

*Minnesota State Colleges and Universities*

**State  
Farm Business Management Program  
Database**

*17th Annual*

***Dairy Farm Sort - 2013***

**Financial Sort Categories:**

*(By Gross Revenue)*

Less than \$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 Categories:**

*(By Herd Size)*

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

\*\*\* 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:

<u>Central Lakes</u>	<u>Ridgewater</u>
<u>Minnesota West</u>	<u>Riverland</u>
<u>Northland</u>	<u>South Central</u>
<u>St. Cloud</u>	<u>Alexandria</u>

April, 2014



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 (Retired)

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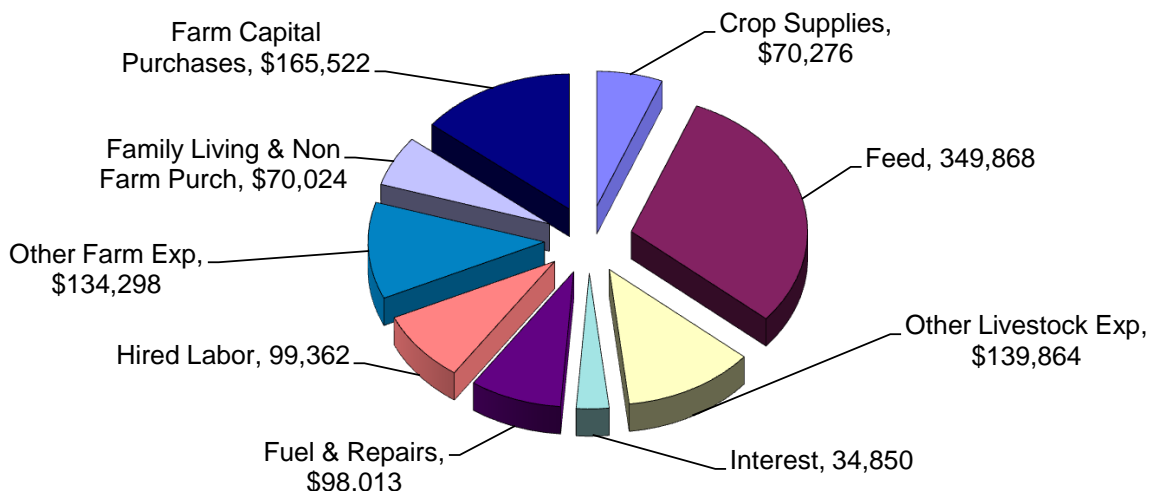
**General Financial Summary**  
**Farm Business Management Education Programs**  
**Minnesota State Colleges and Universities**  
**(Dairy Farms Sorted by Gross Farm Income)**

	Avg. Of All Farms	Less than 250,000	250,001 - 500,000	500,001 - 1,000,000	1,000,000 - 2,000,000	Over 2,000,000
Number of farms	336	54	99	87	52	44
<b><u>Income Statement</u></b>						
Gross cash farm income	1,081,415	157,565	366,349	707,677	1,431,193	4,149,736
Total cash farm expense	926,531	127,754	296,024	597,941	1,245,332	3,598,435
Net cash farm income	154,884	29,811	70,324	109,736	185,862	551,301
Inventory change	-25,208	-21,235	-21,546	-19,213	-50,437	-20,360
Depreciation	-49,224	-8,210	-21,337	-35,119	-63,512	-173,311
Net farm income from operations	80,452	366	27,442	55,405	71,912	357,630
Gain or loss on capital sales	268	52	1,185	594	-3,220	1,951
Average net farm income	80,720	418	28,627	55,999	68,692	359,581
Median net farm income	43,857	7,858	31,823	57,312	72,986	282,242
<b><u>Profitability (cost)</u></b>						
Rate of return on assets	3.4%	-3.70%	0.9%	3.0%	2.1%	5.7%
Rate of return on equity	2.5%	-12.30%	-2.2%	1.5%	-0.1%	6.4%
Operating profit margin	8.2%	-15.70%	3.0%	8.5%	5.6%	11.2%
Asset turnover rate	40.8%	23.6%	29.2%	35.2%	37.5%	50.7%
<b><u>Liquidity</u></b>						
Current assets	328,021	58,962	143,117	223,339	430,786	1,159,796
Current liabilities	190,070	43,046	78,203	122,830	265,666	665,822
Ending current ratio	1.73	1.37	1.83	1.82	1.62	1.74
Ending working capital	137,950	15,916	64,914	100,509	165,120	493,974
End working capital to gross inc	12.9%	11.3%	18.4%	14.7%	11.7%	11.9%
Term debt coverage ratio	1.08	0.05	0.76	1.00	0.72	1.54
Replacement coverage ratio	0.97	0.04	0.62	0.87	0.67	1.39
<b><u>Solvency (cost)</u></b>						
Number of farms	336	54	99	87	52	44
Total farm assets	1,793,533	393,540	854,102	1,305,671	2,601,126	5,635,636
Total farm liabilities	825,579	207,455	420,610	690,331	1,304,405	2,196,899
Total assets	1,901,940	476,339	983,154	1,418,923	2,698,663	5,732,287
Total liabilities	846,378	221,325	445,910	706,988	1,321,557	2,228,572
Ending net worth	1,055,563	255,014	537,244	711,934	1,377,106	3,503,715
Net worth change	44,688	-1,135	-147	25,653	41,048	243,741
Farm debt to asset ratio	46%	53%	49%	53%	50%	39%
Total debt to asset ratio	45%	46%	45%	50%	49%	39%
<b><u>Solvency (market)</u></b>						
Number of farms	336	54	99	87	52	44
Total farm assets	2,186,062	550,269	1,182,213	1,642,061	3,073,452	6,479,192
Total farm liabilities	942,180	231,724	496,760	795,393	1,448,912	2,507,670
Total assets	2,303,379	639,277	1,325,082	1,764,641	3,173,041	6,584,301
Total liabilities	1,007,886	263,922	545,729	829,833	1,510,689	2,718,622
Ending net worth	1,295,492	375,354	779,353	934,807	1,662,351	3,865,679
Net worth change	81,284	8,996	27,914	53,592	112,485	307,962
Farm debt to asset ratio	43%	42%	42%	48%	47%	39%
Total debt to asset ratio	44%	41%	41%	47%	48%	41%
<b><u>Nonfarm Information</u></b>						
Net nonfarm income	14,199	16,918	18,286	17,521	4,195	6,919
Farms reporting living expenses	58	6	30	18	2	2
Total family living expense	49,961	37,574	45,597	56,683	-	-
Total living, invest, & capital	56,056	41,241	52,790	54,808	-	-
<b><u>Crop Acres</u></b>						
Total acres owned	178	116	166	147	230	287
Total crop acres	360	123	220	278	485	984
Total crop acres owned	130	58	115	112	138	280
Total crop acres cash rented	227	56	104	161	346	703
Total crop acres share rented	3	9	0	6	-	-

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

	Avg. Of All Farms	Less than 250,000	250,001 - 500,000	500,001 - 1,000,000	1,000,000 - 2,000,000	Over 2,000,000
Number of farms	336	54	99	87	52	44
<b><u>Liquidity</u></b>						
Current ratio	1.73	1.37	1.83	1.82	1.62	1.74
Working capital	137,950	15,916	64,914	100,509	165,120	493,974
Working capital to gross inc	12.9%	11.3%	18.4%	14.7%	11.7%	11.9%
<b><u>Solvency (market)</u></b>						
Farm debt to asset ratio	43%	42%	42%	48%	47%	39%
Farm equity to asset ratio	57%	58%	58%	52%	53%	61%
Farm debt to equity ratio	0.76	0.73	0.72	0.94	0.89	0.63
<b><u>Profitability (cost)</u></b>						
Rate of return on farm assets	3.4%	-3.7%	0.9%	3.0%	2.1%	5.7%
Rate of return on farm equity	2.5%	-12.3%	-2.2%	1.5%	-0.1%	6.4%
Operating profit margin	8.2%	-15.7%	3.0%	8.5%	5.6%	11.2%
Net farm income	80,720	418	28,627	55,999	68,692	359,581
EBIDTA	164,570	17,189	65,637	119,379	188,764	628,809
<b><u>Repayment Capacity</u></b>						
Capital debt repayment capacity	108,451	1,136	31,366	74,433	111,472	477,288
Capital debt repayment margin	8,293	-23,757	-9,920	-151	-43,380	166,371
Replacement margin	-3,553	-26,439	-18,865	-10,923	-54,135	133,336
Term debt coverage ratio	1.08	0.05	0.76	1.00	0.72	1.54
Replacement coverage ratio	0.97	0.04	0.62	0.87	0.67	1.39
<b><u>Efficiency</u></b>						
Asset turnover rate (cost)	40.8%	23.6%	29.2%	35.2%	37.5%	50.7%
Operating expense ratio	84.6%	87.8%	81.4%	82.6%	86.6%	84.9%
Depreciation expense ratio	4.6%	5.8%	6.0%	5.1%	4.5%	4.2%
Interest expense ratio	3.3%	6.1%	4.8%	4.2%	3.8%	2.4%
Net farm income ratio	7.6%	0.3%	8.1%	8.2%	4.9%	8.7%

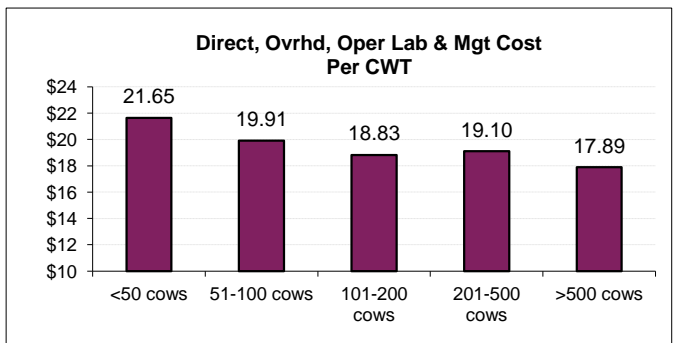
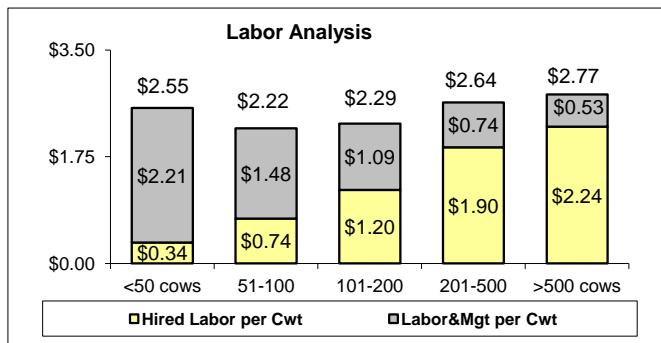
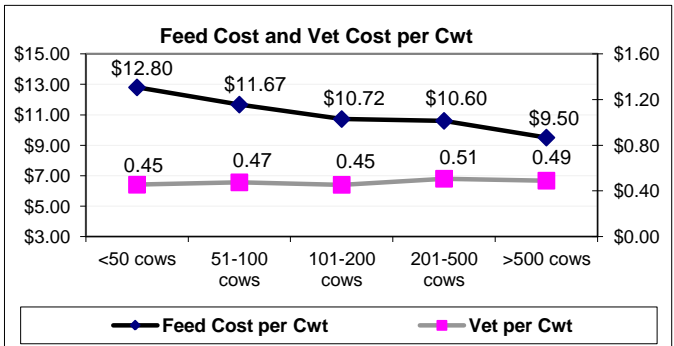
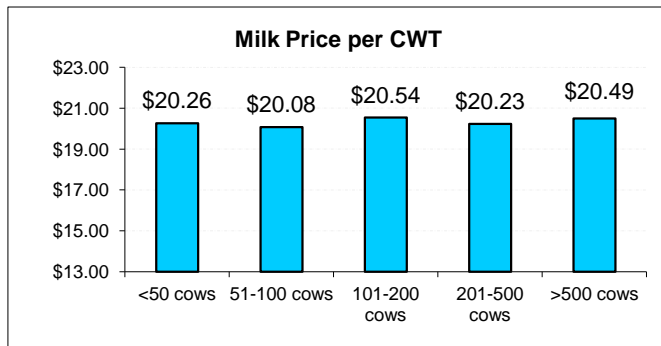
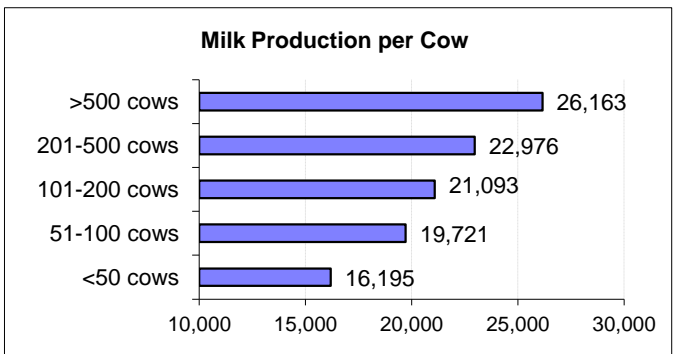
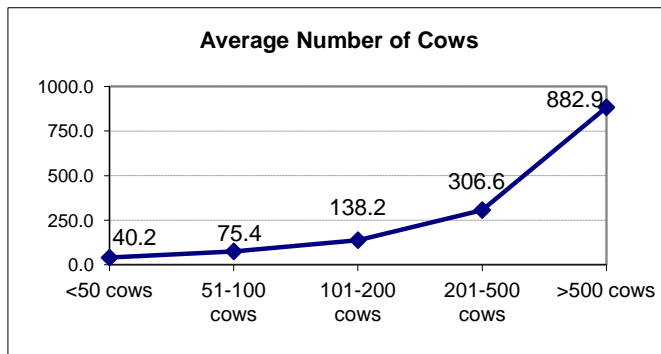
**Average Dollars Spent by a Minnesota Dairy Farm totals \$1,162,077  
in 2013**



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>396</b>	<b>50</b>	<b>147</b>	<b>110</b>	<b>65</b>	<b>24</b>
Milk sold (hd)	4,617.03	3,248.90	3,939.26	4,297.79	4,611.02	5,335.88
Dairy Calves sold (hd)	53.48	44.65	58.79	44.20	39.40	71.45
Transferred out (hd)	38.12	54.92	66.27	35.76	54.55	8.06
Cull sales (hd)	283.17	212.85	280.79	264.39	254.54	331.48
Other income	81.71	83.99	93.40	112.12	98.18	38.06
Purchased (hd)	-35.09	-88.41	-66.04	-30.59	-46.76	-6.11
Transferred in (hd)	-56.21	-48.83	-85.17	-58.07	-99.20	-
Inventory change (hd)	29.67	-23.96	26.98	0.56	67.74	21.27
Dairy repl net cost	-628.91	-521.94	-574.75	-601.93	-564.50	-747.30
<b>Gross margin</b>	<b>4,382.97</b>	<b>2,962.17</b>	<b>3,739.54</b>	<b>4,064.22</b>	<b>4,414.95</b>	<b>5,052.78</b>
<b>Direct Expenses</b>						
Protein Vit Minerals (lb.)	758.21	512.10	650.92	675.94	825.83	833.10
Complete Ration (lb.)	341.95	190.81	208.62	358.32	336.87	419.01
Corn (bu.)	320.39	327.40	328.95	293.03	323.28	332.16
Corn Silage (lb.)	362.64	307.39	347.45	301.83	373.71	409.04
Hay, Alfalfa (lb.)	250.78	435.39	414.44	267.60	254.72	131.92
Haylage, Alfalfa (lb.)	157.40	112.71	156.52	153.02	176.25	147.53
Other feed stuffs (lb)	189.10	186.33	194.30	211.92	144.31	212.38
Breeding fees	46.01	30.36	40.74	42.89	45.11	53.33
Veterinary	110.49	73.54	93.61	95.55	116.36	128.02
BST	38.21	4.35	6.96	20.71	42.20	66.55
Supplies	209.03	203.02	207.61	186.52	204.94	230.35
Fuel & oil	106.90	71.14	78.76	95.61	108.20	131.88
Repairs	139.30	108.42	128.88	122.90	147.46	151.76
Custom hire	61.83	12.92	31.56	47.40	54.93	99.13
Hired labor	225.14	16.37	68.89	113.47	232.11	400.21
Hauling and trucking	48.46	67.79	64.18	45.19	38.03	50.56
Marketing	48.59	37.03	42.52	48.42	49.47	52.14
Bedding	65.40	28.13	57.33	64.38	71.64	68.01
Total direct expenses	3,479.82	2,725.21	3,122.25	3,144.72	3,545.42	3,917.08
Return over direct expense	903.15	236.96	617.29	919.50	869.54	1,135.70
<b>Overhead Expenses</b>						
Hired labor	159.87	39.10	76.08	140.09	205.46	186.44
Building leases	41.75	11.13	17.12	37.73	34.81	66.93
Farm Insurance	40.91	41.68	43.58	43.70	44.55	34.00
Utilities	64.86	95.61	85.19	66.87	62.72	51.91
Interest	92.20	75.56	83.85	102.18	109.26	74.94
Mach & bldg depreciation	147.09	92.21	140.52	150.49	151.83	148.84
Miscellaneous	61.93	67.88	65.19	55.19	65.53	61.09
Total overhead expenses	608.60	423.18	511.53	596.27	674.16	624.15
Total dir & ovhd expenses	4088.42	3148.39	3633.78	3740.99	4219.58	4541.23
<b>Net return</b>	<b>294.54</b>	<b>-186.21</b>	<b>105.76</b>	<b>323.23</b>	<b>195.38</b>	<b>511.55</b>
Labor & management charge	198.19	357.25	292.16	229.88	169.28	138.42
<b>Net return over lbr &amp; mgt</b>	<b>96.35</b>	<b>-543.46</b>	<b>-186.40</b>	<b>93.35</b>	<b>26.09</b>	<b>373.13</b>
<b>Cost of Production per CWT</b>						
Total direct expense per cwt.	15.25	16.83	15.83	14.91	15.43	14.97
Total dir& ovhd expense per cwt.	17.92	19.44	18.43	17.74	18.37	17.36
With other revenue adjustments	19.06	21.39	19.56	19.00	19.36	18.51
With labor and management	19.93	23.60	21.05	20.09	20.10	19.04
Est. labor hours per unit	39.96	47.07	39.37	36.87	35.38	46.11
<b>Other Information</b>						
<b>Avg. number of Cows</b>	<b>175.3</b>	<b>40.2</b>	<b>75.4</b>	<b>138.2</b>	<b>306.6</b>	<b>882.9</b>
Milk produced per Cow	22821	16195	19721	21093	22976	26163
Culling percentage	31.0	24.9	30.8	29.5	27.8	35.8
Turnover rate	38.6	35.9	38.8	36.8	36.3	42.1
Cow death loss percent	6.9	9.5	6.8	5.8	8.1	6.3
Percent of barn capacity	113.3	92.4	108.3	109.1	116.5	118.7
Feed cost per day	6.52	5.68	6.30	6.20	6.67	6.81
Feed cost per cwt of milk	10.43	12.80	11.67	10.72	10.60	9.50
Feed cost per Cow	2,380.47	2,072.14	2,301.21	2,261.67	2,434.97	2,485.13
Avg. milk price per cwt.	20.36	20.26	20.08	20.54	20.23	20.49

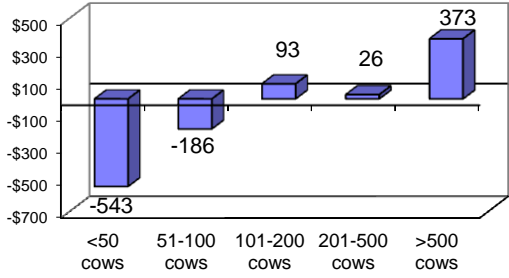
## Selected Dairy Enterprise Factors from the Farm Business Management Program Database

Herd Size	State Ave.	up to 50 cows	51-100 cows	101-200 cows	201-500 cows	over 500 cows
Number of Farms	396	50	147	110	65	24
Ave # of Cows	175.3	40.2	75.4	138.2	306.6	882.9
Milk Prod. Per Cow	22,821	16,195	19,721	21,093	22,976	26,163
Feed Cost per Cwt	\$10.43	\$12.80	\$11.67	\$10.72	\$10.60	\$9.50
Interest per Cwt	\$0.40	\$0.47		\$0.48	\$0.48	\$0.29
Vet per Cwt	\$0.48	\$0.45	\$0.47	\$0.45	\$0.51	\$0.49
Hired Labor per Cwt	\$1.69	\$0.34	\$0.74	\$1.20	\$1.90	\$2.24
Deprec/Lease per Cwt	\$0.83	\$0.64	\$0.80	\$0.89	\$0.81	\$0.82
Milk Price per Cwt	\$20.36	\$20.26	\$20.08	\$20.54	\$20.23	\$20.49
Dir & Ovhd Cost per Cwt	\$17.92	\$19.44	\$18.43	\$17.74	\$18.37	\$17.36
Return over Dir & Ovhd per Cow	\$295	-\$186	\$106	\$323	\$195	\$512
Herd Profit over Dir&Ovhd	\$51,633	-\$7,486	\$7,974	\$44,670	\$59,904	\$451,647
Labor&Mgt per Cwt	\$0.87	\$2.21	\$1.48	\$1.09	\$0.74	\$0.53
Net per Cow after Labor&Mgt	\$96	-\$543	-\$186	\$93	\$26	\$373
Herd Profit over Labor&Mgt	\$16,890	-\$21,847	-\$14,055	\$12,901	\$8,002	\$329,436

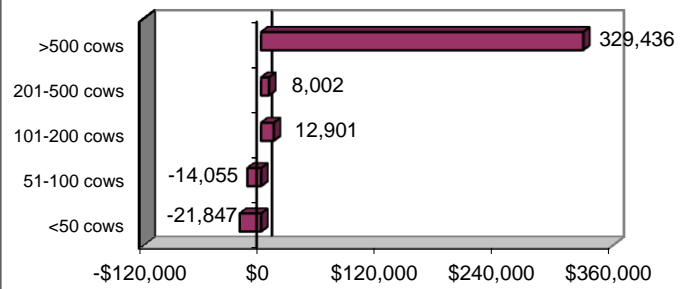


## Selected Dairy Enterprise Factors from the Farm Business Management Program Database

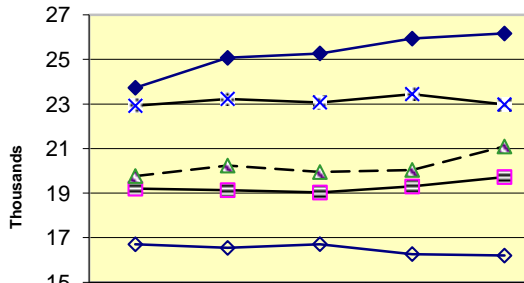
**Return over Direct, Overhead, and Labor&Mgt per Cow**



**Dairy Herd Profit over Direct, Overhead, and Labor&Mgt**

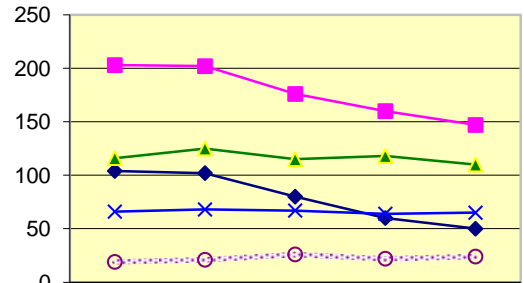


**Pounds of Milk Produced per Cow**



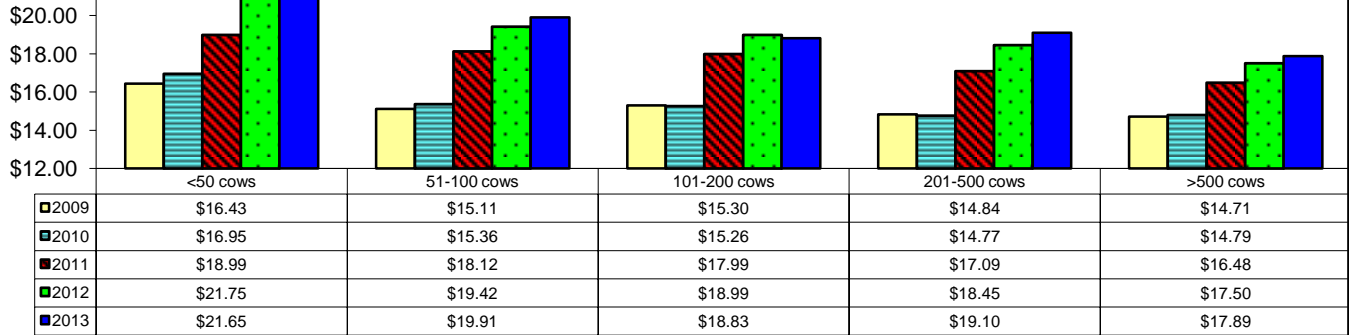
Year	<50 cows	51-100 cows	101-200	201-500	>500 cows
2009	16,702	19,199	19,766	22,919	23,728
2010	16,540	19,132	20,236	23,229	25,070
2011	16,708	19,026	19,946	23,071	25,268
2012	16,264	19,296	20,040	23,444	25,933
2013	16,195	19,721	21,093	22,976	26,163

**Number of Farms by Herd Size**

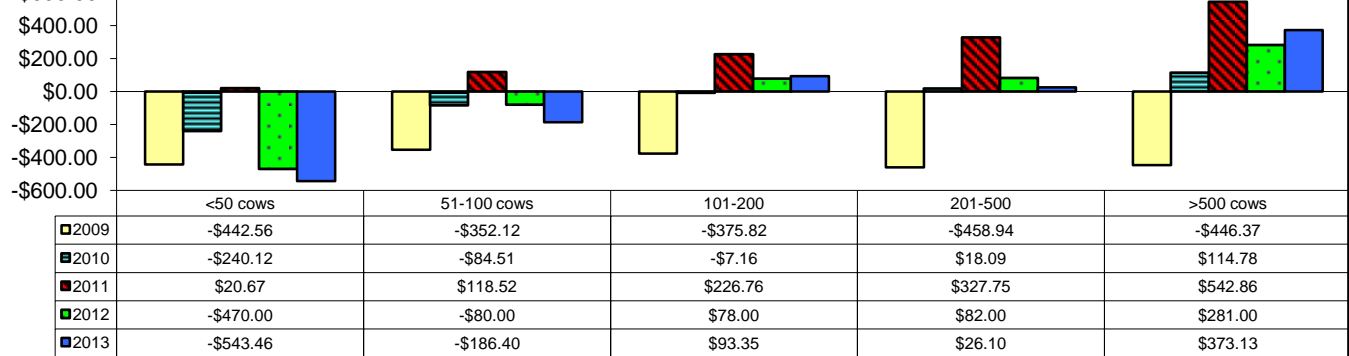


Year	<50 cows	51-100 cows	101-200	201-500	>500 cows
2009	104	203	116	66	19
2010	102	202	125	68	21
2011	80	176	115	67	26
2012	60	160	118	64	22
2013	50	147	110	65	24

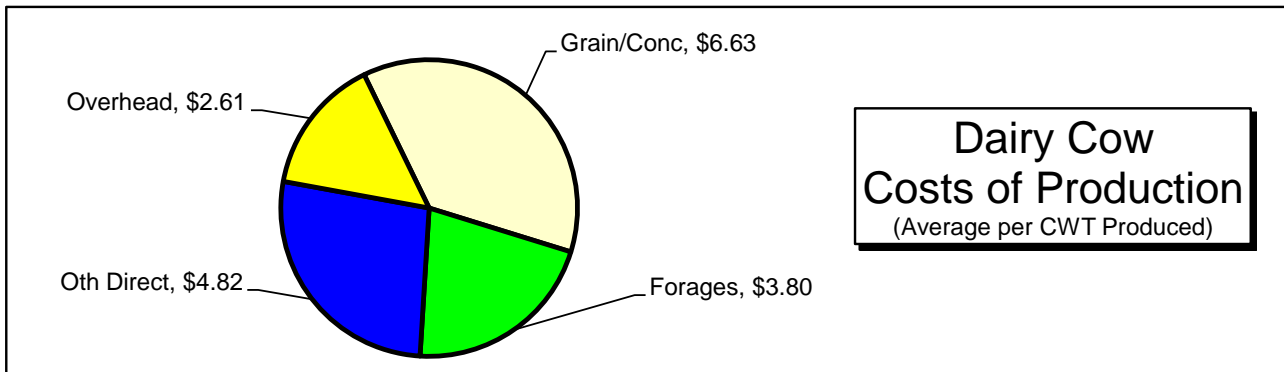
**Direct, Overhead, and Labor & Mgt Cost per CWT**



**Net Return per Cow after Direct, Overhead, and Labor&Mgt**

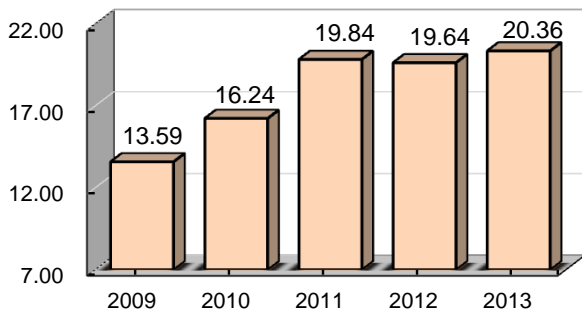


## Summary of Selected Dairy Enterprise Factors - Average Farm Data

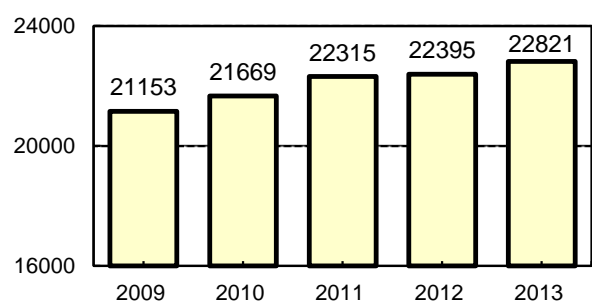


The data on this page includes all Dairy Cow Enterprises in the state FBM database.

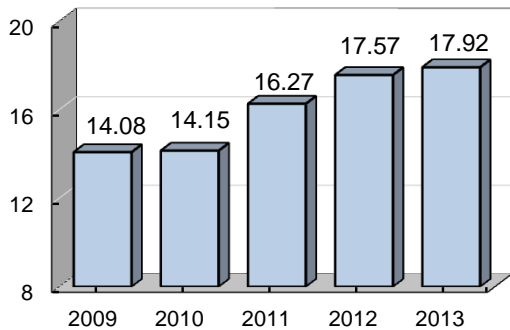
**Ave Milk Price Recv'd**



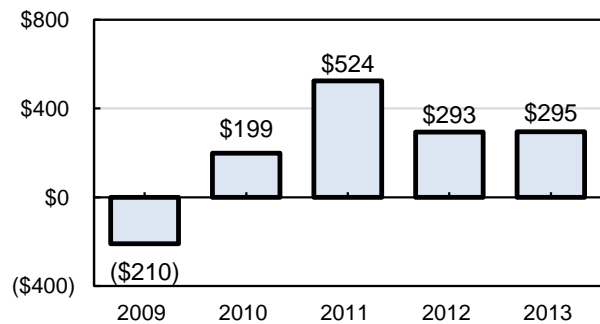
**Milk Production per Cow**



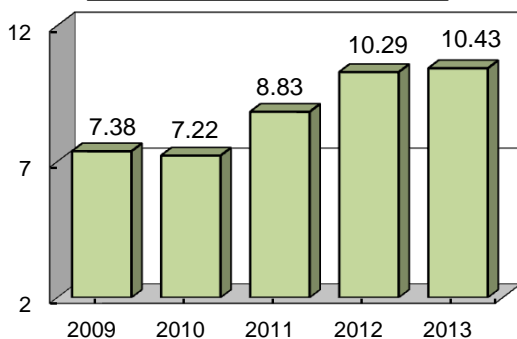
**Dir & Ovhd Exp per CWT**



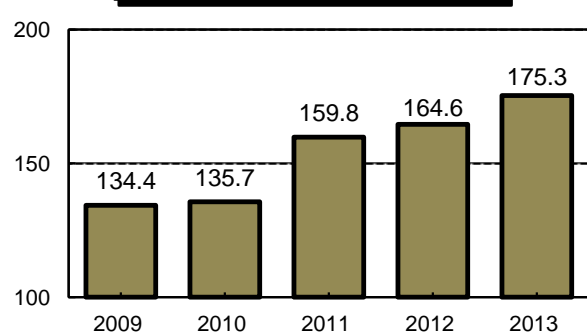
**Net Return per Cow**



**Feed Cost per CWT**



**Ave. Number of Cows**





# A Twenty Year History of Selected Dairy Information

