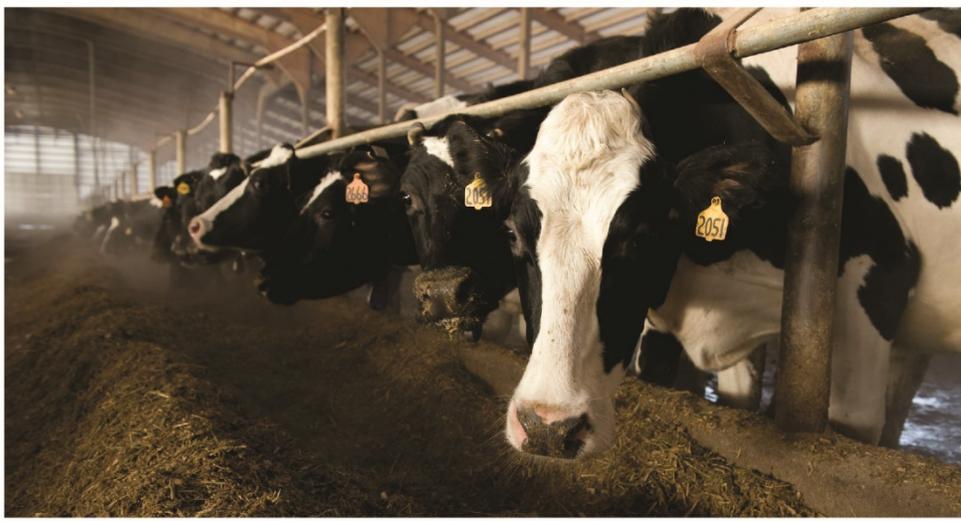


# Upper Midwest Organic Farm Business Management 2020 Annual Report

Published: July 2021



  
UNIVERSITY OF MINNESOTA  
**EXTENSION**

# Introduction

Organic Farm Financial Benchmarking in the Upper Midwest is an integrated regional grant project, led by University of Minnesota Extension. The project focuses on a multi-year farm business management benchmark analysis of organic farms in Minnesota, Wisconsin, and North Dakota. Benchmarking provides a summary of production and financial performance measures,



allowing producers to evaluate their individual performance to a cohort with similar farm characteristics. Conventional farming operations have numerous resources to complete benchmark analysis, while there are limited analysis available for organic producers. Organic farms are not immune to negative price swings and tight profit margins. Benchmark analysis allows producers to examine how to remain competitive with market fluctuations.

Specifically, this project aims to:

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

The Upper Midwest Organic Farm Business Management 2020 Annual Report is the first of a series of annual reports planned as part of the benchmarking report project objective. Additionally, specific organic budgets for each year of the project can be accessed for Minnesota, Wisconsin, and North Dakota at [finbin.umn.edu](http://finbin.umn.edu).

This project has the long-term goal of enhancing the economic viability of organic row crop and dairy farms by providing comprehensive financial benchmark analysis to improve the efficiency of organic farm management.

Organic Farm Financial Benchmarking in the Upper Midwest is a grant project funded by the United States Department of Agriculture's Organic Agriculture Research and Extension Initiative (OREI). OREI "seeks to solve critical organic agriculture issues, priorities, or problems through the integration of research, education, and extension activities."<sup>1</sup>

This grant is led by Project Director Joleen Hadrich and Co-Project Director Pauline Van Nurden.

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<sup>1</sup> [nifa.usda.gov/funding-opportunity/organic-agriculture-research-and-extension-initiative](https://nifa.usda.gov/funding-opportunity/organic-agriculture-research-and-extension-initiative)

# Acknowledgements

Thank you to all the participating organic farmers that shared their farm financial and production information. Participating organic farms received a cost-share reduction in the tuition rate for enrolling in farm business management. Information regarding the cost-share opportunity has been included in numerous industry newsletters in addition to a website<sup>2</sup> developed to promote the project.

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



FARM BUSINESS MANAGEMENT "Serving farmers since 1951"



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<sup>2</sup> [agcentric.org/farm-business-management/organic-farming-resources/](https://agcentric.org/farm-business-management/organic-farming-resources/)

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## Whole farm summary by state

Our annual report analysis begins with a whole farm summary report. This provides a high-level overview of financial and production characteristics of the 84 participating Minnesota organic farms and 13 participating Wisconsin organic farms. 2020 was a year that started with cautious optimism as many commodity prices were slowing rising, following several years of reduced profits across most agricultural commodities, particularly dairy. But by March, the COVID-19 pandemic brought significant uncertainty to agricultural markets; for example, most dairy producers saw milk prices in April and May of 2020 plummet and crop farmers experienced depressed pricing as well. Tides turned in the second half of the year, and 2020 turned into an unexpectedly profitable year for organic (and non-organic) producers, as gross farm income benefited from generally good yields, increasing commodity prices, and noteworthy government payments.

Data sources for this section are described below. All reports run from the public facing FINBIN.umn.edu website in June and July 2021<sup>3</sup> (all dairy reports were run in July 2021 to reflect a FINBIN database update affecting Wisconsin farms).

The source for all financial ratio definitions throughout this report is the Farm Financial Scorecard (2014); please see the Appendix for additional information.

<b>Data sources for Minnesota organic farms:</b>	<b>Data sources for Wisconsin organic farms:</b>
MN State College & University South 58 farms	Wisconsin Technical College System 13 farms
MN State College & University North 22 farms	Location: Wisconsin
MN State College & University Red River Valley 2 farms	Year: 2020
Other Contributors 1 farms	Special sorts included:
Wisconsin Technical College System 1 farms	Organic Farm (total)
Location: Minnesota	Organic farm (partial)
Year: 2020	Organic transition
Special sorts included:	
Organic Farm (total)	
Organic farm (partial)	
Organic transition	

<sup>3</sup> FINBIN (2021). *Center for Farm Financial Management*: University of Minnesota. Retrieved from <http://finbin.umn.edu> (originally created June 17 2021).

## Average organic farm characteristics

The average net farm income for the 97 combined Minnesota and Wisconsin participating organic farms was \$84,799, while the median net farm income was \$60,705 indicating higher profit farms skewed the mean average. Gross cash farm income average \$422,064, while total cash farm expense average \$322,033. On average, inventory changes were positive; the combined Minnesota and Wisconsin inventory change was \$16,098.

Averages do not adequately represent the financial picture of all farms in the sample, and incomes ranged widely across organic farms depending on size and other factors. 2020 was a year with considerable variability depending on prices at time of sale, market access, type of commodities grown and more.

	Minnesota	Wisconsin	Combined MN and WI
<b>Number of farms</b>	84	13	97
<b>Summary income statement</b>			
Gross cash farm income	402,390	549,187	422,064
Total cash farm expense	301,061	457,540	322,033
Net cash farm income	101,329	91,647	100,031
Inventory change	17,309	8,273	16,098
Depreciation	-29,401	-39,538	-30,759
Net farm income from operations	89,237	60,381	85,370
Gain or loss on capital sales	-647	-79	-571
<b>Average net farm income</b>	88,590	60,302	84,799
<b>Median net farm income</b>	61,369	52,355	60,705
<b>Nonfarm information</b>			
Personal wages & salary	19,622	7,214	17,959
Other nonfarm income	9,006	8,717	8,967
Net nonfarm income	28,628	15,931	26,926
Nonfarm net worth	164,988	71,919	152,515
Nonfarm debt to asset ratio	21%	17%	21%

## Organic dairy production and marketing summary

The organic dairy production and marketing summary is reported as dollars per cow at the beginning of this table and dollars per hundredweight at the end of the table. Wisconsin is not reported as its own column due to low numbers of participating dairy farms. The average combined Minnesota and Wisconsin organic dairy farm had 101 cows. Average milk sold per cow on organic dairies was \$4,232.99. An additional \$419.67 per cow was received in government payments. The average net return, including a labor and management charge, was \$376.52 per cow. On a per hundredweight basis, average milk price received was \$29.41 per cwt, and the average cost of production, including a labor and management charge, was \$26.67 per cwt.

	Minnesota	Combined MN and WI
<b>Number of farms</b>	23	27
<b>Milk sold in \$, per cow</b>	4,077.01	4,232.99
Dairy Calves sold	96.13	77.63
Transferred out	31.14	60.30
Cull sales	207.49	202.86
Insurance income	14.72	10.96
Government payments <sup>a</sup>	434.86	419.67
Other income	73.24	75.17
Purchased	-70.82	-52.70
Transferred in	-44.30	-32.97
Inventory change	35.63	30.06
Dairy repl net cost	-709.05	-663.24
<b>Gross margin</b>	<b>4,146.07</b>	<b>4,360.74</b>
<b>Direct expenses</b>		
Protein vit minerals	326.57	418.69
Corn, organic	364.97	399.41
Corn silage, organic	320.85	316.26
Hay alfalfa, organic	402.68	521.02
Hay mixed, organic	91.40	-
Haylage alfalfa, organic	133.93	99.66
Other feed stuffs	348.69	350.16
Breeding fees	21.95	30.43
Veterinary	-	42.12
Supplies	114.33	132.81
Fuel & oil	64.17	56.41
Repairs	183.83	162.65
Hired labor	138.45	187.56
Utilities	67.51	73.33

	Minnesota	Combined MN and WI
Hauling and trucking	123.57	103.29
Marketing	54.65	48.56
Bedding	53.19	50.66
Miscellaneous	173.68	120.34
<b>Total direct expenses</b>	<b>2,984.44</b>	<b>3,113.36</b>
<b>Return over direct expense</b>	<b>1,161.63</b>	<b>1,247.38</b>
<b>Overhead expenses</b>		
Building leases	57.77	50.73
Farm insurance	63.25	60.42
Interest	86.16	93.87
Mach & bldg depreciation	170.88	200.21
Miscellaneous	160.50	155.80
<b>Total overhead expenses</b>	<b>538.55</b>	<b>561.04</b>
<b>Total dir &amp; ovhd expenses</b>	<b>3,522.99</b>	<b>3674.40</b>
<b>Net return</b>	<b>623.07</b>	<b>686.34</b>
Labor & management charge	310.76	309.82
<b>Net return over labor &amp; mgt</b>	<b>312.32</b>	<b>376.52</b>
<b>Cost of production per cwt. of milk</b>		
Total direct expense per unit	21.19	21.20
Total dir & ovhd expense per unit	25.01	25.02
With other revenue adjustments	24.96	24.56
With labor and management	27.17	26.67
Est. labor hours per unit	37.73	37.63
<b>Other information</b>		
Number of cows	95.3	101.6
Milk produced per cow	14,086	14686
Lb. of milk sold per FTE	1,026,933	1,071,026
Culling percentage	21%	22%
Turnover rate	25.90	26.50
Cow death loss percent	3.40	3.70
Cows per milking unit	12	12
Feed cost per cwt. of milk	14.12	14.33
Feed cost per cow	1,989.10	2,105.20
Hired labor per cow	182.20	227.08
Avg. milk price per cwt.	29.46	29.41
Milk price / feed margin	15.34	15.07

*Note.* Livestock Summary Report, Dairy Enterprise Analysis, reported as Average Per Cow. Special sort option includes organic and organic transition, not partial organic. Partial organic is not an option under the summary report's livestock special sort selections. Wisconsin is not reported as an individual column due to low number of organic dairies submitted to the database in 2020. The Wisconsin and Minnesota combined dairy column was updated July 14, 2021 to reflect a change in the FINBIN database affecting Wisconsin dairy submissions.

<sup>a</sup>Government payments in 2020, as defined by FINBIN protocols, DMC and DAIRI payments, as well as CFAP payments related to the 2020 pandemic.

## Organic crop production and marketing summary

The organic crop production and marketing summary includes 97 farms from Minnesota and Wisconsin. The combined Minnesota and Wisconsin organic farm producing commodity crops had 155 total owned acres and 334 total crop acres. Average cash price was \$7.52 per bushel for organic corn, \$20.89 per bushel for organic soybeans, \$147.62 per ton for organic alfalfa, and \$5.22 per bushel for organic oats. Organic wheat average price was not reported due to a lack of adequate farm numbers. Twenty-nine percent of crop acres farmed were owned; the majority were rented.

	Minnesota	Wisconsin	Combined MN and WI
<b>Number of farms</b>	84	13	97
<b>Acreage summary</b>			
Total acres owned	151	174	155
Total crop acres	333	334	334
Crop acres owned	88	147	95
Crop acres cash rented	238	188	231
Crop acres share rented	8	-	7
Total pasture acres	34	111	45
Percent crop acres owned	26%	44%	29%
<b>Mach invest/crop acre cost</b>	860	676	835
<b>Mach invest/crop acre market</b>	1,019	956	1,011
<b>Average price (cash sales only)</b>			
Corn organic per bushel	7.48	-	7.52
Corn per bushel	3.75	-	3.75
Soybeans organic per bushel	20.99	-	20.89
Soybeans per bushel	10.02	-	10.02
Hay alfalfa organic per ton	-	-	147.62
Hay alfalfa per ton	132.29	-	132.29
Oats organic per bushel	5.31	-	5.22
<b>Average yield per acre</b>			
Corn organic (bushel)	133.45	115.88	131.26
Hay alfalfa organic (ton)	3.08	4.24	3.35
Soybeans organic (bushel)	34.79	-	33.35
Corn silage organic (ton)	18.28	-	18.44
Oats organic (bushel)	50.53	-	45.32
Pasture intensive org (aum)	4.11	-	4.11

	Minnesota	Wisconsin	Combined MN and WI
Hay mixed organic (ton)	2.61	-	2.33
Pasture organic (aum)	4.35	-	3.79
Haylage alfalfa organic (ton)	5.74	-	5.74
Corn (bushel)	170.94	-	170.74
Wheat spring organic (bushel)	48.13	-	48.13
Barley organic (bushel)	-	-	42.28

## Detailed income statement, organic production

	Minnesota	Wisconsin	MN and WI Combined
<b>Number of farms</b>	84	13	97
<b>Cash farm income</b>			
Barley	371	-	321
Corn	63,608	25,194	58,459
Garlic	456	-	395
Hay alfalfa	6923	14,081	7,883
Haylage mixed	283	-	245
Oats	302	1,112	410
Peas	5,595	-	5,017
Rye	-	1,038	211
Soybeans	31,617	20,520	30,129
Other crop income	23,001	12,506	21,520
Other livestock income	39,505	51,824	41,156
Dairy milk	136,228	306,156	159,002
Crop government payments <sup>a</sup>	5,644	9,660	6,182
CRP payments	400	-	347
Livestock govt payments <sup>b</sup>	3,482	6,910	3,941
Other government payments <sup>c</sup>	32,956	51,506	35,442
Conservation govt payment <sup>d</sup>	1,894	6,834	2,556
Custom work income	6,940	5,069	6,689
Patronage dividends cash	1,740	2,143	1,794
Crop insurance income	15,143	19,637	15,745
Property insurance income	260	177	249
Sale of resale items	6146	438	5,381
Contract livestock income	4,992	2,769	4,694
Farm rental income	6,902	206	6,004
Other farm income	8,463	10,123	8,685
<b>Gross cash farm income</b>	<b>402,390</b>	<b>549,187</b>	<b>422,064</b>
<b>Cash farm expense</b>			
Seed	19,420	21,774	19,736
Fertilizer	23,192	33,962	24,635
Crop chemicals	2,054	-	1,779
Non-chemical crop protection	1,862	-	1,612
Crop insurance	4,373	3,139	4,208
Drying expense	910	455	849
Irrigation energy	482	-	418

	Minnesota	Wisconsin	MN and WI Combined
Storage	-	243	
Packaging and supplies	883	1,303	940
Crop organic certification	-	941	126
Crop miscellaneous	2,635	452	2,343
Consultants	638	-	553
Purchased feed	39,436	83,755	45,375
Other livestock expenses	59,629	136,162	69,789
Interest	22,206	37,665	24,277
Supplies	-	461	-
Fuel & oil	12,333	17,139	12,977
Repairs	27,817	34,498	28,713
Custom hire	9,974	23,374	11,770
Hired labor	17,044	45,802	20,898
Land rent	41,228	34,699	40,353
Machinery leases	4,691	2,423	4,387
Building leases	2,707	1,169	2,501
Real estate taxes	4,069	7,491	4,527
Farm insurance	7,312	7,754	7,371
Utilities	8,118	13,305	8,814
Hauling and trucking	4,711	8,105	5,165
Marketing	2,648	4,939	2,955
Dues & professional fees	3,225	3,672	3,285
Organic certification	1,369	-	1,186
Purchase of resale items	8,266	-	7,158
Miscellaneous	7,268	16,614	8,709
<b>Total cash expense</b>	<b>301,061</b>	<b>457,540</b>	<b>322,033</b>
<b>Net cash farm income</b>	<b>101,329</b>	<b>91,647</b>	<b>100,031</b>
Total inventory change	17,309	8,273	16,098
Net operating profit	118,638	99,919	116,129
Total depreciation	-29,401	-39,538	-30,759
<b>Net farm income from operations</b>	<b>89,237</b>	<b>60,381</b>	<b>85,370</b>
Gain or loss on capital sales	-647	-79	-571
<b>Net farm income</b>	<b>88,590</b>	<b>60,302</b>	<b>84,799</b>

Note. Detailed Farm Income Statement, Reported by Year and State. Some rows collapsed for readability.

<sup>a</sup>Crop government payments in 2020, as defined by FINBIN protocols, Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC)

<sup>b</sup>Livestock government payments, as defined by FINBIN protocols, DMC and DAIRI

<sup>c</sup>Other government payments, as defined by FINBIN protocols, - loan amounts forgiven for Paycheck Protection Program (PPP); Wildfire and Hurricane Indemnity Program Plus (WHIP+) disaster program; Market Facilitation Program (MFP) 2.0 3rd tranche related to trade; Coronavirus Food Assistance Program (CFAP) 1 and 2; Economic Injury Disaster Loan (EIDL) Emergency Advance Program; Emergency Animal Mortality Management program from Environmental Quality Incentives Program (EQIP); MN Small Business Relief grant; MN Coronavirus Aid, Relief, and Economic Security (CARES) Act funding for agriculture.

<sup>d</sup>Conservation government payments, as defined by FINBIN protocols, Environmental Quality Incentives Program (EQIP) payments for annual production expenses; Conservation Stewardship Program (CSP); Soil Health and Income Protection Program (SHIPP)

## Average profitability indicators by state

Profitability is the difference between the value of goods and services produced on the farm and the cost of the resources used for their production (Farm Finance Scorecard, 2014). As reported on the previous page, for farms in FINBIN, the average Minnesota organic farm ended 2020 with \$88,590 net farm income. Wisconsin organic farms averaged \$60,302 net farm income, while Wisconsin and Minnesota organic farms combined averaged \$84,799 net farm income. Across all types of farms—organic and non-organic—profitability was on average up in 2020 compared to recent years. In terms of cost-basis profitability indicators for Minnesotan and Wisconsin organic farms, the average rate of return on farm assets was 5.3%, rate of return on equity was 6.5%, and operating profit margin was 17.8%. These percentages are considered moderate, neither vulnerable nor strong. On a red, yellow, green stoplight rating scale, these ratios are considered yellow. Profitability indicators when measured on a market valuation basis were in general slightly lower, but still in the moderate category. Asset turnover-ratio averaged 29.9% from a cost basis and 22.8% from a market basis. This percentage rates as vulnerable (red).

	Minnesota	Wisconsin	Combined MN and WI Organic
<b>Number of farms</b>	84	13	97
<b>Profitability (cost)</b>			
Rate of return on assets	5.6%	3.7%	5.3%
Rate of return on equity	7.0%	2.2%	6.5%
Operating profit margin	19.2%	10.5%	17.8%
Asset turnover rate	29.1%	35.0%	29.9%
<b>Profitability (market)</b>			
Rate of return on assets	4.4%	3.8%	4.3%
Rate of return on equity	5.0%	3.7%	4.8%
Operating profit margin	19.0%	17.1%	18.7%
Asset turnover rate	23.0%	22.2%	22.8%

## Average liquidity indicators by state

Liquidity is the ability of the farm business to meet financial obligations as they come due, which means the ability to generate enough cash to pay family living expenses, taxes, and make debt payments on time (Farm Finance Scorecard, 2014). Liquidity focuses on current debts, liabilities that are due within the current one year, and current assets. In 2020, higher profitability, as described on the previous page, led to improvements in liquidity as farms were able to replenish working capital. For farms in FINBIN, the average Minnesota organic farm increased working capital by \$59,286 for year-end working capital of \$118,044, and the average Wisconsin organic farm increased working capital by \$70,154 for year-end working capital of \$105,200. Combined, the average organic farm increased working capital by \$60,742, for a year-end working capital of \$116,323.

The current ratio measures the extent to which current farm assets, if sold tomorrow, would pay off current farm liabilities (Farm Finance Scorecard, 2014). The 2020 average current ratio was 1.91 for Minnesota organic farms and 2.00 for Wisconsin organic farms. These levels are considered moderate (yellow) and approaching strong (green). The combined Minnesota and Wisconsin organic farm average current ratio was 1.92, which is also moderate (yellow) and approaching strong (green).

	Minnesota	Wisconsin	Combined MN and WI Organic
<b>Number of farms</b>	84	13	97
<b>Liquidity and repayment</b>			
Current assets	247,109	210,690	242,228
Current liabilities	129,065	105,490	125,905
Current ratio	1.91	2.00	1.92
Working capital	118,044	105,200	116,323
Change in working capital	59,286	70,154	60,742
Working cap to gross income	28.6%	19.4%	27.0%
Term debt coverage ratio	1.95	1.20	1.81
Replacement coverage ratio	1.53	1.04	1.45
Term debt to EBITDA	2.80	4.75	3.05

*Note.* Reported as end of year. EBITDA is earnings before interest, taxes, depreciation, and amortization.

## Average solvency indicators by state

Solvency is the ability of the farm business to pay all its debts, current, intermediate, and long-term, using its own current, intermediate, and long-term assets; solvency helps in evaluating the financial risk and borrowing capacity of the business (Farm Finance Scorecard, 2014). For farms in FINBIN, the average Minnesota organic farm had a cost basis net worth of \$835,702, and the average Wisconsin organic farm had a cost basis net worth of \$506,559. Farm debt-to-asset ratio compares total farm debt divided by total farm assets; a higher ratio is an indicator of greater financial risk and lower borrowing capacity (Farm Finance Scorecard, 2014). The 2020 average cost basis farm debt-to-asset ratio was 45% for Minnesota organic farms and 64% for Wisconsin organic farms. Forty-five percent debt-to-asset is considered moderate (yellow) for Minnesota and 64% debt-to-asset considered vulnerable (red) for Wisconsin. The combined Minnesota and Wisconsin organic farm average current ratio was 47%, which is moderate (yellow). When measured on a market basis, the ratios are slightly improved, but still considered moderate (yellow).

	Minnesota	Wisconsin	Combined MN and WI Organic
<b>Number of farms</b>	84	13	97
<b>Solvency (cost)</b>			
Number of farms	84	13	97
Total assets	1,447,818	1,343,665	1,433,860
Total liabilities	612,116	837,105	642,269
Net worth	835,702	506,559	791,590
Net worth change	80,272	33,581	74,014
Farm debt to asset ratio	45%	64%	47%
Total debt to asset ratio	42%	62%	45%
Change earned net worth %	11%	7%	10%
<b>Solvency (market)</b>			
Number of farms	84	13	97
Total assets	1,814,363	2,119,934	1,855,316
Total liabilities	701,842	955,609	735,852
Net worth	1,112,522	1,164,325	1,119,464
Total net worth change	85,360	61,272	82,131
Farm debt to asset ratio	41%	46%	42%
Total debt to asset ratio	39%	45%	40%
Change total net worth %	8%	6%	8%

Note. Reported as end of year.

# Whole farm summary by farm size

In this section of the annual report, the whole farm summary is reported by organic farm size (number of crop acres) instead of by individual state as reported in the previous section.

On average, farms between 251 and 500 acres had the highest mean and median net farm income, as well as the strongest rates of return, a key indicator of profitability. For liquidity and solvency, on average farms of 101-250 acres saw the strongest financial ratios.

All financial indicators are described in greater detail in the following tables.

Data sources are described below.



## Data sources for organic farms, by farm size:

MN State College & University South 58 farms  
MN State College & University North 22 farms  
Wisconsin Technical College System 14 farms  
MN State College & University Red River Valley 2 farms  
Other Contributors 1 farms  
Location: Minnesota, Wisconsin  
Farm Characteristics, Year: 2020  
Special sorts included:  
Organic farm (total),  
Organic farm (partial),  
Organic transition  
Farm sorted by: Total acres

## Average organic farm characteristics by farm size

Organic farms with less than 100 acres had the lowest mean and median net farm income at \$37,703 and \$17,866, respectively. Farms between 251 and 500 acres had the highest mean and median net farm income at \$108,159 and \$95,258, respectively. This size range, on average, outperformed both smaller farms of less than 250 acres and larger farms of 501-1000 acres.

Overall, Minnesota and Wisconsin organic farms averaged \$26,962 in net nonfarm income, ranging from an average of just \$5,262 on farms with 501-1000 acres to a high of \$37,412 on farms with 101-250 acres. Family living and tax withdrawals averaged \$36,859 across all organic farms in the database, ranging from a low of \$31,675 on smaller farms of less than 100 acres to a high of \$43,898 on the largest category of farms, 501 - 1000 acres.

	MN and WI Combined	Less than 100 acres	101 - 250 acres	251 - 500 acres	501 - 1000 acres
<b>Number of farms</b>	97	19	32	27	10
<b>Income statement</b>					
Gross cash farm income	422,064	148,450	303,366	422,657	622,704
Total cash farm expense	322,033	107,517	227,463	332,740	490,904
Net cash farm income	100,031	40,933	75,903	89,917	131,800
Inventory change	16,098	7,805	11,899	45,441	12,572
Depreciation	-30,759	-10,913	-18,841	-30,259	-56,433
Net farm income from operations	85,370	37,825	68,960	105,099	87,939
Gain or loss on capital sales	-571	-123	-543	3,060	-11,146
<b>Average net farm income</b>	84,799	37,703	68,417	108,159	76,793
<b>Median net farm income</b>	60,705	17,866	57,297	95,258	75,137
<b>Nonfarm income</b>					
Personal wages & salary	17,959	29,100	25,422	13,299	1,568
Other nonfarm income	8,967	5,561	11,990	6,307	3,694
<b>Net nonfarm income</b>	26,926	34,661	37,412	19,606	5,262
<b>Nonfarm net worth</b>	152,515	95,459	220,299	121,450	77,198
<b>Nonfarm debt to asset ratio</b>	21%	20%	21%	15%	27%
<b>Family living &amp; tax withdrawals</b>	36,859	31,675	38,464	32,734	43,898

## Summary farm income statement by farm size

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

	MN and WI Combined	Less than 100 acres	101 - 250 acres	251 - 500 acres	501 - 1000 acres
<b>Number of farms</b>	97	19	32	27	10
Crop sales	123,512	31,674	47,375	94,116	250,373
Crop inventory change	16,266	3,658	8,824	24,431	27,104
Gross crop income	139,778	35,332	56,199	118,547	277,477
Livestock sales	187,636	69,941	150,929	231,065	205,993
Livestock inventory change	2,104	2,542	8,511	3,053	1,537
Gross livestock income	189,739	72,482	159,440	234,118	207,530
Government payments	47,552	15,992	33,893	48,739	68,771
Other cash farm income	63,364	30,843	71,168	48,738	97,567
Change in accounts receivable	-3,660	-2,103	1,113	-5,997	-19,109
Gain or loss on hedging accounts	-8,622	132	-1,616	505	-1,900
Change in other assets	4,421	5,169	-5,024	9,834	-1,423
Gain or loss on breeding lvst	-2,099	-2,767	-4,125	3,655	-6,925
<b>Gross farm income</b>	<b>430,473</b>	<b>155,080</b>	<b>311,050</b>	<b>458,138</b>	<b>621,988</b>
Cash operating expenses	297,755	99,862	211,110	306,676	432,928
Change in prepaids and supplies	-2,735	-1,306	-3,940	-2,355	-10,684
Change in growing crops	-157	-21	-54	-620	363
Change in accounts payable	-4,431	-26	-139	-4,642	-1,549
Depreciation	30,759	10,913	18,841	30,259	56,433
Total operating expense	321,192	109,423	225,818	329,318	477,491
Total interest expense	23,911	7,831	16,271	23,721	56,558
<b>Total expenses</b>	<b>345,103</b>	<b>117,254</b>	<b>242,089</b>	<b>353,038</b>	<b>534,049</b>
Net farm income from operations	85,370	37,825	68,960	105,099	87,939
Gain or loss on capital sales	-571	-123	-543	3,060	-11,146
<b>Net farm income</b>	<b>84,799</b>	<b>37,703</b>	<b>68,417</b>	<b>108,159</b>	<b>76,793</b>

## Average profitability indicators by farm size

For farms in FINBIN, as described previously, the farm size with the strongest profitability indicators were farms between 251 - 500 total acres. Farms between 251 and 500 acres had the highest mean and median net farm income at \$108,159 and \$95,258, respectively. The combined Minnesota and Wisconsin (i.e. overall average) mean and median net farm income was \$84,799 and \$60,705, respectively. In terms of cost-basis profitability indicators, the overall average rate of return on farm assets was 5.3%, rate of return on equity was 6.5%, and operating profit margin was 17.8%. Farms of less than 100 acres had the lowest profitability indicators, with an average rate of return on farm assets of 3.5%, rate of return on equity of 3.8%, and operating profit margin of 14.4%. These ratios indicate possible financial vulnerability. Scoring these on a red, yellow, green rating scale, these are considered yellow to red. On the other side of the range, farms of 251 - 500 acres had an average rate of return on farm assets of 6.5%, rate of return on equity of 8.7%, and operating profit margin of 19.7%, which are more solidly in the moderate category (yellow). Profitability indicators when measured on a market basis were slightly lower in general, but still mostly in the moderate category. Farms over 500 acres, however, had rate of return percentages on a market basis that indicate vulnerability (red).

Asset turnover ratios generally were in the vulnerable range (red) when measured by both market and cost basis. Farms over 250 acres moved out of vulnerable and slipped into the moderate category (yellow) for asset-turnover by breaking 30% when measured on a cost basis.

	MN and WI Combined	Less than 100 acres	101 - 250 acres	251 - 500 acres	501 - 1000 acres
<b>Number of farms</b>	97	19	32	27	10
<b>Profitability (cost)</b>					
Rate of return on assets	5.3%	3.5%	5.2%	6.5%	4.7%
Rate of return on equity	6.5%	3.8%	6.4%	8.7%	4.1%
Operating profit margin	17.8%	14.4%	22.3%	19.7%	13.9%
Asset turnover rate	29.9%	24.2%	23.3%	32.8%	33.9%
<b>Profitability (market)</b>					
Rate of return on assets	4.3%	3.4%	3.9%	4.9%	3.4%
Rate of return on equity	4.8%	3.7%	4.4%	5.9%	2.3%
Operating profit margin	18.7%	17.2%	22.5%	20.0%	14.9%
Asset turnover rate	22.8%	19.9%	17.4%	24.5%	22.8%

## Average liquidity indicators by farm size

For organic Minnesota and Wisconsin farms in FINBIN, farms of all sizes increased working capital, but the increase in working capital varied substantially depending on farm size. Smaller farms had the smallest change in working capital and larger farmers had the largest. Farms less than 100 acres increased \$8,923 to total year end working capital of \$36,356, while farms of 501-1000 acres increased \$124,206 to total year end working capital \$116,789. Farms 251-500 acres changed their working capital less than larger farms, at an increase of \$94,484, but this farm size range had the largest total working capital at year-end, with an average of \$141,594. The 2020 average current ratios were moderate when under 2.00 (yellow), to strong when over 2.00 (green). Farms 101 - 250 acres had the strongest current ratio at 2.57 (green), with farms 251 - 500 acres considered to be strong at 2.23. The average current ratio of Minnesota and Wisconsin organic farms across all sizes was 1.92, which is moderate (yellow).

	MN and WI Combined	Less than 100 acres	101 - 250 acres	251 - 500 acres	501 - 1000 acres
<b>Number of farms</b>	97	19	32	27	10
<b>Liquidity and repayment</b>					
Current assets	242,228	80,826	181,493	256,500	331,379
Current liabilities	125,905	44,470	70,518	114,906	214,590
Current ratio	1.92	1.82	2.57	2.23	1.54
Working capital	116,323	36,356	110,975	141,594	116,789
Change in working capital	60,742	8,923	38,413	94,484	124,206
Working cap to gross inc.	27.0%	23.4%	35.7%	30.9%	18.8%
Term debt coverage ratio	1.81	2.16	2.25	1.80	1.15
Replacement coverage	1.45	1.77	1.58	1.51	0.96
Term debt to EBITDA	3.05	2.88	3.56	2.58	4.02

Note. Reported as end of year.

## Average solvency indicators by farm size

Total assets and total liabilities tracked with farm size; unsurprisingly, smaller farms had fewer total assets than larger farms. Similarly, smaller farms had fewer total liabilities compared to larger farmers. However, the magnitude of liabilities was not equal across farm size categories, meaning when farm debt-to-asset ratios were analyzed, farms 101-250 acres lead with the lowest percentages, 41% for cost basis and 37% for market basis. This is considered moderate (yellow). In contrast the largest category of farms, 501-1000 acres had the highest average farm debt-to-asset ratio of 67% for cost basis and 51% for market basis. The cost basis ratio is considered vulnerable (red), while the market basis is considered moderate (yellow). Across the board, as expected, market basis ratios were improved compared to cost basis ratios, including the average for the 501-1000 acres category. All averages are considered moderate (yellow) using market-based valuation. All farm size categories also saw a positive improve in net worth during 2020.

	MN and WI Combined	Less than 100 acres	101 - 250 acres	251 - 500 acres	501 - 1000 acres
<b>Number of farms</b>	97	19	32	27	10
<b>Solvency (cost)</b>					
Number of farms	97	19	32	27	10
Total assets	1,433,860	650,809	1,304,777	1,370,753	1,774,704
Total liabilities	642,269	313,563	501,803	622,987	1,177,001
Net worth	791,590	337,247	802,973	747,767	597,703
Net worth change	74,014	37,903	75,926	85,680	23,735
Farm debt to asset ratio	47%	50%	41%	48%	67%
Total debt to asset ratio	45%	48%	38%	45%	66%
Change in earned net worth %	10%	13%	10%	13%	4%
<b>Solvency (market)</b>					
Number of farms	97	19	32	27	10
Total assets	1,855,316	819,747	1,707,987	1,808,140	2,609,628
Total liabilities	735,852	335,982	587,503	721,843	1,308,325
Net worth	1,119,464	483,765	1,120,484	1,086,297	1,301,302
Total net worth change	82,131	48,147	78,867	96,818	29,754
Farm debt to asset ratio	42%	44%	37%	42%	51%
Total debt to asset ratio	40%	41%	34%	40%	50%
Change in total net worth %	8%	11%	8%	10%	2%

Note. Reported as end of year.

## Operator and labor information by farm size

The average age of the farmers participating in this project is 45.1 years old; they have been farming for an average of 18.7 years. On average, younger farmers tended to be farming fewer acres and farming for shorter number of years. Smaller farms had rented acres as lower percentages of their total crop production, as compared to larger farms. Total labor hours per farm averaged 3,682 hours, with the average number of hours tracking from lowest to highest hours based on smallest to largest farm size categories. Twenty-one out of 97 total farms were formally organized as partnerships or LLCs, with the largest percentage of farms organized as business entities (33% or 9 out of 27) occurring in farms sized between 251-500 acres.

	MN and WI Combined	Less than 100 acres	101 - 250 acres	251 - 500 acres	501 - 1000 acres
<b>Number of farms</b>	97	19	32	27	10
<b>Operator Information</b>					
Average number of operators	1.4	1.3	1.2	1.6	1.3
Average age of operators	45.1	41.7	42.5	48.1	46.8
Average number of years farming	18.7	9.6	16.5	21.5	23.3
Total acres owned	114.1	47.1	105.1	79.7	209.6
Total crop acres	246.2	19.0	153.1	219.1	483.7
Crop acres owned	70.5	12.2	73.0	52.2	150.2
Crop acres cash rented	170.9	6.8	74.7	161.0	331.0
Crop acres share rented	4.9	-	5.4	5.9	2.5
Total pasture acres	33.0	6.2	24.8	53.2	52.0
<b>Labor Analysis</b>					
Number of farms	97	19	32	27	10
Total unpaid labor hours	2,043	1,742	1,879	2,475	1,522
Total hired labor hours	1,640	187	784	1,904	4,051
Total labor hours per farm	3,682	1,929	2,663	4,379	5,573
Unpaid hours per operator	1,508	1,324	1,566	1,554	1,171
Value of farm production / hour	100.57	66.02	91.76	89.27	101.67
Net farm income / unpaid hour	41.80	21.71	36.71	42.47	57.78
Average hourly hired labor wage	16.37	15.72	11.95	15.48	16.33
<b>Partnerships &amp; LLCs</b>					
Number of farms	21	4	3	9	2

## Crop farm summary by farm size

This section looks at the financial and production information of organic farms producing commodity crops. Each table is organized with columns representing the combined Wisconsin and Minnesota organic crop farms participating in FINBIN and an “all farm” comparison sample. The “all farm” sample consists of any farm in Minnesota and Wisconsin submitting data to FINBIN. The vast majority of the “all farms” comparison group identify as conventional, i.e. non-organic. There is a notable difference in number of farms identified as organic versus “all farms.” Therefore, while some base comparisons may be made between the groups, caution must be taken in over-generalizing profitability and production characteristics between the organic and “all farm” categories. Looking beyond the differences in size of sample, the unusual nature of 2020, including, but not limited to, highly fluctuating commodity prices and larger than normal government payments, adds extra complexity to making data comparisons across organic and non-organic farm categories.

First, a combined crop farm analysis is shown, with data representing the income statement and profitability indicators; the cash flow and liquidity indicators; and lastly, the balance sheet and solvency indicators. Then, individual enterprise analyses are reported. The enterprise analyses begin with corn and are followed by corn silage, soybeans, and alfalfa hay. FINBIN lacked enough participating organic farms with wheat and other small grains enterprises. Recall, at least ten farms per column was required for table inclusion in this annual report, so some tables will have farm acres size categories omitted.

All columns reported by number of crop acres. Specific enterprise analysis sources reported after each table, respectively. General data sources for this section provided in the chart below.

Data sources for organic farms:	Data sources for “all farms” comparison sample:
MN State College & University South 32 farms MN State College & University North 8 farms Wisconsin Technical College System 4 farms MN State College & University Red River Valley 2 farms Location: Minnesota, Wisconsin Year: 2020 Farm type: Crop, 31 farms Crop and Dairy, 5 farms Crop and Hog, 1 farm Crop and Beef, 8 farm Crop and Sheep, 1 farm Special sorts included: Organic Farm (total) Organic farm (partial) Organic transition	MN State College & University South 974 farms  MN State College & University North 302 farms  MN State College & University Red River Valley 117 farms Southwest Minnesota Farm Business Management Association 75 farms Wisconsin Technical College System 33 farms Other Contributors 20 farms Location: Minnesota, Wisconsin Year: 2020 Farm type: Crop Crop and Dairy Crop and Hog Crop and Beef Crop and Sheep

## Average crop farm characteristics by size

Sample is MN and WI Combined	Organic, 101-250 acres	All farms, 101-250 acres	Organic, 251-500 acres	All farms, 251-500 acres	Organic farm, overall mean	All farms, overall mean
<b>Number of farms</b>	13	175	12	306	46	1,521
<b>Income Statement</b>						
Gross cash farm income	143,370	124,851	302,829	287,620	363,882	725,017
Total cash farm expense	119,213	107,737	243,852	232,508	282,214	602,663
Net cash farm income	24,157	17,114	58,977	55,112	81,668	122,353
Inventory change	-6,876	20,513	67,481	37,216	11,427	87,219
Depreciation	-4,630	-8,227	-13,475	-19,713	-21,443	-50,159
Net farm income from operations	12,651	29,399	112,983	72,614	71,652	159,413
Gain or loss on capital sales	-148	3,368	6,815	4,340	-871	4,264
Average net farm income	12,503	32,767	119,798	76,954	70,781	163,678
Median net farm income	13,361	27,771	97,096	70,409	54,946	107,543
<b>Nonfarm information</b>						
Net nonfarm income	53,521	67,147	28,634	53,759	37,303	49,439
<b>Crop Acres</b>						
Total crop acres	176	172	359	367	397	994
Total crop acres owned	92	73	47	110	102	231
Total crop acres cash rented	68	92	291	249	281	745
Total crop acres share rented	16	6	21	8	13	18
Machinery value per crop acre	811	705	674	695	738	598

## Average crop farm profitability indicators by size

Sample is MN and WI Combined	Organic, 101-250 acres	All farms, 101-250 acres	Organic, 251-500 acres	All farms, 251-500 acres	Organic farms, overall mean	All farms, overall mean
<b>Number of farms</b>	13	175	12	306	46	1,521
<b>Profitability (cost)</b>						
Rate of return on assets	1.6%	4.1%	9.4%	6.7%	5.1%	7.0%
Rate of return on equity	-0.7%	4.6%	12.2%	9.3%	5.7%	9.4%
Operating profit margin	8.6%	17.9%	26.8%	20.0%	17.5%	19.0%
Asset turnover rate	19.0%	23.0%	35.1%	33.5%	29.0%	36.6%
<b>Profitability (market)</b>						
Rate of return on assets	0.1%	2.9%	6.3%	4.9%	3.7%	5.5%
Rate of return on equity	-2.1%	2.8%	7.7%	6.3%	3.7%	7.5%
Operating profit margin	1.0%	17.1%	21.3%	21.1%	16.8%	20.0%
Asset turnover rate	13.2%	17.0%	29.3%	23.2%	22.2%	27.7%

## Crop farm statement of cash flows and liquidity by size

Sample is MN and WI Combined	Organic, 101-250	All farm, 101-250	Organic, 251-500	All farm, 251-500	Organic farms, overall mean	All farms, overall mean
<b>Number of farms</b>	13	175	12	306	46	1,521
Beginning cash (farm & nonfarm)	40,199	36,316	27,960	40,556	30,144	57,898
<b>Cash provided by operating activities</b>						
Gross cash farm income	143,370	124,851	302,829	287,620	363,882	725,017
Total cash farm expense	-119,213	-107,737	-243,852	-232,508	-282,214	-602,663
Net cash from hedging transactions	-3,853	-677	974	-400	-15,201	-5,954
Cash provided by operating	20,304	16,437	59,951	54,712	66,467	116,400
<b>Cash provided by investing activities</b>						
Sale of breeding livestock	-	156	1,615	1,394	7,263	923
Sale of machinery & equipment	4,734	1,977	5,792	4,100	13,066	19,838
Sale of titled vehicles	269	726	-	731	360	1,297
Sale of farmland	-	4,457	10,417	7,158	15,761	12,456
Sale of farm buildings	-	-	-	2,082	-	2,412
Sale of other farm assets	-	510	-	735	422	1,577
Sale of nonfarm assets	6,623	9,007	8,792	10,499	5,040	9,175
Purchase of breeding livestock	-3,050	-1,253	-2,611	-1,148	-3,735	-1,190
Purchase of machinery & equip.	-10,709	-11,342	-37,280	-26,102	-35,465	-78,364
Purchase of titled vehicles	-577	-4,510	-77	-7,476	-2,212	-8,408
Purchase of farmland	-22,308	-52,165	-52,750	-42,088	-50,002	-51,468
Purchase of farm buildings	-879	-6,161	-16,592	-15,205	-9,641	-22,847
Purchase of other farm assets	-	-22,398	-4,703	-2,038	-1,587	-5,455
Purchase of nonfarm assets	-4,977	-20,192	-5,575	-14,479	-29,181	-20,085

<b>Sample is MN and WI Combined</b>	<b>Organic, 101-250</b>	<b>All farm, 101-250</b>	<b>Organic, 251-500</b>	<b>All farm, 251-500</b>	<b>Organic farms, overall mean</b>	<b>All farms, overall mean</b>
Cash provided by investing	-30,873	-101,188	-92,974	-81,838	-89,915	-140,139
<b>Cash provided by financing activities</b>						
Money borrowed	82,645	129,861	225,727	190,278	338,440	520,115
Principal payments	-80,197	-81,400	-170,442	-159,397	-292,615	-474,353
Personal income	53,521	67,147	28,634	53,759	37,303	49,439
Family living/owner withdrawals	-35,105	-42,357	-46,351	-44,540	-46,557	-57,210
Income and social security tax	-2,432	-4,921	-4,876	-6,873	-4,696	-10,044
Capital contributions	-	529	1,655	1,375	1,171	4,136
Capital distributions	-73	-106	-	-1,117	-21	-6718
Dividends paid	-	-	-	-	-	-
Cash gifts and inheritances	2,731	27,252	15,500	6,029	5,336	10,300
Gifts given	-9	-78	-2,335	-203	-2,716	-839
Other cash flows	-	-	-	-	-	-
Cash provided by financing	21,080	95,926	47,513	39,312	35,646	34,825
<b>Net change in cash balance</b>	<b>10,511</b>	<b>11,175</b>	<b>14,490</b>	<b>12,186</b>	<b>12,199</b>	<b>11,085</b>
<b>Ending cash (farm &amp; nonfarm)</b>	<b>50,714</b>	<b>47,487</b>	<b>42,339</b>	<b>52,725</b>	<b>42,348</b>	<b>68,978</b>
Discrepancy	-4	5	111	16	-6	6

## Crop farm balance sheet and solvency (market value) by size

Sample is MN and WI Combined	Organic, 101-250 acres	All farms, 101-250 acres	Organic, 251-500 acres	All farms, 251-500 acres	Organic farm, overall mean	All farms, overall mean
<b>Number of farms</b>	13	175	12	306	46	1,521
<b>Assets</b>						
<b>Current Farm Assets</b>						
Cash and checking balance	25,960	25,219	40,135	35,141	27,685	51,132
Prepaid expenses & supplies	7,118	13,636	21,262	30,872	20,765	79,784
Growing crops	556	221	7,060	493	2,139	672
Accounts receivable	5,824	5,563	6,858	10,146	9,896	30,683
Hedging accounts	775	625	213	638	580	5,520
Crops held for sale or feed	47,734	69,034	128,033	155,990	171,644	455,055
Market livestock held for sale	26,540	11,384	32,346	13,129	22,818	26,292
Other current assets	1,740	1,107	24,356	4,657	9,949	5,934
<b>Total current farm assets</b>	<b>116,248</b>	<b>126,788</b>	<b>260,263</b>	<b>251,066</b>	<b>265,475</b>	<b>655,071</b>
<b>Intermediate farm assets</b>						
Breeding livestock	32,710	12,027	64,560	19,327	51,071	20,754
Machinery and equipment	128,697	105,108	227,581	232,097	273,464	573,018
Titled vehicles	14,645	20,195	23,261	31,582	23,939	51,773
Other intermediate assets	6	9,463	57	13,699	26,341	68,071
<b>Total intermediate farm assets</b>	<b>176,060</b>	<b>146,793</b>	<b>315,458</b>	<b>296,705</b>	<b>374,815</b>	<b>713,616</b>
<b>Long term farm assets</b>						
Farmland	540,570	456,404	524,776	645,929	73,8636	1,135,049
Buildings and improvements	105,367	68,969	105,548	143,049	168,759	294,580
Other long-term assets	2,428	38,659	16,334	18,231	56,868	54,311
<b>Total long-term farm assets</b>	<b>648,365</b>	<b>564,032</b>	<b>646,659</b>	<b>807,210</b>	<b>964,263</b>	<b>1,483,940</b>
<b>Total farm assets</b>	<b>940,672</b>	<b>837,613</b>	<b>1,222,380</b>	<b>1,354,981</b>	<b>1,604,554</b>	<b>2,852,627</b>
<b>Total nonfarm assets</b>	<b>179,142</b>	<b>265,261</b>	<b>184,117</b>	<b>323,803</b>	<b>215,221</b>	<b>391,880</b>
<b>Total assets</b>	<b>1,119,814</b>	<b>1,102,873</b>	<b>1,406,497</b>	<b>1,678,784</b>	<b>1,819,774</b>	<b>3,244,508</b>

Sample is MN and WI Combined	Organic, 101-250	All farm, 101-250	Organic, 251-500	All farm, 251-500	Organic farm, overall mean	All farm, overall mean
<b>Liabilities</b>						
Current Farm Liabilities						
Accrued interest	5,230	3,459	3,258	4,607	5,764	11,630
Accounts payable	459	2,263	1,825	8,733	5,866	20,350
Current notes	45,816	32,512	73,113	79,277	103,645	253,296
Principal due on term debt	12,897	14,817	23,252	25,935	32,426	55,369
<b>Total current farm liabilities</b>	<b>64,401</b>	<b>53,051</b>	<b>101,448</b>	<b>118,551</b>	<b>147,701</b>	<b>340,645</b>
Total intermediate farm liabilities	29,316	25,754	36,379	44,680	83,000	118,494
Total long term farm liabilities	241,137	222,843	238,055	295,312	376,644	504,181
<b>Total farm liabilities</b>	<b>334,854</b>	<b>301,647</b>	<b>375,881</b>	<b>458,543</b>	<b>607,346</b>	<b>963,320</b>
Total nonfarm liabilities	46,997	54,988	13,837	43,228	45,844	53,789
Total liabilities excluding deferreds	381,851	356,635	389,719	501,770	653,190	1,017,109
Total deferred liabilities	59,005	63,269	72,783	147,569	97,551	313,365
<b>Total liabilities</b>	<b>440,856</b>	<b>419,904</b>	<b>462,501</b>	<b>649,340</b>	<b>750,741</b>	<b>1,330,474</b>
Retained earnings	381,399	483,485	803,420	690,182	743,167	1,442,252
Market valuation equity	297,559	199,485	140,576	339,263	325,866	471,782
Net worth (farm and nonfarm)	678,959	682,970	943,996	1,029,444	1,069,033	1,914,034
Net worth excluding deferreds	737,963	746,238	1,016,779	1,177,014	1,166,584	2,227,399
<b>Net worth change</b>	<b>14,733</b>	<b>92,470</b>	<b>125,748</b>	<b>109,099</b>	<b>69,300</b>	<b>181,672</b>
<b>Percent net worth change</b>	<b>2%</b>	<b>16%</b>	<b>15%</b>	<b>12%</b>	<b>7%</b>	<b>10%</b>
<b>Solvency (end of year at market)</b>						
Current farm liabilities/assets	55%	42%	39%	47%	56%	52%
Intermediate farm liabilities/assets	17%	18%	12%	15%	22%	17%
Long term farm liabilities/assets	37%	40%	37%	37%	39%	34%
Total debt to asset ratio	39%	38%	33%	39%	41%	41%
Debt to assets excluding deferreds	34%	32%	28%	30%	36%	31%

## Crop enterprise analysis, corn by size

Sample is MN and WI Combined	Organic, less than 50 acres	All farms, less than 50 acres	Organic, 51-100 acres	All farms, 51-100 acres	Organic, 101-250 acres	All farms, 101-250 acres	Organic farms, overall mean	All farms, overall mean
<b>Number of farms</b>	18	153	15	201	15	478	53	1,615
<b>Acres</b>	30.31	31.69	71.82	75.49	132.66	172.14	103.40	386.12
Yield per acre (bu.)	118.34	181.31	130.31	187.01	119.34	189.75	132.23	200.19
Operators share of yield %	100.00	99.71	92.92	99.01	100.00	99.33	98.63	99.29
Value per bu.	7.03	3.91	7.26	3.90	7.14	3.99	7.44	4.04
Other product return per acre	1.65	10.14	16.15	5.75	-	2.59	3.34	1.24
Total product return per acre	833.23	716.76	895.19	728.44	851.82	754.24	973.19	804.80
Hedging gains/losses per acre	-	-	-	0.23	-	0.20	-	-2.80
Crop insurance per acre	44.74	8.24	8.94	5.24	137.58	7.34	68.20	6.80
Other crop income per acre	37.79	42.11	45.15	41.64	31.00	47.69	43.07	49.17
Gross return per acre	915.76	767.12	949.29	775.56	1020.40	809.47	1084.46	857.97
<b>Direct expenses</b>								
Seed	103.78	101.28	90.88	103.81	80.33	102.90	86.81	104.09
Fertilizer	79.14	103.86	97.30	106.15	147.92	114.80	131.47	122.87
Crop chemicals	-	36.16	-	34.83	-	35.53	-	35.30
Non-chemical crop protect	2.20	-	10.38	-	2.72	-	11.18	-
Cover crop expense	-	0.38	1.08	0.33	3.28	0.75	2.31	0.35
Crop insurance	17.90	14.36	12.28	16.53	21.25	18.08	19.5	20.15
Drying expense	12.72	7.93	5.67	9.04	4.34	10.1	7.05	11.61
Storage	2.81	2.61	0.31	1.80	-	1.60	0.34	1.51
Packaging and supplies	0.91	1.51	-	0.81	0.07	0.22	0.12	0.19
Fuel & oil	58.53	20.91	33.59	20.35	28.01	20.03	33.36	21.21
Repairs	54.83	45.67	52.05	46.06	47.12	49.33	49.59	49.00
Custom hire	28.87	42.81	20.82	34.54	23.57	23.07	24.24	14.27
Hired labor	1.75	1.72	12.16	1.24	13.05	1.40	8.74	3.95
Land rent	73.92	75.10	110.97	89.04	129.40	117.54	149.8	149.00

	Organic, less than 50 acres	All farms, less than 50 acres	Organic, 51-100 acres	All farms, 51-100 acres	Organic, 101-250 acres	All farms, 101-250 acres	Organic farms, overall mean	All farms, overall mean
Machinery leases	5.20	2.38	2.20	3.03	17.55	4.48	7.32	3.93
Utilities	16.21	2.25	1.16	1.26	1.58	1.38	2.42	1.29
Hauling and trucking	5.82	2.13	1.48	3.18	2.52	1.71	4.97	1.83
Marketing	0.13	1.52	1.29	1.42	0.20	1.76	0.34	1.78
Organic certification	10.22		5.24		3.95		4.17	
Operating interest	14.23	8.21	10.06	8.58	10.42	11.23	12.17	13.13
Miscellaneous	7.80	2.26	3.58	2.41	2.34	2.39	2.55	2.81
Total direct expenses per acre	496.97	473.05	472.50	484.40	539.62	518.30	558.46	558.25
Return over direct exp per acre	418.79	294.06	476.79	291.15	480.79	291.16	526.00	299.72
<b>Overhead expenses</b>								
Hired labor	6.31	5.22	1.26	6.79	2.79	8.12	10.5	12.64
Machinery leases	0.00	3.89	12.08	4.96	3.84	3.57	3.82	3.69
Building leases	2.40	0.39	0.24	1.26	1.31	0.71	0.76	1.24
RE & pers. property taxes	13.80	12.46	4.06	10.82	7.39	8.78	5.62	7.91
Farm insurance	25.09	10.76	7.62	12.01	4.81	10.96	9.62	10.44
Utilities	9.87	6.81	3.68	6.64	2.46	6.64	3.62	5.63
Dues & professional fees	13.63	8.00	5.26	7.89	6.50	5.80	5.33	4.69
Interest	43.2	46.61	20.94	44.86	32.87	26.06	24.27	23.06
Mach & bldg depreciation	32.8	41.63	58.77	41.16	40.97	43.51	45.94	51.18
Miscellaneous	14.06	12.07	11.00	10.59	7.23	9.14	9.15	7.96
Total overhead expenses per acre	161.16	147.84	124.90	146.98	110.17	123.29	118.62	128.43
Total dir & ovhd expenses per acre	658.13	620.89	597.40	631.38	649.78	641.60	677.08	686.69
<b>Net return per acre</b>	257.63	146.23	351.89	144.18	370.62	167.87	407.38	171.28
Government payments	25.99	34.20	21.68	27.91	18.74	33.55	29.04	32.88
Net return with govt pmts	283.62	180.43	373.57	172.09	389.36	201.42	436.42	204.16

	Organic, less than 50 acres	All farms, less than 50 acres	Organic, 51-100 acres	All farms, 51-100 acres	Organic, 101-250 acres	All farms, 101-250 acres	Organic farms, overall mean	All farms, overall mean
Labor & management charge	117.10	63.56	66.13	60.02	68.06	61.04	79.6	50.49
<b>Net return over lbr &amp; mgt</b>	166.53	116.87	307.44	112.07	321.3	140.38	356.83	153.68
<b>Cost of Production</b>								
Total direct expense per bu.	4.20	2.62	3.90	2.62	4.52	2.75	4.28	2.81
Total dir & ovhd exp per bu.	5.56	3.43	4.93	3.41	5.44	3.40	5.19	3.45
Less govt & other income	4.63	2.91	4.17	2.97	3.88	2.92	4.09	3.02
With labor & management	5.62	3.26	4.72	3.30	4.45	3.24	4.70	3.27
Net value per unit	7.03	3.91	7.26	3.90	7.14	3.99	7.44	4.03
Machinery cost per acre	189.94	156.56	182.25	151.03	162.44	142.62	164.85	140.93
Est. labor hours per acre	8.58	3.95	4.06	3.52	4.31	3.27	4.58	2.62

<b>Data sources for organic corn farms:</b>	<b>Data sources for corn “all farms” comparison sample:</b>
MN State College & University South 35 farms MN State College & University North 9 farms Wisconsin Technical College System 8 farms MN State College & University Red River Valley 1 farms Location: Minnesota, Wisconsin Year: 2020 Enterprise: Corn, Organic	MN State College & University South 1096 farms MN State College & University North 288 farms Southwest Minnesota Farm Business Management Association 95 farms MN State College & University Red River Valley 57 farms Wisconsin Technical College System 39 farms Other Contributors 37 farms Location: Minnesota, Wisconsin Year: 2020 Enterprise: Corn Farm Types: All

## Crop enterprise analysis, corn silage by size

Sample is MN and WI Combined	Organic, less than 50 acres	All farms, less than 50 acres	Organic farms, overall mean	All farms, overall mean
Number of farms	18	172	23	429
Acres	26.25	28.15	43.76	120.90
Yield per acre (ton)	16.29	22.14	15.54	22.75
Operators share of yield %	100.00	100.00	100.00	99.77
Value per ton	69.19	36.14	66.96	36.16
Total product return per acre	1,127.41	799.96	1,040.84	820.92
		0.07		-0.42
Crop insurance per acre	19.38	0.96	9.10	4.50
Other crop income per acre	26.77	44.51	39.05	36.85
<b>Gross return per acre</b>	<b>1,173.56</b>	<b>845.5</b>	<b>1,088.98</b>	<b>861.86</b>
<b>Direct expenses</b>				
Seed	88.91	98.82	97.22	101.35
Fertilizer	108.44	90.70	71.03	95.90
Crop chemicals		33.16		38.40
Non-chemical crop protect	0.55		1.15	
Cover crop expense		1.28		1.63
Crop insurance	15.91	14.16	12.45	15.74
Storage	-	0.89	1.52	1.57
Packaging and supplies	6.54	8.30	5.47	9.11
Fuel & oil	31.48	25.95	35.53	28.36
Repairs	59.13	61.28	90.03	61.76
Custom hire	56.46	66.68	51.16	71.64
Hired labor	6.56	1.12	20.54	5.54
Land rent	76.12	74.71	60.55	105.01
Machinery leases	4.84	2.78	2.27	1.98
Utilities	0.67	0.93	1.28	0.62
Hauling and trucking	-	0.51	0.49	2.07
Organic certification	4.35		3.32	
Operating interest	9.14	9.98	8.35	6.36
Miscellaneous	3.86	3.48	9.92	5.84
Total direct expenses per acre	472.94	494.74	472.28	552.87
Return over direct exp per acre	700.61	350.75	616.7	308.99
				<i>Cont. on next page.</i>

	Organic, less than 50 acres	All farms, less than 50 acres	Organic farms, overall mean	All farms, overall mean
<b>Overhead expenses</b>				
Hired labor	11.75	11.36	7.83	20.87
Building leases	0.58	2.22	0.27	3.25
Building leases		0.51		1.08
RE & pers. property taxes	9.76	11.37	11.20	7.92
Farm insurance	10.01	11.60	8.46	9.90
Utilities	6.68	6.75	3.79	5.23
Dues & professional fees	4.31	4.51	2.93	3.91
Interest	28.32	43.22	61.85	38.27
Mach & bldg depreciation	50.94	56.59	76.02	48.60
Miscellaneous	16.34	8.61	10.82	7.79
Total overhead expenses per acre	138.68	156.73	183.16	146.83
Total dir & ovhd expenses per acre	611.63	651.48	655.44	699.70
<b>Net return per acre</b>	<b>561.93</b>	<b>194.02</b>	<b>433.54</b>	<b>162.16</b>
Government payments	32.75	38.18	36.36	40.15
Net return with govt pmts	594.68	232.20	469.90	202.31
Labor & management charge	85.96	50.19	90.59	42.44
<b>Net return over lbr &amp; mgt</b>	<b>508.72</b>	<b>182.01</b>	<b>379.31</b>	<b>159.87</b>
<b>Cost of Production</b>				
Total direct expense per ton	29.03	22.35	30.38	24.36
Total dir & ovhd exp per ton	37.54	29.43	42.17	30.82
Less govt & other income	32.69	25.65	36.73	27.25
With labor & management	37.97	27.92	42.56	29.12
Net value per unit	69.19	36.14	66.96	36.15
Machinery cost per acre	209.44	215.94	263.90	217.69
Est. labor hours per acre	5.71	4.44	4.94	4.07

<b>Data sources for organic corn silage farms:</b>	<b>Data sources for corn silage “all farms” comparison sample:</b>
MN State College & University South 9 farms MN State College & University North 8 farms Wisconsin Technical College System 6 farms Location, Minnesota and Wisconsin Year: 2020 Enterprise: Corn Silage, Organic	MN State College & University South 193 farms MN State College & University North 171 farms Wisconsin Technical College System 37 farms Southwest Minnesota Farm Business Management Association 18 farms Other Contributors 7 farms MN State College & University Red River Valley 3 farms Location, Minnesota Wisconsin Year: 2020 Enterprise: Corn Silage Farm Types: All

## Crop enterprise analysis, soybeans by size

Sample is MN and WI Combined	Organic, less than 50 acres	All farms, less than 50 acres	Organic farms, overall mean	All farms, overall mean
<b>Number of farms</b>	10	94	23	1,452
<b>Acres</b>	34.98	32.77	103.87	399.87
Yield per acre (bu.)	36.14	54.12	32.93	53.06
Operators share of yield %	100.00	99.18	98.71	99.18
Value per bu.	19.38	9.99	20.29	10.29
Other product return per acre	-	1	-	0.04
Total product return per acre	700.51	537.05	659.66	541.50
Hedging gains/losses per acre	-	0.27	-	-3.03
Crop insurance per acre	36.41	2.04	54.65	9.84
Other crop income per acre	68.29	43.36	44.76	37.86
Gross return per acre	805.2	582.71	759.08	586.17
<b>Direct expenses</b>				
Seed	59.69	53.36	56.23	53.03
Fertilizer	31.54	20.01	28.89	20.57
Crop chemicals	-	41.86	-	42.79
Non-chemical crop protect	43.09		9.00	
Cover crop expense	1.71	0.73	3.28	0.23
Crop insurance	13.59	14.69	25.77	17.96
Storage	1.75	0.58	0.26	0.61
Fuel & oil	16.70	12.27	21.97	13.55
Repairs	29.47	28.13	39.61	30.92
Custom hire	36.77	30.96	24.64	9.27
Hired labor	15.55	2.70	15.07	2.48
Land rent	84.27	94.07	118.40	133.01
Machinery leases	0.65	5.39	0.13	3.63
Utilities	0.65	0.93	1.68	0.65
Hauling and trucking	1.84	2.69	4.29	0.87
Marketing	0.37	1.65	0.18	1.38
Organic certification	6.26		3.51	
Operating interest	7.14	5.08	6.84	8.00
Miscellaneous	5.24	2.57	3.37	2.30
Total direct expenses per acre	356.28	317.66	363.12	341.25

	Organic, less than 50 acres	All farms, less than 50 acres	Organic farms, overall mean	All farms, overall mean
Return over direct exp per acre	448.92	265.05	395.95	244.91
Overhead expenses				
Hired labor	0.08	2.87	12.35	8.23
Machinery leases	0.00	3.22	4.01	2.79
Building leases	0.88	0.09	0.21	0.80
RE & pers. property taxes	23.06	10.28	7.76	7.07
Farm insurance	10.11	7.26	6.47	7.05
Utilities	3.11	4.66	4.51	3.81
Dues & professional fees	7.51	4.21	5.10	3.13
Interest	120.85	22.55	25.45	18.09
Mach & bldg depreciation	27.09	25.56	31.95	31.98
Miscellaneous	5.37	7.28	4.02	4.78
Total overhead expenses per acre	198.05	87.99	101.83	87.73
Total dir & ovhd expenses per acre	554.33	405.65	464.95	428.98
<b>Net return per acre</b>	<b>250.87</b>	<b>177.06</b>	<b>294.12</b>	<b>157.19</b>
Government payments	33.3	24.43	19.66	29.55
Net return with govt pmts	284.17	201.49	313.78	186.74
Labor & management charge	53.48	39.81	59.92	33.81
<b>Net return over lbr &amp; mgt</b>	<b>230.69</b>	<b>161.67</b>	<b>253.86</b>	<b>152.93</b>
<b>Cost of Production</b>				
Total direct expense per bu.	9.86	5.92	11.17	6.49
Total dir & ovhd exp per bu.	15.34	7.56	14.30	8.15
Less govt & other income	11.52	6.23	10.64	6.74
With labor & management	13.00	6.97	12.48	7.38
Net value per unit	19.38	9.99	20.29	10.23
Machinery cost per acre	123.90	104.58	123.65	91.16
Est. labor hours per acre	4.13	2.15	2.97	1.66

**Data sources for organic soybean farms:**

MN State College & University South 16 farms  
Wisconsin Technical College System 4 farms  
MN State College & University North 2 farms  
MN State College & University Red River Valley 1 farms  
Location, Minnesota and Wisconsin  
Year: 2020  
Enterprise: Soybean, Organic

**Data sources for soybean “all farms” comparison sample:**

MN State College & University South 951 farms  
MN State College & University North 271 farms  
Southwest Minnesota Farm Business Management Association 94 farms  
MN State College & University Red River Valley 86 farms  
Other Contributors 31 farms  
Wisconsin Technical College System 19 farms  
Location, Minnesota Wisconsin  
Year: 2020  
Enterprise: Soybean  
Farm Types: All

## Crop enterprise analysis, alfalfa hay by size

Sample is MN and WI Combined	Organic, 101-250 acres	All farms, 101-250 acres	Organic farms, overall mean	All farms, overall mean
Number of farms	10	118	30	374
Acres	160.84	151.79	124.09	108.29
Yield per acre (ton)	4.22	4.59	3.53	4.63
Operators share of yield %	93.29	100.00	96.24	99.96
Value per ton	212.00	144.21	194.3	147.88
Total product return per acre	835.28	662.62	659.27	684.77
Crop insurance per acre	22.31	2.19	11.74	2.08
Other crop income per acre	18.03	21.97	16.10	21.74
<b>Gross return per acre</b>	<b>875.62</b>	<b>686.78</b>	<b>687.10</b>	<b>708.58</b>
<b>Direct expenses</b>				
Seed	6.82	1.53	3.22	1.89
Fertilizer	41.82	48.56	29.99	55.74
Crop chemicals	-	8.16	-	8.21
Crop insurance	1.33	2.62	0.87	3.57
Storage	-	0.37	-	0.91
Packaging and supplies	4.74	8.00	6.19	7.75
Fuel & oil	27.81	24.38	26.84	23.97
Repairs	63.95	65.41	50.86	59.98
Custom hire	25.51	39.85	28.07	37.03
Hired labor	16.96	4.39	7.51	3.93
Land rent	108.05	89.63	77.65	99.96
Machinery leases	2.49	1.61	4.82	2.60
Utilities	0.43	0.70	0.40	0.57
Hauling and trucking	-	0.48	-	0.67
Marketing	-	0.78	-	0.44
Organic certification	3.42	-	3.10	-
Operating interest	10.13	4.62	10.22	7.01
Miscellaneous	1.54	4.52	1.20	3.92
Total direct expenses per acre	314.97	305.59	250.96	318.14
Return over direct exp per acre	560.65	381.19	436.15	390.44
<b>Overhead Expenses</b>				
Hired labor	5.12	18.50	7.19	18.09

	Organic, 101-250 acres	All farms, 101-250 acres	Organic farms, overall mean	All farms, overall mean
Machinery leases	1.66	3.15	0.91	2.98
Building leases	-	1.61	0.83	1.23
RE & pers. property taxes	6.68	6.99	7.35	7.18
Farm insurance	8.24	10.20	9.81	9.13
Utilities	1.59	5.34	3.23	5.29
Dues & professional fees	2.52	4.39	2.97	3.91
Interest	18.23	27.85	20.54	28.77
Mach & bldg depreciation	61.24	43.32	53.49	47.27
Miscellaneous	18.93	5.88	9.85	6.72
Total overhead expenses per acre	124.19	127.23	116.17	130.56
Total dir & ovhd expenses per acre	439.17	432.82	367.12	448.71
<b>Net return per acre</b>	<b>436.45</b>	<b>253.96</b>	<b>319.98</b>	<b>259.88</b>
Government payments	15.02	16.11	12.29	17.89
Net return with govt pmts	451.48	270.07	332.27	277.77
Labor & management charge	129.17	40.80	79.69	39.81
<b>Net return over lbr &amp; mgt</b>	<b>322.31</b>	<b>229.27</b>	<b>252.58</b>	<b>237.96</b>
<b>Cost of production</b>				
Total direct expense per ton	79.94	66.51	73.96	68.70
Total dir & ovhd exp per ton	111.46	94.20	108.20	96.90
Less govt & other income	97.41	85.43	96.37	87.89
With labor & management	130.19	94.31	119.86	96.49
Net value per unit	212.00	144.21	194.30	147.88
Machinery cost per acre	187.84	180.37	169.92	175.19
Est. labor hours per acre	4.54	3.73	4.37	3.62

<b>Data sources for organic alfalfa hay farms:</b>	<b>Data sources for alfalfa hay “all farms” comparison sample:</b>
MN State College & University South 14 farms MN State College & University North 10 farms Wisconsin Technical College System 6 farms Location, Minnesota and Wisconsin Year: 2020 Enterprise: Alfalfa hay, Organic	MN State College & University South 165 farms MN State College & University North 159 farms Wisconsin Technical College System 28 farms Southwest Minnesota Farm Business Management Association 14 farms MN State College & University Red River Valley 6 farms Other Contributors 2 farms Location, Minnesota Wisconsin Year: 2020 Enterprise: Alfalfa hay Farm Types: All

# Dairy farm summary by number of cows

This section looks at the financial and production information of organic dairy farms. Each table is organized with columns representing the combined Wisconsin and Minnesota organic dairy farms participating in FINBIN and an “all dairy” comparison sample. The “all dairy” sample consists of any farm in Minnesota and Wisconsin submitting data to FINBIN that included a dairy enterprise level data. The vast majority of the “all dairy” comparison group identify as conventional, i.e. non-organic. As in the previous section exploring crop farm enterprises, there is a notable difference in number of farms identified as organic vs “all.” Furthermore, the average number of cows for all organic dairies is 114 with average milk produced per cow 15,148 lbs., and the average number of cows for the “all dairy” is much higher at 255 cows with average milk produced per cow of 24,787 lbs. While some base comparisons may be made between the groups, caution must be taken in over-generalizing profitability and production characteristics between the organic and the “all dairy” categories due to differences in sample size and composition.

Sample is MN and WI Combined	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
Number of farms	12	87	27	338
Number of cows	76.3	78.2	114.3	255.1
Milk produced per cow	13,228.0	19,830.0	15,148.0	24,787.0

This section begins with an analysis of the income statement and profitability indicators; the cash flow and liquidity indicators; and lastly, the balance sheet and solvency indicators. Then, the dairy enterprise analysis is reported. Recall, at least ten farms per column was required for table inclusion in this annual report. Only the 50-100 cow organic dairies had enough participating farms to be included as their own column.

All columns are reported by number of cows. General data sources for this section are provided in the chart below. All dairy reports updated July 14, 2021 to reflect a change in the FINBIN database affecting Wisconsin dairy submissions. The enterprise analysis only includes organic and organic transition, not partial organic. Partial organic is not an option under the summary report, livestock special sort selection. A dairy is either organic or it is not; partial organic is not feasible.

Organic dairy data sources:	Data sources for all dairy comparison sample:
MN State College & University North 13 farms MN State College & University South 10 farms Wisconsin Technical College System 4 farms Location, Minnesota and Wisconsin Year: 2020 Enterprise: Dairy, Unit: Cow Special sorts included: Organic Farm (total) Organic farm (partial) Organic transition Column headings: Livestock Enterprise Size	MN State College & University North 157 farms MN State College & University South 140 farms Wisconsin Technical College System 35 farms Other Contributors 5 farms Southwest Minnesota Farm Business Management Association 3 farms Location, Minnesota and Wisconsin Year: 2020 Enterprise: Dairy, Unit: Cow Farm type: All

## Average dairy farm characteristics by herd size

Sample is MN and WI Combined	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
<b>Number of farms</b>	13	91	27	340
<b>Income statement</b>				
Gross cash farm income	397,579	519,889	550,699	1,616,157
Total cash farm expense	327,343	422,753	407,847	1,337,104
Net cash farm income	70,236	97,135	142,851	279,052
Inventory change	23,728	48,330	16,141	142,160
Depreciation	-25,316	-34,990	-39,130	-85,764
Net farm income from operations	68,648	110,475	119,862	335,449
Gain or loss on capital sales	-1,314	-74	-909	-849
Average net farm income	67,334	110,402	118,953	334,600
Median net farm income	74,798	100,583	88,755	181,886
<b>Nonfarm information</b>				
Net nonfarm income	21,191	19,477	16,095	13,546
<b>Crop acres</b>				
Total crop acres	244	320	337	551
Total crop acres owned	134	139	111	187
Total crop acres cash rented	111	181	225	363
Total crop acres share rented	-	0	1	1
Machinery value per crop acre	1,417	1,053	1,292	1,263

## Average dairy farm profitability indicators by herd size

Sample is MN and WI Combined	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
Number of farms	13	91	27	340
<b>Profitability (cost)</b>				
Rate of return on assets	3.9%	7.4%	6.9%	11.1%
Rate of return on equity	5.0%	10.3%	9.9%	16.5%
Operating profit margin	14.3%	21.2%	18.6%	25.2%
Asset turnover rate	26.9%	34.7%	37.2%	44.3%
<b>Profitability (market)</b>				
Rate of return on assets	3.6%	5.7%	5.7%	9.7%
Rate of return on equity	4.3%	7.6%	7.3%	14.4%
Operating profit margin	18.7%	23.0%	20.3%	26.7%
Asset turnover rate	19.4%	24.9%	28.4%	36.1%

## Dairy farm statement of cash flows and liquidity by herd size

Sample is MN and WI Combined	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
Number of farms	13	91	27	340
Beginning cash (farm & nonfarm)	16,705	28,273	19,042	40,874
<b>Cash provided by operating activities</b>				
Gross cash farm income	397,579	519,889	550,699	1,616,157
Total cash farm expense	-327,343	-422,753	-407,847	-1,337,104
Net cash from hedging transactions	-	-13	-	-5,591
Cash provided by operating	70,236	97,122	142,851	273,461
<b>Cash provided by investing activities</b>				
Sale of breeding livestock	11,027	2,854	7,286	3,030
Sale of machinery & equipment	9,021	8,824	5,643	21,152
Sale of titled vehicles	139	283	67	412
Sale of farm land	-	4,302	-	3,848
Sale of farm buildings	14,266	4,153	6,869	2,354
Sale of other farm assets	-	94	-	1,488
Sale of nonfarm assets	-	4,925	-	3,213
Purchase of breeding livestock	-2,654	-5,209	-3,413	-18,334
Purchase of machinery & equip.	-91,039	-59,283	-75,590	-139,784
Purchase of titled vehicles	-6,414	-5,331	-3,748	-8,169
Purchase of farm land	-39,231	-18,474	-25,426	-25,755
Purchase of farm buildings	-34,395	-27,493	-25,478	-79,369
Purchase of other farm assets	-	-749	-84	-5,121
Purchase of nonfarm assets	-923	-13,400	-444	-7,234
Cash provided by investing	-140,204	-104,505	-114,319	-248,269
<b>Cash provided by financing activities</b>				
Money borrowed	317,213	189,932	308,378	470,211
Principal payments	-192,256	-143,503	-260,076	-428,582
Personal income	21,191	19,477	16,095	13,546
Family living/owner withdrawals	-51,757	-42,398	-55,511	-60,628
Income and social security tax	-220	-1,817	-1,622	-1,800
				<i>Cont. next page</i>

	Organic, 50- 100 cows	All farms, 50- 100 cows	Organic, all dairies	All dairies
Capital contributions	-	52	-	2,775
Capital distributions	-	-	-1,118	-2,627
Dividends paid	-	-	-	-
Cash gifts and inheritances	158	1,026	743	2,684
Gifts given	-	-	-10,937	-1,015
Other cash flows	-	-	-	-
Cash provided by financing	94,329	22,769	-4,049	-5,437
<b>Net change in cash balance</b>	24,361	15,387	24,483	19,755
Ending cash (farm & nonfarm)	41,065	43,670	43,511	60,600
Discrepancy	0	-10	14	29

## Dairy farm balance sheet and solvency (market values) by herd size

Sample is MN and WI Combined	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
Number of farms	13	91	27	340
<b>Assets</b>				
<b>Current farm assets</b>				
Cash and checking balance	39,268	38,979	41,249	51,989
Prepaid expenses & supplies	4,365	18,842	7,784	87,889
Growing crops	646	699	1,771	4,187
Accounts receivable	15,761	23,452	22,244	89,191
Hedging accounts	-	190	-	821
Crops held for sale or feed	116,359	137,395	117,086	302,867
Crops under government loan	-	-	-	-
Market livestock held for sale	8,394	34,888	7,352	49,065
Other current assets	369	568	2,004	5,320
<b>Total current farm assets</b>	<b>185,162</b>	<b>255,014</b>	<b>199,490</b>	<b>591,329</b>
<b>Intermediate farm assets</b>				
Breeding livestock	172,485	160,693	218,410	541,223
Machinery and equipment	360,281	340,777	439,949	734,496
Titled vehicles	22,418	20,899	20,877	35,451
Other intermediate assets	6,261	21,086	10,919	59,483
<b>Total intermediate farm assets</b>	<b>561,445</b>	<b>543,455</b>	<b>690,155</b>	<b>1,370,652</b>
<b>Long term farm assets</b>				
Farm land	781,465	646,155	584,040	918,205
Buildings and improvements	242,258	246,223	216,059	662,146
Other long-term assets	22,000	30,979	22,556	71,661
<b>Total long-term farm assets</b>	<b>1,045,723</b>	<b>923,357</b>	<b>822,655</b>	<b>1,652,012</b>
<b>Total farm assets</b>	<b>1,792,329</b>	<b>1,721,826</b>	<b>1,712,300</b>	<b>3,613,994</b>
Total nonfarm assets	109,239	167,431	72,203	150,468
<b>Total assets</b>	<b>1,901,569</b>	<b>1,889,257</b>	<b>1,784,503</b>	<b>3,764,461</b>
				<i>Cont. next page.</i>

	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
<b>Liabilities</b>				
<b>Current farm liabilities</b>				
Accrued interest	1,627	1,979	1,818	3,512
Accounts payable	20,829	11,359	20,636	26,383
Current notes	12,068	50,987	36,555	93,459
Government crop loans	-	-	-	-
Principal due on term debt	38,560	39,009	38,827	92,045
<b>Total current farm liabilities</b>	<b>73,085</b>	<b>103,334</b>	<b>97,836</b>	<b>215,399</b>
Total intermediate farm liabilities	85,903	101,932	84,618	277,965
Total long term farm liabilities	572,589	367,549	424,904	758,021
<b>Total farm liabilities</b>	<b>731,577</b>	<b>572,815</b>	<b>607,358</b>	<b>1,251,385</b>
Total nonfarm liabilities	24,260	23,018	19,772	15,026
Total liabilities excluding deferreds	755,838	595,833	627,130	1,266,411
Total deferred liabilities	46,868	157,280	53,967	283,511
<b>Total liabilities</b>	<b>802,705</b>	<b>753,113</b>	<b>681,097</b>	<b>1,549,922</b>
Retained earnings	635,845	787,397	745,675	1,818,384
Market valuation equity	463,019	348,748	357,731	396,155
Net worth (farm and nonfarm)	1,098,863	1,136,144	1,103,406	2,214,539
Net worth excluding deferreds	1,145,731	1,293,424	1,157,373	2,498,050
Net worth change	52,911	103,338	74,747	318,989
<b>Percent net worth change</b>	<b>5%</b>	<b>10%</b>	<b>7%</b>	<b>17%</b>
<b>Solvency (at year end)</b>				
Current farm liabilities/assets	39%	41%	49%	36%
Intermediate farm liabilities/assets	15%	19%	12%	20%
Long term farm liabilities/assets	55%	40%	52%	46%
Total debt to asset ratio	42%	40%	38%	41%
Debt to assets excluding deferreds	40%	32%	35%	34%

## Dairy enterprise analysis by herd size

Sample is MN and WI Combined	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
Number of farms	14	91	29	340
Milk sold	3,920.95	4,033.38	4,232.99	4,902.21
Dairy Calves sold	167.37	50.57	77.63	42.43
Transferred out	32.95	52.33	60.30	45.17
Cull sales	201.95	190.98	202.86	197.03
Insurance income	17.62	31.93	10.96	25.13
Government payments	317.93	497.72	419.67	557.84
Other income	96.15	71.47	75.17	50.03
Purchased	-94.80	-34.45	-52.7	-62.95
Transferred in	-62.45	-87.43	-32.97	-35.43
Inventory change	-2.57	11.17	30.06	73.83
Dairy repl net cost	-553.75	-562.39	-663.24	-634.48
<b>Gross margin</b>	<b>4,041.32</b>	<b>4,255.29</b>	<b>4,360.74</b>	<b>5,160.80</b>
<b>Direct expenses</b>				
Protein vit minerals	390.90	647.62	418.69	793.83
Corn organic	443.32	-	399.41	-
Corn silage organic	362.39	-	316.26	-
Hay alfalfa organic	584.41	-	521.02	-
Hay mixed organic	186.28	-	68.01	-
Haylage alfalfa organic	73.56	-	99.66	-
Complete ration	-	211.16	-	375.82
Corn	-	198.92	-	235.68
Corn silage	-	252.30	-	341.37
Hay alfalfa	-	225.24	-	231.88
Other feed stuffs	226.82	484.28	282.15	251.92
Breeding fees	28.51	43.70	30.43	51.08
Veterinary	46.08	81.56	42.12	112.82
Supplies	145.18	137.08	132.81	148.37
Repairs	185.30	175.84	162.65	198.19
Custom hire	-	42.61	-	86.97
Hired labor	131.80	92.15	187.56	347.57
Machinery leases	5.33	-	27.95	-
Utilities	69.55	51.04	73.33	40.62
Hauling and trucking	102.46	83.47	103.29	88.37
Bedding	55.04	70.05	50.66	75.84

	Organic, 50-100 cows	All farms, 50-100 cows	Organic, all dairies	All dairies
Miscellaneous	226.30	169.69	197.35	192.79
Total direct expenses	3,263.23	2,966.71	3,113.36	3,573.11
<b>Return over direct expense</b>	<b>778.09</b>	<b>1,288.58</b>	<b>1,247.38</b>	<b>1,587.70</b>
<b>Overhead Expenses</b>				
Hired labor	-	63.46	-	132.6
Building leases	33.19	20.92	50.73	53.79
Utilities	38.37	71.31	32.60	58.18
Interest	94.39	90.90	93.87	103.96
Mach & bldg depreciation	146.02	194.07	200.21	190.67
Miscellaneous	193.09	127.65	183.63	119.87
Total overhead expenses	505.06	568.31	561.04	659.08
Total dir & ovhd expenses	3,768.29	3,535.03	3,674.40	4,232.18
<b>Net return</b>	<b>273.03</b>	<b>720.27</b>	<b>686.34</b>	<b>928.62</b>
Labor & management charge	343.58	323.66	309.82	194.32
Net return over lbr & mgt	-70.55	396.61	376.52	734.30
<b>Cost of production/cwt. milk</b>				
Total direct expense per unit	23.82	14.94	21.20	14.38
Total dir& ovhd expense per unit	27.50	17.80	25.02	17.03
With other revenue adjustments	27.14	16.82	24.56	16.08
With labor and management	29.65	18.45	26.67	16.86
Est. labor hours per unit	43.11	36.4	37.63	38.61
<b>Other Information</b>				
Number of cows	76.90	78.20	101.60	243.50
Milk produced per cow	13,702.00	19,860.00	14,686.00	24,846.00
Lb. of milk sold per FTE	867,893.00	1,512,975.00	1,071,026.00	1,790,385.00
Culling percentage	23.60	25.80	22.00	28.40
Turnover rate	28.30	32.90	26.50	35.10
Cow death loss percent	4.20	5.90	3.70	6.20
Cows per milking unit	10.00	11.00	12.00	21.00
Feed cost per cwt. of milk	16.55	10.17	14.33	8.98
Feed cost per cow	2,267.67	2,019.52	2,105.2	2,230.49
Hired labor per cow	180.34	155.61	227.08	480.18
Avg. milk price per cwt.	29.34	20.51	29.41	19.86
Milk price / feed margin	12.79	10.34	15.07	10.88

# Summary

This annual report represents the first year of FINBIN data from the Organic Farm Financial Benchmarking in the Upper Midwest regional grant project.

On average Minnesota farms were more profitable than Wisconsin farms, but it is important to note the difference in number of participating organic farms between the two states.



Organic farms with 251-500 crop acres had some of the strongest farm financial benchmarks and ratios when analyzed at the whole farm level, often out-performing farms in the larger 501-1000 acre category as well as smaller farms under 250 acres. Overall, many organic farms saw improved financial and production indicators in 2020, with averages most often considered financially moderate (yellow) on a scale of vulnerable (red) to strong (green). Average net farm income was positive, with generally good yields, increasing commodity prices, and government payments helping to bolster profitability in 2020. This report shows averages. It should be noted there is significant variability across individual organic farms participating.

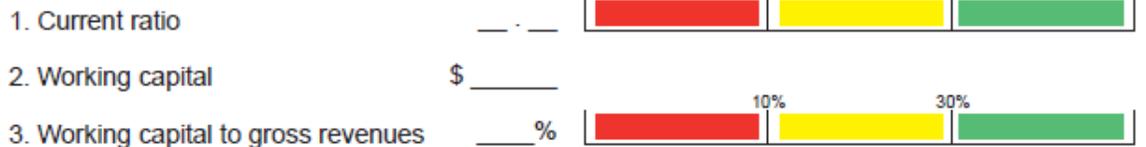
As this project continues, longitudinal data will be available, allowing for a richer comparison of profitability, solvency, and liquidity on a year-over-year basis. Participation of organic farmers in this grant is essential to its success. Thank you to all farms that contributed data, as well as the participating colleges and farm business management instructors.

# Appendix - Farm Finance Scorecard

## Farm Finance Scorecard

Year \_\_\_\_\_

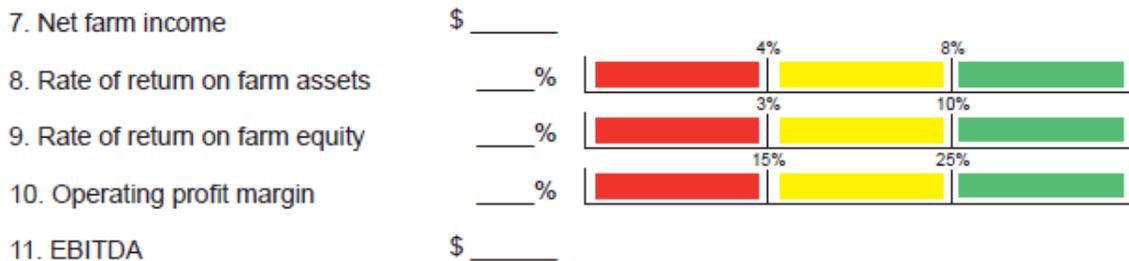
### Liquidity



### Solvency



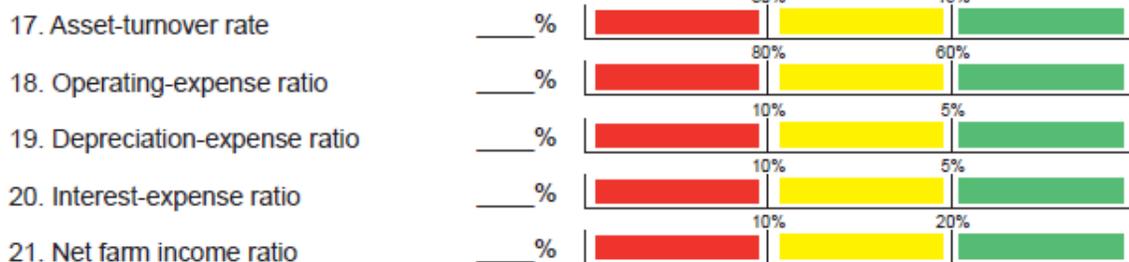
### Profitability



### Repayment capacity



### Financial efficiency



# Farm Financial Ratios and Guidelines

## From the balance sheet

### Liquidity

- is the ability of your farm business to meet financial obligations as they come due – to generate enough cash to pay your family living expenses and taxes and make debt payments on time.

1. Current ratio

-measures the extent to which current farm assets, if sold tomorrow, would pay off current farm liabilities.

2. Working capital

- tells us the operating capital available in the short term from within the business.

3. Working capital to gross revenues

- measures operating capital available against the size of the business.

4. Farm debt-to-asset ratio

- is the bank's share of the business. It compares total farm debt to total farm assets. A higher ratio is an indicator of greater financial risk and lower borrowing capacity.

5. Farm equity-to-asset ratio

- is your share of the business. It compares farm equity to total farm assets. If you add the debt-to-asset ratio and the equity-to-asset ratio you must get 100%.

6. Farm debt-to-equity ratio

- compares the bank's ownership to your ownership. It also indicates how much the owners have leveraged (i.e., multiplied) their equity in the business.

### Solvency

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

## From the income statement

### Profitability

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

7. Net farm income

- represents return to 3 things,

- Your labor,
- Your management and
- Your equity,

that you have invested in the business.

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

8. Rate of return on farm assets

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

9. Rate of return on farm equity

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

10. Operating profit margin

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

11. EBITDA

- Earnings Before Interest Taxes Depreciation and Amortization. Measures earnings available for debt repayment.

## From the cash flow statement

### Repayment capacity

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

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

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

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

15. Term-debt coverage ratio  
- tells whether your business produced enough income to cover all intermediate and long-term debt payments. A ratio of less than 1.0 indicates that the business had to liquidate inventories, run up open accounts, borrow money, or sell assets to make scheduled payments.

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

## From all the financial statements

### Financial efficiency

- shows how effectively your business uses assets to generate income. Past performance of the business could well indicate potential future accomplishments. It also answers the questions:

- Are you using every available asset to its fullest potential?
- What are the effects of production, purchasing, pricing, financing and marketing decisions on gross income?

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

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

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

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

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

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

## Liquidity

1. Current ratio

= Total current farm assets  
/ Total current farm liabilities

2. Working capital

= Total current farm assets  
– Total current farm liabilities

3. Working capital to gross revenues

= Working capital / Gross farm income

## Solvency (market)

4. Farm debt-to-asset ratio

= Total farm liabilities / Total farm assets

5. Farm equity-to-asset ratio

= Farm net worth / Total farm assets

6. Farm debt-to-equity ratio

= Total farm liabilities / Farm net worth

## Profitability

7. Net farm income

= Gross cash farm income  
– Total cash farm expense  
+ / – Inventory changes  
– Depreciation

8. Rate of return on farm assets

= Return on farm assets / Average farm  
assets

Return on farm assets

= Net farm income

+ Farm interest

– Value of operator labor & management

9. Rate of return on farm equity

= Return on farm equity / Average farm net  
worth

Return on farm equity

= Net farm income

– Value of operator labor & management

10. Operating profit margin

= Return on farm assets  
/ Value of farm production

Value of farm production

= Gross cash farm income

+ / – Inv change of crops, mkt lvst,  
brdg lvst & other income items

– Feeder livestock purchased

– Purchased feed

11. EBITDA

= Net farm income

+ Interest expense

+ Depreciation and amortization expense

## Repayment capacity

12. Capital debt repayment capacity

= Net farm income

+ Depreciation

+ Net non-farm income

– Family living & income taxes

+ Interest expense on term loans

13. Capital debt repayment margin

= Capital debt repayment capacity

– Scheduled principal & interest on term  
loans\*

14. Replacement margin

= Capital debt repayment margin

– Unfunded (cash) capital replacement  
allowance

15. Term debt coverage ratio

= Capital debt repayment capacity

/ Scheduled principal & interest on term  
loans\*

16. Replacement margin coverage ratio

= Capital debt repayment capacity

/ (Scheduled principal & interest on term  
loans\*

+ Unfunded capital replacement allowance)

## Financial efficiency

17. Asset-turnover ratio

= Value of farm production

/ Average farm assets

18. Operating-expense ratio

= (Total farm operating expense excluding  
interest

– Depreciation)

/ Gross farm income

19. Depreciation-expense ratio

= Depreciation

/ Gross farm income

20. Interest-expense ratio

= Farm interest

/ Gross farm income

21. Net farm income ratio

= Net farm income

/ Gross farm income

*\*Includes payments on capital leases*

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