2020-2022

ORGANIC FARM PERFORMANCE IN THE UPPER MIDWEST

Whole Farm & Enterprise Reports

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ACKNOWLEDGEMENTS

We begin with a hearty "thank you" to all farmers and ranchers who shared their financial and production information for the project: *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.

Farm data were compiled for the Organic Benchmarking Project by <u>Farm Business Management</u> (FBM) educators representing the Minnesota State Colleges and Universities' Agriculture Centers of Excellence, the Wisconsin Technical College System, and North Dakota (ND) Farm Management. Farms participating in the Organic Benchmarking Project received a tuition scholarship for enrolling in the FBM program. Scholarship opportunities were advertised during 2019-2022 at organic conferences and were included in numerous industry newsletters and on the FBM <u>AgCentric website</u>. Whole farm and enterprise data from farms participating in FBM were aggregated annually and imported for benchmarking into the <u>FINBIN</u> database. FINBIN is maintained by the University of Minnesota's <u>Center for Farm Financial Management</u>.

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INTRODUCTION

The goal of the 2019-2022 Organic Benchmarking Project was to generate data needed by organic farms to better analyze and benchmark their business performance over time. Benchmarking provides a summary of production and financial performance measures, allowing producers to evaluate their individual performance, compare it to a cohort of other farm businesses with similar characteristics, and make informed decisions to remain competitive.

At the onset of the Organic Benchmarking Project, we could not have anticipated the COVID-19 pandemic or the impacts it would have on the agriculture community. While the pandemic made our recruitment of organic farms for the Organic Benchmarking Project difficult, the unintended consequence of our "poor timing" is the benchmarking of organic farm financial performance during one of the most unstable periods in U.S. history.

Prior to beginning the Organic Benchmarking Project in 2018, there were a combined total of 54 certified organic farms in Minnesota and Wisconsin in the FINBIN database. At that time, these farms represented 2% of organic farms in MN and WI combined.¹ After four years of recruitment effort, organic participation in FBM and FINBIN grew to a maximum of 109 farms in 2020 before attrition, due to changes in certification or enrollment, reduced organic FBM numbers to 88 farms in 2022. At that time, in 2022, organic producers in the FINBIN database represented approximately 4% of MN-WI certified organic and transitioning farms and 6% of certified organic and transitioning acreage in MN-WI combined.

The tables in this report were created using the public-facing <u>FINBIN.umn.edu</u> website in June-July 2023 and include data from Minnesota and Wisconsin (MN-WI). North Dakota did not have enough organic records to incorporate into the report.

The 2020-2022 benchmarking report is an excellent tool for those interested in exploring farm financial resilience during a time of great turbulence. However, we caution readers that the results presented for 2020-2022 may not be indicative of future performance. We ask that organic producers and others bear this in mind, particularly when reviewing the three-year benchmarking averages in the whole farm reports. As organic data collection continues, longitudinal data will become available in the FINBIN database, allowing for a richer year-over-year comparison of profitability, solvency, and liquidity among organic farms.

¹ Minnesota and Wisconsin reported a combined total of 2,394 organic and transitioning farms with 426,470 certified organic and transitioning acres. Source: USDA 2021 Organic Survey, https://www.nass.usda.gov/Surveys/Guide to NASS Surveys/Organic Production/.

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 labeling. Farmers, processors, and retailers must follow NOP regulations in order to sell, label, or represent their products as organic.

Organic, as defined by the NOP, 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 <u>ams.usda.gov/rules-regulations/organic</u>.

When applying for organic certification, farmers must transition their land by eliminating any prohibited substances as defined by NOP. For cropland, 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, may be certified more quickly if the farmer/owner can demonstrate that it has been at least three years since prohibited substances have been applied to the acreage.

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

Total Organic (TO): 100% of land, livestock, and farm products are certified organic.

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

Transitioning (TR): Some or all land, livestock, and farm products are actively being transitioned 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 the University of Minnesota's Center for Farm Financial Management (CFFM). The scorecard uses a red, yellow, green rating system to rank financial performance as vulnerable, moderate, or strong, respectively. Farm Finance Scorecard terms are highlighted in maroon throughout and definitions can be found at the end of the report.

REPORT HIGHLIGHTS

The 2020-2022 report highlights represent a snapshot of organic production and financial performance during the worst pandemic in U.S. history. Highlights listed below represent summary observations from TO, PO and TR farms in the FINBN database. Observations have not been tested for statistical significance.

- Organic and transitioning farms in FINBIN managed 274 acres (cropland and pastureland, Table 1), suggesting that they are slightly larger than the overall average of 194 acres for certified organic MN-WI farms in the 2021 USDA Certified Organic Survey.²
- Average net farm income measured \$121,635 over the three-year period (Table 1). Median farm income was 65% of average net farm income or \$70,229. Net and median net farm income tended to increase with farm size; the only exception is for the largest farm size group of 1,001-1,500 acres (Table 8). Organic and transitioning farms maintained a moderate 22.8% operating profit margin (cost-basis) over the three-year period (Table 1).
- Government payments accounted for 7% of gross cash farm income annually on average for TO, PO and TR farms with payments tapering off each year from 11% of gross cash farm income in 2020 to 3% of gross cash farm income by 2022 (Table 1).
- Crop and pastureland ownership increased gradually over the three-year period explored (Table 2), as did overall net worth (Table 1), despite volatility in organic prices and net farm income (Tables 11 and 1, respectively).
- Approximately one-third of organic farms (TO and PO) were classified as crop farms and another third as dairy farms meaning 70% or more of sales revenue coming from each of these income sectors (Table 5). These two sectors returned the greatest revenue with crop and dairy farms generating \$186,720 and \$106,097 in average net farm income, respectively (Table 5).
- The most profitable certified organic crop enterprises were corn (\$592.88/acre, Table 13) followed by corn silage (\$496.84/acre, Table 16), soybeans (\$484.80/acre, Table 19), alfalfa hay (\$276.35/acre, Table 22), mixed hay (\$43.95/acre, Table 25) and oats (\$20.06/acre, Table 28). Pasture, an important livestock feed input required by NOP regulation, returned an average net income of -\$26.20/acre annually over the three-year period (Table 31).

² Table 1. Farms, Land and Value of Sales on Certified Organic Farms: 2021. Certified Organic Survey: 2021 Summary. USDA, National Agricultural Statistics Service.

WHOLE FARM FINANCIAL SUMMARY

The whole farm financial summary provides a high-level overview of organic and transitioning farms from MN-WI combined. These summaries are useful when identifying general trends in farm performance over a longer period of time.

Comprehensive data from organic and transitioning farms have been aggregated into the 2020-2022 whole farm financial and operator information tables on the pages that follow. The tables address farm income, profitability, liquidity, solvency, operator, labor, and ownership information and are differentiated by production year, certification status, farm type, and farm size to understand observations.

Farm profitability represents 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 ratio. Liquidity measures the ability of a farm business to meet its financial obligations as they come due and are represented by three indicators - current ratio, working capital, and working capital to gross revenue. Lastly, solvency, which indicates whether a farm business can repay all of its debts if sold, is important in evaluating financial risk and borrowing capacity. Solvency is measured by indicators such as the debt-to-asset ratio.

We discuss many of the financial indicators, as well as observations about operators and land ownership, in the sections that follow. As a reminder, definitions for financial terms colored maroon can be found at the back of this publication.

Data sources for this section of the report come from two types of FINBIN sorts: *Financial Summary* and *Operator and Labor Information*. Live links to the reports appear as underlined text in the table titles. Complete financial summaries as well as detailed income statements can be found on <u>www.finbin.umn.edu</u>.

FINBIN data sources for organic whole farm financial summaries 2020-2022 (# farms)

MN State College & University South (173) MN State College & University North (72) MN State College & University Red River Valley (4) Wisconsin Technical College System (43) Other contributors (2) Location: Minnesota, Wisconsin Year(s): 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial), Organic transition

PRODUCTION YEAR

Annual performance indicators are important for identifying trends and outliers, or unique events, such as the COVID-19 pandemic, that can skew averages in one direction or another. A summary of farm finances by year is presented in Table 1. Operator age, experience, and labor are summarized in Table 2.

Year 1: 2020. Many commodity prices were on the rise prior to the outbreak of COVID-19. By March the pandemic brought significant uncertainty to agricultural markets as a whole and organic dairy and grains sectors experienced sharp declines in prices. Despite this, tides turned the second half of the year, as gross farm income for organic producers benefited from generally good yields, increasing commodity prices, and hefty pandemic-related government payments (Table 1).

Year 2: 2021. In 2021, government support decreased 27% from the 2020 highs, and input prices increased overall. Improved yields and commodity prices more than balanced out the decreas in government payments and the upward shift in production costs. Organic producers finished out the year with strong year-over-year gains in average and median net farm income equal to 86% and 40%, respectively, from 2020 levels (Table 1).

Year 3: 2022. The year began with cautious optimism as the COVID-19 pandemic was thought to be nearing its end, and stability began to return to the agri-food supply chain. Thanks to these improvements, government support payments were further reduced. Marginal increases in gross cash farm income were not enough to offset the negative effects of reduced government payments and the continued rise in input costs, thus pushing the operating profit margin for organic farms down 35% (cost basis) from 2021 levels (Table 1).

Despite a reduction in 2022 net farm income, organic producers generally weathered the uncertainty of COVID-19 and remained competitive in terms of profitability, liquidity, and solvency throughout the pandemic. Each of these indicators ranked moderate to strong throughout 2020-2022 (Table 1) which may explain why there was a substantive increase in land ownership. The total number of acres owned increased by 15% by the end of 2022 compared to 2020 (Table 2). Also noticeable was the shift in unpaid and hired labor hours. One year into the pandemic, there was a substantive drop in hired labor and an increase in unpaid (operator/family) labor. This may be explained by increased labor rates, a general reduction in the labor pool, and/or the desire to reduce expenses amid uncertainty. Despite improved profitability by years end 2021, operators appear to have continued their reliance on unpaid labor going into 2022 - even increasing their own, unpaid time by 5% from 2020 to 2022 (Table 2). As organic data collection continues, longitudinal data will become available in the FINBIN database, allowing for a richer year-over-year comparison of profitability, liquidity, and solvency among organic farms and between periods of stability and instability such as that experienced during the COVID-19 pandemic.

Table 1. Financial Summary by Year

Minnesota-Wisconsin				
Year	2020-2022 Average	2022	2021	2020
Number of farms	294	88	109	97
Gross crop income	212,659	278,633	224,252	139,778
Gross livestock income	188,604	182,918	192,185	189,739
Government payments	33,515	16,725	34,578	47,552
Gross cash farm income (\$)	451,044	500,353	437,025	422,064
Total cash farm expense (\$)	351,293	398,205	339,457	322,033
Net cash farm income (\$)	99,751	102,148	97,567	100,031
Inventory change (\$)	51,636	49,087	85,319	16,098
Depreciation (\$)	-31,131	-35,552	-27,894	-30,759
Net farm income fm. operations (\$)	120,256	115,683	154,993	85,370
Gain or loss on capital sales (\$)	1,379	1,921	2,676	-571
Average net farm income (\$)	121,635	117,604	157,669	84,799
Median net farm income (\$)	70,229	67,441	85,181	60,705
Profitability (cost)				
Rate of return on assets (%)	7.5	6.3	10.6	5.3
Rate of return on equity (%)	10.7	8.6	16.2	6.5
Operating profit margin (%)	22.8	19.3	29.5	17.8
Asset turnover rate (%)	33.0	32.9	35.9	29.9
Profitability (market)				
Rate of return on assets (%)	6.8	7.2	8.8	4.3
Rate of return on equity (%)	9.4	10.3	12.8	4.8
Operating profit margin (%)	26.2	28.0	30.1	18.7
Asset turnover rate (%)	26.0	25.7	29.3	22.8
Liquidity & Repayment (end of year)				
Current ratio	2.51	2.64	2.98	1.92
Working capital (\$)	183,610	225,120	209,976	116,323
Working capital to gross income (%)	37.1	41.9	40.7	27.0
Debt coverage ratio	2.35	2.10	3.25	1.72
Term debt coverage ratio	2.42	2.19	3.38	1.74
Solvency (end of year cost)				
Total assets (\$)	1,550,618	1,745,948	1,496,823	1,433,860
Total liabilities (\$)	680,356	785,439	629,413	642,269
Net worth (\$)	870,261	960,510	867,410	791,590
Net worth change (\$)	109,219	98,509	149,196	74,014
Farm debt to asset ratio (%)	46	48	44	47
Net nonfarm income (\$)	35,753	39,183	40,838	26,926

Table 2. Farm Operator and Labor Information by Year

Minnesota-Wisconsin									
Year	2020-2022 Average	2022	2021	2020					
Number of farms	294	88	109	97					
Operator Information									
Average number of operators	1.4	1.4	1.4	1.4					
Average age of operators	44.0	43.8	43.3	45.1					
Average number of years farming	17.5	17.3	16.6	18.7					
Total acres owned	115.6	130.9	104.6	114.1					
Total crop acres	234.7	241.7	218.7	246.2					
Crop acres owned	68.0	64.8	68.4	70.5					
Crop acres cash rented	161.2	170.1	145.5	170.9					
Crop acres share rented	5.4	6.8	4.9	4.9					
Total pasture acres	39.3	45.4	39.9	33.0					
Labor Analysis									
Total unpaid labor hours	2,085	2,144	2,074	2,043					
Total hired labor hours	1,561	1,535	1,512	1,640					
Total labor hours per farm	3,646	3,680	3,586	3,682					
Unpaid hours per operator	1,528	1,562	1,519	1,508					
Value farm production/hour	118.11	129.49	124.70	100.57					
Net farm income/unpaid hour	57.68	53.95	74.73	41.80					
Average hourly hired labor wage	17.89	18.38	18.94	16.37					

CERTIFICATION STATUS

This section of the report discusses farm finances, operator information, and labor by organic certification status (TO, PO, TR). Certification status is important because it can significantly impact profitability, liquidity, and solvency due to differences in investments and market price premiums, particularly during the transition period. A summary of farm finances by certification status is presented in Table 3. Operator information and tenure are summarized in Table 4. Data sources for this section are available using the live links in table titles.

Total Organic. The largest cohort in the organic FINBIN group, TO farms, represents 69% of MN-WI organic farms in FINBIN. The TO farms generated the highest gross cash farm income of all groups, \$480,478, with half coming from livestock sales and the remainder coming mainly from crops (38%) and government payments (8%) (Table 3). Although TO farms generated more income than PO and TR farms (Figure 1), they were the least profitable of all three groups as indicated by moderate profitability ratios (rate of return on assets, operating profit margin, and asset turnover ratio) and a median net farm income of \$76,360 (Table 3). Profitability rankings impacted solvency; TO farms produced a moderate farm debt-to-asset ratio of 47% indicating that almost half of their assets were leveraged as debt. TO farms were liquid enough to comfortably pay obligations in the short run, as measured by \$188,342 in working capital (Table 3).

Partial Organic. The PO farms in FINBIN represent 26% of MN-WI organic farms in FINBIN. This group stands out as the most experienced (19 years farming) with the greatest crop acreage (273 acres owned and rented) (Table 2; Figure 2). The PO farms earned the majority of their gross cash farm income (70%) from crop production. Thanks to robust commodity prices for crops like organic corn and soybeans and a strong operating profit margin, the PO farms were able to financially weather any reduction in government payments and increases in cash farm expenses over the three-year period. Income generated, however, was not enough to offset leveraged capital investments. PO farms were financially vulnerable as indicated by the 32.1% asset turnover ratio (cost-basis) and moderate 43% farm-debt-to-asset ratio (Table 3).

Transitioning. The TR farms represent the smallest organic cohort (5%) with the least farm experience (8.7 years). Consequently, we caution readers when interpreting results for this group. We would expect to see reduced income or even losses during the 3-year transition period for TR farms given NOP requirements that producers purchase or produce high-value organic inputs during transition while receiving conventional (non-organic) prices for commodities sold. Conversely, the FINBIN data suggest that TR farms were the most profitable group with a strong operating profit margin of 31.4% (cost-basis) and generally strong liquidity and solvency rankings (Table 1, Table 2). It is possible that the majority of income for this group came from high-value specialty crops and/or that top-performing TR farms skewed the results in a positive direction. It will be important to review longitudinal data for TR farms as time goes on and as data from more transitioning producers are included in the FINBIN database.

Table 3. Financial Summary by Certification Status

Minnesota-Wisconsin: 2020-2022 Average								
Organic status	Total organic	Partial organic	Transitioning					
Number of farms	193	73	14					
Percent of all farms (%)	69	26	5					
Gross crop income (\$)	182,233	278,024	130,763					
Gross livestock income (\$)	238,985	92,338	23,227					
Government payments (\$)	36,526	28,825	8,584					
Gross cash farm income (\$)	480,478	394,889	164,174					
Total cash farm expense (\$)	372,444	306,178	134,985					
Net cash farm income (\$)	108,034	88,712	29,189					
Inventory change (\$)	51,939	44,714	49,899					
Depreciation (\$)	-36,104	-24,772	-10,106					
Net farm income fm. operations (\$)	123,869	108,654	68,983					
Gain or loss on capital sales (\$)	1,562	1,418	31					
Average net farm income (\$)	125,431	110,072	69,014					
Median net farm income (\$)	76,360	69,623	21,949					
Profitability (cost)								
Rate of return on assets (%)	7.1	7.5	7.9					
Rate of return on equity (%)	10.0	10.4	11.6					
Operating profit margin (%)	22.1	23.3	31.4					
Asset turnover rate (%)	32.3	32.1	25.2					
Profitability (market)								
Rate of return on assets (%)	6.5	7.0	5.6					
Rate of return on equity (%)	8.8	9.6	7.6					
Operating profit margin (%)	25.6	28.0	27.1					
Asset turnover rate (%)	25.3	24.9	20.5					
Liquidity & Repayment (end of year)								
Current ratio	2.62	2.46	2.22					
Working capital (\$)	188,342	194,706	90,419					
Working capital to gross revenue (%)	35.8	45.1	46.9					
Debt coverage ratio	2.15	2.93	3.71					
Term debt coverage ratio	2.20	3.05	3.98					
Solvency (end of year cost)								
Total assets (\$)	1,650,779	1,408,637	1,064,988					
Total liabilities (\$)	744,754	567,149	407,043					
Net worth (\$)	906,025	841,488	657,945					
Net worth change (\$)	104,302	107,544	125,265					
Farm debt to asset ratio (%)	47	43	45					
Net nonfarm income (\$)	38,970	23,341	72,340					

Table 4. Farm Operator and Labor Information by Certification Status

Minnesota-Wisconsin: 2020-2022 Average									
Organic status	Total organic	Partial organic	Transitioning						
Number of farms	193	73	14						
Operator Information									
Average number of operators	1.4	1.3	1.3						
Average age of operators	45.0	43.3	43.7						
Average number of years farming	18.2	19.0	8.7						
Total acres owned	124.0	123.4	58.4						
Total crop acres	228.8	272.9	65.9						
Crop acres owned	78.4	61.0	20.2						
Crop acres cash rented	143.6	207.9	45.7						
Crop acres share rented	6.8	4.0	0.0						
Total pasture acres	46.3	32.9	16.6						
Labor Analysis									
Total unpaid labor hours	2,154	1,955	1,735						
Total hired labor hours	2,144	316	682						
Total labor hours per farm	4,298	2,271	2,417						
Unpaid hours per operator	1,580	1,462	1,349						
Value farm production/hour	105.62	170.53	71.94						
Net farm income/unpaid hour	57.52	55.58	39.76						
Average hourly hired labor wage	18.10	17.26	13.84						



Fig. 1. Average vs. Median Net Farm Income for Organic and Transitioning Farms in MN-WI, 2020-2022



Fig. 2. Land Ownership and Tenure for Organic and Transitioning Farms in MN-WI, 2020-2022

FARM TYPE

This section of the report provides highlights for TO and PO farms by "type"³. There are ten possible farm types included in FINBIN (crop, dairy, hog, beef, sheep, crop & dairy, crop & hog, crop & beef, crop & sheep, and other). A farm is classified by type when 70% or more of its sales revenue comes from a particular enterprise. MN-WI organic farms are sorted into five types for 2020-2022: crops (37%), dairy (31%), crop & dairy (5%), crop & beef (8%), and other (16%) (Figure 3). Detailed financial information by farm type is displayed in Tables 5-6. Data sources for this section are available using the live link in table titles.

Crop. Crop farms accounted for 37% of all TO and PO farms. Producers in this group net the largest average net farm income, \$186,720, and the highest operating profit margin (33.7% at cost) compared to other farm types (Table 5). It is worth noting that, with the exception of "other" farms, crop producers received the fewest government payments, \$29,423 annually on average, in 2020-2022 (Table 5). Strong organic grain prices over the reporting period benefited crop farms and contributed to their robust showing across all profitability and liquidity indicators. The only exception is the asset turnover ratio. Crop farmers ranked moderate (cost basis) for this indicator (Table 5). Similarly, solvency indicators such as the debt-to-asset ratio were ranked moderate (Table 5) which may be a function of financing availability, age, and experience. Crop farms were managed by the youngest cohort among all MN-WI organic producers reporting, averaging 41.4 years. This group was also the least experienced - having farmed for an average of 13.4 years (Table 6).

Dairy. Dairy farms represented 31% of TO and PO farms over the 2020-2022 period. They reported the second-highest gross farm income, \$614,503, among all farm types with the majority of receipts (78%) coming from livestock-related sales (Table 5). Government payments totaled \$43,622 and accounted for 7% of gross income. Dairy farms used 2-3 times as many total labor hours (unpaid and hired), 6,321 hours annually, compared to all other organic farm types with the exception of crop & dairy. Hired labor accounted for half of total labor on dairy farms. Employees were paid an average of \$17.10/hour or approximately \$54,241 annually accounting for 11% of total expenses (Table 6). Operators contributed 3,149 hours of unpaid time on dairy farms, netting \$33.28 of net farm income per unpaid labor hour during 2020-2022. After subtracting all expenses, net farm income averaged \$106,097 on dairy farms. This group ranked moderate overall in terms of profitability, liquidity, and solvency (Table 5) with one significant exception - the 14.7% cost-valued operating profit margin (which is half the rate reported by crop farmers) put dairy farms may be due to higher than average organic grain prices in 2020-2022. While strong organic grain prices benefited crop farmers, they translated into additional feed expense to organic dairy producers.

³ Transitioning farms are excluded as there are not enough farms to sort by type.

Crop & Dairy. The smallest group among the FINBIN farm types, representing 5% of all farms, is the combined Crop & Dairy. This group reported the largest gross farm income, \$689,492, but after subtracting expenses Crop & Dairy farms lost money (-\$796) (Table 5). The loss is captured by the negative cost-basis operating profit margin (-0.3%) and return on equity (-15.4%) (Table 5). The Crop & Dairy group is highly leveraged, as noted by the farm-debt-to-asset ratio of 76% (on a cost-value basis). This places them well into the vulnerable range (Table 5). Inexperience cannot explain the poor performance of this group – Crop & Dairy operators reported having farmed for 23.7 years on average (Table 6). Instead, we suggest that high direct and overhead costs, including a high interest expense, are to blame. The term debt coverage ratio is also vulnerable for this group and is less than 1.0 for the period. (0.47) (Table 5). Given the small number of farms in this group (14), it is possible the results were skewed by a single operation. Data from additional farms in this group will be needed in the future to gain a better understanding of the factors affecting the financial performance of TO and PO Crop & Dairy farms.

Crop & Beef. This group represented 8% of TO and PO MN-WI farms in 2020-2022. Producers in the Crop & Beef group reported the lowest gross farm income of all farm types, \$298,986, and a relatively low average net farm income of \$57,128 (Table 5). Crop and beef TO and PO farms had a vulnerable cost-valued operating profit margin of 12.1%, but this group managed to maintain strong liquidity and moderate solvency rankings (Tables 5). They had a net worth of \$1,131,285 and farm debt-to-asset ratio of 33% (with assets valued at cost) (Table 5). Crop & Beef operators are the oldest group among their cohorts and have the most experience which may explain their large asset base (Table 6).



Fig. 3. Farm Type for Organic Farms in MN-WI, 2020-2022

Table 5. Farm Income and Profitability Summary by Farm Type

Minnesota-Wisconsin: 2020-2022 Average

Farm type	All farms	Crop	Dairy	Crop & Dairy	Crop & Beef	Other
Number of farms ¹	266	98	82	14	21	43
Percent of all farms		37	31	5	8	16
Crop sales	165,699	336,208	23,088	275,381	114,670	43,757
Crop inventory change	42,822	60,102	17,101	7,901	11,373	66,928
Gross crop income	208,521	396,130	40,189	283,282	126,043	110,686
Livestock sales	197,213	9,430	481,893	390,764	104,431	58,603
Livestock inventory change	1,527	3,476	-633	3,831	2,320	6,338
Gross livestock income	198,740	12,906	481,260	394,596	106,751	64,941
Government payments	34,413	29,423	43,622	46,979	33,563	22,677
Other cash farm income	59,665	50,846	49,402	49,900	37,824	119,135
Change in accounts receivable	169	-1,328	-424	-4,573	-2,996	8,571
Gain/loss on hedging accts.	-3,142	-7,930	0	0	-2,584	129
Change in other assets	1,304	17,294	-459	-86,060	865	-2,816
Gain/loss on breed. livestock	-72	-1,219	913	5,369	-481	-986
Gross farm income (\$)	499,597	496,121	614,503	689,492	298,986	322,337
Cash operating expenses	329,725	280,711	447,305	578,745	208,320	186,148
Change in prepaids & supplies	-4,681	-6,675	-5,274	-8,239	32	-1,149
Change in growing crops	-1,154	-2,991	364	-776	-972	-172
Change in accounts payable	-2,073	-5,674	-3,768	-2,453	438	7,695
Depreciation	32,994	24,782	42,866	55,318	16,182	28,711
Total operating expense	354,811	290,153	481,493	622,595	224,001	221,233
Total interest expense	25,092	21,674	28,222	69,925	17,782	17,492
Total expenses (\$)	379,903	311,827	509,715	692,521	241,783	238,725
Net farm income from operations	119,694	184,294	104,788	-3,029	57,203	83,613
Gain/loss on capital sales	1,522	2,426	1,309	2,233	-75	741
Avg. net farm income (\$)	121,216	186,720	106,097	-796	57,128	84,354

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

Table 5. Farm Income and Profitability Summary by Farm Type (continued)

Minnesota-Wisconsin: 2020-2022 Average

Farm type	All farms	Crop	Dairy	Crop & Dairy	Crop & Beef	Other
Number of farms ¹	266	98	82	14	21	43
Gross cash farm income	456,989	425,727	598,006	763,024	290,488	244,173
Total cash farm expense	354,258	299,820	476,339	651,549	225,161	203,650
Net cash farm income	102,731	125,907	121,667	111,475	65,327	40,522
Inventory change	49,957	83,169	25,988	-59,186	8,057	71,801
Depreciation	-32,994	-24,782	-42,866	-55,318	-16,182	-28,711
Net farm income from operations	119,694	184,294	104,788	-3,029	57,203	83,613
Gain or loss on capital sales	1,522	2,426	1,309	2,233	-75	741
Avg. net farm income (\$)	121,216	186,720	106,097	-796	57,128	84,354
Median farm income (\$)	73,678	125,268	77,542	71,561	50,159	34,287
Profitability (cost)						
Rate of return on assets (%)	7.2	11.8	5.1	-0.1	2.2	7.2
Rate of return on equity (%)	10.1	17.8	6.3	-15.4	1.3	9.6
Operating profit margin (%)	22.4	33.7	14.7	-0.3	12.1	26.5
Asset turnover rate (%)	32.3	35.0	34.3	32.9	18.5	27.3
Profitability (Market)						
Rate of return on assets (%)	6.6	10.8	5.0	1.5	1.9	5.8
Rate of return on equity (%)	9.0	16.2	6.1	-4.0	1.2	7.5
Operating profit margin (%)	26.2	37.8	19.2	5.8	13.4	28.6
Asset turnover rate (%)	25.2	28.7	25.8	25.3	13.9	20.4

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

Table 5. Farm Income and Profitability Summary by Farm Type (continued)

Minnesota-Wisconsin: 2020-2022 Average									
Farm type	All farms	Crop	Dairy	Crop & Dairy	Crop & Beef	Other			
Number of farms ¹	266	98	82	14	21	43			
Liquidity and repayment ²									
Current assets	311,052	387,355	233,670	389,477	232,928	258,020			
Current liabilities	120,964	145,762	111,943	153,413	89,418	76,665			
Current ratio	2.57	2.66	2.09	2.54	2.60	3.37			
Working capital	190,089	241,593	121,727	236,064	143,511	181,356			
Working capital to gross revenue (%)	38.0	48.7	19.8	34.2	48.0	56.3			
Term debt coverage ratio	2.35	3.85	1.74	0.47	1.86	2.62			
Replacement coverage ratio	1.86	2.95	1.43	0.46	1.06	1.91			
Solvency (cost) ³									
Total assets	1,584,327	1,715,445	1,530,167	1,901,777	1,593,971	1,286,885			
Total liabilities	696,013	685,906	771,452	1,437,105	462,686	471,523			
Net worth	888,313	1,029,539	758,715	464,672	1,131,285	815,362			
Farm debt to asset ratio (%)	46.0	41.0	52.0	76.0	33.0	41.0			
Total debt to asset ratio (%)	44 .0	40.0	50.0	76.0	29.0	37.0			
Solvency (market) ³									
Total assets	2,026,089	2,111,308	2,042,936	2,517,171	2,075,317	1,679,461			
Total liabilities	811,659	809,764	876,425	1,589,004	558,693	579,175			
Net worth	1,214,429	1,301,544	1,166,511	928,167	1,516,624	1,100,285			
Farm debt to asset ratio (%)	42.0	40.0	44.0	65.0	30.0	38.0			
Total debt to asset ratio (%)	40.0	38.0	43.0	63.0	27.0	34.0			

I Otal debt to asset ratio (%)40.038.043.06.01/ Farms represent "organic (total)" and "organic (partial)." Does not include "organic transition" farms.2/ End of year.

Table 6. Farm Operator and Labor Information by Farm Type

Minnesota-Wisconsin: 2020-2022 Average

Farm type	All farms	Crop	Dairy	Crop & Dairy	Crop & Beef	Other
Number of farms ¹	266	98	82	14	21	43
Operator Information						
Avg. number of operators	1.4	1.2	1.6	1.4	1.2	1.3
Avg. age of operators	44.5	41.4	46.8	45.5	51.4	42.5
Avg. number of years farming	18.4	13.4	20.6	23.7	29.2	16.7
Labor Analysis						
Total unpaid labor hours	2,099	1,441	3,149	1,875	1,905	1,808
Total hired labor hours	1,643	668	3,172	4,902	0	852
Unpaid labor hours/operator	1,548	1,225	1,956	1,313	1,539	1,381
Value farm production/hour	116.43	232.44	75.29	89.56	129.62	104.05
Net farm income/unpaid hour	57.02	127.89	33.28	-1.62	30.03	46.25
Avg. hired labor wage (\$/hr)	18.05	26.60	17.10	15.54	0	15.70
Crop Acres						
Total acres owned	123.9	129.1	100.7	164.7	171.1	132.7
Total crop acres	240.7	352.3	174.3	384.8	207.9	132.4
Total crop acres owned	73.7	85.3	64.1	128.4	85.1	57.5
Total crop acres cash rented	161.0	249.2	109.3	256.4	122.8	74.9
Total crop acres share rented	6.1	17.8	1.0	0	0	0
Total pasture acres	42.7	5.3	62.2	75.3	87.3	36.7

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

FARM SIZE

In this section, the whole farm financial summary is reported for TO and PO operations by farm size.⁴ Size is important as it can afford economies of scale that affect labor efficiency and overhead costs.

Farm size can be measured using gross income or acreage. According to the USDA ERS farm typology definition which measures size by gross income, *small farms* generate \leq \$350,000 in gross sales, *mid-size farms* generate \$351,000 - \$999,999 in gross sales and *large farms* generate \geq \$1,000,000 in gross sales.⁵ Using the USDA ERS farm size metric, half of the organic farms in FINBIN were considered "mid-size" (50%) with another (41%) described as "small" and the remaining farms as "large" (9%) for the 2020-2022 period. Alternatively, in FINBIN, farm size is measured by the number of crop acres (owned and rented). FINBIN farms have been broken up into five size categories ranging from "smallest" to "largest" (<100, 101-250, 251-500, 501-1,000 and 1,001-1,500 acres). The majority of TO and PO farms (63%) fall in the 101-250-acre and 251-500-acre size ranges combined. The remaining farms were split equally between those with operators who managed \leq 100 acres and those who managed > 500 acres (Figure 4).

Detailed profitability, liquidity, and solvency rankings for TO and PO farms by size are described in the pages that follow and listed in Tables 7-8. Data sources for this section of the report are shown below. Data sources for this section are available using the live link in table titles.

FINBIN data sources for organic financial summary by farm size 2020-2022 (# farms)

MN State College & University South, (155) MN State College & University North, (63) MN State College & University Red River Valley, (3) Wisconsin Technical College System, (43) Other Contributors, (2) Location: Minnesota, Wisconsin Year(s): 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

⁴ Transitioning farms are not reported due to insufficient number of farms.

⁵ 2017 Census of Agriculture: Farm Typology. Volume 2, Special Studies, Part 10. January 2021. <u>https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Typology/typology.pdf</u>.

Smallest: <**100 acres.** There were 50 organic operations in the smallest category, representing 19% of TO and PO farms in MN-WI. This group had the second lowest average net farm income of all farm size groups at \$96,980 (Table 7), but they were financially efficient, posting some of the strongest farm financial benchmarks. Small farms ranked strong, on average, for all indicators of profitability, liquidity, and solvency. The only exception was the asset turnover ratio which measured 33% and ranked moderate (Table 7).

Small: 101-250 acres. The small size category was comprised of 85 farms, representing 32% of TO and PO operations, and reported an average net farm income of \$65,266 (Table 7). While this group generated a moderate operating profit margin of 20.4% (cost-basis), it posted strong overall profitability, liquidity, and solvency indicators. Many of these efficiencies may be explained by the enterprises managed. More than half, 53%, of gross cash farm income came from livestock, such as beef (Table 7). Farms in the small category had relatively low labor (2,754 hours annually paid and unpaid) (Table 8). Of note, is the high overall net worth recorded for this group, \$948,605 (assets valued at cost), surpassed only by the largest group managing 1,001 - 1,500 acres (Table 7). The small farms also behaved similarly to the larger groups by accumulating assets in the form of land ownership, operating 141.5 acres which is almost three times the number of acres owned by the smallest farm group and approximately 50% more than their cohorts in the midsize group (Table 8).

Midsize: 251–500 acres. The 83 midsize farms represented 31% of the TO and PO farms in FINBIN. Financial performance was mixed with the 251-500-acre farms generally scoring moderate for profitability and solvency but strong for liquidity. This group's net farm income averaged \$132,411 with 51% of gross farm income coming from livestock sales (Table 7). Operators in this group managed 61.1 acres of pastureland and 224.2 acres of cropland on average during 2020-2022 (Table 8). The majority of cropland was cash rented (72%). Operators in this group ranked second only to the largest farm-size cohort in age and experience (Table 8).

Large: 501-1,000 acres. Large farms accounted for 11% of TO and PO farms in FINBIN. They averaged \$184,234 in net farm income for 2020-2022 (Table 7), representing the second-highest return of all size groups, and the greatest net return to unpaid labor and management at \$138.46/hour (Table 8). These same large farms returned mixed ratings for profitability. They scored strongly on the rate of return on assets and the rate of return on equity suggesting they made efficient use of invested assets (Table 8). However, the large farm group was more vulnerable when it came to the operating profit margin and asset turnover ratio which measured as moderate. Liquidity indicators (such as current ratio) also ranked moderate, though repayment capacity was strong (Table 7).

Largest: 1,001-1,500 acres. The largest farms, representing 6% of TO and PO farms in FINBIN, generated \$1,352,185 in gross farm income with almost half (48%) coming from crop sales and another 29% from

livestock sales (Table 7). A significant portion of gross income came from government payments, 8% or \$108,063 (Table 7). After subtracting expenses, net farm income averaged \$345,618 for the largest farm group. Interestingly, the median net farm income was \$150,215, which is almost half of the average net farm income for this group, suggesting that a few large farms skewed the average in this relatively small pool of 17 producers (Table 7). As with other sorts, where a limited number of producers are represented, we urge caution when interpreting the results for this largest farm-size group. Farms in this group reported mixed profitability indicators and strong liquidity indicators. Repayment capacity and solvency ranked strong thanks to an average net worth of \$2,522,377 (cost-basis) - more than twice that of any other group (Table 7). Farmers in this group were the oldest and most experienced, which may explain their ability to accumulate a strong asset base (Table 8).



Fig. 4. Percent Organic Farms by Size in MN-WI, 2020-2022

Table 7. Farm Income Summary by Farm Size

Minnesota-Wisconsin: 2020-2022 Average

Farm size	All farms	<100 acres	101-250 acres	251-500 acres	501- 1,000 acres	1,001- 1,500 acres
		Smallest	Small	Midsize	Large	Largest
Number of farms ¹	266	50	85	83	29	17
Percent of all farms		19	32	31	11	6
Crop sales	165,699	49,938	59,046	150,415	350,791	655,251
Crop inventory change	42,822	48,923	13,361	27,710	129,945	133,205
Gross crop income	208,521	98,862	72,407	178,124	480,736	788,456
Livestock sales	197,213	121,602	143,517	275,232	143,607	390,862
Livestock inventory change	1,527	848	5,439	422	1,190	-9,208
Gross livestock income	198,740	122,450	148,956	275,654	144,797	381,653
Government payments	34,413	13,585	24,857	34,365	55,331	108,063
Other cash farm income	59,665	41,067	52,906	46,892	92,672	130,363
Change in accounts receivable	169	6,691	185	259	-1,533	-14,638
Gain/loss on hedging accts.	-3,142	109	-768	295	-674	-45,988
Change in other assets	1,304	3,940	16,866	1,928	-14,613	11,731
Gain/loss on breed. livestock	-72	-709	-567	2,416	-5,799	-7,454
Gross farm income (\$)	499,597	285,995	314,841	539,933	750,917	1,352,185
Cash operating expenses	329,725	162,095	211,698	360,924	459,798	940,640
Change in prepaids & supplies	-4,681	-2,685	-4,365	-4,009	-2,936	-10,201
Change in growing crops	-1,154	-287	-107	-3,030	-25	-2,079
Change in accounts payable	-2,073	7,586	-1,978	-3,548	1,503	-34,420
Depreciation	32,994	11,716	25,408	33,966	60,522	75,782
Total operating expense	354,811	178,426	230,656	384,301	518,862	969,723
Total interest expense	25,092	10,527	20,201	24,562	48,622	44,710
Total expenses (\$)	379,903	188,953	250,858	408,863	567,484	1,014,433
Net farm income from operations	119,694	97,043	63,984	131,070	183,433	337,753
Gain/loss on capital sales	1,522	-62	1,283	1,341	801	7,865
Avg. net farm income (\$)	121,216	96,980	65,266	132,411	184,234	345,618

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.

Table 7. Farm Income Summary by Farm Size (continued)

Minnesota-Wisconsin: 2020-2022 Average

Farm size	All farms	<100 acres	101-250 acres	251-500 acres	501- 1,000 acres	1,001- 1,500 acres
		Smallest	Small	Midsize	Large	Largest
Number of farms ¹	266	50	85	83	29	17
Gross cash farm income	456,989	227,864	278,705	506,904	642,401	1,284,538
Total cash farm expense	354,258	173,425	229,908	385,741	504,979	985,553
Net cash farm income	102,731	54,440	48,797	121,163	137,422	298,985
Inventory change	49,957	55,064	40,384	43,873	106,533	114,549
Depreciation	-32,994	-11,811	-25,191	-33,966	-60,522	-75,782
Net farm income from operations	119,694	97,692	63,990	131,070	183,433	337,753
Gain or loss on capital sales	1,522	-63	1,268	1,341	801	7,865
Avg. net farm income (\$)	121,216	97,629	65,258	132,411	184,234	345,618
Median farm income (\$)	73,678	41,811	47,264	102,902	208,122	150,215
Profitability (cost)						
Rate of return on assets (%)	7.2	11.0	4.4	7.7	8.6	9.4
Rate of return on equity (%)	10.1	18.1	4.5	11.5	16.3	12.5
Operating profit margin (%)	22.4	33.3	20.4	21.6	21.9	24.1
Asset turnover rate (%)	32.3	33.0	21.5	35.6	39.3	38.9
Profitability (Market)						
Rate of return on assets (%)	6.6	10.1	5.1	6.9	7.7	7.0
Rate of return on equity (%)	9.0	16.1	6.0	9.8	12.2	9.3
Operating profit margin (%)	26.2	35.5	32.6	25.2	25.6	20.6
Asset turnover rate (%)	25.2	28.5	15.8	27.2	30.2	34.0

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

Table 7. Farm Income Summary by Farm Size (continued)

Minnesota-Wisconsin: 2020-2022 Average

Farm size	All farms	<100 acres	101-250 acres	251-500 acres	501- 1,000 acres	1,001- 1,500 acres
		Smallest	Small	Midsize	Large	Largest
Number of farms ²	266	50	85	83	29	17
Liquidity and repayment ³						
Current assets	311,052	187,469	222,279	311,998	450,718	790,266
Current liabilities	120,964	52,737	75,967	113,193	247,853	356,480
Current ratio	2.57	3.55	2.93	2.76	1.82	2.22
Working capital	190,089	134,732	146,312	198,806	202,865	433,786
Working capital to gross revenue (%)	38.0	46.7	46.8	36.8	27.0	32.1
Term debt coverage ratio	2.35	3.21	2.18	2.23	2.18	3.04
Replacement coverage ratio	1.86	2.75	1.60	1.82	1.73	2.38
Solvency (cost) ³						
Total assets	1,584,327	853,179	1,469,225	1,467,670	2,051,375	3,771,492
Total liabilities	696,013	402,682	520,620	686,182	1,273,544	1,249,115
Net worth	888,313	450,497	948,605	781,488	777,831	2,522,377
Farm debt to asset ratio (%)	46.0	47.0	39.0	49.0	63.0	34.0
Total debt to asset ratio (%)	44.0	47.0	35.0	47.0	62.0	33.0
Solvency (market) ³						
Total assets	2,026,089	1,055,870	1,984,715	1,915,090	2,635,727	4,242,389
Total liabilities	811,659	451,237	632,076	815,370	1,381,301	1,505,130
Net worth	1,214,429	604,633	1,352,639	1,099,720	1,254,426	2,737,259
Farm debt to asset ratio (%)	42.0	45.0	35.0	45.0	53.0	37.0
Total debt to asset ratio (%)	40.0	43.0	32.0	43.0	52.0	35.0

1/ A complete balance sheet at cost and market values are available on line at <u>www.FINBIN.umn.edu</u>.
2/ Farms represent "organic (total)" and "organic (partial)." Does not include "organic transition" farms.
3/ Reported as end of year.

Table 8. Farm Operator and Labor Information by Farm Size

Minnesota-Wisconsin: 2020-2022 Average

Farm size	All farms	<100 acres	101-250 acres	251-500 acres	501- 1,000 acres	1,001- 1,500 acres
		Smallest	Small	Midsize	Large	Largest
Number of farms ¹	266	50	85	83	29	17
Operator Information						
Avg. number of operators	1.4	1.3	1.2	1.5	1.4	1.2
Avg. age of operators	44.5	39.5	44.7	46.6	43.4	47.5
Avg. number of years farming	18.4	9.7	18.8	20.6	19.0	27.6
Labor Analysis						
Total unpaid labor hours	2,099	1,898	1,968	2,568	1,325	2,451
Total hired labor hours/farm	1,643	644	786	1,855	3,318	4,465
Unpaid labor hours/operator	1,548	1,476	1,619	1,665	937	1,984
Value farm production/hr	116.43	92.40	93.52	103.32	153.32	182.62
Net farm income/unpaid hr	57.02	51.46	32.52	51.05	138.46	137.83
Avg. hired labor wage (\$/hr)	18.05	14.89	14.19	17.02	19.15	23.78
Crop Acres						
Total acres owned	123.9	50.4	141.5	94.9	161.9	339.4
Total crop acres	240.7	26.1	150.4	224.2	442.9	926.0
Total crop acres owned	73.7	17.2	76.9	54.7	118.0	230.1
Total crop acres cash rented	161.0	9.0	69.3	160.5	321.3	674.7
Total crop acres share rented	6.1	0	4.2	9.1	3.6	21.1
Total pasture acres	42.7	12.7	41.0	61.1	43.5	25.9

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

CROP ENTERPRISE SUMMARY

Minnesota and Wisconsin are some of the leading producers of organic corn and soybeans nationwide. Minnesota ranked third in the country for organic corn and organic soybean acreage in 2021.⁶ Wisconsin was close behind ranking fifth in the U.S. for organic corn acreage and seventh for organic soybean acreage. Combined, MN-WI accounted for 15% of the total U.S. organic corn production and 13% of organic soybean production. This section presents financial and production information for MN-WI organic farms that produced the top-ranking commodity crops such as corn, soybeans, and forages.

Organic crop yields and prices for the 2020-2022 period are presented first in Table 9. Individual enterprise summary results follow for corn, corn silage, soybeans, oats, alfalfa hay, and mixed hay. Each crop enterprise summary begins with a financial benchmark report by performance, ranking from the bottom 10% to the top 10% for all farms (shown as 100%). Financial enterprise results are depicted by year and by farm acreage to allow for comparisons across time and operation size. The FINBIN database lacked enough participating farms to report all organic small grains or any specialty crop enterprises at this time. Recall, at least ten farms per column are required to generate reports.

General data sources for this section are provided in the chart below and reflect owned, rented and share rented tenures combined. Enterprise sources and live links to FINBIN enterprise reports are provided within each section.

FINBIN data sources for organic crop summaries 2020-2022 (# farms)

MN State College & University South (155) MN State College & University North (63) MN State College & University Red River Valley (3) MN Other (2) Wisconsin Technical College System (43) Location: Minnesota, Wisconsin Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

⁶ "Certified Organic Field Crops and Hay Harvested and Value of Sales: 2021." USDA, National Agricultural Statistics Service, 2021 Organic Farm Survey.

Crop Production and Marketing Summary

The organic crop production and marketing summary includes 266 farms from MN-WI for 2020-2022. Yield varied by crop with some yields increasing each year (oats, hay alfalfa, and soybeans) and others (corn and corn silage) rising initially in 2021 but then dropping in 2022. Prices also fluctuated by crop with alfalfa hay dipping significantly in 2021 from 2020 prices before increasing again in 2022. Corn and soybean prices increased steadily year-over-year from 2020-2022 period. Average corn and soybean prices averaged \$8.71/bu and \$26.81/bu, respectively, over the three-year period (Table 9, however, prices received by individual growers varied quite a bit. For example, the benchmark report for corn shows that prices fluctuated 83% from \$6/bu for the bottom 10% of producers to \$11/bu for the top 10% of corn growers (Table 10). Similarly, the price spread for soybean growers was 106% from \$18/bu for the bottom 10% to \$37/bu for the top 10% (Table 16). Price differences can be explained by the timing of sales and overall marketing strategy, commodity quality, sale location, and changes in overall supply and demand which can be influenced by domestic and international markets.

Minnesota-Wisconsin: 2020-2022 Average											
Year	2020-2022 Avg.	2022	2021	2020							
Number of farms ¹	266	77	100	89							
Average yield, organic											
Corn (bu/acre)	141.39	139.28	152.36	130.51							
Corn silage (ton/acre)	17.06	17.22	15.89	18.51							
Oatlage (ton/acre)	5.11	*	4.64	*							
Oats (bu/acre)	51.70	59.75	55.26	43.93							
Hay alfalfa (ton/acre)	3.62	3.93	3.65	3.34							
Hay mixed (ton/acre)	2.77	2.78	2.91	2.42							
Hay, grass (ton/acre)	2.95	*	2.06	*							
Pasture intensive (aum/acre)	3.16	3.11	2.87	4.11							
Pasture (aum/acre)	4.13	4.31	4.15	3.79							
Soybeans (bu/acre)	34.34	35.19	34.21	32.98							
Wheat, spring (bu/acre)	47.06	*	37.51	48.13							
Average price received, organic ²											
Corn (\$/bu)	8.71	10.15	8.50	7.53							
Hay alfalfa (\$/ton)	132.71	151.31	109.80	148.15							
Oats (\$/bu)	5.95	*	5.67	5.22							
Soybeans (\$/bu)	26.81	32.26	26.32	20.89							

Table 9. Crop Yields and Prices

1/ Represents certified organic acreage from TO and PO farms.

2/ Represents cash price.

* Left blank because there were not \geq 5 farms reporting this information.

Table 10. Organic Corn Benchmark Report¹

Minnesota-Wisconsin: 2020-2022 Average

	Median	Count	10%	20%	30%	40%	50%	60%	70%	80 %	90%	100%
Yield (bu/acre)	133	214	60	85	107	120	130	142	159	169	190	198
Value (\$/bu)	9	214	6	7	8	9	9	10	10	10	11	11
Total value	1,205	214	435	720	863	986	1,142	1,267	1,482	1,617	1,829	2,064
Crop insurance	182	56	32	49	59	70	136	224	255	360	378	617
Other income	41	69	11	19	26	30	34	44	49	57	87	135
Gross return	1,250	214	665	833	955	1,048	1,200	1,292	1,510	1,672	1,843	2,079
Direct expenses (\$/acre)												
Seed	92	214	136	113	109	100	95	89	84	75	70	56
Fertilizer	148	190	300	265	229	199	164	132	113	102	55	35
Non-chemical crop protection	27	42	178	146	73	47	30	24	21	14	12	5
Crop insurance	26	174	52	48	41	31	28	25	21	19	13	6
Drying	15	104	51	37	25	22	16	13	11	11	4	3
Fuel & oil	43	213	82	76	62	56	47	38	32	25	17	8
Repairs	66	213	137	101	86	81	71	61	46	36	25	13
Custom hire	45	108	140	93	74	59	50	38	28	21	13	9
Hired labor	26	59	65	51	42	36	30	18	12	8	7	4
Land rent	187	131	464	313	256	228	207	173	150	125	85	52
Machinery leases	19	47	106	49	41	30	23	18	3	3	3	2
Utilities	4	42	58	13	9	6	4	4	3	2	2	2
Hauling & trucking	16	61	62	49	31	24	19	14	14	14	8	2
Organic certification	4	214	16	9	8	5	4	3	3	2	1	1
Operating interest	7	160	55	39	21	14	8	6	4	2	1	0
Consultants	8	44	31	15	13	11	9	7	5	4	4	4
Total direct expenses	575	214	1,080	828	718	652	592	544	495	436	362	275
Return over dir. exp.	701	214	99	317	410	547	621	733	862	992	1,144	1,408
Overhead expenses (\$/acre)												
Hired labor	16	106	115	98	70	40	19	12	0	0	0	0
Machinery leases	1	47	142	18	4	3	1	0	0	0	0	0
Real estate taxes	28	78	55	39	37	32	29	24	20	15	7	4
Farm insurance	10	186	31	23	18	16	10	9	8	6	4	2
Utilities	4	164	18	12	8	7	5	3	2	1	0	0
Dues & professional fees	5	187	29	13	9	8	6	4	3	2	1	0
Interest on intermediate debt	6	130	34	21	11	9	8	5	4	3	2	0
Interest on long term debt	62	68	270	191	147	131	89	46	33	22	16	7
Machinery depreciation	47	198	130	89	72	65	53	42	30	21	15	5
Building depreciation	7	125	47	21	13	10	9	6	4	3	1	0
Miscellaneous	7	190	51	33	23	16	9	6	4	3	2	0
Total overhead expenses	144	214	359	274	207	178	153	130	104	85	64	36
Total dir. & overhead expenses	723	214	1,265	1,014	898	806	753	696	649	594	508	379
Net return (\$/acre)	541	214	-27	185	294	399	492	575	689	804	964	1,236
Gov't. payments	0	214	0	0	0	0	0	0	0	6	18	51
Net return w/ gov't payments	544	214	0	185	302	408	500	583	711	821	965	1,236
Labor & management charge	70	214	197	141	106	94	79	58	55	40	28	14
Net return over labor & mgmt.	485	214	-127	98	237	319	441	524	606	744	873	1,113
Direct cost production/unit	4	214	10	7	6	5	5	4	4	3	3	3

Direct & overhead cost production/unit	6	214	12	8	7	6	6	5	5	4	4	3
Cost of production less gov't & other income	5	214	9	7	7	6	5	5	4	4	3	2
Cost of prod. w/ labor & mgmt.	6	214	10	8	7	6	6	5	5	4	3	3
Machinery cost/acre	185	214	393	269	240	221	197	181	165	152	128	95
Est. labor hours/acre	4	214	10	7	6	6	5	4	3	3	2	2

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

Table 11. Organic Corn Summary by Year

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	149	47	49	53						
Acres	103.11	110.62	95.58	103.40						
Yield (bu/acre)	143.56	146.49	153.55	132.23						
Operators share of yield (%)	98.91	99.68	98.39	98.63						
Value (\$/bu)	9.16	10.45	9.52	7.44						
Other product return (\$/acre)	5.00	5.72	6.15	3.34						
Total product return (\$/acre)	1,305.46	1,531.01	1,443.90	973.19						
Crop insurance (\$/acre)	56.69	70.09	28.34	68.20						
Other crop income (\$/acre)	17.05	2.63	2.60	43.07						
Gross return (\$/acre)	1,379.20	1,603.73	1,474.85	1,084.46						
Direct expenses (\$/acre)										
Seed	90.47	94.23	90.56	86.81						
Fertilizer	165.56	200.73	166.40	131.47						
Non-chemical crop protection	13.45	16.12	13.14	11.18						
Cover crop expense	0.83	0.00	0.00	2.31						
Crop insurance	24.34	31.74	21.80	19.50						
Drying expense	9.45	10.36	11.27	7.05						
Storage	0.99	1.91	0.74	0.34						
Packaging and supplies	0.48	0.67	0.69	0.12						
Fuel & oil	45.62	63.32	40.31	33.36						
Repairs	62.34	78.11	56.49	49.59						
Custom hire	25.17	21.40	30.43	24.24						
Hired labor	8.43	7.98	8.56	8.74						
Land rent	161.49	216.40	114.21	149.80						
Machinery leases	7.06	4.23	9.89	7.32						
Utilities	1.93	1.03	2.34	2.42						
Hauling and trucking	7.76	7.78	11.00	4.97						
Organic certification	4.94	5.97	4.69	4.17						
Operating interest	12.61	19.73	5.21	12.17						
Miscellaneous	2.83	2.85	2.75	2.89						
Total direct expenses (\$/acre)	644.74	784.56	590.50	558.46						
Return over direct exp. (\$/acre)	734.46	819.17	884.35	526.00						

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.

Table 11. Organic Corn Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022											
Year	2020-2022 Avg.	2022	2021	2020							
Number of farms ¹	149	47	49	149							
Overhead expenses (\$/acre)											
Hired labor	19.10	32.94	13.78	10.50							
Machinery leases	5.46	9.33	3.09	3.82							
Building leases	0.48	0.11	0.57	0.76							
Real estate & personal property taxes	6.60	4.65	9.90	5.62							
Farm insurance	10.63	12.75	9.46	9.62							
Utilities	4.43	6.26	3.35	3.62							
Dues & professional fees	5.73	6.02	5.87	5.33							
Interest	28.41	20.69	41.83	24.27							
Machinery & building depreciation	48.10	59.33	38.18	45.94							
Miscellaneous	12.63	20.46	8.00	9.15							
Total overhead expenses (\$/acre)	141.57	172.55	134.05	118.62							
Total direct & overhead expenses	786.32	957.11	724.55	677.08							
Net return (\$/acre)	592.88	646.62	750.30	407.38							
Government payments	10.47	0.25	0.09	29.04							
Net return w/ govt payments	603.35	646.87	750.39	436.42							
Labor & management charge	86.37	89.82	90.46	79.60							
Net return over labor & mgt.	516.98	557.05	659.92	356.83							
Cost of production (\$/bu)											
Total direct expenses	4.54	5.37	3.91	4.28							
Total direct & overhead exp.	5.54	6.55	4.80	5.19							
Less govt & other income	4.91	6.02	4.55	4.09							
With labor & management	5.52	6.63	5.15	4.70							
Net value per unit	9.16	10.45	9.52	7.44							
Machinery cost (\$/acre)	192.57	234.46	178.50	164.85							
Est. labor hours (#/acre)	4.45	4.20	4.58	4.58							

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production. * Left blank because there were not \geq 5 farms reporting this information.

Table 12. Organic Corn Summary by Enterprise Size

Minnesota-Wisconsin: 2020-2022 Average

Enterprise size	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Number of farms ¹	149	58	43	34	11
Acres	103.11	32.49	70.92	134.35	324.63
Yield (bu/acre)	143.56	121.67	133.39	128.86	160.29
Operators share of yield %	98.91	100.00	94.71	99.58	100.00
Value (\$/bu)	9.16	9.15	9.02	8.79	9.39
Other product return (\$/acre)	5.00	9.76	10.83	5.56	*
Total product return (\$/acre)	1,305.46	1,123.60	1,150.00	1,134.01	1,504.45
Crop insurance (\$/acre)	56.69	82.04	12.81	97.67	64.71
Other crop income (\$/acre)	17.05	17.23	17.41	14.82	30.43
Gross return (\$/acre)	1,379.20	1,222.87	1,180.22	1,246.50	1,599.00
Direct expenses (\$/acre)					
Seed	90.47	100.24	96.32	89.80	93.00
Fertilizer	165.56	106.33	122.52	155.80	204.64
Non-chemical crop protection	13.45	4.51	12.67	18.84	15.22
Cover crop expense	0.83	*	0.38	1.43	1.40
Crop insurance	24.34	24.14	21.06	26.13	28.07
Drying expense	9.45	10.03	9.05	8.41	12.15
Storage	0.99	2.43	2.25	0.12	0.93
Packaging and supplies	0.48	1.49	0.56	0.62	*
Fuel & oil	45.62	54.12	40.49	40.18	47.77
Repairs	61.34	70.58	57.69	65.55	61.12
Custom hire	25.17	35.53	31.59	26.80	18.47
Hired labor	8.43	3.74	10.36	11.98	10.12
Land rent	161.49	75.84	110.53	127.42	175.75
Machinery leases	7.06	5.74	2.77	13.57	0.66
Utilities	1.93	5.00	3.24	2.26	*
Hauling and trucking	7.76	9.08	3.57	8.13	7.74
Marketing	0.30	0.79	0.50	0.35	*
Organic certification	4.94	7.14	5.55	4.78	4.85
Operating interest	12.61	9.54	7.84	8.45	12.97
Miscellaneous	2.53	5.47	1.99	3.18	2.24
Total direct expenses (\$/acre)	644.74	531.73	540.93	613.79	697.09
Return over direct exp. (\$/acre)	734.46	691.14	639.29	632.71	902.51

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.

Table 12. Organic Corn Summary by Enterprise Size (continued)

Minnesota-Wisconsin: 2020-2022 Average											
Enterprise size	All	< 50	51-100	101-250	251-500						
Number of formel	140	acres	acres	acres	acres						
	149	56	43	34	11						
Overnead expenses (\$/acre)											
Hired labor	19.10	14.07	3.46	2.58	36.92						
Machinery leases	5.46	0.11	13.34	2.55	8.78						
Building leases	0.48	1.00	0.92	0.60	0.00						
Real estate & personal property taxes	6.60	10.45	7.09	7.27	7.51						
Farm insurance	10.63	16.09	8.36	8.14	12.92						
Utilities	4.43	5.57	4.21	2.92	5.97						
Dues & professional fees	5.73	10.97	5.53	6.34	3.34						
Interest	28.41	39.06	40.63	37.35	17.44						
Machinery & building depreciation	48.10	48.94	51.12	58.50	50.60						
Miscellaneous	12.63	16.86	11.84	10.41	13.64						
Total overhead expenses (\$/acre)	141.57	163.12	146.50	136.67	157.12						
Total direct & overhead expenses	786.32	694.85	687.43	750.45	854.21						
Net return (\$/acre)	592.88	528.02	492.79	496.05	745.38						
Government payments	10.47	7.95	7.95	8.16	17.72						
Net return w/ govt payments	603.35	535.97	500.74	504.21	763.11						
Labor & management charge	86.37	84.19	76.39	86.50	109.88						
Net return over labor & mgt	516.98	451.78	424.35	417.71	653.22						
Cost of production (\$/bu)											
Total direct expense	4.54	4.37	4.28	4.78	4.35						
Total direct & overhead expense	5.54	5.71	5.44	5.85	5.33						
Less govt & other income	4.91	4.75	5.05	4.86	4.63						
With labor & management	5.52	5.44	5.66	5.54	5.31						
Net value per unit	9.16	9.15	9.02	8.79	9.39						
Machinery cost (\$/acre)	192.57	216.12	199.24	206.87	189.46						
Est. labor hours (#/acre)	4.45	6.79	4.20	4.38	4.90						

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.

FINBIN data sources for organic corn summaries 2020-2022 (# farms)

MN State College & University South (96) MN State College & University North (19) MN State College & University Red River Valley (3) Wisconsin Technical College System (31) Location: Minnesota, Wisconsin Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

CORN SILAGE

Table 13. Organic Corn Silage Benchmark Report¹

Minnesota-Wisconsin: 2020-2022 Average

	Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90 %	1 00 %
Yield (ton/acre)	17	98	4	10	13	15	16	18	19	20	22	25
Value (\$/ton)	70	98	50	55	60	63	70	75	80	88	100	110
Total value	1,137	98	308	644	875	1,045	1,096	1,185	1,384	1,556	1,674	1,950
Gross return	1,166	98	335	648	894	1,045	1,116	1,205	1,417	1,607	1,701	2,055
Direct expenses (\$/acre)												
Seed	86	98	130	112	102	98	86	84	81	72	65	59
Fertilizer	115	72	266	210	170	140	120	109	89	56	35	23
Crop insurance	19	57	67	34	30	23	20	19	15	12	10	4
Packaging and supplies	29	38	193	84	66	42	32	26	20	12	10	8
Fuel & oil	39	98	101	64	57	50	40	34	28	22	20	13
Repairs	64	98	171	109	96	78	71	61	54	48	40	17
Custom hire	57	63	328	195	135	96	69	55	46	35	20	11
Land rent	96	48	250	207	170	137	100	89	74	68	42	18
Organic certification	3	98	10	7	5	4	3	2	2	2	1	1
Operating interest	3	65	41	17	10	7	4	2	2	1	1	0
Total direct expenses	439	98	899	682	610	528	487	422	383	315	251	184
Return over dir. exp.	684	98	53	219	409	492	598	733	953	1,085	1,249	1,667
Overhead expenses (\$/acre)												
Hired labor	12	65	74	33	22	19	15	5	1	0	0	0
Real estate taxes	17	50	47	37	30	26	19	13	9	6	6	4
Farm insurance	9	87	28	20	13	11	10	8	6	5	3	1
Utilities	3	82	15	6	5	4	3	3	2	0	0	0
Dues & professional fees	3	93	13	8	5	5	4	3	2	1	1	1
Interest on intermediate debt	6	79	42	25	14	8	7	5	4	4	2	1
Interest on long term debt	52	42	262	153	119	86	64	33	16	15	8	4
Machinery depreciation	57	95	142	111	93	75	65	47	40	32	20	11
Building depreciation	5	54	32	13	8	8	6	4	3	1	1	1
Miscellaneous	5	78	62	14	11	7	6	4	3	2	1	0
Total overhead expenses	140	98	361	252	182	172	149	132	109	89	67	44
Total dir. & overhead expenses	616	98	1,012	914	790	738	678	575	494	445	392	271
Net return (\$/acre)	498	98	-96	80	231	314	413	596	806	890	1,106	1,498
Gov't. payments	0	98	0	0	0	0	0	0	0	7	22	69
Net return w/ gov't payments	515	98	-96	80	231	315	441	608	824	917	1,106	1,498
Labor & management charge	45	98	243	102	74	57	50	43	36	28	21	14
Net return over labor & mgmt.	467	98	-249	14	167	264	398	556	726	850	1,027	1,483
Direct cost production/unit	30	98	73	47	38	36	31	27	24	21	16	13
Direct & overhead cost production/unit	41	98	114	59	51	46	42	39	32	28	24	19
Cost of production less gov't & other income	39	98	84	59	50	45	42	37	29	25	22	14
Cost of prod. w/ labor & mgmt.	44	98	90	65	55	50	46	40	33	29	24	17
Machinery cost/acre	210	98	530	392	334	266	226	202	195	177	130	84
Est. labor hours/acre	5	98	9	8	7	6	6	5	4	3	3	2

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.
Table 14. Organic Corn Silage Summary by Year

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	73	21	29	23						
Acres	46.70	49.64	46.89	43.76						
Yield (ton/acre)	16.47	17.58	16.32	15.54						
Operators share of yield (%)	100	100	100	100						
Value (\$/ton)	67.80	69.42	67.04	66.96						
Total product return (\$/acre)	1,116.81	1,220.08	1,093.89	1,040.84						
Crop insurance (\$/acre)	17.60	1.74	36.05	9.10						
Other crop income (\$/acre)	13.75	1.12	4.71	39.05						
Gross return (\$/acre)	1,148.16	1,222.94	1,134.64	1,088.98						
Direct expenses (\$/acre)										
Seed	94.72	95.27	92.46	97.22						
Fertilizer	80.16	98.07	73.20	71.03						
Non-chemical crop protection	3.40	8.64	1.04	1.15						
Crop insurance	14.18	17.54	12.89	12.45						
Storage	0.45	0.00	0.00	1.52						
Packaging and supplies	17.11	15.27	27.13	5.47						
Fuel & oil	45.33	61.29	40.35	35.53						
Repairs	81.64	78.51	77.82	90.03						
Custom hire	64.82	90.35	55.36	51.16						
Hired labor	14.40	14.13	10.06	20.54						
Land rent	65.37	71.26	64.43	60.55						
Machinery leases	3.33	4.13	3.50	2.27						
Utilities	1.15	1.30	0.95	1.28						
Hauling and trucking	0.70	0.63	0.90	0.49						
Organic certification	3.11	3.34	2.79	3.32						
Operating interest	6.92	5.81	6.70	8.35						
Miscellaneous	4.66	1.30	3.33	9.92						
Total direct expenses (\$/acre)	501.45	566.85	472.90	472.28						
Return over direct exp. (\$/acre)	646.71	656.10	661.74	616.70						

Table 14. Organic Corn Silage Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	73	21	29	23						
Overhead expenses (\$/acre)										
Hired labor	8.56	12.46	6.11	7.83						
Machinery leases	1.48	3.01	1.39	0.01						
Real estate & personal property taxes	8.52	7.43	7.37	11.20						
Farm insurance	8.57	7.97	9.11	8.46						
Utilities	3.21	1.88	3.80	3.79						
Dues & professional fees	3.31	3.77	3.25	2.93						
Interest	40.54	25.59	36.24	61.85						
Machinery & building depreciation	68.06	56.40	71.11	76.02						
Miscellaneous	7.63	6.56	5.89	11.08						
Total overhead expenses (\$/acre)	149.87	125.06	144.26	183.16						
Total direct & overhead expenses	651.32	691.91	617.16	655.44						
Net return (\$/acre)	496.84	531.04	517.47	433.54						
Government payments	11.30	0.31	1.17	36.36						
Net return w/ govt payments	508.14	531.35	518.64	469.90						
Labor & management charge	70.36	53.75	68.13	90.59						
Net return over labor & mgt.	437.77	477.60	450.52	379.31						
Cost of production (\$/ton)										
Total direct expenses	30.44	32.25	28.98	30.38						
Total direct & overhead exp.	39.54	39.37	37.83	42.17						
Less govt & other income	36.95	39.19	35.26	36.73						
With labor & management	41.22	42.25	39.43	42.56						
Net value per unit	67.80	69.42	67.04	66.96						
Machinery cost (\$/acre)	271.05	294.81	258.13	263.90						
Est. labor hours (#/acre)	4.82	4.56	4.93	4.94						

Table 15. Organic Corn Silage	<u>e Summary by Enterprise Size</u>
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Minnesota-Wisconsin: 2020-2022 Average									
Enterprise size	All	< 50 acres	51-100 acres						
Number of farms ¹	73	54	15						
Acres	46.70	27.94	70.39						
Yield (ton/acre)	16.47	16.22	16.52						
Operators share of yield %	100.00	100.00	100.00						
Value (\$/ton)	67.80	72.66	66.69						
Total product return (\$/acre)	1,116.81	1,178.65	1,101.87						
Crop insurance (\$/acre)	17.60	30.50	13.23						
Other crop income (\$/acre)	13.75	9.15	14.80						
Gross return (\$/acre)	1,148.16	1,218.30	1,129.90						
Direct expenses (\$/acre)									
Seed	94.72	91.40	96.81						
Fertilizer	80.16	91.12	104.34						
Non-chemical crop protection	3.40	2.72	0.85						
Crop insurance	14.18	16.95	11.81						
Storage	0.45	0.00	1.45						
Packaging and supplies	17.11	20.46	21.54						
Fuel & oil	45.33	42.22	45.75						
Repairs	81.64	69.65	84.71						
Custom hire	64.82	70.04	84.36						
Hired labor	14.40	8.82	5.49						
Land rent	65.37	45.06	103.68						
Machinery leases	3.33	4.65	4.11						
Utilities	1.15	1.12	0.61						
Hauling and trucking	0.70	0.17	0.00						
Organic certification	3.11	3.86	3.24						
Operating interest	6.92	4.94	10.34						
Miscellaneous	4.66	1.70	1.55						
Total direct expenses (\$/acre)	501.45	474.85	580.63						
Return over direct expenses (\$/acre)	646.71	743.45	549.27						

Table 15. Organic Corn Silage Summary by Enterprise Size (continued)

Minnesota-Wisconsin: 2020-2022 Average									
Enterprise size	All	< 50 acres	51-100 acres						
Number of farms ¹	73	54	15						
Overhead expenses (\$/acre)									
Hired labor	8.56	11.03	11.72						
Machinery leases	1.48	3.34	0.00						
Real estate & personal property taxes	8.52	12.73	6.64						
Farm insurance	8.57	10.05	7.87						
Utilities	3.21	5.09	2.83						
Dues & professional fees	3.31	4.41	3.65						
Interest	40.54	36.61	22.99						
Machinery & building depreciation	68.06	62.42	64.14						
Miscellaneous	7.63 12.1		3.59						
Total overhead expenses	149.87 157.86		123.43						
Total direct & overhead expenses	651.32	632.71	704.06						
Net return (\$/acre)	496.84	585.59	425.84						
Government payments	11.30	11.49	13.18						
Net return w/ govt payments	508.14	597.08	439.02						
Labor & management charge	70.36	75.84	89.88						
Net return over labor & mgt.	437.77	521.25	349.15						
Cost of production (\$/ton)									
Total direct expenses	30.44	29.27	35.14						
Total direct & overhead exp.	39.54	39.01	42.61						
Less govt & other income	36.95	35.85	40.12						
With labor & management	41.22	40.53	45.56						
Net value per unit	67.80	72.66	66.69						
Machinery cost (\$/acre)	271.05	254.78	283.83						
Est. labor hours (#/acre)	4.82	5.63	4.54						

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.

FINBIN data sources for organic corn silage summaries 2020-2022 (# farms)

MN State College & University South (25) MN State College & University North (25) Wisconsin Technical College System (23) Location: Minnesota, Wisconsin Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

SOYBEANS

Table 16. Organic Soybean Benchmark Report¹

Minnesota-Wisconsin: 2020-2022 Average

	Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Yield (bu/acre)	34	115	14	21	25	30	31	35	39	42	45	57
Value (\$/bu)	29	115	18	19	22	25	29	30	31	33	34	37
Total value	900	115	350	480	626	730	867	926	1,087	1,202	1,346	1,617
Crop insurance	166	33	20	39	58	90	155	182	238	296	360	398
Other crop income	33	32	8	11	15	20	28	41	49	86	135	135
Gross return	1,012	115	404	597	675	819	952	1,059	1,169	1,276	1,377	1,617
Direct expenses (\$/acre)												
Seed	53	115	80	68	62	59	55	50	44	43	40	36
Fertilizer	54	47	216	146	116	83	77	53	42	28	22	11
Crop insurance	25	105	66	54	40	35	26	24	20	17	14	10
Fuel & oil	28	115	62	47	43	36	31	26	25	20	15	7
Repairs	40	115	92	76	71	53	44	35	29	21	16	7
Custom hire	32	65	98	74	66	49	38	31	19	14	12	9
Hired labor	45	32	122	101	76	76	55	41	34	27	22	2
Land rent	203	78	366	305	266	250	226	189	170	125	100	59
Hauling & trucking	13	31	22	16	14	14	14	10	5	4	3	1
Organic certification	4	115	14	10	8	5	4	3	3	2	2	1
Operating interest	4	85	45	18	14	10	6	4	2	1	1	0
Consultants	6	36	14	13	12	8	7	5	5	4	4	4
Total direct expenses	410	115	714	570	536	486	436	385	344	295	238	198
Return over dir. exp.	576	115	36	168	288	404	518	633	707	862	1,011	1,173
Overhead expenses (\$/acre)												
Hired labor	24	54	89	80	54	45	37	12	7	2	0	0
Real estate taxes	29	32	53	41	39	38	37	27	20	11	7	4
Farm insurance	7	101	21	15	13	11	9	7	6	5	3	1
Utilities	4	88	16	8	7	6	4	4	2	2	1	0
Dues & professional fees	4	99	24	13	7	7	4	4	3	2	2	1
Interest on intermediate debt	6	68	34	21	14	10	6	5	3	2	1	0
Machinery depreciation	30	105	64	53	42	39	37	27	17	15	13	5
Building depreciation	4	64	31	23	15	7	7	3	2	1	0	0
Miscellaneous	3	102	28	19	13	9	4	3	2	2	1	0
Total overhead expenses	88	115	260	189	150	125	98	80	71	57	39	26
Total dir. & overhead expenses	514	115	809	714	633	581	540	500	454	417	392	277
Net return (\$/acre)	484	115	-58	71	176	291	425	517	600	730	863	1,025
Gov't. payments	0	115	0	0	0	0	0	0	0	7	25	51
Net return w/ gov't payments	501	115	-24	75	176	305	432	529	608	730	863	1,025
Labor & management charge	55	115	110	97	79	69	58	50	47	42	27	12
Net return over labor & mgmt.	423	115	-75	17	137	257	357	479	540	668	775	940
Direct cost production/unit	13	115	37	20	18	15	14	13	10	9	7	6
Direct & overhead cost production/unit	16	115	42	26	22	19	18	16	14	12	10	9
Cost of production less gov't & other income	13	115	30	23	20	18	16	13	11	10	8	3
Cost of prod. w/ labor & mgmt.	16	115	32	25	22	19	18	15	13	11	9	5
Machinery cost/acre	142	115	255	196	168	149	144	137	123	110	85	58
Est. labor hours/acre	3	115	6	4	4	4	3	3	2	2	1	1

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

Table 17. Organic Soybean Summary by Year

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	86	37	26	23						
Acres	117.10	128.38	112.76	103.87						
Yield (bu/acre)	34.44	34.95	34.83	32.93						
Operators share of yield (%)	98.12	97.71	98.33	98.71						
Value (\$/bu)	28.74	32.20	29.70	20.29						
Total product return (\$/acre)	971.22	1,099.51	1,017.24	659.66						
Crop insurance (\$/acre)	45.84	59.82	16.03	54.65						
Other crop income (\$/acre)	11.00	0.00	1.32	44.76						
Gross return (\$/acre)	1,028.07	1,159.33	1,034.58	759.08						
Direct expenses (\$/acre)										
Seed	52.43	52.54	49.17	56.23						
Fertilizer	35.83	50.39	17.90	28.89						
Non-chemical crop protection	19.76	21.57	25.58	9.00						
Cover crop expense	0.78	0.00	0.00	3.28						
Crop insurance	28.10	33.47	21.29	25.77						
Storage	0.36	0.59	0.08	0.26						
Fuel & oil	33.39	43.44	26.40	21.97						
Repairs	46.63	53.46	41.29	39.61						
Custom hire	26.24	19.73	38.10	24.64						
Hired labor	14.62	11.93	18.60	15.07						
Land rent	161.35	186.57	155.47	118.40						
Machinery leases	3.30	2.80	6.68	0.13						
Utilities	1.15	0.76	1.35	1.68						
Hauling and trucking	3.25	3.28	2.37	4.29						
Organic certification	4.46	5.52	3.51	3.51						
Operating interest	8.35	11.38	4.66	6.84						
Miscellaneous	3.24	2.68	3.89	3.55						
Total direct expenses (\$/acre)	443.24	500.13	416.33	363.12						
Return over direct exp. (\$/acre)	584.83	659.20	618.25	395.95						

Table 17. Organic Soybean Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022											
Year	2020-2022 Avg.	2022	2021	2020							
Number of farms ¹	86	37	26	23							
Overhead expenses (\$/acre)											
Hired labor	17.64	26.98	6.82	12.35							
Machinery leases	4.17	4.38	3.98	4.01							
Building leases	0.39	0.05	1.07	0.21							
Real estate & personal property taxes	5.53	6.36	2.38	7.76							
Farm insurance	7.59	9.50	5.42	6.47							
Utilities	3.98	4.39	2.86	4.51							
Dues & professional fees	5.71	5.26	6.93	5.10							
Interest	15.76	15.47	8.32	25.45							
Machinery & building depreciation	32.24	37.03	24.71	31.95							
Miscellaneous	7.02	9.73	5.08	4.02							
Total overhead expenses (\$/acre)	100.03	119.15	67.57	101.83							
Total direct & overhead expenses	543.26	619.29	483.90	464.95							
Net return (\$/acre)	484.80	540.04	550.68	294.12							
Government payments	5.27	0.09	1.96	19.66							
Net return w/ govt payments	490.08	540.13	552.64	313.78							
Labor & management charge	63.77	66.02	63.28	59.92							
Net return over labor & mgt.	426.30	474.11	489.36	253.86							
Cost of production (\$/bu)											
Total direct expenses	13.12	14.64	12.16	11.17							
Total direct & overhead exp.	16.08	18.13	14.13	14.30							
Less govt & other income	14.24	16.38	13.56	10.64							
With labor & management	16.13	18.31	15.41	12.48							
Net value per unit	28.74	32.20	29.70	20.29							
Machinery cost (\$/acre)	146.68	160.42	143.20	123.65							
Est. labor hours (#/acre)	3.00	3.13	2.82	2.97							

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.

FINBIN data sources for organic soybean summaries 2020-2022 (# farms)

MN State College & University South (64) MN State College & University North (7) Wisconsin Technical College System (11) Other (4) Location: Minnesota, Wisconsin Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

Table 18. Organic Soybean Summary by Enterprise Size

Minnesota-Wisconsin: 2020-2022 Average

Enterprise size	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Number of farms ¹	86	32	19	25	9
Acres	117.10	33.46	74.02	158.53	313.09
Yield (bu/acre)	34.44	34.61	36.15	32.75	35.46
Operators share of yield %	98.12	97.32	95.49	97.50	100.00
Value per bu. (\$/bu)	28.74	25.83	30.29	27.63	30.38
Total product return (\$/acre)	971.22	869.85	1,045.39	882.52	1,077.24
Crop insurance (\$/acre)	45.84	55.28	29.79	42.01	68.89
Other crop income (\$/acre)	11.00	23.31	4.05	7.38	18.05
Gross return (\$/acre)	1,028.07	948.44	1,079.23	931.92	1,164.18
Direct expenses (\$/acre)					
Seed	52.43	55.80	56.06	55.42	47.49
Fertilizer	35.83	29.74	9.74	43.42	50.83
Non-chemical crop protection	19.76	40.91	9.99	27.80	10.99
Cover crop expense	0.78	0.56	0.00	1.82	0.00
Crop insurance	28.10	22.73	35.57	21.36	28.13
Storage	0.36	1.31	0.00	0.00	0.80
Fuel & oil	33.39	25.73	29.13	31.77	32.31
Repairs	46.63	34.11	51.04	46.40	42.62
Custom hire	26.24	31.91	35.78	22.61	32.00
Hired labor	14.62	9.55	3.24	12.44	29.50
Land rent	161.35	87.05	182.51	156.56	126.85
Machinery leases	3.30	5.59	10.45	2.61	0.00
Utilities	1.15	0.35	0.00	1.85	1.39
Hauling and trucking	3.25	2.48	0.21	2.90	2.43
Marketing	0.23	0.75	0.12	0.10	0.33
Organic certification	4.46	6.40	7.93	3.86	3.24
Operating interest	8.35	4.49	3.08	6.13	4.95
Miscellaneous	3.01	5.11	2.74	2.67	3.71
Total direct expenses (\$/acre)	443.24	364.56	437.58	439.72	417.57
Return over direct exp. (\$/acre)	584.83	583.87	641.65	492.20	746.61

Table 18. Organic Soybean Summary by Enterprise Size (continued)

Minnesota-Wisconsin: 2020-2022 Average											
Enterprise size	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres						
Number of farms ¹	86	32	19	25	9						
Overhead expenses (\$/acre)											
Hired labor	17.64	2.52	4.84	10.15	22.22						
Machinery leases	4.17	0.58	28.26	0.39	0.03						
Building leases	0.39	0.80	0.81	0.44	0.05						
Real estate & personal property taxes	5.53	12.62	0.00	3.11	10.60						
Farm insurance	7.59	8.45	7.19	5.14	9.23						
Utilities	3.98	2.46	5.21	4.57	2.36						
Dues & professional fees	5.71	5.79	6.77	4.03	7.20						
Interest	15.76	62.08	1.42	7.26	21.81						
Machinery & building depreciation	32.24	32.47	17.58	39.72	32.50						
Miscellaneous	7.02	8.63	10.08	4.62	4.92						
Total overhead expenses (\$/acre)	100.03	136.39	82.16	79.45	110.91						
Total direct & overhead expenses/acre	543.26	500.95	519.74	519.17	528.48						
Net return per acre (\$/acre)	484.80	447.48	559.49	412.75	635.70						
Government payments	5.27	11.26	7.77	4.54	4.30						
Net return w/ govt payments	490.08	458.74	567.26	417.29	640.01						
Labor & management charge	63.77	50.23	71.58	64.25	69.07						
Net return over labor & mgt	426.30	408.52	495.68	353.04	570.94						
Cost of production (\$/bu)											
Total direct expense	13.12	10.82	12.68	13.77	11.77						
Total direct & overhead expense	16.08	14.87	15.06	16.26	14.90						
Less govt & other income	14.24	12.21	13.85	14.57	12.33						
With labor & management	16.13	13.70	15.93	16.58	14.28						
Net value per unit	28.74	25.83	30.29	27.63	30.38						
Machinery cost (\$/acre)	146.68	136.91	172.33	145.14	139.31						
Est. labor hours (#/acre)	3.00	3.19	2.92	3.29	2.99						

Table 19. Organic Oat Benchmark Report¹

Minnesota-Wisconsin: 2020-2022 Average

	Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90%	1 00 %
Yield (bu/acre)	44	45	15	27	32	40	42	50	67	71	83	105
Value (\$/bu)	6	45	4	4	4	5	5	6	6	6	8	8
Total value	351	45	115	175	195	226	264	380	444	482	571	759
Gross return	380	45	158	187	218	264	351	408	458	519	583	776
Direct expenses (\$/acre)												
Seed	30	45	97	66	49	43	36	29	25	19	16	8
Fuel & oil	18	45	45	36	31	25	21	17	14	9	5	3
Repairs	21	45	64	52	43	36	27	20	17	15	11	6
Land rent	115	31	300	231	190	149	125	106	97	68	42	21
Organic certification	4	45	14	10	9	6	4	4	3	2	2	1
Total direct expenses	278	45	520	394	360	340	289	263	224	177	117	78
Return over dir. exp.	118	45	-147	-83	-5	27	72	147	193	237	304	384
Overhead expenses (\$/acre)												
Farm insurance	6	43	14	12	10	9	6	5	3	3	2	0
Utilities	3	38	14	6	4	3	3	2	2	1	0	0
Dues & professional fees	2	40	13	7	5	4	3	2	2	1	1	0
Machinery depreciation	16	42	78	38	29	22	17	15	11	8	6	1
Miscellaneous	3	39	31	14	11	5	4	3	2	1	1	0
Total overhead expenses	48	45	145	112	90	73	55	47	35	30	21	15
Total dir. & overhead expenses	330	45	652	494	440	378	337	313	286	212	155	107
Net return (\$/acre)	71	45	-228	-172	-61	-24	21	97	121	179	255	291
Gov't. payments	0	45	0	0	0	0	0	0	0	4	41	79
Net return w/ gov't payments	71	45	-226	-158	-52	-9	23	97	153	221	257	326
Labor & management charge	33	45	107	77	52	46	38	31	19	16	11	5
Net return over labor & mgmt.	53	45	-263	-196	-112	-65	-19	64	107	168	223	286
Direct cost production/unit	5	45	19	9	8	7	6	5	5	4	3	2
Direct & overhead cost production/unit	6	45	24	12	11	8	7	6	5	4	4	3
Cost of production less gov't & other income	4	45	16	10	7	6	5	4	3	2	2	0
Cost of prod. w/ labor & mgmt.	5	45	17	11	8	7	6	5	4	3	2	0
Machinery cost/acre	95	45	238	160	146	137	112	91	71	58	46	33
Est. labor hours/acre	2	45	5	3	3	3	2	2	2	2	1	1

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

FINBIN data sources for organic oat summaries 2020-2022 (# farms)

MN State College & University South (21) MN State College & University North (10) Wisconsin Technical College System (10); Other (3) Location: Minnesota, Wisconsin (23) Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

Table 20. Organic Oat Summary by Year

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	44	13	14	17						
Acres	46.46	36.05	54.77	47.59						
Yield (bu/acre)	51.94	59.75	54.01	45.44						
Operators share of yield (%)	95.95	99.27	95.78	93.62						
Value (\$/bu)	5.69	7.34	5.27	4.84						
Other product return (\$/acre)	47.97	36.25	55.66	47.46						
Total product return (\$/acre)	331.53	471.93	328.20	253.35						
Crop insurance (\$/acre)	9.94	0.00	5.77	19.65						
Other crop income (\$/acre)	15.70	22.01	3.38	23.73						
Gross return (\$/acre)	357.17	493.94	337.35	296.73						
Direct expenses (\$/acre)										
Seed	35.83	52.47	37.17	24.92						
Fertilizer	37.85	49.70	45.83	23.41						
Non-chemical crop protection	1.84	0.00	4.91	0.00						
Crop insurance	8.63	8.82	8.28	8.85						
Packaging and supplies	1.35	0.00	2.83	0.73						
Fuel & oil	20.52	36.58	17.90	13.70						
Repairs	26.37	31.83	24.73	24.76						
Custom hire	25.19	20.09	24.29	28.99						
Hired labor	2.33	3.39	0.15	3.77						
Land rent	101.09	163.28	79.64	85.39						
Machinery leases	2.85	1.18	5.01	1.78						
Utilities	0.24	0.07	0.04	0.52						
Hauling and trucking	0.74	1.60	0.61	0.37						
Organic certification	4.91	6.13	5.32	3.81						
Operating interest	3.65	2.08	5.91	2.42						
Miscellaneous	2.49	2.52	3.90	1.15						
Total direct expenses (\$/acre)	275.87	379.73	266.52	224.58						
Return over direct exp. (\$/acre)	81.30	114.22	70.83	72.14						

Table 20. Organic Oat Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022								
Year	2020-2022 Avg.	2022	2021	2020				
Number of farms ¹	44	13	14	17				
Overhead expenses (\$/acre)								
Hired labor	4.22	9.02	1.19	4.33				
Machinery leases	4.81	7.60	2.52	5.38				
Real estate & personal property taxes	3.73	1.53	4.65	4.14				
Farm insurance	6.24	8.18	5.97	5.37				
Utilities	3.32	4.03	3.63	2.62				
Dues & professional fees	3.29	4.58	3.62	2.24				
Interest	9.07	5.41	14.43	6.11				
Machinery & building depreciation	19.47	28.90	16.58	16.75				
Miscellaneous	7.08	12.04	5.46	5.73				
Total overhead expenses (\$/acre)	61.24	81.27	58.04	52.66				
Total direct & overhead expenses	337.11	460.99	324.56	277.25				
Net return (\$/acre)	20.06	32.95	12.79	19.48				
Government payments	10.09	0.00	0.86	24.67				
Net return w/ govt payments	30.15	32.95	13.65	44.15				
Labor & management charge	39.22	48.70	31.74	40.83				
Net return over labor & mgt.	-9.08	-15.75	-18.09	3.33				
Cost of production (\$/bu)								
Total direct expenses	5.54	6.40	5.15	5.28				
Total direct & overhead exp.	6.76	7.77	6.27	6.52				
Less govt & other income	5.09	6.79	5.00	3.80				
With labor & management	5.87	7.61	5.62	4.76				
Net value per unit	5.69	7.34	5.27	4.84				
Machinery cost (\$/acre)	102.10	128.69	91.60	96.64				
Est. labor hours (#/acre)	2.43	3.08	2.06	2.40				

Table 21. Organic Oat Summary by Enterprise Size

Minnesota-Wisconsin: 2020-2022 Average			
Enterprise Size	All	<50 acres	51-100 acres
Number of farms ¹	44	30	10
Acres	46.46	29.90	64.84
Yield (bu/acre)	51.94	62.23	38.63
Operators share of yield %	95.95	92.30	100.00
Value (\$/bu)	5.69	6.25	5.52
Other product return (\$/acre)	47.97	24.72	74.35
Total product return (\$/acre)	331.53	383.69	287.51
Crop insurance (\$/acre)	9.94	10.43	16.91
Other crop income (\$/acre)	15.70	16.57	23.69
Gross return (\$/acre)	357.17	410.69	328.10
Direct expenses (\$/acre)			
Seed	35.83	36.22	35.90
Fertilizer	37.85	38.04	42.73
Non-chemical crop protection	1.84	2.51	0.00
Crop insurance	8.63	12.26	6.56
Packaging and supplies	1.35	1.92	0.78
Fuel & oil	20.52	18.83	26.38
Repairs	26.37	26.97	34.66
Custom hire	25.19	22.38	15.46
Hired labor	2.33	2.68	3.64
Land rent	101.09	97.03	113.91
Machinery leases	2.85	1.86	0.50
Utilities	0.24	0.55	0.00
Hauling and trucking	0.74	0.84	1.19
Organic certification	4.91	6.69	3.86
Operating interest	3.65	2.04	3.44
Miscellaneous	2.49	3.98	2.04
Total direct expenses (\$/acre)	275.87	274.79	291.06
Return over direct exp. (\$/acre)	81.30	135.90	37.05

Table 21. Organic Oat Summary by Enterprise Size (continued)

Minnesota-Wisconsin: 2020-2022 Average			
Enterprise Size	All	<50 acres	51-100 acres
Number of farms ¹	44	30	10
Overhead expenses (\$/acre)			
Hired labor	4.22	0.25	10.29
Machinery leases	4.81	10.19	1.09
Real estate & personal property taxes	3.73	4.82	5.10
Farm insurance	6.24	6.13	7.62
Utilities	3.32	3.71	2.18
Dues & professional fees	3.29	3.84	2.92
Interest	9.07	4.39	21.52
Machinery & building depreciation	19.47	19.30	21.81
Miscellaneous	7.08	6.39	7.50
Total overhead expenses (\$/acre)	61.24	59.02	80.03
Total direct & overhead expenses	337.11	333.81	371.08
Net return per acre (\$/acre)	20.06	76.88	-42.98
Government payments	10.09	9.88	16.79
Net return w/ govt payments	30.15	86.76	-26.19
Labor & management charge	39.22	46.47	37.95
Net return over labor & mgt	-9.08	40.29	-64.13
Cost of production (\$/bu)			
Total direct expense	5.54	4.78	7.54
Total direct & overhead expense	6.76	5.81	9.61
Less govt & other income	5.09	4.74	6.20
With labor & management	5.87	5.55	7.18
Net value per unit	5.69	6.25	5.52
Machinery cost (\$/acre)	102.10	102.17	104.73
Est. labor hours (#/acre)	2.43	2.41	2.46

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production. * Left blank because there were not \geq 5 farms reporting this information.

HAY, ALFALFA

Table 22. Organic Hay, Alfalfa Benchmark Report¹

Minnesota-Wisconsin: 2020-2022 Average

	Median	Count	10%	20%	30%	40 %	50%	60%	70 %	80%	90%	100%
Yield (ton/acre)	4	137	1	2	2	3	4	4	5	5	6	6
Value (\$/ton)	170	137	120	140	150	150	160	175	180	200	210	250
Total value	710	137	151	289	399	518	638	735	825	851	964	1,091
Other crop income	19	33	6	9	12	15	18	23	28	30	51	78
Gross return	710	137	151	300	399	518	659	736	826	877	972	1,105
Direct expenses (\$/acre)												
Fertilizer	48	76	121	106	88	68	58	43	36	29	22	14
Packaging and supplies	16	61	69	39	32	24	18	14	12	9	8	2
Fuel & oil	34	137	89	69	56	49	39	32	26	22	17	10
Repairs	55	137	137	101	83	71	61	52	48	40	29	20
Custom hire	70	84	179	130	105	88	81	51	38	30	22	11
Hired labor	28	40	59	42	38	38	31	23	13	10	8	5
Land rent	126	70	262	210	197	160	137	121	98	82	51	21
Utilities	3	32	7	4	4	4	3	3	2	2	2	1
Organic certification	2	136	9	7	5	4	3	2	2	2	1	1
Operating interest	4	99	51	22	16	9	6	4	2	1	1	0
Total direct expenses	300	137	543	470	428	361	311	269	210	161	112	79
Return over dir. exp.	376	137	-43	99	192	237	324	399	475	544	639	789
Overhead expenses (\$/acre)												
Hired labor	15	82	80	32	22	18	15	13	0	0	0	0
Machinery leases	1	31	18	7	7	7	3	1	1	0	0	0
Real estate taxes	17	63	46	33	28	24	19	16	9	7	6	4
Farm insurance	9	124	33	23	17	11	9	8	6	5	3	1
Utilities	3	111	19	8	6	5	3	3	1	0	0	0
Dues & professional fees	3	128	17	10	7	5	3	3	2	1	1	0
Interest on intermediate debt	5	98	41	15	12	8	6	4	4	3	2	1
Interest on long-term debt	33	53	171	127	102	60	38	31	20	14	8	3
Machinery depreciation	55	137	142	111	84	68	60	46	36	28	17	9
Building depreciation	5	80	21	12	10	8	6	5	3	1	1	0
Miscellaneous	4	116	50	23	12	7	5	4	3	2	1	0
Total overhead expenses	134	137	286	211	181	164	145	124	106	87	60	41
Total direct & overhead expenses	435	137	716	648	579	527	464	403	350	308	266	149
Net return (\$/acre)	184	137	-247	-26	46	104	161	233	332	405	511	642
Gov't. payments	0	137	0	0	0	0	0	0	0	0	3	51
Net return w/ gov't payments	187	137	-246	-26	46	112	164	239	346	417	511	655
Labor & management charge	49	137	193	107	81	62	56	44	33	26	14	6
Net return over labor & mgmt.	139	137	-327	-86	-12	54	116	177	292	367	446	620
Direct cost production/unit	73	137	201	127	107	89	76	67	59	49	42	25
Direct & overhead cost production/unit	119	137	300	196	154	142	124	112	97	87	77	56
Cost of production less gov't & other income	116	137	286	189	152	141	120	105	91	83	71	50
Cost of prod. w/ labor & mgmt.	130	137	353	225	178	156	134	124	108	94	84	53
Machinery cost/acre	207	137	391	333	290	252	217	202	189	154	94	74
Est. labor hours/acre	4	137	9	7	7	6	5	4	4	3	3	2

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

Table 23. Organic Hay, Alfalfa Summary by Year

Minnesota-Wisconsin: 2020-2022								
Year	2020-2022 Avg.	2022	2021	2020				
Number of farms ¹	94	28	36	30				
Acres	129.51	130.58	133.18	124.09				
Yield (ton/acre)	3.98	4.58	3.88	3.53				
Operators share of yield (%)	97.95	98.43	98.72	96.24				
Value (\$/ton)	175.71	172.27	166.02	194.30				
Total product return (\$/acre)	685.48	776.70	636.26	659.27				
Crop insurance (\$/acre)	6.06	2.89	4.05	11.74				
Other crop income (\$/acre)	6.92	0.75	4.50	16.10				
Gross return (\$/acre)	698.45	780.34	644.82	687.10				
Direct expenses (\$/acre)								
Seed	1.26	0.00	0.70	3.22				
Fertilizer	34.78	39.32	35.04	29.99				
Non-chemical crop protection	0.25	0.73	0.00	0.11				
Crop insurance	0.89	0.86	0.92	0.87				
Storage	1.42	3.59	0.86	0.00				
Packaging and supplies	10.48	8.26	15.50	6.19				
Fuel & oil	40.18	57.04	37.68	26.84				
Repairs	64.26	75.03	66.45	50.86				
Custom hire	42.67	65.66	36.48	28.07				
Hired labor	9.20	13.95	6.90	7.51				
Land rent	74.61	78.15	69.56	77.65				
Machinery leases	4.04	3.34	3.96	4.82				
Utilities	0.70	1.15	0.58	0.40				
Hauling and trucking	0.81	0.48	1.69	*				
Organic certification	2.78	2.92	2.43	3.10				
Operating interest	6.95	7.25	4.20	10.22				
Miscellaneous	1.89	1.66	2.68	1.09				
Total direct expenses (\$/acre)	297.17	359.39	285.61	250.96				
Return over direct exp. (\$/acre)	401.28	420.96	359.21	436.15				

Table 23. Organic Hay, Alfalfa Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022				
Year	2020-2022 Avg.	2022	2021	2020
Number of farms ¹	94	28	36	30
Overhead expenses (\$/acre)				
Hired labor	12.62	10.76	18.25	7.19
Machinery leases	0.64	0.78	0.32	0.91
Building leases	1.19	1.64	1.12	0.83
Real estate & personal property taxes	6.14	5.47	5.72	7.35
Farm insurance	10.34	9.83	11.13	9.81
Utilities	3.14	2.36	3.67	3.23
Dues & professional fees	3.78	4.79	3.63	2.97
Interest	22.73	20.24	26.33	20.54
Machinery & building depreciation	56.44	54.63	60.12	53.49
Miscellaneous	7.91	6.86	7.20	9.85
Total overhead expenses (\$/acre)	124.93	117.36	137.51	116.17
Total direct & overhead expenses	422.10	476.75	423.13	367.12
Net return (\$/acre)	276.35	303.59	221.69	319.98
Government payments	3.76	0.00	0.00	12.29
Net return w/ govt payments	280.11	303.59	221.69	332.27
Labor & management charge	62.83	57.18	54.06	79.69
Net return over labor & mgt.	217.27	246.41	167.64	252.58
Cost of production (\$/ton)				
Total direct expenses	76.17	79.71	74.52	73.96
Total direct & overhead exp.	108.20	105.74	110.40	108.20
Less govt & other income	103.91	104.93	108.17	96.37
With labor & management	120.01	117.61	122.28	119.86
Net value per unit	175.71	172.27	166.02	194.30
Machinery cost (\$/acre)	211.00	256.37	208.30	169.92
Est. labor hours (#/acre)	4.46	4.58	4.46	4.37

Table 24. Organic Hay, Alfalfa Summary by Enterprise Size

Minnesota-Wisconsin: 2020-2022 Average

Enterprise size	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres
Number of farms ¹	94	23	20	41	8
Acres	129.51	34.96	75.68	147.69	315.06
Yield (ton/acre)	3.98	3.27	3.99	4.43	2.24
Operators share of yield %	97.95	100.00	100.00	96.43	99.34
Value (\$/ton)	175.71	174.20	162.40	184.97	174.97
Total product return (\$/acre)	685.48	569.52	648.34	789.66	389.33
Crop insurance/acre (\$/acre)	6.06	11.41	4.72	9.48	0.00
Other crop income (\$/acre)	6.92	5.48	6.65	5.58	7.50
Gross return (\$/acre)	698.45	586.41	659.72	804.72	396.83
Direct expenses (\$/acre)					
Seed	1.26	1.27	2.22	1.81	0.00
Fertilizer	34.78	26.41	35.38	38.31	32.47
Non-chemical crop protection	0.25	0.00	1.75	0.00	0.16
Crop insurance	0.89	0.66	2.63	1.04	0.00
Storage	1.42	0.00	2.74	2.17	0.00
Packaging and supplies	10.48	6.88	6.15	14.61	4.65
Fuel & oil	40.18	30.68	46.79	45.98	23.43
Repairs	64.26	54.92	66.61	76.20	40.83
Custom hire	42.67	23.91	50.58	53.35	30.39
Hired labor	9.20	0.17	1.78	11.20	0.00
Land rent	74.61	61.21	70.07	96.14	43.42
Machinery leases	4.04	1.21	2.56	4.35	7.12
Utilities	0.70	0.00	0.75	0.81	0.16
Hauling and trucking	0.81	0.00	0.00	0.91	0.00
Organic certification	2.78	5.25	4.14	2.79	2.18
Operating interest	6.95	14.53	12.04	5.92	5.00
Miscellaneous	1.89	2.47	1.22	1.47	0.29
Total direct expenses (\$/acre)	297.17	229.57	307.42	357.06	190.11
Return over direct exp. (\$/acre)	401.28	356.84	352.30	447.67	206.73

Table 24. Organic Hay, Alfalfa Summary by Enterprise Size (continued)

Minnesota-Wisconsin: 2020-2022 Avera	Minnesota-Wisconsin: 2020-2022 Average								
Enterprise size	All	< 50 acres	51-100 acres	101-250 acres	251-500 acres				
Number of farms ¹	94	23	20	41	8				
Overhead expenses (\$/acre)									
Hired labor	12.62	6.37	11.83	12.16	22.61				
Machinery leases	0.64	0.03	1.50	0.79	0.28				
Building leases	1.19	0.00	1.61	1.60	0.94				
Real estate & personal property taxes	6.14	8.68	11.12	5.78	4.95				
Farminsurance	10.34	13.94	14.45	9.60	11.84				
Utilities	3.14	9.92	3.73	2.21	4.47				
Dues & professional fees	3.78	6.40	6.61	3.93	2.61				
Interest	22.73	35.92	20.37	23.44	15.84				
Machinery & building depreciation	56.44	47.24	76.44	60.43	41.92				
Miscellaneous	7.91	11.18	7.15	11.22	1.44				
Total overhead expenses (\$/acre)	124.93	139.68	154.79	131.15	106.91				
Total direct & overhead expenses	422.10	369.25	462.21	488.21	297.02				
Net return per acre (\$/acre)	276.35	217.16	197.51	316.52	99.82				
Government payments	3.76	2.59	10.25	3.99	1.58				
Net return w/ govt payments	280.11	219.76	207.76	320.51	101.40				
Labor & management charge	62.83	73.55	66.11	81.01	30.87				
Net return over labor & mgt	217.27	146.20	141.65	239.50	70.53				
Cost of production (\$/ton)									
Total direct expense	76.17	70.22	77.00	83.64	85.43				
Total direct & overhead expense	108.20	112.94	115.77	114.36	133.48				
Less govt & other income	103.91	106.98	110.36	109.89	129.40				
With labor & management	120.01	129.48	126.91	128.87	143.27				
Net value per unit	175.71	174.20	162.40	184.97	174.97				
Machinery cost (\$/acre)	211.00	164.44	241.62	241.64	144.86				
Est. labor hours (#/acre)	4.46	4.97	4.48	5.05	3.77				

 $1/\,Represents$ farms with certified organic acres. Does not include those transitioning to organic production.

* Left blank because there were not ≥ 5 farms reporting this information.

FINBIN data sources for organic hay, alfalfa summaries 2020-2022 (# farms)

MN State College & University South (39) MN State College & University North (29) Wisconsin Technical College System (26) Location: Minnesota, Wisconsin Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial); Special sorts excluded: Organic transition

HAY, MIXED

Table 25. Organic Hay, Mixed Benchmark Report¹

Minnesota-Wisconsin: 2020-2022 Average

	Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Yield (ton/acre)	2	39	0	1	1	2	2	2	3	3	4	4
Value (\$/ton)	150	39	60	100	138	150	150	153	175	178	210	243
Total value	314	39	51	96	128	224	269	354	384	540	638	894
Gross return	329	39	51	96	145	224	279	354	392	543	654	894
Direct expenses (\$/acre)												
Fuel & oil	28	39	69	50	46	44	37	23	19	12	10	4
Repairs	56	38	121	95	75	65	58	45	34	22	10	4
Organic certification	3	39	10	8	6	4	3	3	2	2	2	1
Total direct expenses	199	39	548	390	297	229	210	193	151	122	92	71
Return over dir. exp.	126	39	-163	-124	-54	-8	31	165	219	338	443	605
Overhead expenses (\$/acre)												
Farm insurance	12	37	28	22	19	15	13	11	8	7	6	2
Utilities	3	34	32	19	7	5	3	2	2	1	0	0
Dues & professional fees	7	35	20	11	8	8	7	6	4	2	1	1
Machinery depreciation	41	39	74	54	51	45	43	39	37	32	18	10
Miscellaneous	5	32	27	19	16	8	6	4	3	1	0	0
Total overhead expenses	85	39	291	207	142	119	101	83	78	69	65	55
Total direct & overhead expenses	289	39	642	561	451	345	298	283	251	230	195	153
Net return (\$/acre)	29	39	-352	-246	-166	-108	-35	76	113	216	299	390
Gov't. payments	0	39	0	0	0	0	0	0	0	0	0	68
Net return w/ gov't payments	29	39	-352	-246	-166	-108	-35	86	124	216	299	496
Labor & management charge	86	39	153	139	107	97	88	78	62	41	31	18
Net return over labor & mgmt.	-13	39	-446	-334	-290	-168	-110	0	55	166	194	472
Direct cost production/unit	79	39	739	349	177	136	91	78	69	62	40	33
Direct & overhead cost production/unit	133	39	1,393	537	260	197	147	128	111	95	85	65
Cost of production less gov't & other income	127	39	1,393	515	260	197	143	126	111	90	81	35
Cost of prod. w/ labor & mgmt.	158	39	1,609	711	325	236	174	150	140	129	102	40
Machinery cost/acre	127	39	383	252	205	170	147	124	116	108	102	90
Est. labor hours/acre	5	39	23	9	8	6	5	5	4	3	2	1

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

Table 26. Organic Hay, Mixed Summary by Year

Minnesota-Wisconsin: 2020-2022								
Year	2020-2022 Avg.	2022	2021	2020				
Number of farms ¹	27	9	10	8				
Acres	83.44	82.34	87.12	80.06				
Yield (ton/acre)	2.40	3.00	2.04	2.20				
Operators share of yield (%)	100.00	100.00	100.00	100.00				
Value (\$/ton)	169.46	192.32	159.39	146.12				
Total product return (\$/acre)	407.24	577.09	325.45	321.96				
Crop insurance (\$/acre) ²	2.51	0.00	6.50	0.00				
Other crop income (\$/acre)	5.53	0.00	5.28	12.28				
Gross return (\$/acre)	415.28	577.09	337.23	334.24				
Direct expenses (\$/acre)								
Seed	9.08	8.53	15.25	1.33				
Fertilizer	29.83	30.57	21.23	40.66				
Crop insurance	0.51	0.94	0.53	0.00				
Packaging and supplies	6.11	0.00	13.20	3.53				
Fuel & oil	33.78	49.16	29.99	21.14				
Repairs	52.90	45.04	55.82	58.04				
Custom hire	28.41	60.17	19.36	3.99				
Hired labor	7.63	0.00	10.49	12.56				
Land rent	55.92	83.13	28.19	62.17				
Machinery leases	5.70	0.00	4.01	14.58				
Utilities	1.60	0.60	1.91	2.35				
Hauling and trucking	0.25	0.00	0.00	0.88				
Organic certification	3.69	3.83	3.88	3.25				
Operating interest	5.03	1.40	6.20	7.64				
Miscellaneous	6.05	16.33	1.56	0.26				
Total direct expenses (\$/acre)	246.50	299.69	211.63	232.38				
Return over direct exp. (\$/acre)	168.79	277.40	125.60	101.86				

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.2/ Represents already established hay stands.

Table 26. Organic Hay, Mixed Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022				
Year	2020-2022 Avg.	2022	2021	2020
Number of farms ¹	27	9	10	8
Overhead expenses (\$/acre)				
Hired labor	16.31	20.37	21.11	5.07
Machinery leases	3.45	3.09	6.28	0.00
Building leases	2.70	3.08	2.67	2.29
Real estate & personal property taxes	6.68	6.58	6.95	6.44
Farm insurance	14.66	17.96	16.63	8.15
Utilities	4.90	3.09	6.16	5.29
Dues & professional fees	7.13	7.24	8.27	5.43
Interest	16.38	16.16	21.65	9.47
Machinery & building depreciation	44.15	51.53	41.28	39.50
Miscellaneous	8.48	14.27	4.58	7.08
Total overhead expenses (\$/acre)	124.83	143.39	135.60	88.72
Total direct & overhead expenses	371.33	443.08	347.23	321.10
Net return (\$/acre)	43.95	134.01	-9.99	13.14
Government payments	4.26	0.00	0.00	14.99
Net return w/ govt payments	48.22	134.01	-9.99	28.12
Labor & management charge	77.54	92.47	78.67	58.74
Net return over labor & mgt.	-29.33	41.54	-88.66	-30.61
Cost of production (\$/ton)				
Total direct expenses	102.57	99.87	103.65	105.46
Total direct & overhead exp.	154.51	147.66	170.06	145.73
Less govt & other income	149.39	147.66	164.29	133.35
With labor & management	181.66	178.48	202.81	160.01
Net value per unit	169.46	192.32	159.39	146.12
Machinery cost (\$/acre)	169.63	209.87	156.54	140.88
Est. labor hours (#/acre)	5.96	6.80	5.39	5.76

Table 27. Organic Hay, Mixed Summary by Enterprise Size

Minnesota-Wisconsin: 2020-2022 Average	e			
Enterprise Size	All	<50 acres	51-100 acres	101-250 acres
Number of farms ¹	27	9	9	9
Acres	83.44	34.17	82.17	133.98
Yield (ton/acre)	2.40	2.79	2.46	2.27
Operators share of yield %	100.00	100.00	100.00	100.00
Value (\$/ton)	169.46	180.07	162.98	170.44
Total product return (\$/acre)	407.24	502.27	401.09	386.77
Crop insurance (\$/acre)	2.51	0.00	0.00	4.70
Other crop income (\$/acre)	5.53	4.89	12.19	1.62
Gross return (\$/acre)	415.28	507.15	413.28	393.08
Direct expenses (\$/acre)				
Seed	9.08	2.78	2.23	14.90
Fertilizer	29.83	11.30	44.22	25.72
Crop insurance	0.51	0.00	0.62	0.58
Packaging and supplies	6.11	1.24	11.14	4.27
Fuel & oil	33.78	31.48	32.69	35.04
Repairs	52.90	44.27	35.39	65.85
Custom hire	28.41	34.41	23.07	30.16
Hired labor	7.63	0.00	6.00	10.57
Land rent	55.92	59.22	48.07	59.90
Machinery leases	5.70	4.15	10.90	2.90
Utilities	1.60	0.00	1.57	2.03
Hauling and trucking	0.25	1.83	0.00	0.00
Organic certification	3.69	4.70	5.08	2.57
Operating interest	5.03	0.33	8.04	4.38
Miscellaneous	6.05	1.80	1.07	10.19
Total direct expenses (\$/acre)	246.50	197.50	230.08	269.06
Return over direct exp. (\$/acre)	168.79	309.65	183.21	124.02

Table 27. Organic Hay, Mixed Summary by Enterprise Size (continued)

Minnesota-Wisconsin: 2020-2022 Average	e			
Enternrise Size	A II	<50 acros	51-100	101-250
	All		acres	acres
Number of farms ¹	27	9	9	9
Overhead expenses (\$/acre)				
Hired labor	16.31	2.53	14.89	20.69
Machinery leases	3.45	14.45	2.85	1.01
Building leases	2.70	1.05	1.98	3.56
Real estate & personal property taxes	6.68	7.73	8.94	5.03
Farminsurance	14.66	11.42	10.41	18.09
Utilities	4.90	5.10	8.86	2.43
Dues & professional fees	7.13	4.73	5.57	8.69
Interest	16.38	2.39	17.76	19.11
Machinery & building depreciation	44.15	50.24	43.85	42.78
Miscellaneous	8.48	22.37	11.05	3.36
Total overhead expenses (\$/acre)	124.83	122.01	126.15	124.75
Total direct & overhead expenses	371.33	319.52	356.22	393.81
Net return per acre (\$/acre)	43.95	187.64	57.06	-0.73
Government payments	4.26	17.18	5.84	0.00
Net return w/ govt payments	48.22	204.82	62.89	-0.73
Labor & management charge	77.54	90.48	72.93	77.07
Net return over labor & mgt	-29.33	114.34	-10.04	-77.79
Cost of production (\$/ton)				
Total direct expense	102.57	70.81	93.49	118.57
Total direct & overhead expense	154.51	114.55	144.75	173.54
Less govt & other income	149.39	106.64	137.42	170.75
With labor & management	181.66	139.08	167.06	204.72
Net value per unit (\$/ton)	169.46	180.07	162.98	170.44
Machinery cost (\$/acre)	169.63	172.91	152.70	179.18
Est. labor hours (#/acre)	5.96	7.60	5.42	5.87

1/ Represents farms with certified organic acres. Does not include those transitioning to organic production.

FINBIN data sources for organic hay, mixed summaries 2020-2022 (# farms)

MN State College & University South (15) MN State College & University North (10) Wisconsin Technical College System (2) Location: Minnesota, Wisconsin Year: 2022, 2021, 2020 Special sorts included: Organic farm (total), Organic farm (partial) Special sorts excluded: Organic transition

LIVESTOCK ENTERPRISE SUMMARY

This section presents financial and production information for MN-WI dairy farms. Beef, hog, and other livestock enterprises are not included due to an insufficient number of enterprise records. Dairy farmers in MN-WI are significant producers of organic milk nationwide. Combined, farmers in these two states accounted for 21% of organic dairies and 14% of organic milk produced in 2021⁷. Wisconsin ranked 4th nationally in organic milk sales while Minnesota ranked 10th.

In addition to dairy, we include pasture enterprise results in the livestock summary section of the report. Pasture plays a critical role in organic dairy and livestock production. USDA NOP standards require 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 remainder of animals' feed and supplements must also be certified organic including hay, grain, and other agricultural products. Pasture enterprise results for 2020-2022 are presented in the next section followed by dairy enterprise results.

The pasture and dairy enterprise summaries include the financial and production information for fully certified organic pastureland and livestock that come from TO and PO farms. Price and yield are reported per aum for pasture and per cwt for the dairy. "Aum" represents animal unit month – this is the amount of forage needed by a single cow and her calf grazing for one month. AUM is a typical measurement used when describing the carrying capacity of a pasture. "Cwt" represents hundredweight and is equal to 100 pounds of milk.

General data sources for this section are show below. Live links to FINBIN enterprise reports are provided within each section.

FINBIN data sources for organic pasture enterprise summary 2020-2022 (# farms)

Pasture	Dairy
MN State College & University South (15)	MN State College & University South (32)
MN State College & University North (19)	MN State College & University North (34)
Wisconsin Technical College System (20)	Wisconsin Technical College System (22)
Location: Minnesota, Wisconsin	Location: Minnesota, Wisconsin
Years: 2022, 2021, 2020	Years: 2022, 2021, 2020
Special sorts included: Total organic	Special sorts included: Total organic
Special sorts excluded: Partial organic, organic transition	Special sorts excluded: Partial organic, organic transition

⁷ "Certified Organic Livestock and Poultry Inventory and Sales: 2021." USDA, National Agricultural Statistics Service, 2021 Organic Farm Survey.

PASTURE

Table 28. Organic Pasture Benchmark Report¹

	Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Yield per acre (aum)	3	83	1	2	2	3	3	3	4	5	5	7
Value per unit	25	83	9	18	20	25	25	36	40	50	80	90
Total product value	100	83	25	37	54	80	98	117	123	135	282	404
Gross return	106	83	25	40	54	84	100	117	123	135	282	406
Direct expenses (\$/acre)												
Fuel & Oil	4	82	18	10	7	5	4	3	3	2	2	0
Repairs	6	81	29	14	11	9	7	6	5	3	3	1
Land rent	100	45	203	200	199	144	121	93	72	60	38	29
Organic certification	2	83	6	5	3	3	2	2	2	1	1	1
Operating interest	0	50	2	1	1	1	0	0	0	0	0	0
Total direct expenses	71	83	219	207	189	113	83	65	50	29	15	7
Return over dir. exp.	32	83	-124	-78	-49	-3	22	43	71	99	127	251
Overhead expenses (\$/acre)												
Hired labor	1	59	6	4	3	2	2	0	0	0	0	0
Real estate taxes	16	38	51	47	30	22	18	10	8	7	5	2
Farm insurance	1	76	4	3	2	1	1	1	1	0	0	0
Utilities	0	71	1	0	0	0	0	0	0	0	0	0
Dues and prof. fees	0	76	2	1	1	1	0	0	0	0	0	0
Interest on interm. debt	1	54	7	3	2	1	1	1	0	0	0	0
Machinery depreciation	4	80	32	18	12	8	5	4	3	3	2	1
Building depreciation	1	60	2	1	1	1	1	1	0	0	0	0
Miscellaneous	0	70	4	2	1	1	0	0	0	0	0	0
Total overhead expenses	20	83	171	91	52	40	24	18	11	7	7	4
Total dir. & ovhd. exp.	115	83	273	232	214	186	133	102	85	71	49	27
Net return (\$/acre)	-3	83	171	91	52	40	24	18	11	7	7	4
Government payments	0	83	0	0	0	0	0	0	0	0	0	0
Net return w/govt. pay.	-3	83	-173	-124	-75	-50	-22	6	25	55	103	241
Labor and mgmt. charge	6	83	30	28	11	9	6	5	5	3	2	1
Net return over labor & mgmt.	-8	83	-184	-133	-90	-55	-24	3	19	50	91	213
Direct cost of prod./unit	23	83	72	59	51	37	25	19	15	10	5	1
Direct & ovhd. cost/unit	38	83	91	71	62	56	43	37	30	26	18	9
Cost of prod. less govt. & other income	38	83	91	69	60	54	41	35	30	23	15	8
mgmt.	40	83	102	74	65	58	44	38	33	26	15	9
Machinery cost per acre	18	83	81	63	48	31	24	17	14	10	7	5
Est. labor hours per acre	0	83	2	1	1	1	0	0	0	0	0	0

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

Table 29. Organic Pasture Enterprise Summary by Year

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	54	23	18	13						
Acres	128.15	133.01	127.10	120.98						
Yield (aum)	3.83	4.24	3.40	3.67						
Operators share of yield (%)	100.00	100.00	100.00	100.00						
Value (aum)	28.03	30.55	32.65	16.15						
Other product return (\$/acre)	4.52	10.23	0.00	0.00						
Total product return (\$/acre)	111.94	139.76	110.92	59.29						
Other crop income (\$/acre)	5.39	7.18	0.30	9.34						
Gross return (\$/acre)	117.33	146.94	111.21	68.64						
Direct expenses (\$/acre)										
Seed	6.66	4.00	4.21	15.39						
Fertilizer	3.16	4.69	2.01	1.87						
Fuel & oil	6.06	7.64	4.89	4.70						
Repairs	9.66	8.57	8.15	13.98						
Custom hire	3.04	3.86	0.00	5.88						
Hired labor	7.24	5.74	5.37	12.85						
Land rent	51.33	56.00	52.28	40.85						
Machinery leases	3.14	2.76	3.69	3.08						
Utilities	0.99	0.81	1.09	1.20						
Hauling and trucking	0.51	0.29	0.00	1.70						
Organic certification	2.30	2.78	1.94	1.88						
Operating interest	0.43	0.46	0.29	0.55						
Miscellaneous	2.71	1.40	1.37	7.21						
Total direct expenses (\$/acre)	97.22	98.98	85.29	111.14						
Return over direct exp. (\$/acre)	20.11	47.96	25.92	-42.50						

Table 29. Organic Pasture Enterprise Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022										
Year	2020-2022 Avg.	2022	2021	2020						
Number of farms ¹	54	23	18	13						
Overhead expenses (\$/acre)										
Hired labor	1.62	2.21	1.20	1.08						
Real estate & personal property taxes	8.36	9.92	6.68	7.79						
Farm insurance	1.72	1.69	1.76	1.72						
Dues & professional fees	0.71	0.98	0.41	0.64						
Interest	22.94	20.99	11.31	43.65						
Machinery & building depreciation	9.52	8.02	9.19	12.95						
Miscellaneous	1.43	1.48	1.32	1.48						
Total overhead expenses (\$/acre)	46.31	45.29	31.86	69.31						
Total direct & overhead expenses	143.53	144.27	117.16	180.45						
Net return (\$/acre)	-26.20	2.67	-5.94	-111.81						
Government payments	0.00	0.00	0.00	0.00						
Net return w/ govt payments	-26.20	2.67	-5.94	-111.81						
Labor & management charge	11.30	8.10	17.59	8.36						
Net return over labor & mgt.	-37.50	-5.43	-23.53	-120.17						
Cost of production (\$/ton)										
Total direct expenses	25.37	23.34	25.11	30.26						
Total direct & overhead exp.	37.45	34.03	34.49	49.14						
Less govt & other income	34.87	29.92	34.40	46.59						
With labor & management	37.81	31.83	39.58	48.87						
Net value per unit	28.03	30.55	32.65	16.15						
Machinery cost (\$/acre)	32.46	31.60	27.09	41.94						
Est. labor hours (#/acre)	0.78	0.76	0.68	0.96						

DAIRY

Table 30. Organic Dairy Benchmark Report¹

	Median	Count	1 0%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Milk sales (\$/cow)	4,341	88	2,367	3,236	3,563	3,851	4,235	4,459	4,706	5,123	5,322	6,434
Gross margin (\$/cow)	4,472	88	2,437	3,001	3,667	3,890	4,303	4,529	4,776	4,957	5,385	6,117
Direct expenses (\$/cow)												
Total feed expense	2,189	88	3,470	3,087	2,690	2,449	2,261	2,063	1,875	1,559	1,313	990
Breeding fees	31	73	77	58	53	43	37	30	26	20	13	4
Veterinary	30	84	121	81	63	44	36	26	19	14	8	2
Livestock supplies	131	86	380	264	211	179	144	116	100	87	62	36
Fuel & Oil	68	88	203	134	112	93	85	64	54	44	31	22
Repairs	134	86	439	332	238	188	147	121	72	49	33	4
Custom hire	53	49	318	120	87	72	65	50	30	26	15	9
Hired labor	190	50	710	540	411	293	216	182	132	96	48	27
Utilities	105	51	254	189	163	137	110	101	96	88	67	37
Hauling and Trucking	41	87	618	215	103	67	48	38	34	29	24	5
Marketing	35	84	173	93	66	53	37	32	28	22	18	10
Bedding	49	61	269	155	108	93	61	46	33	18	8	3
Organic certification	13	86	34	22	20	16	14	11	9	8	5	3
Operating interest	11	48	267	60	48	26	14	8	3	1	1	0
Total direct expenses	3,139	88	4,897	4,377	4,076	3,677	3,369	3,011	2,729	2,473	2,152	1,432
Return over direct expenses	1,051	88	-374	104	440	664	989	1,102	1,500	1,797	2,069	2,502
Overhead expenses (\$/cow)												
Hired labor	34	57	369	194	161	130	98	1	0	0	0	0
Real estate taxes	23	72	61	43	31	27	23	22	17	12	9	5
Farm insurance	56	87	180	127	83	74	61	50	43	36	26	12
Utilities	10	79	172	126	104	59	37	0	0	0	0	0
Interest on interm. debt	24	65	171	77	57	35	26	24	18	11	7	4
Interest on long-term debt	104	59	328	286	201	163	136	102	73	50	21	1
Machinery depreciation	112	86	471	285	189	146	120	103	91	69	54	21
Building depreciation	54	60	262	207	126	98	68	44	25	19	9	3
Total overhead expenses	625	88	1,375	925	834	735	639	577	507	410	360	202
Total dir. & ovhd. exp.	3,737	88	5,769	4,997	4,612	4,350	3,993	3,608	3,369	3,106	2,711	2,160
Net return (\$/cow)	474	88	-1,384	-701	-265	200	330	545	869	1,160	1,385	1,676
Net return over labor & mgmt. (\$/cow)	169	88	-1,909	-951	-582	-147	107	233	547	800	902	1,240
Cost of production (\$/cwt)	28	88	43	37	33	31	28	27	26	24	23	20
Avg. number of head	88	88	39	46	57	73	82	90	100	120	155	263
Milk produced/head (lbs)	15,076	88	8,337	11,205	12,417	12,998	14,203	15,500	16,418	17,586	18,549	22,522
Culling (%)	24	86	9	15	18	21	23	26	29	33	37	41
Turnover rate (%)	31	87	13	19	22	26	29	32	34	39	43	49
% of barn capacity	100	88	70	84	94	100	100	103	105	113	121	152
Feed cost (\$/cwt)	14	88	23	19	17	16	15	14	13	12	11	8
Feed cost (\$/head)	2,189	88	3,470	3,087	2,690	2,449	2,261	2,063	1,875	1,559	1,313	990
Hired labor (\$/cow)	180	78	710	420	317	219	187	158	134	104	62	27
Avg milk price (\$/cwt)	29	88	26	28	28	29	29	30	30	30	31	34

1/ All numbers rounded to nearest dollar. Does not include those transitioning to organic production.

Table 31. Organic Dairy Summary by Year

Minnesota-Wisconsin: 2020-2022				
Year	2020-2022 Avg.	2022	2021	2020
Number of farms ¹	88	30	29	29
Number of cows	101.4	102.5	100.1	101.6
Milk produced per cow (lbs/cow)	15,899	16,120	16,897	14,686
Milk sold (\$/cow)	4,583.70	4,768.67	4,743.83	4,232.99
Dairy Calves sold (\$/cow)	56.48	46.03	46.09	77.63
Transferred out (\$/cow)	55.07	60.02	44.52	60.30
Cull sales (\$/cow)	263.14	272.06	314.86	202.86
Insurance income (\$/cow)	7.38	3.64	7.72	10.96
Government payments (\$/cow)	241.93	23.34	292.92	419.67
Other income (\$/cow)	76.16	84.88	67.94	75.17
Purchased (\$/cow)	-36.46	-12.76	-45.05	-52.70
Transferred in (\$/cow)	-67.31	-78.28	-90.56	-32.97
Inventory change (\$/cow)	43.62	30.21	71.59	30.06
Dairy repl cost (\$/cow)	-662.35	-578.53	-750.15	-663.24
Gross margin (\$/cow)	4,561.37	4,619.27	4,703.70	4,360.74
Direct expenses (\$/cow)				
Protein vit minerals	535.56	659.68	522.80	418.69
Corn, organic	437.02	471.63	438.55	399.41
Corn silage, organic	315.95	321.73	309.51	316.26
Hay alfalfa, organic	559.38	643.58	509.18	521.02
Haylage alfalfa, organic	65.79	10.44	89.99	99.66
Other feed stuffs	428.67	521.02	410.61	350.16
Breeding fees	32.52	33.95	33.14	30.43
Supplies	148.82	157.70	155.68	132.81
Fuel & oil	82.70	118.50	71.49	56.41
Repairs	169.02	165.09	179.63	162.65
Hired labor	180.89	181.39	173.60	187.56
Utilities	78.12	67.03	94.72	73.33
Hauling and trucking	92.05	64.58	109.72	103.29
Bedding	60.25	67.98	61.80	50.66
Miscellaneous ²	205.77	200.77	205.75	211.01
Total direct expenses (\$/cow)	3,392.51	3,685.05	3,366.18	3,113.36
Return over direct expense (\$/cow)	1,168.86	934.22	1,337.52	1,247.38

Represents certified organic enterprises. Does not include those transitioning to organic production.
 Miscellaneous includes "livestock insurance," "machinery leases," "government program expenses," and "operating interest."

Table 31. Organic Dairy Summary by Year (continued)

Minnesota-Wisconsin: 2020-2022									
Year	2020-2022 Avg.	2022	2021	2020					
Number of farms ¹	88	30	29	29					
Overhead expenses (\$/cow)									
Hired labor	58.43	42.81	94.14	39.52					
Farm insurance	65.93	71.65	65.48	60.42					
Interest	113.80	126.03	121.08	93.87					
Machinery & building depreciation	202.31	193.55	213.72	200.21					
Miscellaneous	177.23	185.29	179.06	167.01					
Total overhead expenses	617.70	619.32	673.48	561.04					
Total direct & overhead expenses	4,010.21	4,304.37	4,039.66	3,674.40					
Net return (\$/cow)	551.16	314.89	664.04	686.34					
Labor & management charge	358.62	412.29	351.35	309.82					
Net return over labor & management	192.54	-97.40	312.69	376.52					
Cost of production (\$/cwt)									
Total direct expense	21.34	22.86	19.92	21.20					
Total direct & overhead expense	25.22	26.70	23.91	25.02					
With other revenue adjustments	25.73	28.03	24.45	24.56					
With labor and management	27.99	30.59	26.53	26.67					
Est. labor hours per unit (hours/cow)	40.07	43.03	39.42	37.63					
Other information									
Culling rate (%)	25.7	25.1	30.2	22.0					
Turnover rate	30.9	31.1	35.3	26.5					
Cows per milking unit	12	12	11	12					
Feed cost (\$/cwt)	14.73	16.30	13.50	14.33					
Feed cost (\$/cow)	2,342.36	2,628.06	2,280.65	2,105.20					
Hired labor (\$/cow)	239.32	224.20	267.74	227.08					
Avg. milk price (\$/cwt)	29.37	30.19	28.50	29.41					
Milk price / feed margin	14.63	13.89	15.00	15.07					

Represents certified organic enterprises. Does not include those transitioning to organic production.
 Miscellaneous includes "livestock insurance," "machinery leases," "government program expenses," and "operating interest."

Table 32. Organic Dairy Summary by Herd Size

Minnesota-Wisconsin: 2020-2022									
Herd Size (# cows)	All	<50	50-100	100-200	200-500				
Number of farms ¹	88	16	42	25	5				
Number of cows	101.4	41.6	77.8	142.8	284.4				
Milk produced per cow (lbs/cow)	15,899	13,201	14,880	16,178	18,806				
Milk sold (\$/cow)	4,583.70	3,641.29	4,303.29	4,728.40	5,305.77				
Dairy Calves sold (\$/cow)	56.48	33.57	85.33	45.19	29.23				
Transferred out (\$/cow)	55.07	126.17	49.28	21.36	119.73				
Cull sales (\$/cow)	263.14	153.72	260.07	267.84	309.54				
Insurance income (\$/cow)	7.38	4.66	5.97	12.13	0.00				
Government payments (\$/cow)	241.93	123.56	238.58	190.24	434.75				
Other income (\$/cow)	76.16	52.25	101.29	76.32	29.19				
Purchased (\$/cow)	-36.46	-95.45	-68.12	-10.99	0.00				
Transferred in (\$/cow)	-67.31	-16.54	-85.97	-81.61	-12.31				
Inventory change (\$/cow)	43.62	222.68	25.55	33.26	27.46				
Dairy repl cost (\$/cow)	-662.35	-446.41	-674.63	-563.51	-983.16				
Gross margin (\$/cow)	4,561.37	3,799.50	4,240.64	4,718.62	5,260.19				
Direct expenses (\$/cow)									
Protein vit minerals	535.56	70.63	365.10	533.18	1,150.77				
Corn, organic	437.02	285.33	533.75	384.61	417.15				
Corn silage, organic	315.95	294.81	360.89	266.59	346.39				
Hay alfalfa, organic	559.38	229.41	657.08	599.76	387.76				
Pasture, organic	82.67	120.44	84.24	73.48	84.47				
Hay mixed, organic	62.31	126.87	122.62	19.87	*				
Haylage alfalfa, organic	65.79	80.19	37.32	8.99	267.04				
Other feed stuffs	283.69	419.83	201.96	439.76	16.18				
Breeding fees	32.52	18.20	34.74	27.42	46.93				
Supplies	148.82	118.98	175.21	130.40	148.37				
Fuel & oil	82.70	82.80	82.70	101.87	34.55				
Repairs	169.02	158.26	186.43	173.35	123.16				
Hired labor	180.89	66.64	164.89	133.98	388.85				
Utilities	78.12	71.69	83.92	49.98	138.41				
Hauling and trucking	92.05	271.78	102.52	36.58	123.16				
Miscellaneous	266.02	249.12	264.92	234.88	354.60				
Total direct expenses (\$/cow)	3,392.51	2,664.98	3,458.30	3,214.70	4,027.81				
Return over direct expense (\$/cow)	1,168.86	1,134.51	782.34	1,503.93	1,232.39				

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

Table 32. Organic Dairy Summary by Herd Size (continued)

Minnesota-Wisconsin: 2020-2022					
Herd Size (# cows)	All	<50	50-100	100-200	200-500
Number of farms ¹	88	16	42	25	5
Overhead expenses (\$/cow)					
Building leases	55.28	64.80	21.85	104.33	4.52
Interest	113.80	127.16	132.14	113.61	65.89
Machinery & building depreciation	202.31	215.19	216.24	191.46	191.51
Miscellaneous	246.31	255.48	298.01	228.16	168.75
Total overhead expenses (\$/cow)	617.70	662.63	668.23	637.56	430.67
Total direct & overhead expenses	4,010.21	3,327.61	4,126.54	3,852.26	4,458.48
Net return (\$/cow)	551.16	471.88	114.10	866.36	801.72
Labor & management charge	358.62	410.73	354.94	415.47	200.05
Net return over labor & management	192.54	61.15	-240.84	450.89	601.67
Cost of production (\$/cwt)					
Total direct expense	21.34	20.19	23.24	19.87	21.42
Total direct & overhead expense	25.22	25.21	27.73	23.81	23.71
With other revenue adjustments	25.73	24.28	28.66	24.25	24.10
With labor and management	27.99	27.39	31.05	26.82	25.16
Est. labor hours per unit (hours/cow)	40.07	42.26	45.91	38.90	28.58
Other information					
Culling rate (%)	25.7	18.8	26.1	25.4	29.0
Turnover rate	30.9	25.7	31.6	31.4	30.7
Cows per milking unit	12	8	10	12	18
Feed cost (\$/cwt)	14.73	12.33	15.88	14.38	14.20
Feed cost (\$/cow)	2,342.36	1,627.50	2,362.97	2,326.23	2,669.77
Hired labor (\$/cow)	239.32	79.33	244.66	195.12	412.82
Avg. milk price (\$/cwt)	29.37	27.82	29.59	29.82	28.51
Milk price / feed margin	14.63	15.49	13.71	15.44	14.31

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

FARM FINANCE SCORECARD

	Your Farm:					Desired Trend
Liquidity		Vulnerable	1.3	2.0	Strong	
Current Ratio	<u> </u>					Ť
Working Capital as % of	%		10%	30%		
Gross Revenue	/8					T
Working Capital as % of	o/_		20%	40%	-	*
Operating Expense*	/^//		61.			6746
Solvency	0/	Vulnerable	60%	30%	Strong	
Debt-to-Asset Ratio	7					Ŧ
Fauity-to-Asset Ratio*	%		40%	70%		*
Equily-10-Asser Kullo		l	15	0.43		
Debt-to-Equity Ratio*			1.5	0.45		T
1 /						
Profitability		Vulnerable	1%	8%	Strona	
Rate of Return on Assets	%		4 78	0 /0		Ť
			3%	10%		1.0
Rate of Return on Equity	%					1
	9		15%	25%		
Operating Protit Margin Ratio	/o					T
Accept Turpover Datio	%		30%	45%	1	
Asset Turnover Rano	^					Т
Repayment Capacity		Vulnerable	1.25	1.75	Strong	
Debt Coverage Ratio	3 4					T
Penlacement Coverage Ratio			1.	1.5		^
Replacement Obverage Rand	.	<u>k</u>	10121			
Term Debt & Finance Lease			1.25	1.75		^
Coverage Ratio*	•					
Financial Efficiency		Vulnerable	80%	60%	Strong	
Operating Expense Ratio	%					Ť
Dense intine E D. II	%	1	10%	5%		1
Depreciation Expense Ratio		· · · · · · · · · · · · · · · · · · ·	100			+
Interest Expense Patio	%		10%	5%		
Interest Expense Kullo	3 		10%	0.0%		•
Net Farm Income Ratio	%		10 /6	20%		Ť
		-				1.000

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

FARM FINANCIAL RATIO DEFINITIONS

Measures from the Balance Sheet

The *balance sheet* provides information on both a business's both **liquidity** and **solvency** positions. **Liquidity** is the ability of the farm business to meet financial obligations as they came due, or to generate enough cash to pay for family living expenses, taxes, and to make on-time debt payments. **Solvency** is the ability of the farm business to meet all of it's debts if it were sold at the current point in time.

Recommended Liquidity Ratios

<u>Current Ratio</u>

Measures the extent to which current farm assets, if sold tomorrow, would pay off the farm's current liabilities.

- <u>Working Capital as % of Gross Revenue</u> Measures the operating capital available against the size of the business.
- <u>Working Capital as % of Operating Expense*</u>
 Measures the operating capital available against the amount of the business's operating expenses.

Recommended Solvency Ratios

- <u>Debt-to-Asset Ratio</u>
 Is the bank's share of the farm business.
 Compares total <u>farm</u> debt to total <u>farm</u> assets. A higher ratio indicates greater financial risk & lower borrowing capacity.
- Equity-to-Asset Ratio*

Is the farmer's share of the business. Compares total <u>farm</u> equity to total <u>farm</u> assets. *Debt-to-Asset* ratio + *Equity-to-Asset* ratio must = 100%.

• Debt-to-Equity Ratio*

Compares the creditor's investment to the farm owner's investment. It also indicates how much the farmer has leveraged their equity in the business.

Measures from the Income Statement

The *income statement* is a financial statement which provides information regarding the **profitability** of the farm business. **Profitability** is the difference between the value of goods produced and the cost of the resources used in their production.

Recommended Profitability Measures

<u>Rate of Return on Assets</u>

Can be thought of as the average interest rate being earned on all (yours and the creditor's) investments in the farm.

<u>Rate of Return on Equity</u>

Represents the interest rate being earned by your investment in the farm. This interest rate or return can be compared to returns available if your equity were invested elsewhere, such as a Certificate of Deposit or the stock market.

Operating Profit Margin Ratio

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

<u>Asset Turnover Ratio</u>

Measures efficiency in using capital. You could think of it as a measure of capital productivity. Generating a high level of production with a low level of capital investment will show as 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 more efficiently or sell some low-return investments. It could mean getting rid of that swampy parcel on the back 40 and getting something that produces income.

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

FARM FINANCIAL RATIO DEFINITIONS (CONT.)

Measures from the Cash-Flow Statement

The *cash-flow statement* provides information on a business's **repayment capacity**. **Repayment capacity** shows the borrower's (i.e. your) ability to repay debts on time. It includes non-farm income and as such is **not** a measure of business performance alone.

Recommended Repayment Capacity

Debt Coverage Ratio

Indicates whether your business generated enough income to cover current interest expense and all intermediate and long-term debt payments.

• Replacement Coverage Ratio

A ratio of less than 1.0 indicates that you did not generate enough income to cover debt payments and unfunded capital purchases.

Term Debt & Finance Lease Coverage Ratio*

Indicates whether your business generated enough income to cover all intermediate and long-term debt payments. A ratio of less than 1.0 indicates the business had to liquidate inventories, run up open accounts, borrow additional funds, or sell assets to make scheduled payments.

Measures from *all* the Financial Statements

Using all the financial statements can provide valuable insight into the **financial efficiency** of a farm business. These measures show where each dollar of income generated is spent.

Recommended Financial Efficiency

Operating Expense Ratio

Shows the proportion of farm income that is used to pay operating expenses, excluding depreciation and interest expense.

• Interest Expense Ratio

Shows how much of gross farm income is used to pay for interest on borrowed capital.

• Depreciation & Amortization Expense Ratio

Indicates how fast the business wears out capital. It tells what proportion of gross farm income is needed to maintain the capital used by the business. It is important to note that a depreciation expense ratio of less than 3% **could** indicate the operation is not replacing inefficient assets and may have higher repair expenses.

• Net Farm Income (Income from Operations) Ratio

Compares profit to gross revenue. It shows how much is left after all farm expenses, except for unpaid labor and management, are paid.
FARM FINANCIAL RATIO DEFINITIONS (CONT.)

Working Capital

Measures the operating capital available in the shortterm from within the business.

> Total Current Farm Assets (-) *Total Current Farm Liabilities* = Working Capital

Net Farm Income (NFI)

Represents the return to three things that you have invested in the farm business:

1) Your labor

- 2) Your management, and
- 3) Your equity.

NFI is the reward for investing your unpaid family labor, management, and money in the farm instead of elsewhere. Anything left in the business and not taken out to pay for family living expenses or taxes, will increase the net worth of the farm.

> Gross Accrual Farm Revenue (-) Total Accrual Operating Expense (including Depreciation & Amortization Expense)

= Income from Operations (-) Farm Interest Expense

= Net Farm Income

Value of Farm Production (VFP)

VFP is a measure of the value a farm operation has added to products sold.

Gross Cash Farm Revenue (-) Feeder Livestock Purchased (-) Purchased Feed (+/-) Changes in Inventories = Value of Farm Production

Repayment and Replacement Capacity Calculations

Income from Operations (+/-) *Miscellaneous Revenue / Expenses* (+) *Non-farm Income*

(+) Depreciation / Amortization Expenses

(-) Income Tax Expense

(-) Owner Withdrawals

= Repayment and Replacement Capacity

Repayment and Replacement Capacity (-) Interest Expense on Current Debt

= Term Debt Repayment & Replacement Capacity

Prior Year Current Portion of Long-Term Debt (+) Prior Year Current Portion of Finance Leases (+) Interest Expense on Term Debt (+) Interest Expense on Finance Leases

= Total Principal & Interest on Term Debt and Finance Leases

Total Principal & Interest on Term Debt and Finance Leases (+) Interest Expense on Current Debt

 (+) Payment on Unpaid Operating Debt from Prior Period (loss carryover)
(+) Annual Payments on Personal Liabilities

= Total Debt Repayment

Repayment & Replacement Capacity (-) Total Debt Repayment

= Repayment Margin

Repayment Margin (-) Unfunded Capital Expenditures² = Replacement Margin

1 = Measures the amount generated from farm and non-farm sources, to cover debt repayment and capital replacement.

2 = Portion of depreciable capital asset purchases not funded by term debt and finance leases. This measure is the amount of internally generated funds used for investing activities related to depreciable capital assets.

FARM FINANCIAL RATIO CALCULATIONS

Liquidity

Current Ratio

Total Current Farm Assets ÷ Total Current Farm Liabilities

Solvency

Debt-to-Asset Ratio

Total Farm Liabilities ÷ Total Farm Assets

Profitability**

Rate of Return on Assets

[Income from Operations (-) Value of Unpaid Operator Labor & Management] ÷ Average Farm Assets

Repayment Capacity**

Debt Coverage Ratio

Repayment & Replacement Capacity ÷ Total Debt Repayment

Working Capital as % of Gross Revenue

Working Capital ÷ Gross Farm Revenue

Working Capital as % of Operating Expense

Working Capital ÷ [Total Operating Expense (-) Depreciation/Amortization]

Debt-to-Equity Ratio

Total Farm Liabilities

Farm Net Worth

Equity-to-Asset Ratio

Farm Net Worth ÷ Total Farm Assets

Rate of Return on

[Income from Operations

(-) Value of Unpaid Operator

Average Farm Net Worth

(-) Farm Interest Expense

Labor & Management]

Equity

Operating Profit Margin Ratio

[Income from Operations (-) Value of Unpaid Operator Labor & Management] ÷ Value of Farm Production

Asset Turnover Ratio

Value of Farm Production ÷ Average Farm Assets

Replacement Coverage Ratio

Repayment & Replacement Capacity ÷ [Total Debt Repayment (+) Unfunded Capital Expenditure]

Term Debt & Finance Lease Coverage Ratio

Term Debt Repayment & Replacement Capacity ÷ Total Principle & Interest on Term Debt and Finance Leases

Financial Efficiency**

Operating Expense Ratio

[Total Operating Expense (-) Depreciation & Amortization] ÷

Gross Farm Revenue

Depreciation Expense Ratio Depreciation & Amortization ÷ Gross Farm Revenue

Interest Expense Ratio Farm Interest Expense ÷ Gross Farm Revenue

Net Farm Income Ratio

[Income from Operations (-) Farm Interest Expense] ÷ Gross Farm Revenue

Developed by: Devin Brand, Pauline Van Nurden, Dale Nordquist, Mark Cannella, Katherine Wilts Johnson & Robert Craven For more detailed information & calculations, see the FFSC's Financial Guidelines for Agriculture: <u>https://ffsc.org/</u>