



MINNESOTA STATE

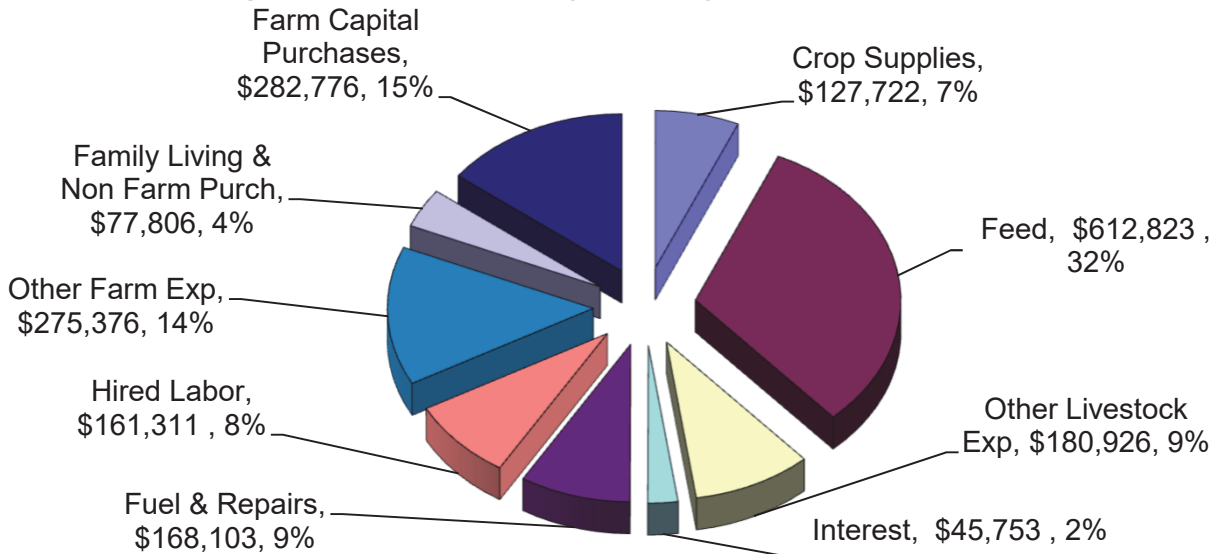
# Farm Business Management Program Database

## Dairy Farm Sort - 2022

Financial Sort By Gross Revenue & Enterprise Sort Data by Herd Size  
Selected Production Practice Sorts, 5-yr & Long Term Trends of Selected Data

April 2023

### Average Dollars Spent by a Dairy Farm: \$1,932,596



In Cooperation with the Center for Farm Financial Management, University of Minnesota  
Compiled by Nathan Converse

Contact: Keith Olander @ [Keith.Olander@clcmn.edu](mailto:Keith.Olander@clcmn.edu) or Megan Roberts @ [Megan.Roberts@southcentral.edu](mailto:Megan.Roberts@southcentral.edu)  
Farm Business Management Website: [agcentric.org](http://agcentric.org) or [centerofagriculture.org](http://centerofagriculture.org)

## A Brief Overview of 2022

This report summarizes data from the Minnesota State Farm Business Management (FBM) Database to provide specialized information for Minnesota dairy producers.

Based on the graphic on the cover, over a 40-year farming career, each dairy farmer spends \$77,303,840. That graphic also shows that the farms in this report spent \$479,283,808 in their greater communities in 2022. The majority of the money is spent locally, including businesses and cooperatives, demonstrating the vital importance of farming on the economy of Minnesota.

The Federal Milk Order Class III milk price average for 2022 was \$21.96, up \$4.87 from 2021. However, while milk prices were higher, dairy producers also faced higher costs of production. Energy corrected milk was a strong driver behind profitability with the most profitable herds shipping over 2,000 pounds of fat and protein per cow. Overall, while the strong milk price in 2022 helped build profitability, it is important to be mindful of the potential challenges that lie ahead. Dairy producers may need to focus on maximizing milk components and managing their costs in order to maintain profitability in a more challenging market in 2023.

- The median dairy farm earned \$153,780, up from \$114,261 in 2021.
- The average price received for milk increased by 30% from \$18.58 in 2021 to \$24.24 in 2022.
- Total direct & overhead expenses were \$19.83 per hundred pounds of milk, up from \$17.19 in 2021.
- Dairy producers showed a profit of \$1.93 per hundred pounds of milk, or about \$491 per cow.
- The average dairy farm milked 274 cows, which is up from an average of 269 cows in 2021.
- The average milk production was 25,485 pounds, up from 25,049 pounds in 2021.

Term Debt Coverage Trends					
Year	2018	2019	2020	2021	2022
<b>Term Debt Coverage</b>	<b>0.61</b>	<b>1.52</b>	<b>3.01</b>	<b>1.88</b>	<b>2.63</b>

This report is designed to provide an overview of both the whole farm financial picture for dairy operations, and provide insight into the dairy enterprise based on herd size.

In cooperation with the Minnesota Department of Agriculture, we have estimated that the data in this report represents the following percentage of dairy herds in the state of Minnesota:

Herd Size	Total Herds	< 50 Cows	51-100	101-200	201-500	>500
		12.5%	~4%	~8%	~23%	~24%

## General Financial Summary

### Farm Business Management Program Database

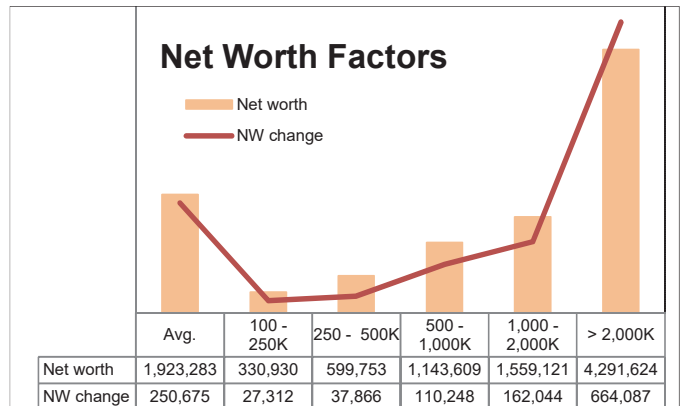
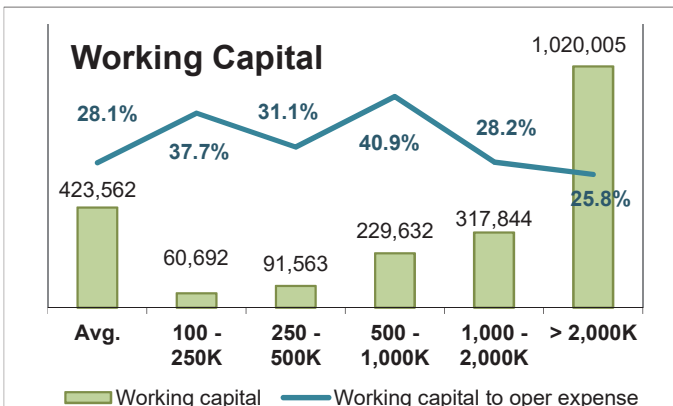
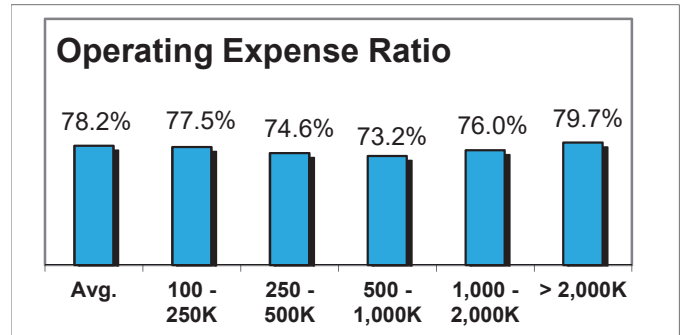
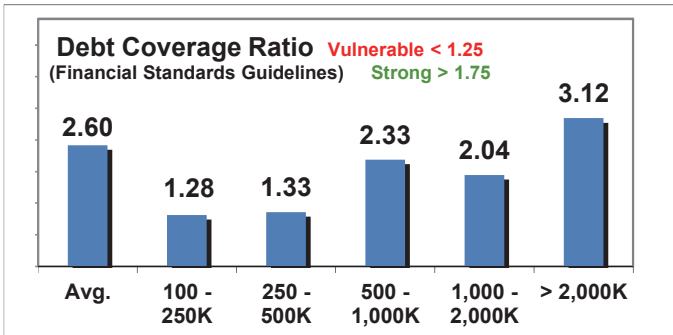
(Dairy Farms Sorted by Gross Farm Income, includes Organic and Organic Transition)

	Avg. Of All Farms	100,001 - 250,000	250,001 - 500,000	500,001 - 1,000,000	1,000,001 - 2,000,000	Over 2,000,000
Number of farms	248	14	40	71	53	66
<b>Income Statement</b>						
Gross cash farm income	1,839,670	190,075	381,098	723,993	1,413,356	4,723,516
Total cash farm expense	1,572,014	169,064	316,533	588,924	1,183,797	4,092,208
Net cash farm income	267,656	21,011	64,565	135,069	229,559	631,308
Average net farm income	286,922	21,265	51,087	140,877	220,676	713,297
Median net farm income	153,780	27,940	42,627	129,905	179,728	557,424
<b>Solvency (end of year at market)</b>						
Total assets	3,191,589	729,202	1,190,973	1,793,963	2,947,722	6,792,664
Total liabilities	1,268,306	398,272	591,220	650,354	1,388,601	2,501,040
Net worth	1,923,283	330,930	599,753	1,143,609	1,559,121	4,291,624
Total net worth change	250,675	27,312	37,866	110,248	162,044	664,087

## Financial Standards Measures

(Dairy Farms Sorted by Gross Farm Income, includes Organic and Organic Transition)

	Avg. Of All Farms	100,000 - 250,000	250,001 - 500,000	500,001 - 1,000,000	1,000,001 - 2,000,000	Over 2,000,000
Number of farms	248	14	40	71	53	66
<b>Liquidity</b>						
Current ratio	2.80	2.18	2.16	3.56	2.59	2.80
Working capital	423,562	60,692	91,563	229,632	317,844	1,020,005
Working capital to oper expense	28.1%	37.7%	31.1%	40.9%	28.2%	25.8%
<b>Solvency (market)</b>						
Farm debt to asset ratio	42%	51%	46%	38%	47%	40%
Farm equity to asset ratio	58%	49%	54%	62%	53%	60%
Change in total net worth %	15%	13%	6%	12%	12%	18%
<b>Profitability (cost)</b>						
Rate of return on farm assets	8.7%	-0.1%	2.8%	7.1%	6.6%	10.7%
Rate of return on farm equity	12.3%	-4.7%	1.7%	9.2%	9.2%	15.2%
Operating profit margin	19.0%	-0.3%	10.1%	19.6%	17.6%	20.0%
Net farm income (avg)	286,922	21,265	51,087	140,877	220,676	713,297
EBIDTA	421,166	46,766	100,516	205,905	355,954	1,003,481
<b>Repayment Capacity</b>						
Capital debt repayment capacity	368,766	49,086	88,309	164,865	298,518	903,928
Capital debt repayment margin	227,088	10,638	21,680	94,089	152,134	614,248
Debt coverage ratio	2.60	1.28	1.33	2.33	2.04	3.12
Replacement coverage ratio	2.13	1.04	1.16	1.83	1.68	2.56
Term debt to EBITDA	2.32	6.56	4.70	2.40	3.25	1.85
<b>Efficiency</b>						
Asset turnover rate (cost)	45.8%	23.7%	27.9%	36.1%	37.8%	53.7%
Operating expense ratio	78.2%	77.5%	74.6%	73.2%	76.0%	79.7%
Depreciation expense ratio	4.6%	7.0%	7.0%	5.4%	5.6%	4.1%
Interest expense ratio	2.4%	5.7%	5.3%	2.9%	3.7%	1.8%
Net farm income ratio	14.8%	9.8%	13.1%	18.5%	14.7%	14.3%

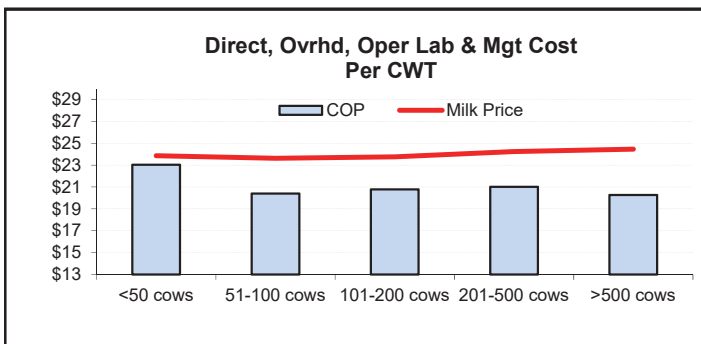
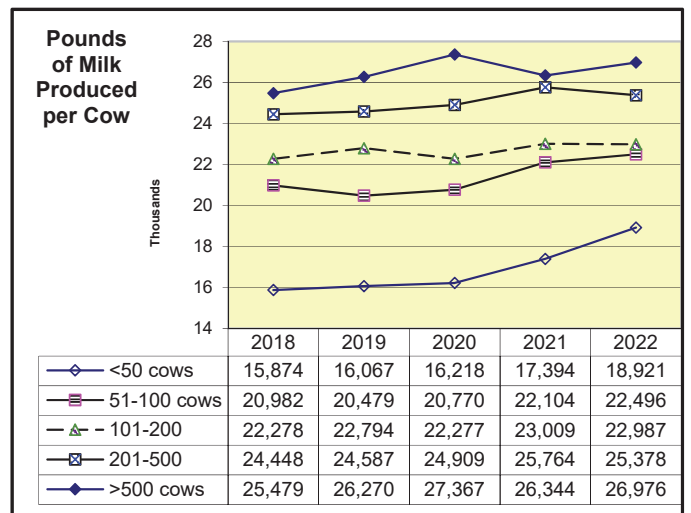
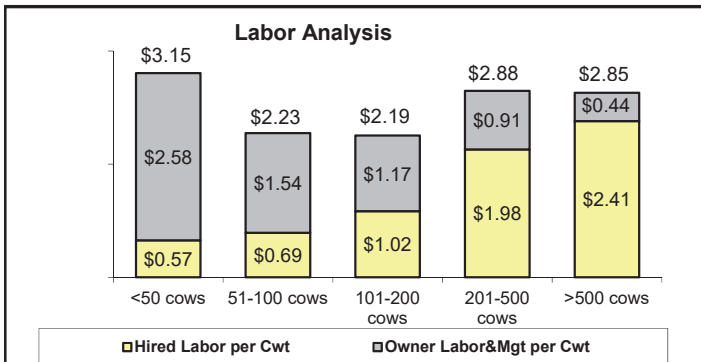
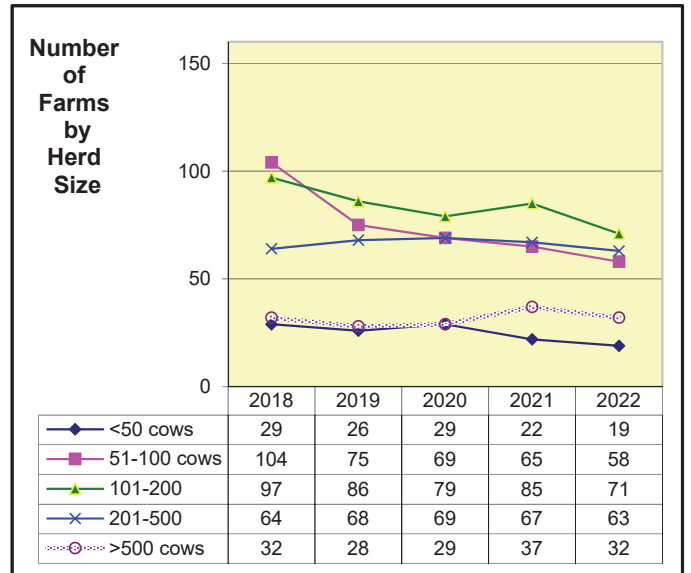
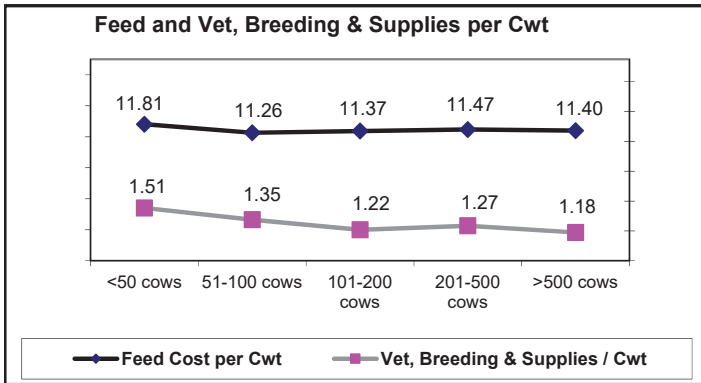


State Database <b>Dairy Cow Enterprise</b> <i>(Excludes Organic and Organic Transition)</i>	Sorted by Average Number of Dairy Cows					
	Average	Up to 50 Cows	51 to 100 Cows	101 to 200 Cows	201 To 500 Cows	Over 500 Cows
	***** Per Cow *****					
<b>Number Of Farms</b>	<b>243</b>	<b>19</b>	<b>58</b>	<b>71</b>	<b>63</b>	<b>32</b>
Milk sold (hd)	6,140.54	4,503.79	5,276.29	5,429.74	6,107.75	6,562.66
Dairy Calves sold (hd)	49.63	21.04	43.88	38.17	39.26	61.55
Transferred out (hd)	61.63	68.88	71.60	65.94	52.22	64.55
Cull sales (hd)	275.18	303.22	276.65	288.04	280.40	266.74
Other income (includes gov. payments)	35.76	81.36	106.37	96.12	103.93	-38.91
Purchased (hd)	-37.85	-54.29	-31.45	-23.81	-24.21	-51.61
Transferred in (hd)	-78.71	-78.03	-83.66	-68.24	-87.07	-76.08
Inventory change (hd)	40.04	-7.39	-33.49	-24.36	28.65	80.37
Dairy repl cost	-746.49	-714.86	-660.29	-723.42	-719.13	-785.01
<b>Gross margin</b>	<b>5,739.73</b>	<b>4,123.71</b>	<b>4,965.91</b>	<b>5,078.18</b>	<b>5,781.79</b>	<b>6,084.25</b>
<b>Direct Expenses</b>						
Protein Vit Minerals	973.34	808.19	950.98	824.12	903.93	1,073.58
Complete Ration	563.20	13.11	289.70	440.91	696.76	572.63
Corn	426.77	446.13	365.66	362.76	413.56	464.60
Corn Silage	493.89	396.92	406.52	466.49	477.40	528.73
Hay, Alfalfa	232.91	351.59	245.07	304.58	220.76	212.51
Other forages	156.82	190.85	232.85	172.97	151.60	142.74
Other feed stuffs	60.77	27.64	41.93	42.19	45.99	79.82
Breeding fees	50.01	54.05	43.94	44.93	45.68	55.22
Veterinary	103.36	66.85	90.70	89.34	111.62	105.47
Supplies	158.74	164.38	169.35	145.29	164.74	157.58
Fuel & oil	125.49	113.26	115.48	129.99	136.76	118.66
Repairs	211.36	233.94	185.59	226.63	216.25	206.53
Custom hire	88.28	27.20	50.86	50.22	73.61	117.10
Hired labor	361.75	48.81	66.75	135.43	291.61	531.78
Hauling, & Trucking	119.90	92.17	93.87	93.51	113.45	137.16
Marketing	52.55	47.99	54.97	47.54	47.95	56.87
Bedding	84.04	29.38	82.89	94.58	89.84	78.47
Total direct expenses	4,374.79	3,240.90	3,627.00	3,811.59	4,318.23	4,733.92
Return over direct expense	1,364.94	882.81	1,338.91	1,266.59	1,463.56	1,350.33
<b>Overhead Expenses</b>						
Hired labor	140.55	57.73	87.90	99.35	210.09	119.63
Building & machinery leases	61.56	6.29	5.71	33.23	76.01	71.29
Utilities	62.28	87.81	85.42	76.36	65.07	51.84
Interest	93.19	110.59	98.52	113.21	110.28	74.56
Mach & bldg depreciation	213.37	206.79	200.64	233.74	213.61	208.65
Miscellaneous	107.78	159.17	137.98	142.14	109.96	89.41
Total overhead expenses	678.72	628.37	616.18	698.02	785.02	615.38
Total dir & ovhd expenses	5,053.51	3,869.26	4,243.18	4,509.61	5,103.25	5,349.30
<b>Net return</b>	<b>686.22</b>	<b>254.45</b>	<b>722.73</b>	<b>568.57</b>	<b>678.54</b>	<b>734.95</b>
Labor & management charge	194.93	489.07	347.02	269.14	230.25	118.24
Net return over lbr & mgt	491.29	-234.62	375.70	299.43	448.30	616.71
<b>Cost of Production per CWT</b>						
Total direct expense per cwt.	17.17	17.13	16.12	16.58	17.02	17.55
Total dir& ovhd expense per cwt.	19.83	20.45	18.86	19.62	20.11	19.83
With other revenue adjustments	21.47	22.53	20.32	21.24	21.47	21.65
With labor and management	22.23	25.12	21.86	22.41	22.38	22.09
Est. labor hours per unit	36.16	38.93	32.54	33.98	36.75	36.96
<b>Other Information</b>						
<b>Avg. number of Cows</b>	274	42	80	143	314	973
Milk produced per Cow	25,485	18,921	22,496	22,987	25,378	26,976
Energy corrected milk per cow	27,461	20,066	23,747	24,357	27,285	29,323
Lbs of fat & protein per cow	1,854	1,362	1,597	1,639	1,841	1,983
Turnover rate	36.7	41.2	38.2	37.1	35.6	36.9
Feed cost per head per day	7.97	6.12	6.94	7.16	7.97	8.42
Feed cost per cwt of milk	11.41	11.81	11.26	11.37	11.47	11.40
Feed cost per Cow	2,907.70	2,234.44	2,532.72	2,614.01	2,909.98	3,074.62
Avg. milk price per cwt.	24.24	23.86	23.62	23.76	24.23	24.46
Milk price / feed margin	12.83	12.05	12.36	12.39	12.76	13.06

## Selected Dairy Enterprise Factors from the Farm Business Management Program Database

(excludes Organic and Organic Transition)

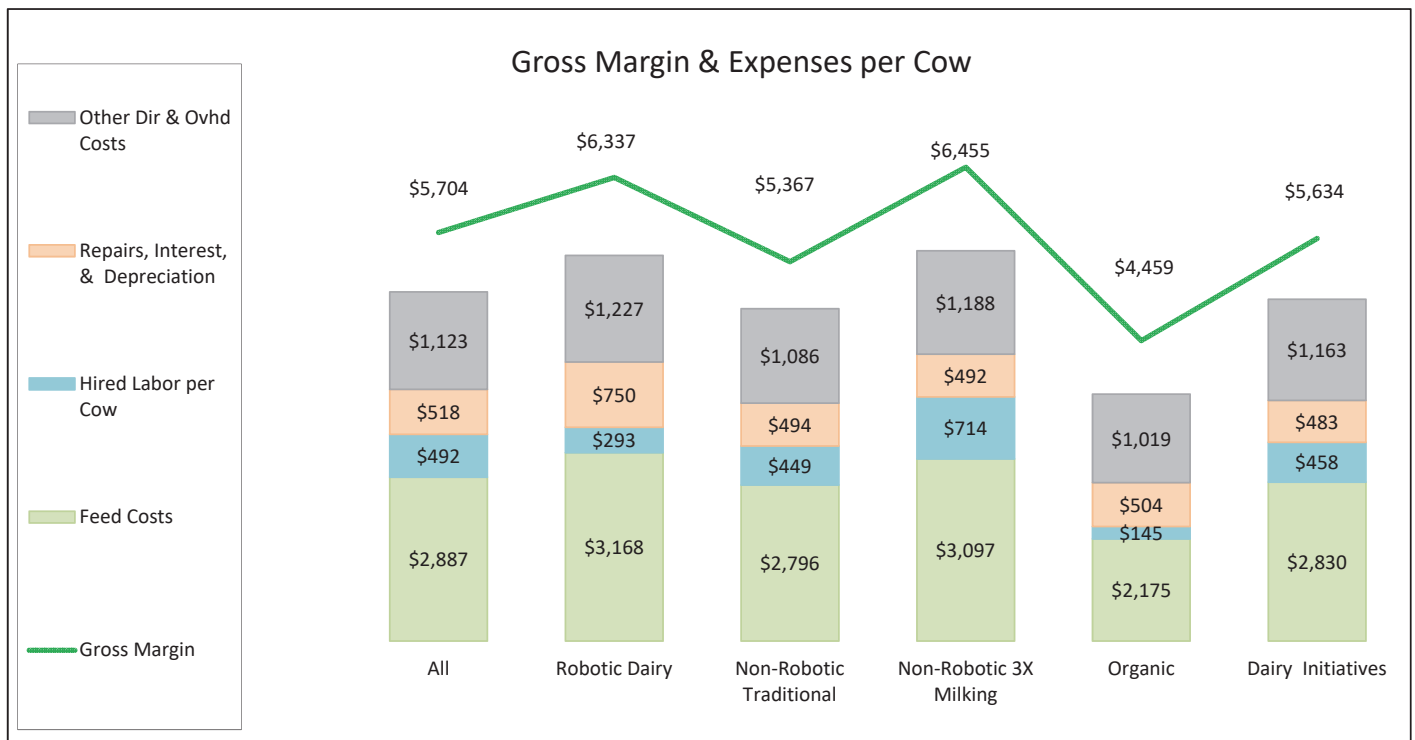
Herd Size	State Ave.	up to 50 cows	51-100 cows	101-200 cows	201-500 cows	over 500 cows
Number of Farms	243	19	58	71	63	32
Ave # of Cows	273.6	41.7	79.7	142.7	314.4	972.8
Milk Prod. Per Cow	25,485	18,921	22,496	22,987	25,378	26,976
Feed Cost per Cwt	11.41	11.81	11.26	11.37	11.47	11.40
Interest per Cwt	0.37	0.58	0.44	0.49	0.43	0.28
Vet, Breeding & Supplies / Cwt	1.22	1.51	1.35	1.22	1.27	1.18
Hired Labor per Cwt	1.97	0.57	0.69	1.02	1.98	2.41
Deprec/Lease per Cwt	0.84	1.09	0.89	1.02	0.84	0.77
Milk Price per Cwt	24.24	23.86	23.62	23.76	24.23	24.46
Dir & Ovhd Cost per Cwt	19.83	20.45	18.86	19.62	20.11	19.83
Return over Dir & Ovhd per Cow	686	254	723	569	679	735
Herd Profit over Dir&Ovhd	187,750	10,611	57,602	81,135	213,333	714,959
Owner Labor&Mgt per Cwt	0.76	2.58	1.54	1.17	0.91	0.44
Net per Cow after Labor&Mgt	491	-235	376	299	448	617
Herd Profit over Labor&Mgt	134,417	-9,784	29,944	42,729	140,942	599,935



## Additional Selected Sorts within the Dairy Enterprise

The State Database provides the opportunity to dig deeper into the data using special markers on farms with different practices. Using the FINPACK & RankEM Central software from the Center for Farm Financial Management, specific production practices can be included or excluded from a given sort. This enables selected practices to be compared. Below is a sample of the sort options which provide another comparative look at Minnesota's State Dairy Data.

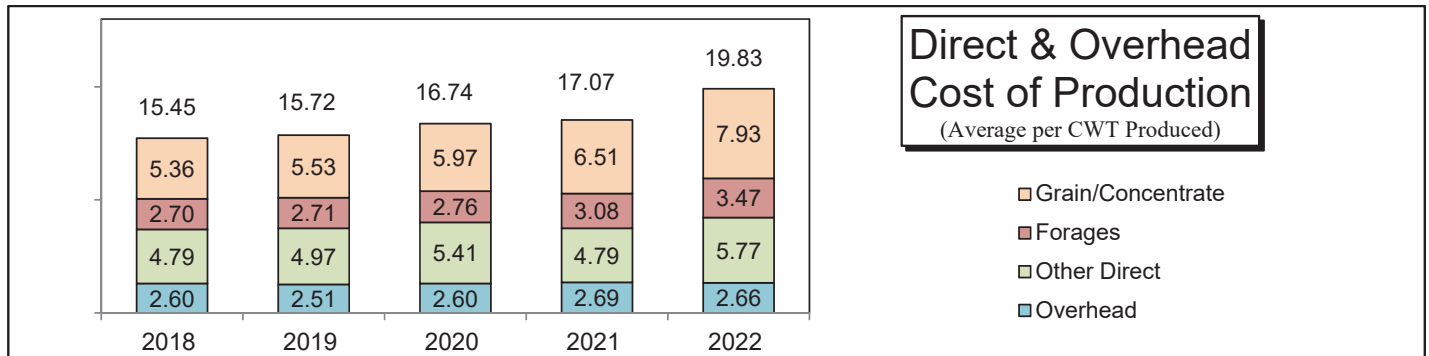
Sort - Includes	All	Robotic Dairy	Non-Robotic Traditional	Non-Robotic 3X Milking	Organic	Dairy Initiatives
Number of Farms	264	28	187	25	21	61
Number of Cows	259	234	226	695	91	220
Milk Produced per Cow	25,202	27,236	24,327	27,811	15,311	24,280
Milk Sold	\$6,097.61	\$6,489.80	\$5,840.31	\$6,776.69	\$4,596.04	\$5,976.86
Gross Margin	\$5,704.13	\$6,337.27	\$5,367.23	\$6,455.19	\$4,458.59	\$5,634.11
Feed Cost per Cow	\$2,887.34	\$3,168.16	\$2,796.12	\$3,097.12	\$2,174.98	\$2,829.66
Breeding Fees	\$49.45	\$49.93	\$50.00	\$50.36	\$29.68	\$52.07
Veterinary	\$101.28	\$101.15	\$100.49	\$159.85	\$28.43	\$161.11
Repairs	\$210.99	\$261.28	\$200.68	\$220.15	\$198.24	\$199.49
Hired Labor per Cow	\$492.36	\$293.49	\$449.28	\$714.02	\$144.60	\$457.92
Interest	\$93.73	\$167.70	\$94.31	\$62.97	\$112.70	\$94.51
Depreciation	\$212.80	\$321.12	\$198.72	\$209.31	\$192.95	\$189.47
Total Dir & Ovhd Cost	\$5,019.85	\$5,438.60	\$4,825.14	\$5,491.94	\$3,842.11	\$4,933.74
Net Return	\$684.28	\$898.67	\$542.10	\$963.25	\$616.49	\$700.37
Cost of Prod - O&D	\$19.92	\$19.97	\$19.83	\$19.75	\$25.09	\$20.32
Turnover Rate	36.4	39.7	36.9	30.7	27.2	3.5
Lbs of fat & protein/Cow	1,836	1,957	1,734	2,065	1,202	1,780
Energy Corrected Milk/Cow	27,186	29,177	26,017	30,508	17,567	26,365
Lb. of Milk Sold/FTE	1,845,432	2,613,124	1,868,844	1,741,716	1,010,266	1,773,207
Feed Cost per CWT	\$11.46	\$11.63	\$11.49	\$11.14	\$14.21	\$11.65
Average Milk Price	\$24.34	\$24.08	\$24.11	\$24.57	\$30.58	\$24.84



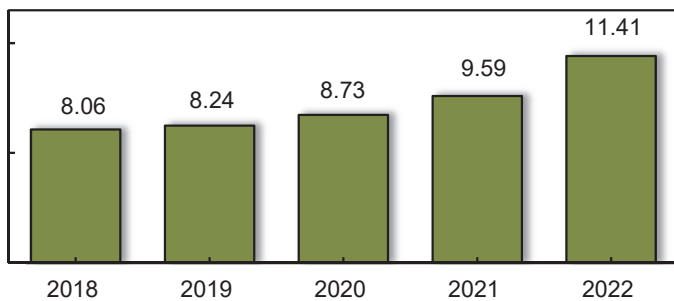


## Summary of Selected Dairy Enterprise Factors - Average Farm Data

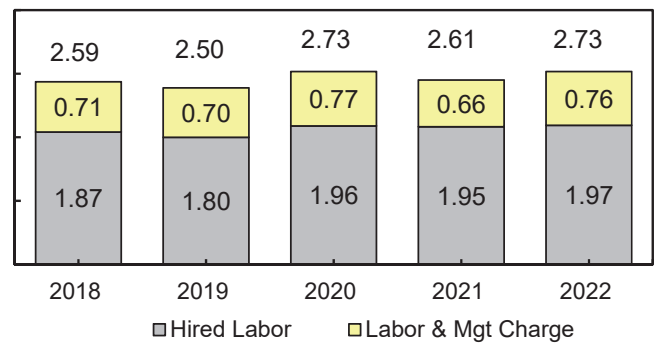
(excludes Organic and Organic Transition)



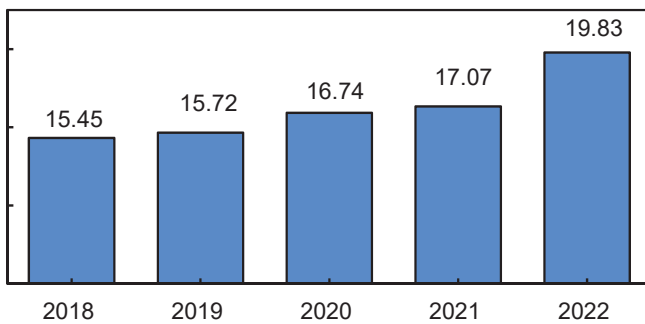
### Feed Cost per CWT



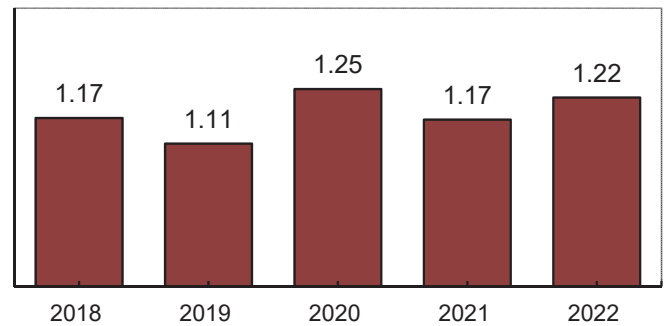
### Labor per CWT



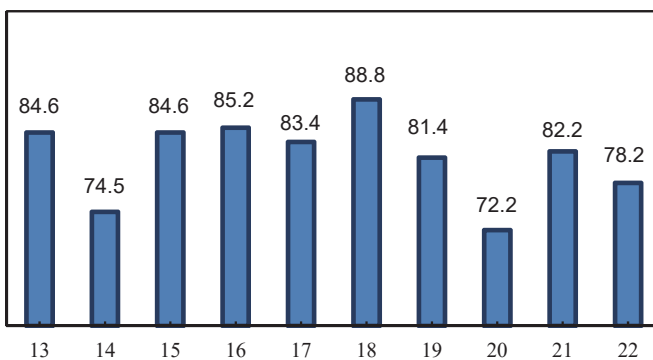
### Dir & Ovhd Exp per CWT



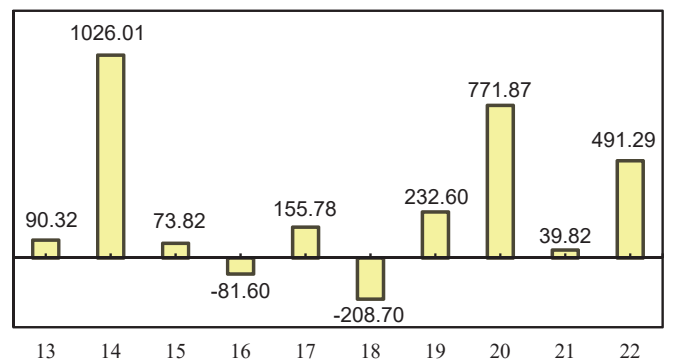
### Vet, Breeding & Supplies



### Operating Expense Ratio



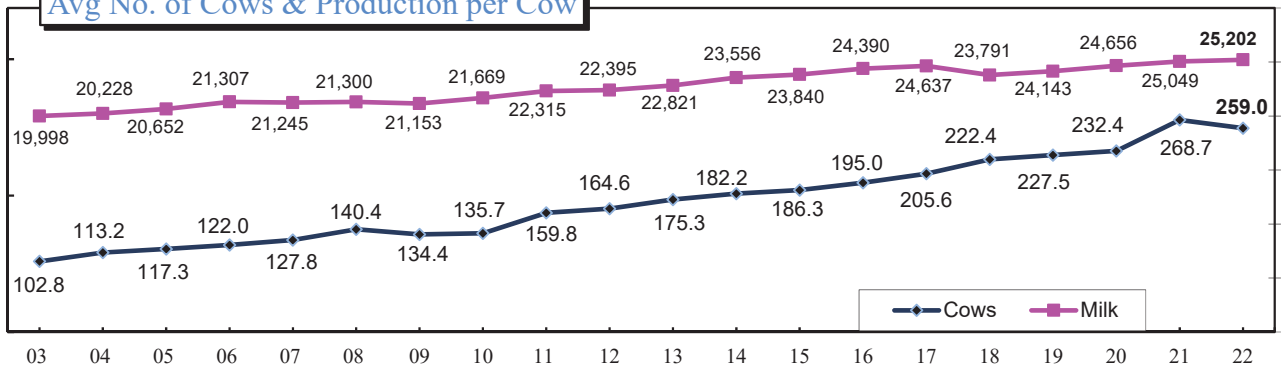
### Net Return after Dir, Ovhd, & Labor



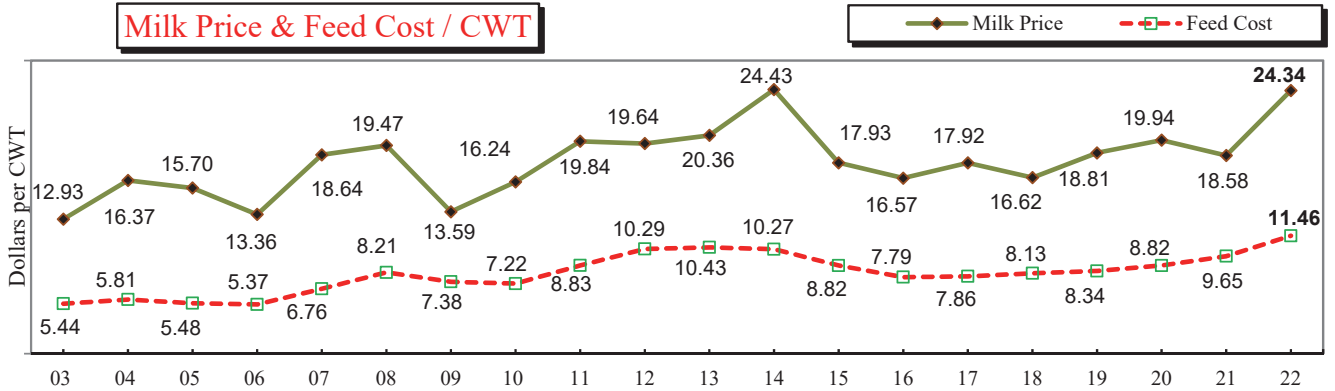
# A Long Term History of Selected Dairy Information

(Includes Organic and Organic Transition)

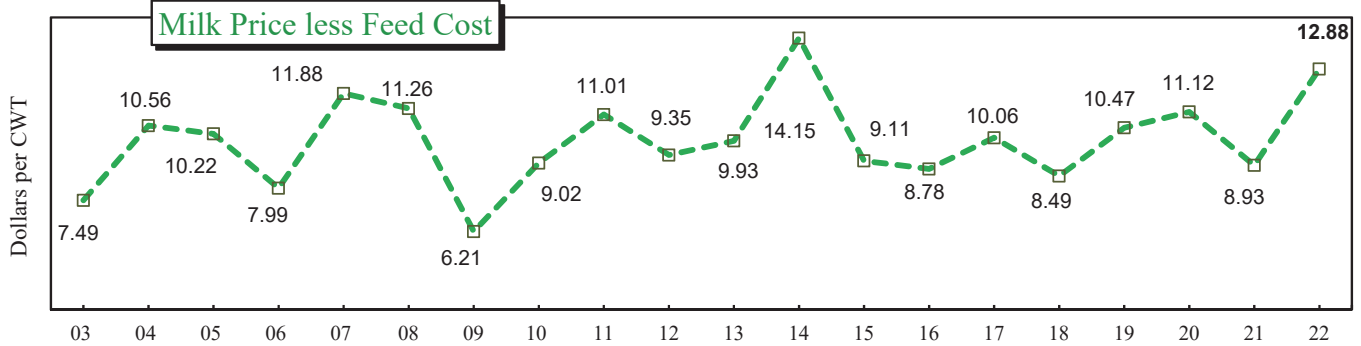
### Avg No. of Cows & Production per Cow



### Milk Price & Feed Cost / CWT



### Milk Price less Feed Cost



### Avg Milk Price Received vs. Total Direct, Ovhd, & Labor

