>	<b>376</b>	<b>474</b>	<b>606</b>	<b>713</b>	<b>817</b>	<b>978</b>	<b>1104</b>	<b>1298</b>
<b>Overhead expenses (\$/acre)</b>												
Hired labor	6.43	59	149	91	21	18	12	2	0	0	0	0
Farm insurance	9.06	113	28	25	17	11	8	9	7	6	3	1
Utilities	3.12	96	23	13	9	6	4	3	2	0	0	0
Dues & prof. fees	4.10	113	31	14	10	8	4	4	3	2	1	0
Interest on term debt	6.87	85	37	22	13	10	9	6	4	3	2	1
Machinery depr.	43.90	120	103	81	69	63	53	36	30	21	13	4
Building depreciation	6.37	71	47	27	17	11	9	6	4	3	1	0
Misc.	5.00	120	37	25	15	12	7	5	3	3	2	1
Total overhead exp.	126.59	134	361	278	217	165	145	115	98	78	56	28
Total dir. & ovhd. exp.	689.64	134	982	863	793	754	709	665	614	546	474	362
<b>Net return</b>	<b>516.66</b>	<b>134</b>	<b>-140</b>	<b>115</b>	<b>261</b>	<b>345</b>	<b>458</b>	<b>557</b>	<b>667</b>	<b>757</b>	<b>920</b>	<b>1129</b>
Gov't. payments	0.00	134	0	0	0	0	0	0	8	18	30	69
Net ret. w/gov't pymts	518.22	134	-110	144	288	365	469	568	678	782	920	1129
Labor & mgmt.	75.66	134	208	145	106	89	78	59	52	38	27	12
<b>Net return over lbr &amp; mgmt.</b>	<b>459.60</b>	<b>134</b>	<b>-142</b>	<b>98</b>	<b>220</b>	<b>275</b>	<b>425</b>	<b>510</b>	<b>592</b>	<b>696</b>	<b>824</b>	<b>1054</b>
Direct cost prod./unit	4.14	134	8	6	5	5	4	4	3	3	3	2
Dir & ovhd. cost prod./unit	5.23	134	10	8	7	6	5	5	5	4	3	3
COP less gov't & other income	4.46	134	8	7	5	5	5	4	4	3	3	2
Cost of prod. w/lbr&mgmt..	5.07	134	10	8	6	6	5	5	4	4	3	3
Machinery cost/acre	175.10	134	316	245	223	200	184	162	152	131	112	86
Est. labor hours/acre	4.46	134	8	7	6	6	5	4	4	3	2	2



## Organic Corn Summary by Year for MN-WI Farms, 2020-2021

Organic corn summary by year	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020-2021
Number of farms <sup>1</sup>	53	48	101
Acres	103.40	96.08	99.92
Yield (bu/acre)	132.23	154.26	142.30
Operators share of yield (%)	98.63	98.37	98.50
Value (\$/bu)	7.44	9.51	8.46
Other product return (\$/acre)	3.34	6.24	4.66
Total product return (\$/acre)	973.19	1,448.77	1,190.51
Crop insurance (\$/acre)	68.20	28.78	50.19
Other crop income (\$/acre)	43.07	2.65	24.59
Gross return (\$/acre)	1,084.46	1,480.19	1,265.30
<b>Direct expenses (\$/acre)</b>			
Seed	86.81	90.06	88.30
Fertilizer	131.47	167.97	148.15
Non-chemical crop protect	11.18	13.35	12.17
Cover crop expense	2.31	-	1.26
Crop insurance	19.50	21.75	20.53
Drying expense	7.05	11.44	9.06
Storage	0.34	0.75	0.53
Packaging and supplies	0.12	0.70	0.38
Fuel & oil	33.36	40.51	36.63
Repairs	49.59	56.76	52.87
Custom hire	24.24	28.73	26.30
Hired labor	8.74	8.69	8.72
Land rent	149.80	112.45	132.73
Machinery leases	7.32	10.04	8.57
Utilities	2.42	2.38	2.40
Hauling and Trucking	4.97	11.18	7.80
Organic certification	4.17	4.65	4.39
Operating interest	12.17	5.17	8.97
Miscellaneous	2.89	2.79	2.84
Total direct expenses	558.46	589.40	572.60
<b>Return over direct expenses</b>	<b>526.00</b>	<b>890.79</b>	<b>692.70</b>

1/ Represents farms with certified organic acres.

<b>Organic corn summary by year - Continued</b>			
	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
<b>Year</b>	<b>2020</b>	<b>2021</b>	<b>2020–2021<sup>1</sup></b>
<b>Number of farms<sup>2</sup></b>	53	48	101
<b>Overhead expenses (\$/acre)</b>			
Hired labor	10.50	14.00	12.10
Machinery leases	3.82	3.14	3.51
Building leases	0.76	0.58	0.68
RE & personal property taxes	5.62	10.06	7.65
Farm insurance	9.62	9.45	9.54
Utilities	3.62	3.27	3.46
Dues & professional fees	5.33	5.89	5.58
Interest	24.27	42.48	32.59
Machinery & building depreciation	45.94	38.34	42.46
Misc.	9.15	8.12	8.68
Total overhead expenses	118.62	135.32	126.25
Total direct & overhead expenses	677.08	724.71	698.85
<b>Net return</b>	<b>407.38</b>	<b>755.48</b>	<b>566.45</b>
Government payments	29.04	0.09	15.81
Net return w/gov. payments	436.42	755.56	582.26
Labor & management charge	79.60	90.32	84.50
Net return over labor & mgt.	356.83	665.25	497.77
<b>Cost of production (\$/bu)</b>			
Total direct expenses	4.28	3.88	4.09
Total dir. & ovhd. exp.	5.19	4.78	4.99
Less govt & other income	4.09	4.53	4.31
With labor & management	4.70	5.12	4.91
Net value per unit	7.44	9.51	8.46
Machinery cost (\$/acre)	164.85	177.63	170.69
Est. labor hours (#/acre)	4.58	4.61	4.59

1/ Represents farms with certified organic acres.

## Organic Corn Summary by Enterprise Size for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
Number of farms <sup>1</sup>	101	36	31	25	7
Acres	99.92	31.09	70.03	135.81	323.50
Yield per acre (bu.)	142.30	121.54	133.87	132.88	157.75
Operators share of yield %	98.50	100.00	92.59	100.00	100.00
Value per bu. (\$)	8.46	8.27	8.41	8.24	8.49
Other product return/acre (\$)	4.66	8.80	10.24	4.42	-
Total product return/acre (\$)	1,190.51	1,014.26	1,052.97	1,099.55	1,338.89
Crop insurance/acre (\$)	50.19	57.16	7.90	96.18	43.64
Other crop income/acre (\$)	24.59	19.32	23.14	19.94	47.98
<b>Gross return/acre (\$)</b>	<b>1,265.30</b>	<b>1,090.74</b>	<b>1,084.01</b>	<b>1,215.67</b>	<b>1,430.52</b>
<b>Direct expenses (\$/acre)</b>					
Seed	88.30	102.33	94.38	82.73	91.08
Fertilizer	148.15	87.25	113.94	151.34	189.21
Non-chemical crop protect	12.17	5.72	12.22	4.85	24.00
Cover crop expense	1.26	-	0.54	1.92	2.21
Crop insurance	20.53	20.26	19.45	23.35	21.88
Drying expense	9.06	12.14	8.71	7.16	13.61
Storage	0.53	2.48	0.93	0.16	-
Fuel & oil	36.63	48.21	36.48	30.50	43.85
Repairs	52.87	55.26	57.44	61.05	54.27
Custom hire	26.30	22.64	31.68	25.27	22.29
Hired labor	8.72	2.24	11.78	15.12	3.78
Land rent	132.73	64.50	87.97	121.74	161.92
Machinery leases	8.57	5.25	3.86	14.16	1.04
Utilities	2.40	8.05	4.31	1.73	-
Hauling and trucking	7.80	12.22	3.36	5.87	12.21
Marketing	0.32	1.15	0.70	0.12	-
Organic certification	4.39	7.99	5.80	3.85	3.01
Operating interest	8.97	10.33	8.43	8.97	11.78
Miscellaneous	2.90	7.46	2.60	3.70	1.22
<b>Total direct expenses</b>	<b>572.60</b>	<b>475.48</b>	<b>504.58</b>	<b>563.59</b>	<b>659.38</b>
<b>Return over direct exp.</b>	<b>692.70</b>	<b>615.26</b>	<b>579.43</b>	<b>652.08</b>	<b>773.13</b>

1/ Represents farms with certified organic acres.

<b>Corn summary by enterprise size - Continued</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
<b>Year</b>	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	101	36	31	25	7
<b>Overhead expenses (\$/acre)</b>					
Hired labor	12.10	9.70	2.49	2.28	43.31
Machinery leases	3.51	0.02	11.92	2.72	0.11
Building leases	0.68	1.17	1.29	0.80	-
RE & pers. property taxes	7.65	13.79	8.65	7.31	8.03
Farm insurance	9.54	19.49	7.38	6.39	13.90
Utilities	3.46	7.41	3.69	2.20	4.53
Dues & professional fees	5.58	10.32	5.25	7.60	3.33
Interest	32.59	50.56	42.00	40.84	16.07
Mach & bldg depreciation	42.46	42.10	50.15	44.84	46.49
Miscellaneous	8.68	17.43	9.64	7.92	7.32
Total overhead expenses/acre	126.25	171.99	142.45	122.90	143.08
Total dir & ovhd expenses/acre	698.85	647.46	647.03	686.49	800.05
<b>Net return per acre</b>	566.45	443.27	436.98	529.18	630.05
<b>Government payments</b>	15.81	12.68	10.94	10.98	27.95
Net return with govt pmts	582.26	455.96	447.91	540.16	658.00
Labor & management charge	84.50	94.97	73.19	75.76	110.00
<b>Net return over lbr &amp; mgt</b>	497.77	360.99	374.72	464.40	548.00
<b>Cost of production (\$/bu)</b>					
Total direct expense	4.09	3.91	4.07	4.24	4.17
Total dir & ovhd expense	4.99	5.33	5.22	5.17	5.07
Less govt & other income	4.31	4.52	4.80	4.18	4.32
With labor & management	4.91	5.30	5.39	4.75	5.01
<b>Net value per unit</b>	8.46	8.27	8.41	8.24	8.49
Machinery cost (\$/acre)	170.69	178.82	194.94	178.00	167.91
Est. labor hours (#/acre)	4.59	7.00	4.58	4.25	4.86

1/ Represents farms with certified organic acres.

# CORN SILAGE

## Organic Corn Silage Benchmark Report for MN-WI Farms, 2020-2021

	Median	#	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
			Rounded to nearest dollar									
Yield (bu/acre)	16.20	69	4	7	11	14	15	17	18	20	23	27
Value (\$/bu)	70.00	69	50	55	60	60	70	75	80	90	100	100
Total value	1140.00	69	236	458	743	952	1092	1191	1374	1500	1620	1806
<b>Gross return</b>	<b>1197.78</b>	<b>69</b>	<b>272</b>	<b>633</b>	<b>794</b>	<b>960</b>	<b>1131</b>	<b>1248</b>	<b>1374</b>	<b>1541</b>	<b>1672</b>	<b>2025</b>
<b>Direct expenses (\$/acre)</b>												
Seed	84.99	69	134	110	102	90	86	84	81	74	67	60
Fertilizer	113.60	49	289	203	152	130	119	110	103	61	34	17
Crop insurance	15.38	39	79	33	29	22	18	14	12	11	9	4
Fuel & oil	31.16	69	70	54	46	40	35	29	24	22	17	13
Repairs	63.64	69	173	107	84	72	68	60	51	48	40	17
Custom hire	55.40	43	239	160	101	91	61	55	39	26	20	6
Land rent	90.81	36	249	211	178	118	99	81	73	58	39	15
Organic certification	2.55	69	10	8	5	5	3	2	2	2	1	1
Operating interest	2.61	46	42	23	15	5	4	2	1	1	1	0
Total direct expenses	420.08	69	835	637	568	511	438	415	382	314	241	166
<b>Return over dir. Exp.</b>	<b>693.74</b>	<b>69</b>	<b>46</b>	<b>131</b>	<b>324</b>	<b>459</b>	<b>800</b>	<b>800</b>	<b>973</b>	<b>1088</b>	<b>1145</b>	<b>1589</b>
<b>Overhead expenses (\$/acre)</b>												
Hired labor	13.29	43	39	24	22	16	15	9	1	0	0	0
Real estate taxes	18.79	33	44	38	34	27	23	17	9	6	6	6
Farm insurance	8.46	63	27	20	13	11	10	8	6	5	3	1
Utilities	2.74	57	29	8	5	4	3	3	2	0	0	0
Dues & prof. fees	3.18	64	13	8	5	5	4	2	1	1	1	0
Interest on term debt	4.32	54	43	33	11	7	5	4	4	3	2	1
Machinery depreciation	58.92	66	137	111	92	74	67	47	42	28	18	8
Building depreciation	5.76	33	32	14	10	8	7	5	2	1	1	0
Misc.	5.35	55	49	25	12	8	6	5	4	2	1	0
Total overhead expenses	137.58	69	390	213	181	161	148	133	119	101	68	44
Total dir. & ovhd. exp.	592.48	69	970	838	770	709	606	556	495	455	390	271
<b>Net return</b>	<b>513.43</b>	<b>69</b>	<b>-131</b>	<b>2</b>	<b>194</b>	<b>288</b>	<b>414</b>	<b>687</b>	<b>859</b>	<b>892</b>	<b>1035</b>	<b>1456</b>
Gov't. payments	0.00	69	0	0	0	0	0	0	2	17	35	80
Net ret. w/gov't pymts	551.53	69	-116	15	194	288	449	717	866	921	1037	1472
Labor & mgmt.	44.36	69	278	139	81	60	49	44	33	24	15	14
<b>Net return over lbr &amp; mgmt.</b>	<b>483.31</b>	<b>69</b>	<b>-278</b>	<b>-31</b>	<b>129</b>	<b>239</b>	<b>404</b>	<b>641</b>	<b>752</b>	<b>854</b>	<b>959</b>	<b>1426</b>
Direct cost prod./unit	28.68	69	80	51	39	36	32	27	23	20	16	13
Dir & ovhd. cost prod./unit	40.21	69	120	70	53	46	42	37	31	28	25	18
COP less gov't & other income	36.87	69	86	69	49	45	42	35	28	24	21	14
Cost of prod. w/lbr&mgmt..	40.49	69	141	73	59	48	45	39	33	28	23	16
Machinery cost/acre	209.27	69	470	364	272	248	224	204	190	168	110	82
Est. labor hours/acre	5.22	69	9	8	7	7	6	5	4	3	3	2

## Organic Corn Silage Summary by Year for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021
Number of farms <sup>1</sup>	23	29	52
Acres	43.76	46.89	45.51
Yield (bu/acre)	15.54	16.32	15.99
Operators share of yield (%)	100.00	100.00	100.00
Value (\$/ton)	66.96	67.04	67.01
Total product return (\$/acre)	1,040.84	1,093.89	1,071.32
Crop insurance (\$/acre)	9.10	36.05	24.58
Other crop income (\$/acre)	39.05	4.71	19.31
<b>Gross return (\$/acre)</b>	<b>1,088.98</b>	<b>1,134.64</b>	<b>1,115.22</b>
<b>Direct expenses (\$/acre)</b>			
Seed	97.22	92.46	94.49
Fertilizer	71.03	73.20	72.27
Non-chemical crop protect	1.15	1.04	1.08
Crop insurance	12.45	12.89	12.70
Storage	1.52	-	0.64
Packaging and supplies	5.47	27.13	17.92
Fuel & oil	35.53	40.35	38.30
Repairs	90.03	77.82	83.02
Custom hire	51.16	55.36	53.58
Hired labor	20.54	10.06	14.52
Land rent	60.55	64.43	62.78
Machinery leases	2.27	3.50	2.98
Utilities	1.28	0.95	1.09
Hauling and Trucking	0.49	0.90	0.73
Organic certification	3.32	2.79	3.01
Operating interest	8.35	6.70	7.40
Miscellaneous	9.92	3.33	6.14
<b>Total direct expenses</b>	<b>472.28</b>	<b>472.90</b>	<b>472.64</b>
<b>Return over direct expenses</b>	<b>616.70</b>	<b>661.74</b>	<b>642.58</b>

1/ Represents farms with certified organic acres.

<b>Corn silage summary by enterprise size - Continued</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
<b>Year</b>	<b>2020</b>	<b>2021</b>	<b>2020–2021</b>
<b>Number of farms<sup>1</sup></b>	23	29	52
<b>Overhead expenses (\$/acre)</b>			
Hired labor	7.83	6.11	6.84
Machinery leases	0.01	1.39	0.80
RE & personal property taxes	11.20	7.37	8.99
Farm insurance	8.46	9.11	8.83
Utilities	3.79	3.80	3.80
Dues & professional fees	2.93	3.25	3.11
Interest	61.85	36.24	47.13
Machinery & building depreciation	76.02	71.11	73.20
Misc.	11.08	5.89	8.10
Total overhead expenses	183.16	144.26	160.81
Total direct & overhead expenses	655.44	617.16	633.45
<b>Net return</b>	<b>433.54</b>	<b>517.47</b>	<b>481.77</b>
<b>Government payments</b>	<b>36.36</b>	<b>1.17</b>	<b>16.14</b>
Net return w/gov. payments	469.90	518.64	497.91
Labor & management charge	90.59	68.13	77.68
Net return over labor & mgt.	379.31	450.52	420.23
<b>Cost of production (\$/bu)</b>	<b>30.38</b>	<b>28.98</b>	<b>29.56</b>
Total direct expenses	42.17	37.83	39.62
Total dir. & ovhd. expenses	36.73	35.26	35.87
With labor & management	42.56	39.43	40.72
<b>Net value per unit</b>	<b>66.96</b>	<b>67.04</b>	<b>67.01</b>
Machinery cost (\$/acre)	263.90	258.13	260.59
Est. labor hours (#/acre)	4.94	4.93	4.94

1/ Represents farms with certified organic acres.

## Organic Corn Silage Summary by Enterprise Size for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	52	38	12	na	na
Acres	45.51	26.93	71.93	na	na
Yield per acre (ton)	15.99	15.92	16.06	na	na
Operators share of yield %	100.00	100.00	100.00	na	na
Value per ton (\$)	67.01	71.12	66.06	na	na
Total product return/acre (\$)	1,071.32	1,132.57	1,060.62	na	na
Crop insurance/acre (\$)	24.58	43.20	16.19	na	na
Other crop income/acre (\$)	19.31	12.36	18.11	na	na
<b>Gross return/acre (\$)</b>	1,115.22	1,188.13	1,094.92	na	na
<b>Direct expenses (\$/acre)</b>					
Seed	94.49	86.96	100.22	na	na
Fertilizer	72.27	90.04	81.87	na	na
Non-chemical crop protect	1.08	1.63	1.04	na	na
Cover crop expense	- -	-	-	na	na
Crop insurance	12.70	15.56	9.85	na	na
Drying expense	-	-	-	na	na
Storage	0.64	-	1.77	na	na
Packaging and supplies	17.92	19.03	24.30	na	na
Fuel & oil	38.30	34.01	39.58	na	na
Repairs	83.02	66.34	80.75	na	na
Custom hire	53.58	68.81	48.29	na	na
Hired labor	14.52	8.16	5.75	na	na
Land rent	62.78	50.42	5.75	na	na
Machinery leases	2.98	3.99	3.43	na	na
Utilities	1.09	1.00	0.43	na	na
Hauling and trucking	0.73	0.25	-	na	na
Marketing	3.01	3.81	3.36	na	na
Organic certification	7.40	6.06	8.97	na	na
Operating interest	6.14	2.38	1.90	na	na
Miscellaneous	6.14	2.38	1.90	na	na
<b>Total direct expenses</b>	<b>472.64</b>	<b>458.44</b>	<b>505.05</b>	na	na
<b>Return over direct expenses</b>	<b>642.58</b>	<b>729.69</b>	<b>589.87</b>	na	na



<b>Corn silage summary by enterprise size - Continued</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
	<b>All</b>	<b>&lt; 50 acres</b>	<b>51-100 acres</b>	<b>101-250 acres</b>	<b>251-500 acres</b>
<b>Year</b>	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	52	38	12	na	na
<b>Overhead expenses (\$/acre)</b>					
Hired labor	6.84	9.06	8.02	na	na
Machinery leases	0.80	1.86	-	na	na
RE & pers. property taxes	8.99	11.94	8.01	na	na
Farm insurance	8.83	10.00	8.87	na	na
Utilities	3.80	6.46	2.76	na	na
Dues & professional fees	3.11	4.01	3.55	na	na
Interest	47.13	38.78	23.39	na	na
Mach & bldg depreciation	73.20	58.70	63.11	na	na
Miscellaneous	8.10	14.21	2.91	na	na
Total overhead expenses/acre	160.81	155.01	120.60	na	na
Total dir & ovhd expenses/acre	633.45	613.45	625.66	na	na
<b>Net return per acre</b>	<b>481.77</b>	<b>574.68</b>	<b>469.26</b>	na	na
<b>Cost of production (\$/ton)</b>					
Total direct expense/ton	29.56	28.79	31.46	na	na
Total dir & ovhd exp/ton	39.62	38.52	38.97	na	na
Less govt & other income	35.87	33.99	35.83	na	na
With labor & management	40.72	39.16	41.70	na	na
<b>Net value per unit</b>	<b>67.01</b>	<b>71.12</b>	<b>66.06</b>	na	na
Machinery cost (\$/acre)	260.59	237.36	238.23	na	na
Est. labor hours (#/acre)	4.94	5.61	4.45	na	na

1/ Represents farms with certified organic acres.

# SOYBEAN

## Organic Soybean Benchmark Report for MN-WI Farms, 2020-2021

	Median	#	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
			<i>Rounded to nearest dollar</i>									
Yield (bu/acre)	34.32	60	14	21	25	30	34	35	39	43	48	56
Value (\$/bu)	23.50	60	18	19	19	20	22	24	29	30	32	34
Total value	847.95	60	277	450	560	663	779	880	994	1145	1211	1441
Other income	32.59	32	8	11	15	20	28	41	49	86	135	135
<b>Gross return</b>	<b>951.75</b>	<b>60</b>	<b>356</b>	<b>504</b>	<b>617</b>	<b>699</b>	<b>850</b>	<b>976</b>	<b>1062</b>	<b>1186</b>	<b>1278</b>	<b>1441</b>
<b>Direct expenses (\$/acre)</b>												
Seed	53.45	60	79	67	63	60	55	51	49	43	40	39
Crop insurance	18.93	52	65	39	34	26	21	18	17	14	13	7
Fuel & oil	20.68	60	46	34	31	26	25	20	18	15	11	4
Repairs	30.01	60	90	76	62	48	37	27	21	18	14	4
Custom hire	37.99	36	230	83	74	60	43	37	16	12	9	3
Land rent	186.02	40	307	253	243	220	189	175	155	119	90	63
Organic certification	2.94	60	12	8	6	4	3	3	2	2	2	1
Operating interest	3.94	49	28	13	10	7	5	4	2	1	1	1
Total direct expenses	369.09	60	565	531	473	418	391	361	314	274	252	193
<b>Return over dir. Exp.</b>	<b>519.34</b>	<b>60</b>	<b>1</b>	<b>138</b>	<b>244</b>	<b>320</b>	<b>433</b>	<b>609</b>	<b>684</b>	<b>755</b>	<b>875</b>	<b>1044</b>
<b>Overhead expenses (\$/acre)</b>												
Farm insurance	6.04	51	21	15	10	9	7	6	5	4	3	1
Utilities	3.46	44	20	7	6	5	4	3	2	1	0	0
Dues & prof. fees	4.20	51	24	14	10	6	5	4	2	2	1	0
Interest on term debt	7.20	39	44	27	14	12	10	6	5	3	1	1
Machinery depreciation	28.66	54	57	41	39	37	31	23	17	15	11	4
Building depreciation	3.36	30	28	26	14	7	4	2	2	2	0	0
Misc.	2.64	53	25	12	7	4	3	3	2	1	1	0
Total overhead exp.	71.48	60	272	186	122	89	74	65	55	47	37	23
Total dir. & ovhd. exp.	469.96	60	733	589	558	529	504	450	424	406	357	285
<b>Net return</b>	<b>391.48</b>	<b>60</b>	<b>-81</b>	<b>23</b>	<b>23</b>	<b>256</b>	<b>366</b>	<b>476</b>	<b>561</b>	<b>638</b>	<b>824</b>	<b>935</b>
Gov't. payments	0.13	60	0	0	0	0	0	7	11	28	30	56
Net ret. w/gov't pymts	415.24	60	-52	32	142	259	383	490	570	646	842	935
Labor & mgmt.	50.45	60	110	93	80	63	57	47	45	41	18	14
<b>Net return over lbr &amp; mgmt.</b>	<b>371.31</b>	<b>60</b>	<b>-132</b>	<b>2</b>	<b>85</b>	<b>206</b>	<b>327</b>	<b>429</b>	<b>497</b>	<b>592</b>	<b>752</b>	<b>876</b>
Direct cost prod./unit	12.94	60	29	18	16	14	13	12	10	8	6	5
Dir & ovhd. cost prod./unit	15.58	60	33	22	19	18	16	15	12	10	10	8
COP less gov't & other income	12.51	60	25	19	18	16	13	12	10	9	7	5
Cost of prod. w/lbr&mgmt..	13.97	60	30	22	19	18	16	13	12	11	9	7
Machinery cost/acre	139.43	60	229	173	159	149	142	134	118	86	77	48
Est. labor hours/acre	2.68	60	5	4	4	4	3	3	2	2	1	1

## Organic Soybean Summary by Year for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021 <sup>1</sup>
Number of farms <sup>1</sup>	23	25	48
Acres	103.87	114.97	109.65
Yield (bu/acre)	32.93	34.93	34.02
Operators share of yield (%)	98.71	98.31	98.48
Value (\$/bu)	20.29	29.62	25.52
Total product return (\$/acre)	659.66	1,017.16	854.89
Crop insurance (\$/acre)	54.65	16.35	33.73
Other crop income (\$/acre)	44.76	1.34	21.05
<b>Gross return (\$/acre)</b>	<b>759.08</b>	<b>1,034.85</b>	<b>909.68</b>
<b>Direct expenses (\$/acre)</b>			
Seed	56.23	49.39	52.50
Fertilizer	28.89	17.76	22.81
Non-chemical crop protect	9.00	26.09	18.34
Cover crop expense	3.28	-	1.49
Crop insurance	25.77	20.56	22.92
Fuel & oil	21.97	26.63	24.51
Repairs	39.61	41.70	40.75
Custom hire	24.64	37.88	31.87
Hired labor	15.07	18.97	17.20
Land rent	118.40	154.02	137.85
Machinery leases	0.13	6.81	3.78
Utilities	1.68	1.38	1.52
Hauling and Trucking	4.29	2.41	3.26
Organic certification	3.51	3.43	3.47
Operating interest	6.84	4.67	5.66
Miscellaneous	3.81	4.05	3.94
<b>Total direct expenses</b>	<b>363.12</b>	<b>415.76</b>	<b>391.87</b>
<b>Return over direct expenses</b>	<b>395.95</b>	<b>619.09</b>	<b>517.81</b>

1/ Represents farms with certified organic acres.

<b>Soybean summary by year - Continued</b>			
	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
<b>Year</b>	<b>2020</b>	<b>2021</b>	<b>2020-2021<sup>1</sup></b>
<b>Number of farms<sup>1</sup></b>	23	25	48
<b>Overhead expenses (\$/acre)</b>			
Hired labor	12.35	6.96	9.41
Machinery leases	4.01	4.06	4.03
Building leases	0.21	1.09	0.69
RE & personal property taxes	7.76	2.42	4.85
Farm insurance	6.47	5.41	5.89
Utilities	4.51	2.83	3.59
Dues & professional fees	5.10	7.02	6.15
Interest	25.45	8.48	16.18
Machinery & building depreciation	31.95	24.90	28.10
Misc.	4.02	5.17	4.65
Total overhead expenses	101.83	68.35	83.55
Total direct & overhead expenses	464.95	484.11	475.41
<b>Net return</b>	<b>294.12</b>	<b>550.74</b>	<b>434.26</b>
Government payments	19.66	2.00	10.01
Net return w/gov. payments	313.78	552.74	444.27
Labor & management charge	59.92	63.45	61.85
Net return over labor & mgt.	253.86	489.28	382.42
<b>Cost of production (\$/bu)</b>			
Total direct expense	11.17	12.11	11.70
Total dir & ovhd exp	14.30	14.10	14.19
Less govt & other income	10.64	13.53	12.26
With labor & management	12.48	15.37	14.10
Net value per unit	20.29	29.62	25.52
Machinery cost (\$/acre)	123.65	144.06	134.79
Est. labor hours (#/acre)	2.97	2.84	2.90

1/ Represents farms with certified organic acres.

## Organic Soybean Summary by Enterprise Size for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	48	19	9	15	5
Acres	109.65	33.87	83.91	167.63	270.02
Yield per acre (bu.)	34.02	36.21	35.85	31.85	36.00
Operators share of yield %	98.48	98.17	91.54	100.00	100.00
Value per bu. (\$)	25.52	23.98	25.81	26.28	24.83
Total product return/acre (\$)	854.89	852.48	846.96	836.89	894.01
Crop insurance/acre (\$)	33.73	37.21	35.31	20.02	56.73
Other crop income/acre (\$)	21.05	38.77	7.55	11.64	37.68
<b>Gross return/acre (\$)</b>	<b>909.68</b>	<b>928.46</b>	<b>889.82</b>	<b>868.55</b>	<b>988.42</b>
<b>Direct expenses (\$/acre)</b>					
Seed	52.50	57.32	54.94	51.90	49.93
Fertilizer	22.81	23.25	3.98	36.01	8.55
Non-chemical crop protect	18.34	59.14	11.51	19.79	-
Cover crop expense	1.49	0.93	-	2.88	-
Crop insurance	22.92	18.35	35.93	19.11	24.93
Storage	0.16	1.31	-	-	-
Fuel & oil	24.51	18.39	21.73	27.16	24.06
Repairs	40.75	34.12	37.53	37.57	51.62
Custom hire	31.87	46.17	43.73	24.77	31.65
Hired labor	17.20	11.71	2.99	16.54	29.00
Land rent	137.85	94.26	137.24	156.18	124.84
Machinery leases	3.78	6.53	10.67	3.04	-
Utilities	1.52	0.44	-	1.51	2.89
Hauling and trucking	3.26	1.88	-	3.62	5.08
Marketing	0.34	0.89	0.22	0.06	0.68
Organic certification	3.47	6.03	4.62	3.07	2.35
Operating interest	5.66	5.49	4.44	5.67	6.38
Miscellaneous	3.44	6.28	3.35	2.89	3.15
<b>Total direct expenses</b>	<b>391.87</b>	<b>392.51</b>	<b>372.88</b>	<b>411.77</b>	<b>365.13</b>
<b>Return over direct expenses</b>	<b>517.81</b>	<b>535.95</b>	<b>516.94</b>	<b>456.79</b>	<b>623.29</b>

1/ Represents farms with certified organic acres.

<b>Soybean summary by enterprise size - Continued</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
<b>Year</b>	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	48	19	9	15	5
<b>Overhead expenses (\$/acre)</b>					
Hired labor	9.41	0.82	1.28	10.02	16.91
Machinery leases	4.03	0.07	26.67	0.38	0.07
Building leases	0.69	1.02	1.44	0.70	0.10
RE & pers. property taxes	4.85	14.65	-	2.27	7.68
Farm insurance	5.89	8.88	4.80	4.64	7.41
Utilities	3.59	2.59	5.64	3.72	2.68
Dues & professional fees	6.15	5.34	8.73	2.23	12.38
Interest	16.18	73.35	1.76	7.78	12.67
Mach & bldg depreciation	28.10	30.17	10.96	27.12	38.54
Miscellaneous	4.65	5.55	9.61	4.35	2.01
<b>Total overhead expenses</b>	<b>83.55</b>	<b>142.45</b>	<b>70.88</b>	<b>63.20</b>	<b>100.43</b>
<b>Total dir &amp; ovhd expenses</b>	<b>475.41</b>	<b>534.95</b>	<b>443.76</b>	<b>474.97</b>	<b>465.56</b>
<b>Net return per acre</b>	<b>434.26</b>	<b>393.50</b>	<b>446.06</b>	<b>393.58</b>	<b>522.85</b>
<b>Government payments</b>	<b>10.01</b>	<b>18.10</b>	<b>14.47</b>	<b>7.16</b>	<b>8.98</b>
<b>Net return with govt pmts</b>	<b>444.27</b>	<b>411.60</b>	<b>460.53</b>	<b>400.74</b>	<b>531.83</b>
<b>Labor &amp; management charge</b>	<b>61.85</b>	<b>47.82</b>	<b>78.26</b>	<b>53.29</b>	<b>75.30</b>
<b>Net return over lbr &amp; mgt</b>	<b>382.42</b>	<b>363.78</b>	<b>382.26</b>	<b>347.45</b>	<b>456.53</b>
<b>Cost of production (\$)</b>					
Total direct expense/bu	11.70	11.04	11.36	12.93	10.14
Total dir & ovhd exp/bu	14.19	15.05	13.52	14.91	12.93
Less govt & other income	12.26	12.40	11.78	13.69	10.06
With labor & management	14.10	13.75	14.16	15.37	12.15
<b>Net value per unit</b>	<b>25.52</b>	<b>23.98</b>	<b>25.81</b>	<b>26.28</b>	<b>24.83</b>
<b>Machinery cost (\$/acre)</b>	<b>134.79</b>	<b>146.33</b>	<b>150.91</b>	<b>122.74</b>	<b>142.74</b>
<b>Est. labor hours (#/acre)</b>	<b>2.90</b>	<b>3.50</b>	<b>2.89</b>	<b>2.73</b>	<b>2.94</b>

1/ Represents farms with certified organic acres.

# ALFALFA HAY

## Organic Alfalfa Hay Benchmark Report for MN-WI Farms, 2020-2021

	Median	#	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
			<i>Rounded to nearest dollar</i>									
Yield (bu/acre)	3.60	97	1	2	2	3	3	4	4	5	6	6
Value (\$/bu)	165.00	97	120	135	150	150	150	175	185	200	220	275
Total value	695.00	97	125	271	341	458	556	702	750	849	934	1080
Other crop income	23.10	31	6	9	12	15	18	25	28	30	51	78
<b>Gross return</b>	<b>695.00</b>	<b>97</b>	<b>125</b>	<b>288</b>	<b>362</b>	<b>458</b>	<b>576</b>	<b>702</b>	<b>750</b>	<b>877</b>	<b>972</b>	<b>1098</b>
<b>Direct expenses (\$/acre)</b>												
Fertilizer	58.46	46	116	108	94	63	60	41	35	28	18	15
Packaging and supplies	16.36	47	90	40	32	24	17	13	11	8	6	1
Fuel & oil	30.65	97	65	51	43	39	32	27	23	21	15	8
Repairs	49.82	97	137	92	74	61	54	48	45	38	27	17
Custom hire	43.96	55	177	127	100	84	63	39	32	29	17	9
Land rent	120.84	49	284	249	203	170	129	111	97	75	49	21
Organic certification	2.42	97	9	8	5	4	3	2	2	2	1	1
Operating interest	4.19	68	51	23	17	9	5	4	2	1	1	0
Total direct expenses	247.45	97	530	446	380	321	277	211	179	146	101	71
<b>Return over dir. Exp.</b>	<b>376.32</b>	<b>97</b>	<b>-43</b>	<b>99</b>	<b>188</b>	<b>234</b>	<b>325</b>	<b>399</b>	<b>474</b>	<b>539</b>	<b>639</b>	<b>789</b>
<b>Overhead expenses (\$/acre)</b>												
Hired labor	14.83	56	91	29	22	19	15	15	2	0	0	0
Real estate taxes	17.16	45	42	35	30	27	20	17	9	6	6	4
Farm insurance	7.75	87	30	22	16	11	9	8	6	5	3	1
Utilities	2.74	77	20	9	6	4	3	3	1	0	0	0
Dues & prof. fees	2.57	88	13	9	5	5	3	2	2	1	1	0
Interest on intermediate debt	4.32	70	33	13	9	7	5	4	3	3	1	0
Interest on long-term debt	33.75	38	351	130	106	56	39	33	23	14	14	3
Machinery depreciation	53.01	97	117	111	86	73	60	46	36	27	14	6
Building depreciation	5.23	54	38	12	9	8	6	4	2	1	1	0
Misc.	3.72	82	42	15	12	10	6	4	3	2	1	0
Total overhead exp.	130.57	97	265	207	181	161	136	125	106	85	60	41
Total dir. & ovhd. exp.	392.32	97	741	516	546	477	417	370	320	281	219	141
<b>Net return</b>	<b>183.83</b>	<b>97</b>	<b>-247</b>	<b>-26</b>	<b>45</b>	<b>83</b>	<b>165</b>	<b>165</b>	<b>346</b>	<b>416</b>	<b>511</b>	<b>642</b>
Gov't. payments	0.00	97	0	0	0	0	0	0	0	0	13	78
Net ret. w/gov't pymts	187.43	97	-246	-26	46	83	170	237	354	426	511	655
Labor & mgmt.	41.92	97	193	115	80	59	50	36	31	21	14	6
<b>Net return over lbr &amp; mgmt.</b>	<b>152.54</b>	<b>97</b>	<b>-327</b>	<b>-85</b>	<b>-16</b>	<b>34</b>	<b>118</b>	<b>184</b>	<b>306</b>	<b>372</b>	<b>446</b>	<b>620</b>
Direct cost prod./unit	67.75	97	241	123	103	82	74	64	58	48	40	25
Dir & ovhd. cost prod./unit	118.12	97	321	200	170	145	128	106	93	84	74	56
COP less gov't & other income	108.27	97	299	196	157	142	117	99	85	80	67	50
Cost of prod. w/lbr&mgmt.	125.28	97	341	213	181	161	138	121	102	92	79	53
Machinery cost/acre	192.90	97	384	292	239	217	202	193	177	129	90	73
Est. labor hours/acre	4.37	97	8	7	7	6	5	4	4	3	2	2

## Organic Alfalfa Hay Summary by Year for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021
Number of farms <sup>1</sup>	30	36	66
Acres	124.09	133.18	129.05
Yield (ton/acre)	3.53	3.88	3.73
Operators share of yield (%)	96.24	98.72	97.69
Value (\$/ton)	194.30	166.02	177.54
Total product return (\$/acre)	659.27	636.26	646.32
Crop insurance (\$/acre)	11.74	4.05	7.41
Other crop income (\$/acre)	16.10	4.50	9.57
<b>Gross return (\$/acre)</b>	<b>687.10</b>	<b>644.82</b>	<b>663.30</b>
<b>Direct expenses (\$/acre)</b>			
Seed	3.22	0.70	1.80
Fertilizer	29.99	35.04	32.83
Crop insurance	0.87	0.92	0.90
Storage	-	0.86	0.49
Packaging & supplies	6.19	15.50	11.43
Fuel & oil	26.84	37.68	32.94
Repairs	50.86	66.45	59.64
Custom hire	28.07	36.48	32.80
Hired labor	7.51	6.90	7.17
Land rent	77.65	69.56	73.10
Machinery leases	4.82	3.96	4.34
Utilities	0.40	0.58	0.50
Hauling and Trucking	-	1.69	0.95
Organic certification	3.10	2.43	2.72
Operating interest	10.22	4.20	6.83
Miscellaneous	1.20	2.68	2.03
<b>Total direct expenses</b>	<b>250.96</b>	<b>285.61</b>	<b>270.47</b>
<b>Return over direct expenses</b>	<b>436.15</b>	<b>359.21</b>	<b>392.84</b>

1/ Represents farms with certified organic acres.



<b>Alfalfa hay summary by year - Continued</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
<b>Year</b>	<b>2020</b>	<b>2021</b>	<b>2020–2021</b>
<b>Number of farms<sup>1</sup></b>	30	36	66
<b>Overhead expenses (\$/acre)</b>			
Hired labor	7.19	18.25	13.42
Machinery leases	0.91	0.32	0.58
Building leases	0.83	1.12	0.99
RE & personal property taxes	7.35	5.72	6.43
Farm insurance	9.81	11.13	10.55
Utilities	3.23	3.67	3.48
Dues & professional fees	2.97	3.63	3.34
Interest	20.54	26.33	23.80
Machinery & building depreciation	53.49	60.12	57.22
Misc.	9.85	7.20	8.36
Total overhead expenses	116.17	137.51	128.18
Total direct & overhead expenses	367.12	423.13	398.65
<b>Net return</b>	<b>319.98</b>	<b>221.69</b>	<b>264.65</b>
Government payments	12.29	-	5.37
Net return w/gov. payments	332.27	221.69	270.03
Labor & management charge	79.69	54.06	65.26
Net return over labor & mgt.	252.58	167.64	204.77
<b>Cost of production (\$/ton)</b>			
Total direct expenses	73.96	74.52	74.30
Total dir. & ovhd. exp.	108.20	110.40	109.51
Less gov't & other income	96.37	108.17	103.36
With labor & management	119.86	122.28	121.29
Net value per unit	194.30	166.02	177.54
Machinery cost (\$/acre)	169.92	208.30	191.52
Est. labor hours (#/acre)	4.37	4.46	4.42

1/ Represents farms with certified organic acres.

## Organic Alfalfa Hay Summary by Enterprise Size for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI	MN-WI	MN-WI
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Year	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg
Number of farms <sup>1</sup>	66	19	13	26	7
Acres	129.05	36.81	75.82	151.88	320.50
Yield per acre (ton)	3.73	3.03	4.38	4.30	2.14
Operators share of yield %	97.69	100.00	100.00	95.91	99.22
Value per ton (\$)	177.54	174.84	164.74	187.19	177.66
Total product return/acre (\$)	646.32	529.69	721.05	772.73	376.36
Crop insurance/acre (\$)	7.41	13.12	3.29	12.84	-
Other crop income/acre (\$)	9.57	6.30	10.21	7.87	8.43
<b>Gross return/acre (\$)</b>	<b>663.30</b>	<b>549.11</b>	<b>734.56</b>	<b>793.45</b>	<b>384.78</b>
<b>Direct expenses (\$)</b>					
Seed	1.80	1.46	3.41	2.78	-
Fertilizer	32.83	28.93	33.38	35.82	26.23
Crop insurance	0.90	0.72	0.88	1.59	-
Storage	0.49	-	4.21	-	-
Packaging and supplies	11.43	7.91	6.23	17.42	5.23
Fuel & oil	32.94	29.49	42.45	35.40	24.63
Repairs	59.64	55.65	55.34	71.88	40.92
Custom hire	32.80	23.43	57.21	42.90	16.59
Hired labor	7.17	0.19	2.03	10.47	-
Land rent	73.10	57.83	80.34	94.16	43.70
Machinery leases	4.34	1.39	3.94	3.58	8.00
Utilities	0.50	-	0.76	0.55	0.18
Hauling and trucking	0.95	-	-	1.39	-
Organic certification	2.72	4.77	3.68	2.83	2.02
Operating interest	6.83	16.53	11.95	6.37	3.17
Miscellaneous	2.03	2.81	0.88	1.80	0.50
<b>Total direct expenses</b>	<b>270.47</b>	<b>231.10</b>	<b>306.69</b>	<b>328.95</b>	<b>171.17</b>
<b>Return over direct expenses</b>	<b>392.84</b>	<b>318.01</b>	<b>427.86</b>	<b>464.50</b>	<b>213.62</b>

1/ Represents farms with certified organic acres.

<b>Alfalfa hay summary by enterprise size - Continued</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
<b>Year</b>	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020-2021 2-yr-avg	2020- 2021 2-yr-avg	2020- 2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	66	19	13	26	7
<b>Overhead expenses (\$/acre)</b>					
Hired labor	13.42	4.71	12.65	10.52	25.40
Machinery leases	0.58	0.03	0.76	0.87	0.32
Building leases	0.99	-	2.47	0.93	1.06
RE & personal property taxes	6.43	9.90	10.13	6.16	4.94
Farm insurance	10.55	13.90	11.98	9.28	12.93
Utilities	3.48	10.75	3.17	1.96	5.01
Dues & professional fees	3.34	6.62	5.20	3.10	2.81
Interest	23.80	39.26	19.18	24.61	15.88
Machinery & bldg depreciation	57.22	45.42	71.36	60.00	45.01
Misc.	8.36	8.75	10.52	12.82	1.08
Total overhead expenses	128.18	139.35	147.42	130.25	114.44
Total direct & overhead exp.	398.65	370.45	454.11	459.20	285.60
<b>Net return</b>	<b>264.65</b>	<b>178.66</b>	<b>280.45</b>	<b>334.25</b>	<b>99.18</b>
Government payments	5.37	2.98	15.74	6.12	1.78
Net return w/gov. payments	270.03	181.64	296.19	340.37	100.96
Labor & management charge	65.26	75.93	53.48	93.08	29.06
Net return over labor & mgt.	204.77	105.71	242.71	247.29	71.90
<b>Cost of production (\$/ton)</b>					
Total direct expenses	74.30	76.28	70.07	79.69	80.80
Total dir. & ovhd. expenses	109.51	122.28	103.75	111.24	134.82
Less gov't & other income	103.36	114.88	97.07	104.74	130.00
With labor & management	121.29	139.95	109.29	127.28	143.72
Net value per unit	177.54	174.84	164.74	187.19	177.66
Machinery cost (\$/acre)	191.52	160.83	231.35	216.64	136.46
Est. labor hours (#/acre)	4.42	5.06	4.63	4.91	3.76

1/ Represents farms with certified organic acres.

## LIVESTOCK ENTERPRISE SUMMARY

Dairy farms account for the largest share (65%) of MN-WI organic livestock farms in the FINBIN database. The remaining organic livestock enterprise types, as defined in FINBIN, are “crop & beef” (19%) and “other” (16%) for the two states combined (Fig. 12).

Minnesota and Wisconsin dairy farms are significant producers of organic milk nationwide. Combined, farmers in these two states accounted for 31% of organic dairies and 11% of organic milk produced in 2019 (USDA, 2019 Organic Survey). Wisconsin ranks number four nationally in organic milk production while MN ranks number 12.

USDA National Organic Program standards require livestock farmers and ranchers to *“accommodate the health and natural behavior of their animals year-round.”* Among other things, this means that certified organic *“ruminant livestock must have access to pasture for the entire grazing season (at least 120 days) and ruminant livestock diets must contain at least 30 percent dry matter (on average) from certified organic pasture.”* The rest of the animal’s diet must also be certified organic including hay, grain and other agricultural products.

Pasture clearly plays a critical role in organic livestock production. For this reason, pasture enterprise results for 2020-2021 are presented in the next section followed by dairy enterprise results. There were not enough enterprise records to report beef or other livestock enterprises.

The pasture and dairy enterprise summaries report the financial and production information for fully certified organic acreage and livestock that come from total organic and partial organic farms. All expenses are reported in \$/acre. Price and yield are reported in \$/aum for the pasture enterprise and \$/cwt for the dairy enterprise. AUM represents “animal unit month” and is the amount of forage needed by an animal unit grazing for one month. CWT represents “hundredweight” and is equal to 100 pounds.

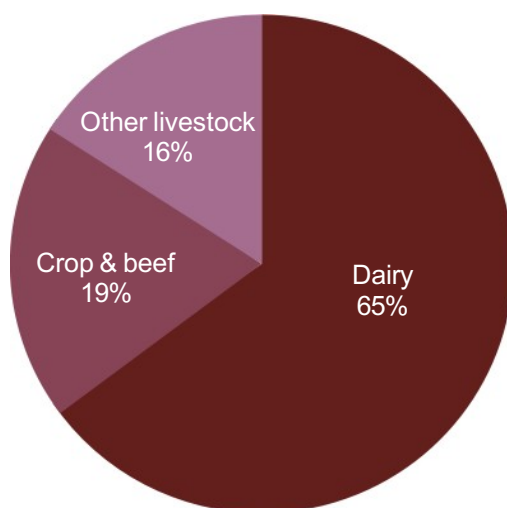


Fig. 12. Percent MN-WI Organic Livestock Farms in FINBIN by Type, 2020-2021

## PASTURE

In 2020, MN-WI experienced adequate spring moisture with good-to-excellent pasture conditions. The following year, however, drought conditions in many areas of the Upper Midwest region saw deteriorating pasture with only two percent rated good-to-excellent by the end of August 2021 (UDSA, NASS 2020 and 2021). Poor pasture conditions in 2021 led to a 7% year-over-year average yield loss and a doubling in pasture prices from \$16.15/aum to \$32.65/aum due to insufficient supplies.

Direct expenses for organic pasture production are determined largely by seed, fertilizer, fuel and machinery leases, hired labor, and, most importantly, land rent (Fig. 13). Land rent increased by 28% from 2020 to 2021 – having a significant impact on direct expenses, pasture production costs and, ultimately, livestock feed expenses. Seed costs, on the other hand, decreased by 73% year over year. Intensive pasture is typically improved through seeding and fertilizing to obtain optimal forage. General data sources for this section provided in the chart below.

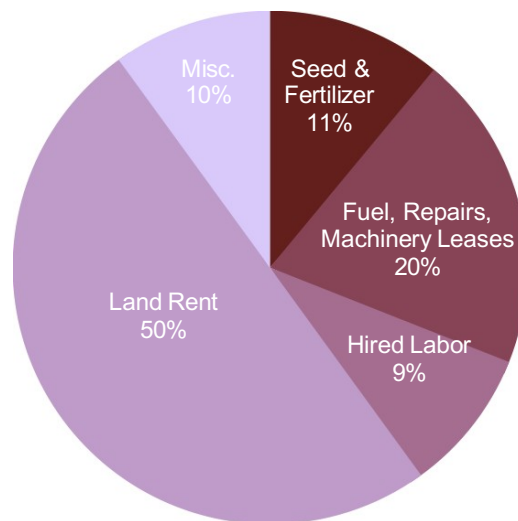


Fig. 13. Direct Expenses for Organic Pasture Production in MN-WI, 2012-2021

### FINBIN data sources for organic pasture enterprise summary 2020-2021 (# farms)

MN State College & University South (8)

MN State College & University North (12)

Wisconsin Technical College System (11)

Location: Minnesota, Wisconsin

Year: 2020-2021

Special sorts included: Total organic

Special sorts excluded: Partial organic, organic transition

## Organic Pasture Enterprise Summary by Year for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021
Number of farms <sup>1</sup>	13	18	31
Acres	120.98	127.10	124.53
Yield (aum/acre)	3.67	3.40	3.51
Operators share of yield (%)	100	100	100
Value (\$/aum)	16.15	32.65	25.62
Total product return (\$/acre)	59.29	110.92	89.89
Other crop income (\$/acre)	9.34	0.30	3.98
<b>Gross return (\$/acre)</b>	<b>68.64</b>	<b>111.21</b>	<b>93.87</b>
<b>Direct expenses (\$/acre)</b>			
Seed	15.39	4.21	8.77
Fertilizer	1.87	2.01	1.95
Fuel & oil	4.70	4.89	4.81
Repairs	13.98	8.15	10.52
Custom hire	5.88	-	2.40
Hired labor	12.85	5.37	8.42
Land rent	40.85	52.28	47.63
Machinery leases	3.08	3.69	3.44
Utilities	1.20	1.09	1.14
Hauling and Trucking	1.70	-	0.69
Organic certification	1.88	1.94	1.92
Operating interest	0.55	0.29	0.40
Miscellaneous	7.21	1.37	3.75
<b>Total direct expenses</b>	<b>111.14</b>	<b>85.29</b>	<b>95.82</b>
<b>Return over direct expenses</b>	<b>-42.50</b>	<b>25.92</b>	<b>-1.96</b>

Pasture Enterprise Summary by Year Con't.			
	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021
Number of farms <sup>1</sup>	13	18	31
<b>Overhead expenses (\$/acre)</b>			
Hired labor	1.08	1.20	1.15
RE & personal property taxes	7.79	6.68	7.13
Farm insurance	1.72	1.76	1.74
Dues & professional fees	0.64	0.41	0.50
Interest	43.65	11.31	24.48
Machinery & building depreciation	12.95	9.19	10.72
Miscellaneous	1.48	1.32	1.39
Total overhead expenses	69.31	31.86	47.12
Total direct & overhead expenses	180.45	117.16	142.94
<b>Net return</b>	<b>-111.81</b>	<b>-5.94</b>	<b>-49.07</b>
Government payments (\$/acre)	-	-	-
Net return w/ government payments	-111.81	-5.94	-49.07
Labor & management charge	8.36	17.59	13.83
Net return over labor & management	-120.17	-23.53	-62.91
<b>Cost of production (\$/aum)</b>			
Total direct expense	30.26	25.11	27.31
Total direct & overhead expense	49.14	34.49	40.74
Less government & other income	46.59	34.40	39.60
With labor & management	48.87	39.58	43.54
Net value (\$/acre)	16.15	32.65	25.62
Machinery cost (\$/acre)	41.94	27.09	33.14
Estimated labor hours (#/acre)	0.96	0.68	0.80

## DAIRY

This section begins with a historic look at organic dairy production and milk prices for MN-WI farmers included in the FINBIN database. Next, financial information from the enterprise analysis is reviewed. Each table in the enterprise report section is organized with columns representing years and herd size for the Wisconsin and Minnesotan organic dairy farms combined. All direct and overhead expenses in the dairy enterprise summary is reported as dollars per cow; cost of production expenses at the end of the tables are reported in dollars per hundredweight (cwt).

### Organic Milk Prices and Production, Ten-Year Averages

The following information comes from FINBIN farm records. During the 10-year period, 2012-2021, organic dairy farmers in MN-WI managed 100-cow herds on average with milk production of 14,927 lbs/cow (Fig. 14). The 10-year average organic milk price was \$30.66/cwt.

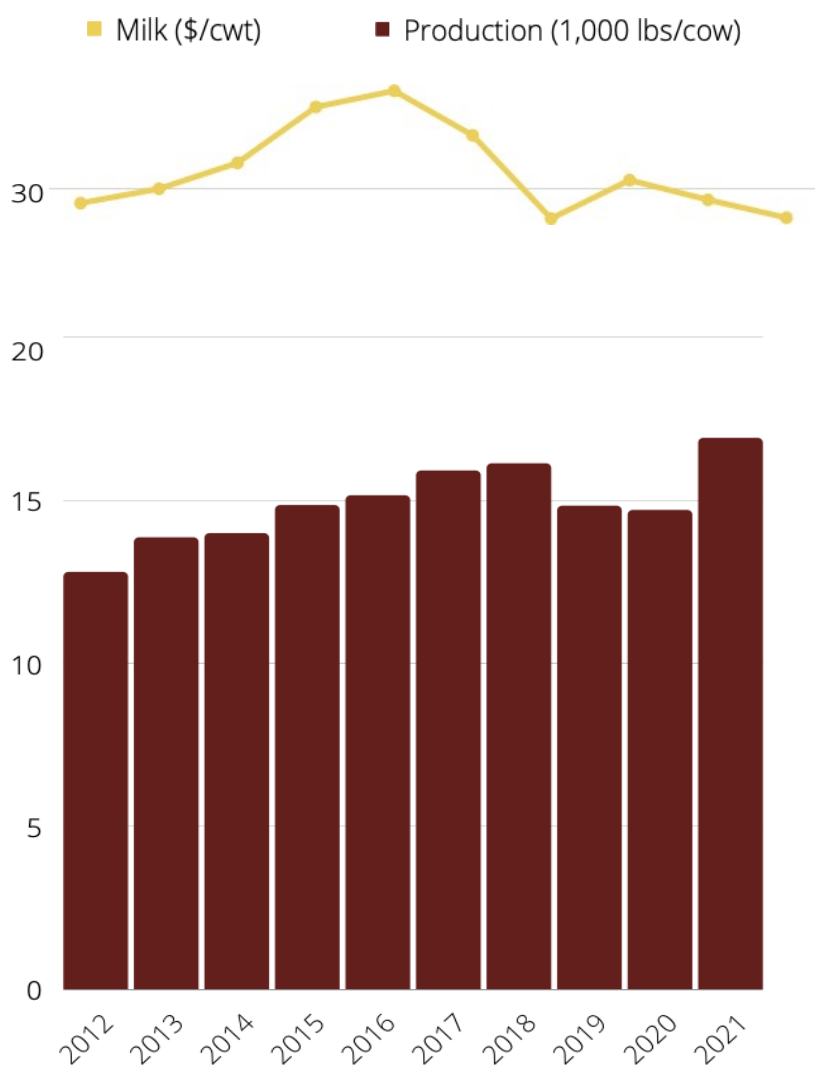


Fig. 14. Organic Milk Production and Prices, 2012-2021



Herd sizes remained consistent over time for MN-WI dairy farms in FINBIN, though milk production generally increased. For the two-year benchmarking period, 2020-2021, the average MN-WI organic dairy farm managed 101 cows, producing 15,783 pounds of milk per cow. Milk production was up in 2021 compared to 2020, but prices were down slightly. The average cost of production, including a labor and management charge, was \$26.67 per cwt during 2020-2021. As is typical on dairy farms, feed costs accounted for the largest share of expenses, totaling \$2,192.28/cow on average or 68% of total direct expenses.

Although milk prices slumped by three percent from \$29.41/cwt in 2020 to \$28.50/cwt in 2021, the two-year average organic milk price was \$28.92/cwt generating \$4,486.53 per cow annually on average in gross sales for 2020-2021. After accounting for cull sales, inventory changes and government payments, gross income averaged \$4,530.96 for the same period. Government payments declined significantly in 2021 compared to 2020 (when larger pandemic-related relief payments were available) from \$419.67/cow to \$292.92/cow. After factoring in labor and management fees, organic dairy farms saw an average net return of \$344.84 per cow over this two-year period of time. Profitability tended to increase with herd size. The largest herds, those with over 250 cows, averaged a net return over labor and management of \$1,288.62/cow while those with fewer than 71 cows failed to break even on expenses.

General data sources for this section provided in the chart below.

#### **FINBIN data sources for organic dairy enterprise summary 2020-2021 (# farms)**

MN State College & University South (21)

MN State College & University North (24)

Wisconsin Technical College System (13)

Location: Minnesota, Wisconsin

Year: 2020-2021

Special sorts included: Total organic

Special sorts excluded: Partial organic, organic transition

# Organic Dairy Benchmark Report for MN-WI Farms, 2020-2021

	Median	#	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
<i>Rounded to nearest dollar</i>												
Milk sales (\$/cow)	4277.51	58	2314	3242	3439	3713	4145	4398	4537	5116	5116	5805
Gross margin (\$/cow)	4505.35	58	2506	2991	3658	3844	4388	4538	4805	5060	5429	5687
<b>Direct expenses (\$/cow)</b>												
Total feed expense	2038.50	58	3321	2915	2498	2272	2098	1972	1771	1530	1303	984
Breeding fees	31.24	47	78	61	53	40	36	30	25	18	12	3
Veterinary	27.56	54	147	88	70	43	30	24	18	14	10	1
Livestock supplies	128.71	56	379	259	199	180	144	116	100	86	55	39
Fuel & Oil	61.59	58	148	129	91	81	65	58	44	35	25	15
Marketing	36.40	54	171	92	64	54	38	33	29	22	19	9
Operating interest	12.72	30	265	117	49	26	19	10	3	2	1	1
Total direct expenses	2983.16	58	4734	4259	3833	3435	3086	2819	2610	2333	2007	1451
<b>Return over direct expenses</b>	<b>1124.40</b>	<b>58</b>	<b>73</b>	<b>382</b>	<b>628</b>	<b>754</b>	<b>1063</b>	<b>1367</b>	<b>1592</b>	<b>1877</b>	<b>2283</b>	<b>2531</b>
<b>Overhead expenses (\$/cow)</b>												
Hired labor	111.99	37	409	203	174	156	121	46	0	0	0	0
Real estate taxes	22.82	45	64	48	35	29	24	23	21	13	10	4
Farm insurance	53.93	57	163	125	82	68	60	49	38	32	24	9
Utilities	9.14	52	216	135	108	78	30	0	0	0	0	0
Interest on interm. debt	24.04	44	129	62	50	33	25	22	12	8	6	2
Interest on long-term debt	103.90	37	334	303	207	166	137	99	73	51	17	1
Machinery depreciation	114.92	56	479	297	189	159	121	99	87	68	54	20
Building depreciation	53.90	38	269	226	133	114	62	43	23	18	7	3
Total overhead expenses	603.18	58	1104	951	837	752	645	561	481	410	354	160
Total dir. & ovhd. exp.	3615.99	<b>58</b>	<b>5354</b>	<b>4734</b>	<b>4440</b>	<b>4047</b>	<b>3768</b>	<b>3508</b>	<b>3304</b>	<b>2938</b>	<b>2457</b>	<b>2103</b>
<b>Net return</b>	<b>667.05</b>	<b>58</b>	<b>-729</b>	<b>-285</b>	<b>105</b>	<b>243</b>	<b>535</b>	<b>716</b>	<b>1076</b>	<b>1241</b>	<b>1461</b>	<b>1652</b>
<b>Net return over lbr &amp; mgmt.</b>	<b>388.83</b>	<b>58</b>	<b>-1110</b>	<b>-595</b>	<b>-185</b>	<b>-5</b>	<b>209</b>	<b>478</b>	<b>677</b>	<b>858</b>	<b>1011</b>	<b>1289</b>
Cost of production (\$/cwt)	25.69	58	40	33	31	29	26	25	24	23	21	19
Avg. number of head	85.50	58	42	46	55	71	81	91	100	120	153	265
Milk produced/head (lbs)	14910	58	8987	11026	12656	13072	13860	15407	16227	17612	18396	22535
Culling (%)	25.60	56	7	13	16	20	23	27	31	35	38	42
Turnover rate (%)	30.70	57	13	16	22	27	29	31	34	40	44	49
Barn capacity (%)	100.00	58	69	83	92	99	100	103	105	115	126	200
Feed cost (\$/cwt)	13.54	58	20	17	16	15	14	13	13	11	11	8
Feed cost (\$/head)	2038.50	58	3321	2915	2498	2272	2098	1972	1771	1530	1303	984
Hired labor (\$/cow)	182.23	50	710	419	292	216	188	165	151	115	90	27
Avg milk price (\$/cwt)	29.07	58	25	27	28	28	29	29	30	30	31	32

## Organic Dairy Summary by Year for MN-WI Farms, 2020-2021

	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021 2-yr-avg
<b>Number of farms<sup>1</sup></b>	29	29	58
Number of cows	101.6	100.1	100.9
Milk produced per cow (lbs/cow)	14,686	16,897	15,783
Milk sold per FTE <sup>2</sup> (lbs/cow)	1,071,026	1,182,277	1,127,531
Feed cost per cow (\$/cow)	2,105.20	2,280.65	2,192.28
Average milk price (\$/cwt)	29.41	28.50	28.92
Milk price/feed margin	15.07	15.00	15.03
Milk sold (\$/cow)	4,232.99	4,743.83	4,486.53
Dairy Calves sold (\$/cow)	77.63	46.09	61.97
Transferred out (\$/cow)	60.30	44.52	52.47
Cull sales (\$/cow)	202.86	314.86	258.45
Insurance income (\$/cow)	10.96	7.72	9.35
Government payments (\$/cow)	419.67	292.92	356.76
Other income (\$/cow)	75.17	67.94	71.58
Purchased (\$/cow)	-52.70	-45.05	-48.90
Transferred in (\$/cow)	-32.97	-90.56	-61.55
Inventory change (\$/cow)	30.06	71.59	50.67
Dairy repl net cost (\$/cow)	-663.24	-750.15	-706.37
<b>Gross margin (\$/cow)</b>	<b>4,360.74</b>	<b>4,703.70</b>	<b>4,530.96</b>

1/ Represents certified organic enterprises. Does not include those transitioning to organic production.

2/ FTE indicates “full time equivalent” labor.

<b>Dairy summary by year</b>	<b>MN-WI</b>	<b>MN-WI</b>	<b>MN-WI</b>
<b>Year</b>	<b>2020</b>	<b>2021</b>	<b>2020–2021 2-yr-avg</b>
<b>Number of farms<sup>1</sup></b>	29	29	58
<b>Direct expenses (\$/cow)</b>			
Protein vit minerals	418.69	522.80	470.36
Corn, organic	399.41	438.55	418.84
Corn silage, organic	316.26	309.51	312.91
Hay alfalfa, organic	521.02	509.18	515.15
Pasture, organic	65.40	90.90	78.06
Haylage alfalfa, organic	99.66	89.99	94.86
Other feed stuffs	284.76	319.71	302.10
Breeding fees	30.43	33.14	31.77
Supplies	132.81	155.68	144.16
Fuel & oil	56.41	71.49	63.90
Repairs	162.65	179.63	171.08
Hired labor	187.56	173.60	180.63
Utilities	73.33	94.72	83.95
Hauling and trucking	103.29	109.72	106.48
Bedding	50.66	61.80	56.19
Miscellaneous <sup>2</sup>	211.01	205.75	208.40
<b>Total direct expenses</b>	<b>3,113.36</b>	<b>3,366.18</b>	<b>3,238.84</b>
<b>Return over direct expense</b>	<b>1,247.38</b>	<b>1,337.52</b>	<b>1,292.12</b>

1/ Represents certified organic enterprises. Does not include those transitioning to organic production.

2/ Miscellaneous includes “livestock insurance,” “machinery leases,” “government program expenses,” and “operating interest.”

Dairy summary by year – Continued	MN-WI	MN-WI	MN-WI
Year	2020	2021	2020–2021 2-yr-avg
Number of farms <sup>1</sup>	29	29	58
<b>Overhead expenses (\$/cow)</b>			
Hired labor	39.52	94.14	66.63
Building leases	50.73	61.54	56.10
Farm insurance	60.42	65.48	62.93
Interest	93.87	121.08	107.38
Mach & building depreciation	200.21	213.72	206.91
Miscellaneous	116.28	117.52	116.89
Total overhead expenses	561.04	673.48	616.85
Total direct & overhead expenses	3,674.40	4,039.66	3,855.69
<b>Net return</b>	<b>686.34</b>	<b>664.04</b>	<b>675.27</b>
Labor & management charge	309.82	351.35	330.44
<b>Net return over labor &amp; management</b>	<b>376.52</b>	<b>312.69</b>	<b>344.84</b>
<b>Cost of production (\$/cwt)</b>			
Total direct expense	21.20	19.92	20.52
Total direct & overhead expense	25.02	23.91	24.43
With other revenue adjustments	24.56	24.45	24.50
With labor and management	26.67	26.53	26.59
Est. labor hours per unit (hours/cow)	37.63	39.42	38.52
<b>Other information</b>			
Culling rate (%)	22	30.2	26.1
Turnover rate	26.50	35.3	30.9
Cow death loss (%)	3.70	4.1	3.9
Cows per milking unit	12	11	11
Feed cost (\$/cwt)	14.33	13.50	13.89
Feed cost (\$/cow)	2,105.20	2,280.65	2,192.28
Hired labor (\$/cow)	227.08	267.74	247.26

1/ Represents certified organic enterprises. Does not include those transitioning to organic production.

## Organic Dairy Summary by Herd Size for MN-WI Farms, 2020-2021

	All	<50 cows	50-100 cows	101-200 cows
<b>Number of farms<sup>1</sup></b>	58	11	28	15
Milk sold	4,486.53	3,637.21	4,282.58	4,415.43
Dairy Calves sold	61.97	38.98	108.13	41.29
Transferred out	52.47	76.54	43.97	13.42
Cull sales	258.45	127.90	247.90	268.07
Insurance income	9.35	-	8.79	17.14
Government payments	356.76	175.63	343.77	313.66
Other income	71.58	54.86	87.62	84.22
Purchased	-48.90	-139.20	-103.22	-
Transferred in	-61.55	-24.12	-84.79	-71.31
Inventory change	50.67	329.13	28.09	20.55
Dairy repl net cost	-706.37	-378.55	-636.16	-636.78
<b>Gross margin</b>	4,530.96	3,898.37	4,326.68	4,465.68
<b>Direct expenses (\$/cow)</b>				
Protein vit minerals	470.36	80.67	364.52	352.80
Corn organic	418.84	232.34	494.11	391.99
Corn silage organic	312.91	262.29	348.53	257.94
Hay alfalfa organic	515.15	249.03	623.08	613.89
Hay mixed organic	58.65	-	146.35	13.18
Haylage alfalfa organic	94.86	116.94	56.56	-
Other feed stuffs	310.99	469.21	277.53	422.78
Breeding fees	31.77	15.99	32.65	29.76
Veterinary	-	-	-	-
Supplies	144.16	116.46	168.04	120.65
Repairs	171.08	131.14	199.83	176.34
Hired labor	180.63	56.15	127.56	147.90
Machinery leases	20.39	12.63	4.66	2.88
Utilities	83.95	53.02	75.81	62.29
Hauling and trucking	106.48	270.82	109.05	46.35
Miscellaneous	308.10	251.39	337.01	266.98
<b>Total direct expenses</b>	3,238.84	2,444.62	3,367.04	2,905.73
<b>Return over direct expense</b>	1,292.12	1,453.75	959.64	1,559.95

1/ Represents certified organic enterprises. Does not include those transitioning to organic production.

<b>Dairy summary by enterprise size - Continued</b>	<b>All</b>	<b>&lt;50 cows</b>	<b>50-100 cows</b>	<b>101-200 cows</b>
<b>Number of farms<sup>1</sup></b>	58	11	28	15
<b>Overhead Expenses (\$/cow)</b>				
Hired labor	66.63	15.21	102.04	61.71
Building leases	56.10	59.68	26.05	115.51
Interest	107.38	92.18	126.05	112.34
Mach & bldg depreciation	206.91	178.20	217.06	201.90
Miscellaneous	179.83	213.43	207.40	168.76
Total overhead expenses	616.85	558.70	678.60	660.22
Total direct & overhead expenses	3,855.69	3,003.32	4,045.65	3,565.95
<b>Net return</b>	675.27	895.05	281.04	899.73
<b>Labor &amp; management charge</b>	330.44	392.36	332.19	405.91
<b>Net return over labor &amp; mgt</b>	344.84	502.69	-51.16	493.82
<b>Cost of production/cwt. milk</b>				
Total direct expense per unit	20.52	18.44	22.55	18.93
Total dir& ovhd expense per unit	24.43	22.65	27.09	23.23
With other revenue adjustments	24.50	20.94	27.21	23.37
With labor and management	26.59	23.90	29.43	26.02
<b>Est. labor hours per unit</b>	38.52	39.00	45.76	36.98
<b>Other Information</b>				
Number of cows	100.9	41.5	77.0	139.1
Milk produced per cow	15,783	13,261	14,934	15,347
Lb. of milk sold per FTE	1,127,531	940,417	895,842	1,137,659
Culling percentage	26.1	18.2	26.1	25.4
Turnover rate	30.9	26.1	31.5	31.0
Cow death loss percent	3.9	5.5	4.3	4.7
Cows per milking unit	11	8	10	12
Feed cost per cwt. of milk	13.89	11.59	15.48	13.37
Feed cost per cow	2,192.28	1,537.03	2,312.44	2,052.58
Hired labor cost per cow	247.26	71.35	229.60	209.61
Avg. milk price per cwt.	28.92	27.77	29.25	29.39
Milk price / feed margin	15.03	16.18	13.77	16.01

1/ Represents certified organic enterprises. Does not include those transitioning to organic production.

# FARM FINANCE SCORECARD

		<b>Your Farm:</b>		<b>Desired Trend</b>
<b>Liquidity</b>				
Current Ratio	_____	Vulnerable 1.3 2.0 Strong		↑
Working Capital as % of Gross Revenue	_____ %	10% 30%		↑
Working Capital as % of Operating Expense*	_____ %	20% 40%		↑
<b>Solvency</b>				
Debt-to-Asset Ratio	_____ %	Vulnerable 60% 30% Strong		↓
Equity-to-Asset Ratio*	_____ %	40% 70%		↑
Debt-to-Equity Ratio*	_____	1.5 0.43		↓
<b>Profitability</b>				
Rate of Return on Assets	_____ %	Vulnerable 4% 8% Strong		↑
Rate of Return on Equity	_____ %	3% 10%		↑
Operating Profit Margin Ratio	_____ %	15% 25%		↑
Asset Turnover Ratio	_____ %	30% 45%		↑
<b>Repayment Capacity</b>				
Debt Coverage Ratio	_____	Vulnerable 1.25 1.75 Strong		↑
Replacement Coverage Ratio	_____	1.1 1.5		↑
Term Debt & Finance Lease Coverage Ratio*	_____	1.25 1.75		↑
<b>Financial Efficiency</b>				
Operating Expense Ratio	_____ %	Vulnerable 80% 60% Strong		↓
Depreciation Expense Ratio	_____ %	10% 5%		↓
Interest Expense Ratio	_____ %	10% 5%		↓
Net Farm Income Ratio	_____ %	10% 20%		↑

\* Denotes Acceptable Alternate Measures of the FFSC (<https://ffsc.org/>)



# FARM FINANCE TERMS AND DEFINITIONS<sup>10</sup>

**LIQUIDITY** is the ability of your farm business to meet financial obligations as they come due – to generate enough cash to pay your family living expenses and taxes and make debt payments on time. The following are measures of liquidity:

- 1. Current ratio:** measures the extent to which current farm assets, if sold tomorrow, would pay off current farm liabilities.
- 2. Working capital:** tells us the operating capital available in the short term from within the business.
- 3. Working capital to gross revenues:** measures operating capital available against the size of the business.

**SOLVENCY** is the ability of your business to pay all its debts if it were sold tomorrow. Solvency is important in evaluating the financial risk and borrowing capacity of the business.

- 4. Farm debt-to-asset ratio:** is the bank's share of the business. It compares total farm debt to total farm assets. A higher ratio is an indicator of greater financial risk and lower borrowing capacity.
- 5. Farm equity-to-asset ratio:** is your share of the business. It compares farm equity to total farm assets. If you add the debt-to-asset ratio and the equity-to-asset ratio you must get 100%.
- 6. Farm debt-to-equity ratio:** compares the bank's ownership to your ownership. It also indicates how much the owners have leveraged (i.e., multiplied) their equity in the business.

**PROFITABILITY** is the difference between the value of goods produced and the cost of the resources used in their production.

- 7. Net farm income:** represents return to your labor, management and equity that you have invested in the business. It is the reward for investing your unpaid family labor,

---

<sup>10</sup> *Developed by K. Becker, D. Kauppila, G. Rogers, R. Parsons, D. Nordquist and R. Craven. University of Vermont Extension and the Center for Farm Financial Management, University of Minnesota.*

management and money in the business instead of elsewhere. Anything left in the business, i.e., not taken out for family living and taxes, will increase your farm net worth.

**8. Rate of return on farm assets**

- can be thought of as the average interest rate being earned on all (yours and creditors') investments in the farm. Unpaid labor and management are assigned a return before return on farm assets is calculated.

**9. Rate of return on farm equity:** represents the interest rate being earned by your investment in the farm. This return can be compared to returns available if your equity were invested somewhere else, such as a certificate of deposit.

**10. Operating profit margin:** shows the operating efficiency of the business. If expenses are low relative to the value of farm production, the business will have a healthy operating profit margin. A low profit margin can be caused by low product prices, high operating expenses, or inefficient production.

**11. EBITDA- Earnings Before Interest Taxes:** Depreciation and Amortization. Measures earnings available for debt repayment.

**REPAYMENT CAPACITY** shows the borrower's (i.e., your) ability to repay term debts on time. It includes nonfarm income and so is not a measure of business performance alone.

**12. Capital debt repayment capacity:** measures the amount generated from farm and non-farm sources, to cover debt repayment and capital replacement.

**13. Capital debt repayment margin:** is the amount of money remaining after all operating expenses, taxes, family living costs, and scheduled debt payments have been made. It's really the money left, after paying all bills, that is available for purchasing or financing new machinery, equipment, land or livestock.

**FINANCIAL EFFICIENCY** shows how effectively your business uses assets to generate income. Past performance of the business could well indicate potential future accomplishments. It also answers the questions: **a)** Are you using every available asset to its fullest potential? and **b)** What are the effects of production, purchasing, pricing, financing and marketing decisions on gross income?

**14. Replacement margin:** the amount of income remaining after paying principal and interest on term loans and unfunded (cash) capital purchases.

**15. Term-debt coverage ratio:** tells whether your business produced enough income to cover all intermediate and long-term debt payments. A ratio of less than 1.0 indicates that

the business had to liquidate inventories, run up open accounts, borrow money, or sell assets to make scheduled payments.

**16. Replacement margin coverage ratio:** A ratio under 1.0 indicates that you did not generate enough income to cover term debt payments and unfunded capital purchases.

**17. Asset-turnover rate:** measures efficiency in using capital. You could think of it as capital productivity. Generating a high level of production with a low level of capital investment will give a high asset-turnover rate. If, on the other hand, the turnover is low you will want to explore methods to use the capital invested much more efficiently or sell some low-return investments. (It could mean getting rid of that swamp and ledge on the back 40 and getting something that produces income.)

The last four ratios show how Gross Farm Income is used. The sum of the four equals 100% of Gross Farm Income.

**18. Operating-expense ratio:** shows the proportion of farm income that is used to pay operating expenses, not including principal or interest.

**19. Depreciation-expense ratio:** indicates how fast the business wears out capital. It tells what proportion of farm income is needed to maintain the capital used by the business.

**20. Interest-expense ratio:** shows how much of gross farm income is used to pay for interest on borrowed capital.

**21. Net farm income ratio:** compares profit to gross farm income. It shows how much is left after all farm expenses, except for unpaid labor and management, are paid.

# FARM FINANCE CALCULATIONS

## LIQUIDITY

1. **Current ratio** = Total current farm assets/Total current farm liabilities
2. **Working capital** = Total current farm assets–Total current farm liabilities
3. **Working capital to gross revenues** = Working capital/Gross farm income

## SOLVENCY (MARKET)

4. **Farm debt-to-asset ratio** = Total farm liabilities/Total farm assets
5. **Farm equity-to-asset ratio** = Farm net worth/Total farm assets
6. **Farm debt-to-equity ratio** = Total farm liabilities/Farm net worth

## PROFITABILITY

7. **Net farm income** = (Gross cash farm income–Total cash farm expense)+ / – (Inventory changes– Depreciation)
8. **Rate of return on farm assets** = Return on farm assets / Average farm assets  
\*where Return on farm assets = Net farm income+Farm interest–Value of operator labor & management
9. **Rate of return on farm equity** = Return on farm equity / Average farm net worth  
\*where Return on farm equity=Net farm income–Value of operator labor & management
10. **Operating profit margin** = Return on farm assets/Value of farm production  
\*where Value of farm production = Gross cash farm income+ / – Inv. change of crops, mkt. lvst., Brdg. Lvst. & other income items–Feeder livestock purchased–Purchased feed
11. **EBITDA** = Net farm income+ Interest expense+ Depreciation and amortization expense