

*Minnesota State Colleges and Universities*

**State  
Farm Business Management Program  
Database**

*18th Annual*

***Dairy Farm Sort - 2014***

**Financial Sort By Gross Revenue**

\$100,001 to \$250,000  
\$250,001 to \$500,000  
\$500,001 to \$1,000,000  
\$1,000,000 to \$2,000,000  
Over \$2,000,000

**Enterprise Sort By Herd Size**

Up to 50 Cows  
51 to 100 Cows  
101 to 200 Cows  
201 to 500 Cows  
Over 500 Cows

\*\*\* New in 2014: Selected sorts comparing production practices \*\*\*

Including 5-yr & 20-yr trend of selected data from the statewide average

MnSCU Community and Technical Colleges with FBM programs providing data for this report:

Alexandria	Ridgewater
Central Lakes	Riverland
Minnesota West	St. Cloud
Northland	South Central

**April, 2015**



A MEMBER OF THE MINNESOTA STATE COLLEGES  
AND UNIVERSITIES SYSTEM

In Cooperation with the Center for Farm Financial Management University of Minnesota  
Compiled by DelRay Lecy

For more information, contact Keith Olander at [kolander@clcmn.edu](mailto:kolander@clcmn.edu) or visit the Farm Business Management  
Website at: [www.fbm.mnscu.edu](http://www.fbm.mnscu.edu)

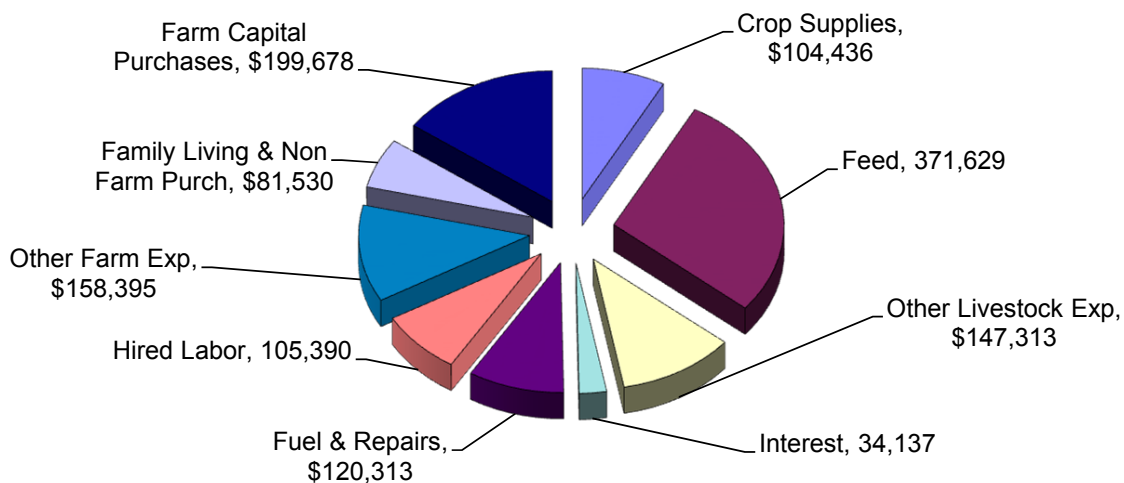
**General Financial Summary**  
**Farm Business Management Education Programs**  
**Minnesota State Colleges and Universities**  
**(Dairy Farms Sorted by Gross Farm Income)**

	Avg. Of <u>All Farms</u>	100,000 - <u>250,000</u>	250,001 - <u>500,000</u>	500,001 - <u>1,000,000</u>	<u>1,000,000 -</u> <u>2,000,000</u>	Over <u>2,000,000</u>
Number of farms	390	38	92	124	64	64
<b><u>Income Statement</u></b>						
Gross cash farm income	1,264,418	189,624	367,901	714,805	1,410,978	4,258,469
Total cash farm expense	1,041,613	150,680	288,650	553,487	1,176,698	3,585,626
Net cash farm income	222,805	38,944	79,250	161,318	234,280	672,842
Inventory change	80,363	6,921	19,733	32,848	85,322	309,624
Depreciation	-60,851	-9,770	-21,186	-40,080	-75,900	-180,374
Net farm income from operations	242,317	36,096	77,797	154,086	243,702	802,093
Gain or loss on capital sales	285	64	648	244	491	-194
Average net farm income	242,602	36,160	78,445	154,330	244,193	801,899
Median net farm income	139,778	35,985	75,694	160,340	234,126	578,365
<b><u>Profitability (cost)</u></b>						
Rate of return on assets	11.0%	4.8%	7.4%	8.9%	9.5%	13.8%
Rate of return on equity	16.0%	5.1%	10.7%	12.1%	14.5%	20.0%
Operating profit margin	22.5%	14.8%	20.0%	22.9%	20.5%	23.8%
Asset turnover rate	48.6%	32.4%	37.3%	39.1%	46.4%	57.9%
<b><u>Liquidity &amp; Repayment (end of year)</u></b>						
Current assets	420,609	66,493	143,212	288,640	453,753	1,299,792
Current liabilities	190,682	46,657	66,330	108,753	228,117	596,468
Ending current ratio	2.21	1.43	2.16	2.65	1.99	2.18
Ending working capital	229,928	19,836	76,883	179,887	225,636	703,323
End working capital to gross inc	17.5%	10.2%	20.3%	24.3%	15.4%	15.9%
Term debt coverage ratio	2.57	1.2	1.8	2.35	2.29	3.04
Replacement coverage ratio	2.26	1.12	1.51	1.95	2.05	2.76
<b><u>Solvency (end of year at cost)</u></b>						
Number of farms	390	38	92	124	64	64
Total farm assets	2,021,642	465,591	782,080	1,490,077	2,361,875	5,628,980
Total farm liabilities	826,230	244,705	378,638	579,421	1,114,351	2,091,622
Total assets	2,162,094	546,518	890,572	1,690,250	2,500,666	5,742,573
Total liabilities	845,633	262,339	395,702	596,197	1,140,992	2,113,549
Ending net worth	1,316,461	284,180	494,870	1,094,052	1,359,674	3,629,024
Net worth change	194,500	15,919	43,822	143,024	199,415	635,848
Farm debt to asset ratio	41%	53%	48%	39%	47%	37%
Total debt to asset ratio	39%	48%	44%	35%	46%	37%
<b><u>Solvency (end of year at market)</u></b>						
Number of farms	390	38	92	124	64	64
Total farm assets	2,510,763	689,590	1,115,010	2,001,835	2,873,440	6,467,771
Total farm liabilities	1,027,081	295,855	468,725	746,276	1,332,040	2,607,342
Total assets	2,665,758	775,158	1,234,539	2,229,342	3,021,109	6,587,157
Total liabilities	1,074,582	322,526	505,260	793,435	1,394,925	2,671,554
Ending net worth	1,591,176	452,632	729,279	1,435,907	1,626,184	3,915,603
Net worth change	213,686	37,668	68,310	173,881	212,663	627,219
Farm debt to asset ratio	41%	43%	42%	37%	46%	40%
Total debt to asset ratio	40%	42%	41%	36%	46%	41%
<b><u>Nonfarm Information</u></b>						
Net nonfarm income	13,160	15,582	11,753	16,271	9,165	8,266
Farms reporting living expenses	69	8	20	29	7	4
Total family living expense	59,961	-	47,179	66,645	-	-
Total living, invest, & capital	73,084	-	52,516	84,768	-	-
<b><u>Crop Acres</u></b>						
Total acres owned	204	174	148	198	205	323
Total crop acres	440	157	229	365	518	1,019
Total crop acres owned	151	84	107	163	187	205
Total crop acres cash rented	283	68	119	196	328	806
Total crop acres share rented	5	5	3	6	2	8

**Financial Standards Measures**  
**Farm Business Management Education Programs**  
**Minnesota State Colleges and Universities**  
**(Dairy Farms Sorted by Gross Farm Income)**

	Avg. Of All Farms	100,000 - 250,000	250,001 - 500,000	500,001 - 1,000,000	1,000,000 - 2,000,000	Over 2,000,000
Number of farms	390	38	92	124	64	64
<b><u>Liquidity</u></b>						
Current ratio	2.21	1.43	2.16	2.65	1.99	2.18
Working capital	229,928	19,836	76,883	179,887	225,636	703,323
Working capital to gross inc	17.5%	10.2%	20.3%	24.3%	15.4%	15.9%
<b><u>Solvency (market)</u></b>						
Farm debt to asset ratio	41%	43%	42%	37%	46%	40%
Farm equity to asset ratio	59%	57%	58%	63%	54%	60%
Farm debt to equity ratio	0.69	0.75	0.73	0.59	0.86	0.68
<b><u>Profitability (cost)</u></b>						
Rate of return on farm assets	11.0%	4.8%	7.4%	8.9%	9.5%	13.8%
Rate of return on farm equity	16.0%	5.1%	10.7%	12.1%	14.5%	20.0%
Operating profit margin	22.5%	14.8%	20.0%	22.9%	20.5%	23.8%
Net farm income	242,602	36,160	78,445	154,330	244,193	801,899
EBIDTA	337,590	56,800	114,136	218,709	367,737	1,067,630
<b><u>Repayment Capacity</u></b>						
Capital debt repayment capacity	270,986	32,633	76,573	167,099	303,742	893,152
Capital debt repayment margin	165,496	5,489	34,102	96,064	170,942	599,698
Replacement margin	151,224	3,410	25,952	81,427	155,814	569,567
Term debt coverage ratio	2.57	1.20	1.80	2.35	2.29	3.04
Replacement coverage ratio	2.26	1.12	1.51	1.95	2.05	2.76
<b><u>Efficiency</u></b>						
Asset turnover rate (cost)	48.6%	32.4%	37.3%	39.1%	46.4%	57.9%
Operating expense ratio	74.3%	70.8%	69.9%	70.5%	74.8%	75.9%
Depreciation expense ratio	4.6%	5.0%	5.6%	5.4%	5.2%	4.1%
Interest expense ratio	2.6%	5.6%	4.0%	3.3%	3.3%	1.9%
Net farm income ratio	18.5%	18.6%	20.7%	20.8%	16.7%	18.1%

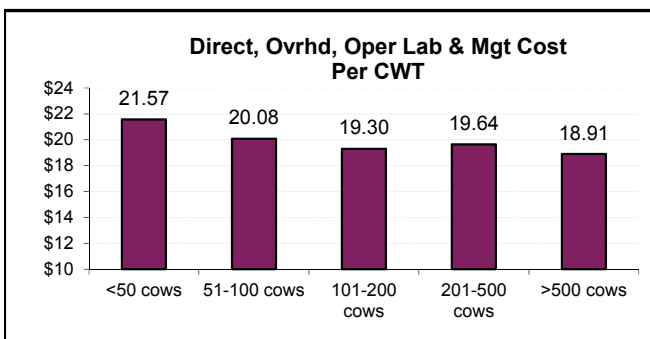
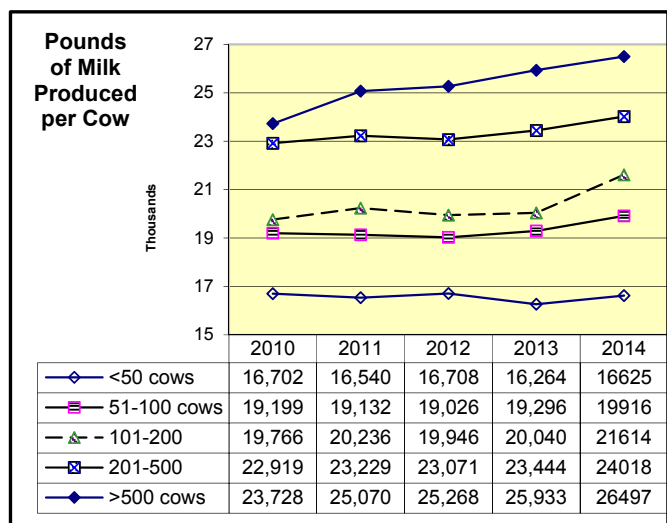
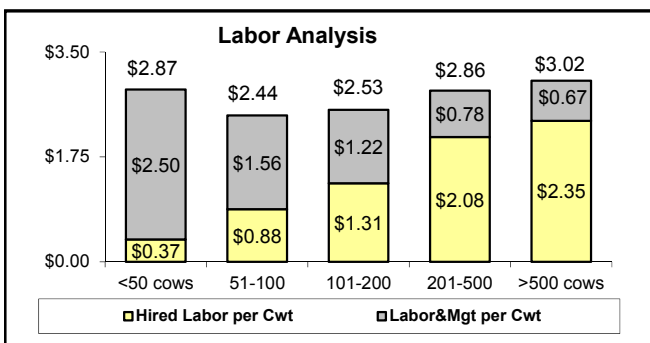
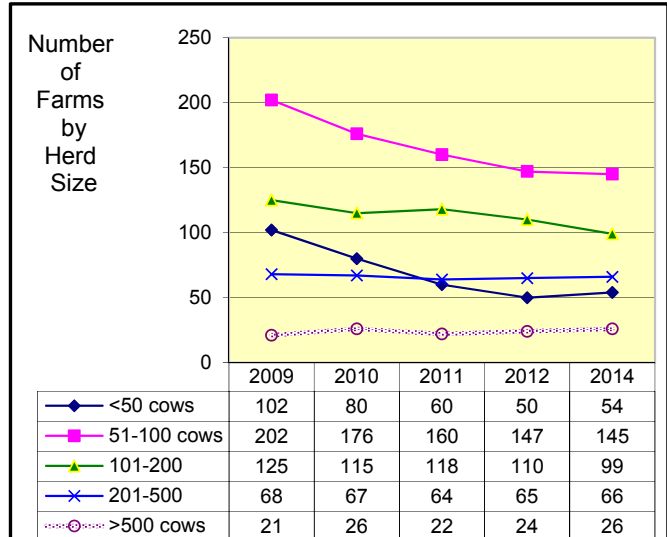
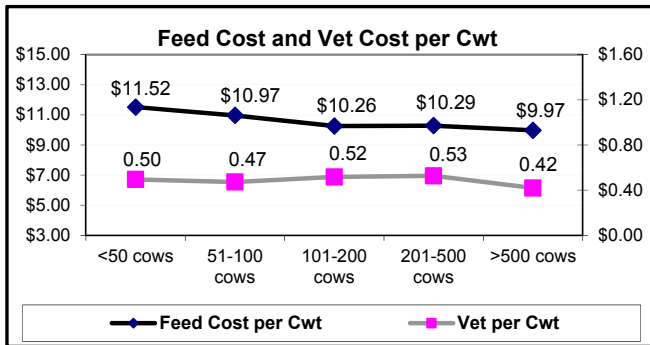
**Average Dollars Spent by a Minnesota Dairy Farm totals \$1,322,821**



State Database <b>Dairy Cow Enterprise</b> (Sorted by Herd Size)	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>390</b>	<b>54</b>	<b>145</b>	<b>99</b>	<b>66</b>	<b>26</b>
Milk sold (hd)	5,716.23	4,056.79	4,860.52	5,286.66	5,855.75	6,367.91
Dairy Calves sold (hd)	84.39	47.00	67.25	64.86	73.41	116.00
Transferred out (hd)	56.56	54.94	84.27	41.73	68.89	42.34
Cull sales (hd)	360.17	291.48	350.64	338.02	335.94	404.01
Other income	35.38	72.13	42.63	41.38	48.91	13.89
Purchased (hd)	-34.22	-137.61	-71.24	-47.29	-19.94	-13.66
Transferred in (hd)	-113.47	-92.85	-84.65	-84.91	-134.14	-126.84
Inventory change (hd)	73.43	131.16	87.07	71.25	85.11	53.66
Dairy repl net cost	-597.25	-594.36	-583.97	-601.82	-582.96	-613.08
<b>Gross margin</b>	<b>5,581.78</b>	<b>3,830.86</b>	<b>4,753.54</b>	<b>5,111.12</b>	<b>5,731.30</b>	<b>6,244.24</b>
<b>Direct Expenses</b>						
Protein Vit Minerals (lb.)	927.72	571.92	727.85	766.87	938.14	1,131.51
Complete Ration (lb.)	366.79	180.66	217.77	386.39	379.14	426.99
Corn (bu.)	243.92	210.23	238.98	215.60	263.08	248.93
Corn Silage (lb.)	337.79	249.85	277.67	296.11	349.00	386.60
Hay, Alfalfa (lb.)	218.70	397.30	419.48	225.54	215.86	112.49
Haylage, Alfalfa (lb.)	164.24	111.95	138.97	142.91	192.76	167.76
Other feed stuffs (lb)	161.17	193.60	163.42	185.12	133.63	167.24
Breeding fees	50.70	42.16	47.67	44.48	54.45	53.17
Veterinary	112.47	82.46	94.24	111.99	126.64	111.21
BST	48.82	4.75	12.29	23.04	53.22	80.04
Supplies	242.91	222.51	233.63	235.88	229.26	264.63
Fuel & oil	117.01	72.32	87.42	107.88	114.85	141.16
Repairs	181.12	144.33	155.28	167.42	192.85	193.61
Custom hire	67.83	23.38	38.55	37.13	64.44	105.42
Hired labor	258.84	25.70	66.03	130.60	287.65	414.28
Marketing, Hauling, & Trucking	91.04	106.09	103.11	97.05	83.77	87.16
Bedding	89.17	50.50	74.48	77.84	102.45	94.14
Total direct expenses	3,680.25	2,689.70	3,096.86	3,251.82	3,781.19	4,186.36
Return over direct expense	1,901.53	1,141.16	1,656.68	1,859.30	1,950.11	2,057.88
<b>Overhead Expenses</b>						
Hired labor	178.78	36.37	108.93	152.82	212.06	208.39
Building leases	50.40	22.98	14.10	31.30	66.63	66.02
Farm Insurance	47.54	47.33	51.33	51.12	49.83	41.80
Utilities	69.14	100.71	98.15	68.68	69.34	53.62
Interest	84.90	78.33	84.53	99.21	99.65	64.58
Mach & bldg depreciation	166.72	109.61	162.49	188.61	183.42	146.32
Miscellaneous	67.56	85.71	72.31	64.22	68.95	64.66
Total overhead expenses	665.03	481.04	591.84	655.96	749.88	645.39
Total dir & ovhd expenses	4,345.28	3,170.74	3,688.70	3,907.79	4,531.08	4,831.75
<b>Net return</b>	<b>1,236.50</b>	<b>660.12</b>	<b>1,064.84</b>	<b>1,203.33</b>	<b>1,200.23</b>	<b>1,412.48</b>
Labor & management charge	223.95	415.67	311.08	264.44	186.33	177.72
<b>Net return over lbr &amp; mgt</b>	<b>1,012.56</b>	<b>244.44</b>	<b>753.75</b>	<b>938.89</b>	<b>1,013.90</b>	<b>1,234.77</b>
<b>Cost of Production per CWT</b>						
Total direct expense per cwt.	15.62	16.18	15.55	15.04	15.74	15.80
Total dir& ovhd expense per cwt.	18.45	19.07	18.52	18.08	18.87	18.23
With other revenue adjustments	19.14	20.70	19.16	19.03	19.55	18.78
With labor and management	20.09	23.20	20.72	20.25	20.33	19.45
Est. labor hours per unit	40.65	47.68	40.42	37.06	40.66	42.24
<b>Other Information</b>						
<b>Avg. number of Cows</b>	<b>182.2</b>	<b>37.6</b>	<b>73.5</b>	<b>140.3</b>	<b>312.1</b>	<b>919.2</b>
Milk produced per Cow	23,556	16,625	19,916	21,614	24,018	26,497
Culling percentage	30.3	26	29.4	28.1	28.3	34.2
Turnover rate	37.4	35.7	36.7	35.1	36	40.5
Percent of barn capacity	110	85.4	104.2	107.5	115.5	112.6
Feed cost per day	6.63	5.25	5.98	6.08	6.77	7.24
Feed cost per cwt of milk	10.27	11.52	10.97	10.26	10.29	9.97
Feed cost per Cow	2,420.33	1,915.52	2,184.15	2,218.53	2,471.63	2,641.53
Avg. milk price per cwt.	24.43	24.75	24.51	24.61	24.63	24.14
Milk price / feed margin	14.15	13.23	13.54	14.35	14.34	14.17

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

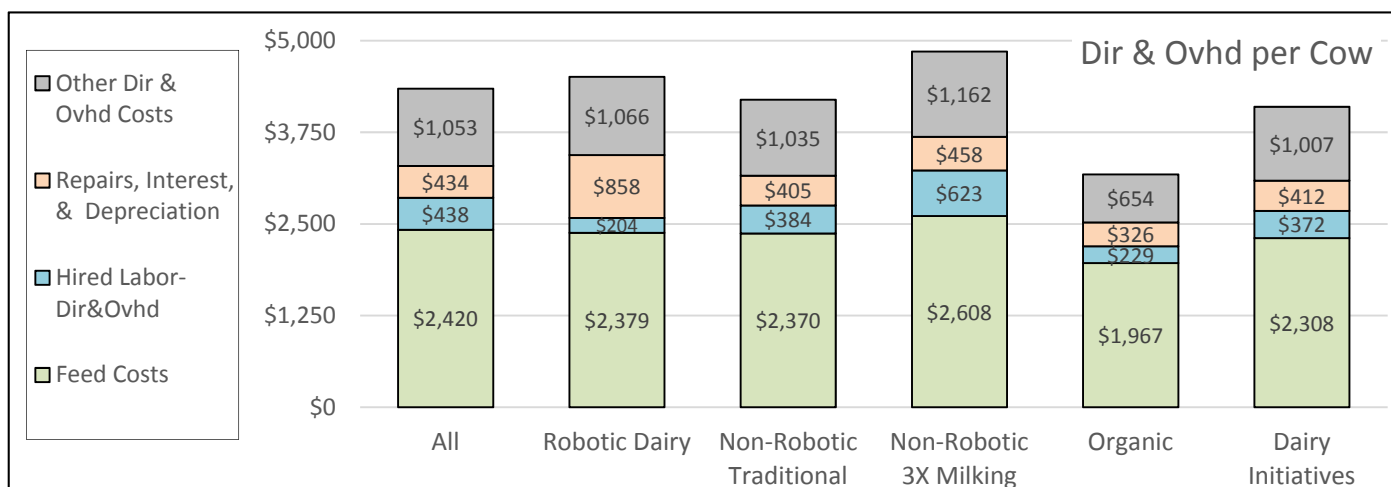
Herd Size	State Ave.	up to 50 cows	51-100 cows	101-200 cows	201-500 cows	over 500 cows
Number of Farms	390	54	145	99	66	26
Ave # of Cows	182.2	37.6	73.5	140.3	312.1	919.2
Milk Prod. Per Cow	23556	16,625	19,916	21,614	24,018	26,497
Feed Cost per Cwt	\$10.27	\$11.52	\$10.97	\$10.26	\$10.29	\$9.97
Interest per Cwt	\$0.36	\$0.47	\$0.42	\$0.46	\$0.41	\$0.24
Vet per Cwt	\$0.48	\$0.50	\$0.47	\$0.52	\$0.53	\$0.42
Hired Labor per Cwt	\$1.86	\$0.37	\$0.88	\$1.31	\$2.08	\$2.35
Deprec/Lease per Cwt	\$0.92	\$0.80	\$0.89	\$1.02	\$1.04	\$0.80
Milk Price per Cwt	\$24.43	\$24.75	\$0.00	\$24.51	\$0.00	\$24.61
Dir & Ovhd Cost per Cwt	\$18.45	\$19.07	\$18.52	\$18.08	\$18.87	\$18.24
Return over Dir & Ovhd per Cow	\$1,237	\$660	\$1,065	\$1,203	\$1,200	\$1,412
Herd Profit over Dir&Ovhd	\$225,290	\$24,821	\$78,266	\$168,827	\$374,592	\$1,298,352
Labor&Mgt per Cwt	\$0.95	\$2.50	\$1.56	\$1.22	\$0.78	\$0.67
Net per Cow after Labor&Mgt	\$1,013	\$244	\$754	\$939	\$1,014	\$1,235
Herd Profit over Labor&Mgt	\$184,487	\$9,191	\$55,401	\$131,726	\$316,438	\$1,134,991



## Additional Selected Sorts within the Dairy Enterprise

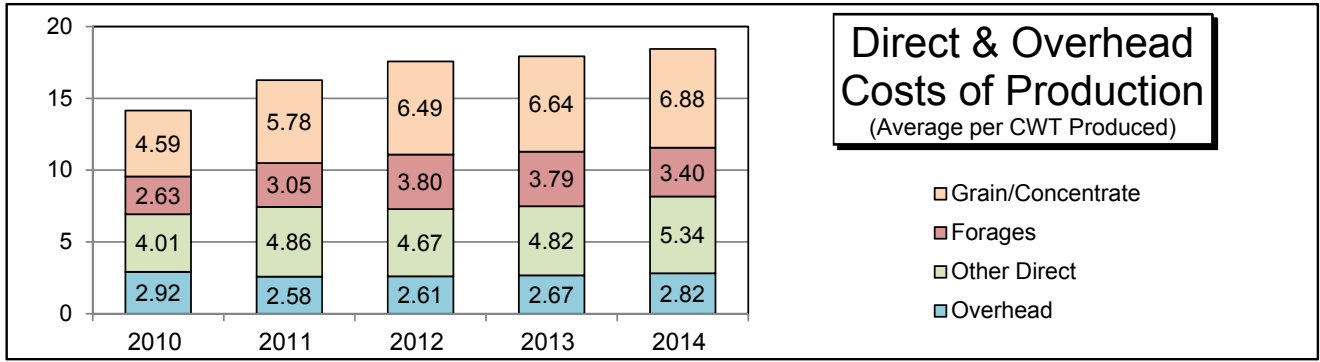
The State Database includes data from almost 400 dairy farms and provides the opportunity to dig deeper into the data using special markers on farms with different practices. Using the FINPACK & RankEM Central software from the Center for Farm Financial Management, specific production practices can be 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
Sort - Excludes	NA	All non-robotic herds	Organic, Org. Transition, 3X Milking, Rot. Grazing, Robotics	Organic, Org. Transition, Rot. Grazing, Robotics, non-3X milk herds	All non-organic herds	All non-Dairy Initiative herds
Number of Farms	390	9	327	33	15	96
Number of Cows	180.4	179.6	151.0	558.5	87.7	158.6
Milk Produced per Cow	23,556	24,742	22,923	26,075	13,041	22,518
Product/Animals Sold	\$5,716.23	\$5,871.18	\$5,582.60	\$6,229.11	\$3,978.38	\$5,488.87
Gross Margin	\$5,581.78	\$5,749.94	\$5,423.43	\$6,159.86	\$3,807.30	\$5,368.08
Feed Cost per Cow	\$2,420.33	\$2,378.86	\$2,369.73	\$2,607.94	\$1,967.27	\$2,308.10
Veterinary	\$112.47	\$144.85	\$107.21	\$129.98	\$35.24	\$105.77
BST	\$48.82	\$36.56	\$40.73	\$75.96	\$0.00	\$34.60
Repairs	\$181.12	\$246.46	\$162.05	\$207.55	\$161.25	\$177.79
Hired Labor-Dir&Ovhd	\$437.62	\$204.02	\$383.98	\$623.30	\$228.92	\$371.63
Interest	\$84.90	\$219.92	\$87.43	\$67.78	\$76.46	\$78.48
Depreciation	\$168.16	\$391.13	\$155.93	\$182.55	\$88.58	\$155.29
Total Dir & Ovhd Cost	\$4,345.28	\$4,506.81	\$4,194.56	\$4,850.70	\$3,176.84	\$4,098.57
Net Return	\$1,236.50	\$1,243.13	\$1,228.87	\$1,309.16	\$630.46	\$1,269.51
Cost of Prod - O&D	\$18.45	\$18.22	\$18.30	\$18.60	\$24.36	\$18.20
Culling Percentage	30.3	27.8	29.1	33.7	28.9	29.8
Turnover Rate	37.4	36.1	36.5	40.2	33.6	36.8
Feed Cost per CWT	\$10.27	\$9.61	\$10.34	\$10.00	\$15.09	\$10.25
Average Milk Price	\$24.43	\$23.98	\$24.48	\$24.10	\$31.25	\$24.56

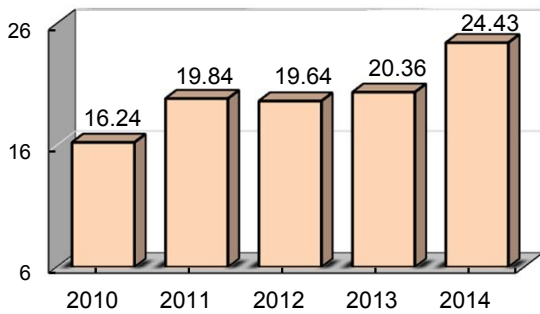




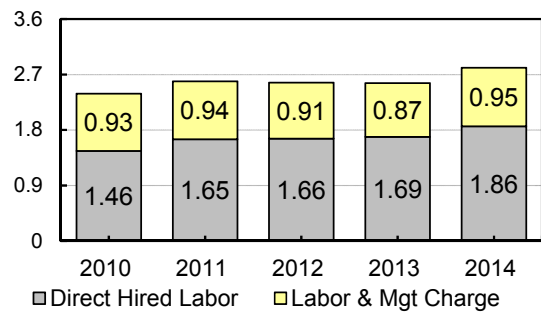
## Summary of Selected Dairy Enterprise Factors - Average Farm Data



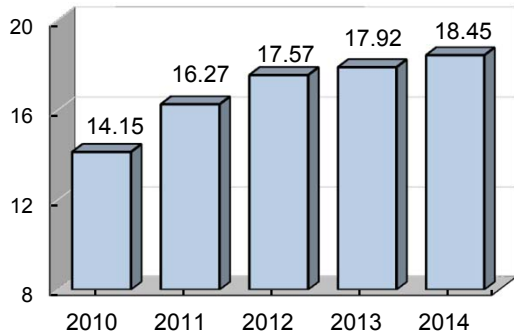
### Ave Milk Price Recv'd



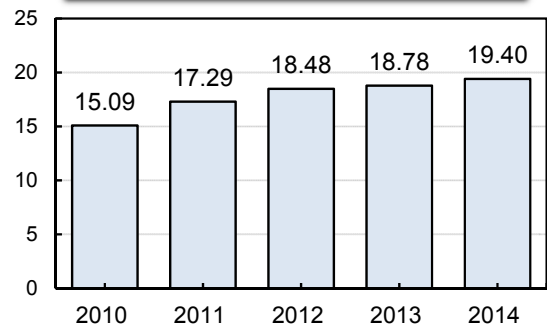
### Labor per CWT



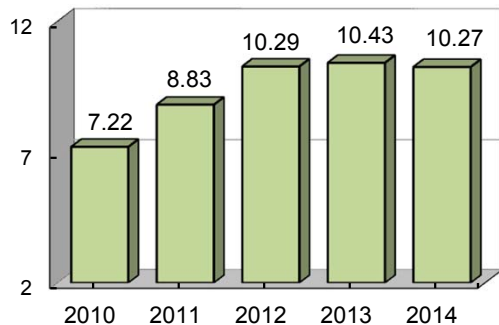
### Dir & Ovhd Exp per CWT



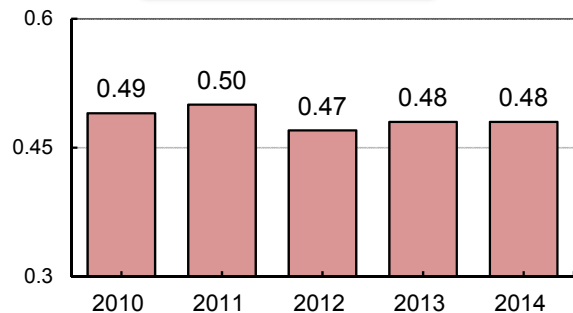
### Total Direct, Ovhd, & Labor



### Feed Cost per CWT



### Veterinary Costs



## A Twenty Year History of Selected Dairy Information

