

Comparing New York dairy farm characteristics, costs, and performance across four quartiles of profitability: 2023

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For farms that participated in the Dairy Farm Business Summary and Analysis Program (DFBS) in 2023, earnings were impacted by a significant drop in the net milk price received, which fell 18 percent from the record high prices in 2022. While there were increases in cow, calf, and crop revenue that partially offset the drop in milk income, the overall decrease in farm revenue coupled with a one percent increase in costs resulted in a 66 percent decrease in net farm income and an average rate of return of 4.0 percent without appreciation.¹ While the average showed significant decreases, variation continued to be wide in earnings and some farms continued to make financial progress. DFBS data from 2023 provides insight into key measures of productivity, efficiency, and financial performance for New York dairy farms during a year of weak to poor earnings.

With a total of 139 farms participating in the Dairy Farm Business Summary and Analysis Program for 2023, the data was sorted into four groups representing earnings quartiles, using the rate of return on all assets without appreciation to measure earnings. The following tables contain selected measures and costs associated with the four quartiles of farms and can be used to identify differences across the earning quartiles. The lowest quartile of farms averaged -1.3 percent rate of return on all capital without appreciation, with the second quartile averaging 2.0 percent, the third quartile earning 4.3 percent, and the highest quartile of farms earning 7.4 percent. The range of 8.7 percent between the lowest and highest quartile of earnings is less than the range of 12.6 percent from 2022 quartile comparison.²

Table 1 highlights selected measures of size, efficiency, costs, and profitability for the four groups. As earnings increased, so did herd size, with the lowest quartile of farms averaging the smallest herd size, and the highest quartile of farms by earnings averaging the largest herd size. However, there is a large range of herd sizes represented in each quartile and there is only a difference of 82 cows in herd size between the two highest quartiles. Table 3 reports the ranges on selected measures in each quartile of farms by earnings. In **Table 3**, the quintile range of herd sizes for the lowest earning group of farms was 104 to 1,938 cows and the quintile range in herd size for the highest earning farms was 560 to 3,484.

¹ Progress of the Dairy Farm Report, E.B 2024-5, Karszes, J, Cornell Dairy Farm Business Summary and Analysis Program, Charles H. Dyson School of Applied Economics and Management, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY, June 2022

² Comparing New York dairy farm characteristics, costs, and performance across four quartiles of profitability in 2022, PD 2023-10-02, MacKenzie, M.K., Karszes, J., PRO-DAIRY, Department of Animal Science, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY, October 2023

Increase in herd sizes are correlated with increased worker equivalent, or one person working 2,760 hours a year, and total tillable acres. However, with increased herd sizes, efficiency is also increased, with milk sold per worker equivalent going from an average of 1,231,156 pounds for the lowest quartile of farms to 1,622,551 pounds for the highest quartile of farms. Combined with the average cost per hired worker equivalent, the highest quartile of farms achieved the lowest cost per cwt. for hired labor, averaging seven cents per cwt. less than the next closest quartile. Across the four quartiles, hired labor costs per worker ranged from a low of \$53,850 in the lowest quartile to 58,508 in the second to lowest quartile. The highest quartile for earnings averaged \$55,710 per hired worker equivalent. While the higher earning quartiles worked more acres in total, the acres worked per cow were lower for the top two quartile of farms vs the bottom two quartiles of farms. The lowest quartile of farms averaged two acres per cow, followed by the second quartile at 1.87 acres per cow. The third quartile of farms averaged 1.68 acres per cow, with the top quartile of farms averaged 1.81 acres per cow. **(Table 1 continued)**

The highest quartile of farms averaged the highest milk sold per cow at 28,074, followed by the second highest quartile of farms averaging 27,074 pounds. Along with averaging the highest milk production, the top quartile of farms also averaged the highest percent butterfat, but the second lowest percent protein. This resulted in the top quartile of farms averaging the highest pounds of butterfat and protein produced, averaging 2,081 pounds per cow, 178 pounds more than the lowest quartile of farms as reported in **Table 1**. All four quartiles averaged within 2,280 pounds of each other. While the average milk sold per cow is higher for the two highest quartiles of farms, as is reported in **Table 3**, there is a large range in milk sold per cow. Farms in the highest earnings quartile range from 25,287 pounds sold per cow to 29,816 sold per cow. Farms in the lowest quartile of earnings ranged from 17,841 to 29,643.

Along with averaging the highest milk production, additional highlights from **Table 1** show that the two highest quartiles of farms by earnings had the lowest cull rates, averaging 32 percent for the second highest quartile of earnings and 33 percent for the highest quartile of earnings. With the trend continuing across all farms raising less heifers, the third quartile of farms averaged the lowest percent heifers to cows at 68 percent and the second quartile of farms averaged 80.8 percent heifers to cows, the highest amount. The top quartile of farms averaged 74.7 percent heifers to cows.

The average net milk price received across the four quartiles ranged from a low of \$20.26 per cwt. for the lowest quartile of farms to a high of \$21.11 for the second lowest quartile of farms. The highest quartile of farms averaged the highest component value per hundredweight, the second highest average premiums, and the lowest milk price risk management. With the lowest and highest average net milk price being the two lowest quartiles of farms by earnings, additional factors are impacting profitability along with the net milk revenue **(Table 1)**.

Total costs to operate the farm decreased, moving from the lowest quartile of farms to the highest quartile of farms, with the average falling from \$24.57 per cwt to \$21.04 per cwt, a difference of \$3.53 per cwt, as report in **Table 2**. Table 2 reports the receipts and expenses on a per cow and per hundredweight basis for the four quartiles of farms based on earnings. While the highest quartile of farms produces the most milk per cow, their costs are lower as this group also averages the lowest total farm operating costs per cow. With operating expenses divided into 31 separate expense categories, differences can be highlighted across the four groups. The highest quartile of farms had the lowest average cost per cow in 13 of the 31 expense categories and were the second lowest cost in an additional five categories. Hired labor costs, machinery repair, fuel, milk marketing, seed, rent, and interest all averaged the lowest of the four groups.

The highest quartile of farms averaged the highest milk receipts per cow, dairy calf receipts per cow, and crop receipts per cow. They also average the second highest dairy cattle revenue per cow. The combined impact of all the revenue sources resulted in the highest quartile of farms averaging the highest in revenue per cow, \$138 dollars more revenue per cow than the third quartile and \$855 more revenue than the lowest quartile.

For the lowest quartile of farms, the operating costs to produce milk averaged \$21.71 per cwt, with the highest quartile of farms averaging \$17.39 per hundredweight, a difference of \$4.32 per hundredweight. This range in operating costs is larger than the range reported by quartile of earnings in 2022, which was \$4.09. Incorporating depreciation expenses and values for family contributions of labor, management, and equity resulted in a total cost of producing milk of \$26.27 per hundredweight for the lowest quartile of farms, and \$21.49 per hundredweight for the highest quartile of farms.

Table 3 continued highlights the quintile ranges associated with selected financial efficiency and profitability measures for each quartile of farms as determined by earnings. While the highest quartile of farms by earnings averages the lowest total investment per cow, the investment ranges from \$8,828 per cow to \$20,161 per cow. The highest quartile of farms tends to have lower investment, higher asset turnover, lower operating expense ratios, higher ability to service debt and stronger working capital positions.

Analyzing how your business compares to industry benchmarks can be useful to identify areas within the business that could benefit from further evaluation and possible management changes. To participate in the Dairy Farm Business Summary and Analysis Program, please reach out to the Cornell Cooperative Extension farm business management extension educator in your area or visit the DFBS website for further information: <https://cals.cornell.edu/pro-dairy/our-expertise/business/dfbs>

TABLE 1**DAIRY FARM BUSINESS SUMMARY SELECTED FACTORS**Sorted y Return on All Capital without Appreciation, 139 New York Dairy Farms, DFBS, 2023 ¹

SELECTED FACTORS	Average of Lowest Quartile	Average of 2nd Quartile	Average of 3rd Quartile	Average of Top Quartile
<i>Size of Business</i>				
Average number of cows	675	1,229	1,567	1,649
Percent Heifers to Cows	70.1%	80.8%	68.0%	74.7%
Milk sold, pounds	17,404,439	33,302,819	43,775,831	46,288,682
Worker equivalent	14.1	25.4	28.0	28.5
Total tillable acres	1,379	2,303	2,639	2,819
<i>Rates of Production</i>				
Milk sold per cow, pound	25,794	27,099	27,938	28,074
Hay DM per acre, tons	3.07	3.48	3.37	3.54
Corn silage per acre, tons	18.60	19.17	18.89	21.09
Cull rate, percent	35%	35%	32%	33%
<i>Labor Efficiency</i>				
Cows per worker	47.7	48.5	56.0	57.8
Milk sold per worker, pounds	1,231,156	1,313,203	1,565,239	1,622,551
<i>Cost Control and Milk Price</i>				
Grain & concentrate per ct. milk	\$7.89	\$7.71	\$7.77	\$7.70
Net milk income over purchased grain & conc. per cow	\$3,169	\$3,538	\$3,672	\$3,681
Dairy feed & crop expense per cwt. milk	\$9.68	\$9.84	\$9.79	\$9.60
Labor and machinery cost per cow	\$2,290	\$2,433	\$2,097	\$2,018
Hired labor costs per cwt. milk	\$3.55	\$4.01	\$3.20	\$3.13
Hired labor costs per worker equivalent	\$53,850	\$58,508	\$56,400	\$55,710
Operating cost of producing milk per cwt.	\$21.71	\$20.54	\$18.95	\$17.39
Purchased input cost of producing milk per cwt.	\$23.37	\$22.28	\$20.75	\$19.00
Total cost of producing milk per cwt.	\$26.27	\$24.78	\$23.11	\$21.49
Net milk price	\$20.26	\$21.11	\$20.69	\$21.05
<i>Capital Efficiency (average for year)</i>				
Farm capital per cow	\$14,165	\$15,067	\$13,988	\$13,961
Machinery and equipment per cow	\$2,426	\$2,353	\$2,374	\$2,215
Asset turnover ratio	0.51	0.54	0.57	0.58
<i>Profitability</i>				
Net farm income without appreciation	-\$125,938	\$235,826	\$806,215	\$1,711,444
Net farm income without appreciation per cow	-\$187	\$192	\$515	\$1,038
Net farm income with appreciation	\$303,288	\$1,268,195	\$1,957,154	\$2,846,413
Net farm income with appreciation per cow	\$449	\$1,032	\$1,249	\$1,726
Labor & management income per operator/manager	-\$190,245	-\$173,743	\$18,366	\$355,846
Rate return on equity capital with appreciation	1.7%	8.6%	11.1%	14.4%
Rate return on equity capital without appreciation	-5.1%	0.1%	3.5%	8.1%
Rate return on all capital with appreciation	3.2%	7.5%	9.5%	12.3%
Rate return on all capital without appreciation	-1.3%	2.0%	4.3%	7.4%
<i>Financial Summary (based on market value, excluding deferred taxes)</i>				
Farm net worth, end year	\$6,335,923	\$12,691,099	\$15,598,943	\$19,001,680
Debt to asset ratio	0.35	0.34	0.32	0.21
Farm debt per cow	\$5,007	\$5,319	\$4,611	\$3,097
Debt coverage ratio*	0.36	1.14	1.38	2.95

*Farm participating both years

¹ Groups determined by Percent Rate of Return to All Capital w/o Appreciation

TABLE 1 CONTINUED**DAIRY FARM BUSINESS SUMMARY SELECTED FACTORS**Sorted by Return on All Capital without Appreciation, 139 New York Dairy Farms, DFBS, 2023¹

SELECTED FACTORS	Average of Lowest Quartile	Average of 2nd Quartile	Average of 3rd Quartile	Average of Top Quartile
Income Generation ²				
% Butterfat	4.15%	4.18%	4.16%	4.20%
% Protein	3.23%	3.22%	3.20%	3.21%
Lbs. of Butterfat and Protein per Cow	1,903	2,006	2,059	2,081
Component Value per Cwt.	\$19.41	\$19.50	\$19.38	\$19.52
Total Premiums per Cwt.	\$0.23	\$0.58	\$0.43	\$0.52
Total Milk Price Risk Management per Cwt ³	\$0.73	\$0.55	\$0.46	\$0.40
Balance Sheet Analysis				
Working Capital as % of Operating Expenses	17%	16%	28%	44%
Long Term Debt to Asset Ratio	0.36	0.32	0.28	0.20
Intermediate/Current Debt to Asset Ratio	0.34	0.36	0.34	0.22
Debt to Asset Ratio, Total	0.35	0.34	0.32	0.21
Debt Analysis				
Accounts payable as percent of total debt	4%	5%	3%	3%
Long-term debt as percent of total debt	46%	43%	37%	35%
Current & intermediate debt as percent of total debt	54%	57%	63%	65%
Cost of term debt(weighted average)	5.9%	6.1%	5.8%	4.2%
Net Worth Change				
Retained earnings	-\$348,309	-\$8,169	\$217,598	\$1,131,521
Contributed capital	\$57,717	\$128,267	\$100,797	\$156,206
Valuation equity	\$340,537	\$736,856	\$702,016	\$854,396
Cash Flow				
Net provide by operating activities, per cow	\$221	\$536	\$634	\$949
Net provided by investing activities, per cow	-\$696	-\$1,145	-\$1,369	-\$1,090
Net provided by financing activities, per cow	\$452	\$611	\$631	\$210
Net provided by reserves, per cow	\$4	\$8	\$91	-\$73
Repayment Analysis ⁴				
Planned debt payments per Cow	\$629	\$683	\$654	\$437
Planned debt payments per Cwt.	\$2.44	\$2.52	\$2.34	\$1.56
Percent of total receipts	9%	9%	9%	6%
Percent of milk receipts	11%	11%	10%	7%
Cash flow coverage ratio	0.85	1.30	1.39	2.51
Debt coverage ratio	0.36	1.14	1.38	2.95
Crop Program Analysis				
Crop input costs per acre	\$192	\$213	\$219	\$212
Total tillable acres per cow	2.00	1.87	1.68	1.81
Total forages acres per cow	1.74	1.57	1.43	1.52
Harvested dry matter per cow	8.21	7.69	7.23	8.09
Percent tillable land owned	50%	54%	47%	54%
Capital and Financial Efficiency				
Farm capital per cow	\$14,165	\$15,067	\$13,988	\$13,961
Real estate per cow	\$6,333	\$6,970	\$5,777	\$5,295
Machinery and equipment per cow	\$2,426	\$2,353	\$2,374	\$2,215
Asset turnover	0.51	0.54	0.57	0.58
Operating expense ratio	0.92	0.87	0.83	0.78
Interest expense ratio	0.05	0.04	0.04	0.02
Depreciation expense ratio	0.07	0.06	0.07	0.06

1 Groups determined by Percent Rate of Return to All Capital w/o Appreciation

2 Average of farms reporting milk income detail.

3 Average of all net proceeds for farms providing detail, including Dairy Margin Coverage, Dairy-RP, and other net proceeds.

4 Farms participating 2 years

TABLE 2**RECEIPTS & EXPENSES PER COW AND PER HUNDREDWEIGHT**Sorted by Return on All Capital without Appreciation, 139 New York Dairy Farms, DFBS, 2023¹

Item	Lowest Quartile		2nd Quartile		3rd Quartile		Top Quartile	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average number of cows	675		1,229		1,567		1,649	
Cwt. of milk sold		174,044		333,028		437,758		462,887
ACCRUAL OPERATING RECEIPTS								
Milk	\$5,842	\$22.65	\$6,229	\$22.99	\$6,312	\$22.59	\$6,371	\$22.69
Dairy cattle	\$346	\$1.34	\$461	\$1.70	\$387	\$1.39	\$399	\$1.42
Dairy calves	\$105	\$0.41	\$141	\$0.52	\$188	\$0.67	\$195	\$0.70
Other livestock	\$17	\$0.07	\$37	\$0.14	\$6	\$0.02	\$8	\$0.03
Crops	\$71	\$0.27	\$195	\$0.72	\$261	\$0.93	\$271	\$0.96
Miscellaneous receipts	<u>\$203</u>	<u>\$0.79</u>	<u>\$213</u>	<u>\$0.78</u>	<u>\$150</u>	<u>\$0.54</u>	<u>\$195</u>	<u>\$0.70</u>
Total Operating Receipts	\$6,583	\$25.52	\$7,277	\$26.85	\$7,304	\$26.14	\$7,438	\$26.50
ACCRUAL OPERATING EXPENSES								
Hired labor	\$915	\$3.55	\$1,087	\$4.01	\$894	\$3.20	\$877	\$3.13
Dairy grain & concentrate	\$2,036	\$7.89	\$2,089	\$7.71	\$2,170	\$7.77	\$2,161	\$7.70
Dairy roughage	\$80	\$0.31	\$157	\$0.58	\$190	\$0.68	\$151	\$0.54
Nondairy feed	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00
Professional nutritional services	\$2	\$0.01	\$1	\$0.00	\$1	\$0.00	\$1	\$0.00
Machine hire, rent & lease	\$225	\$0.87	\$265	\$0.98	\$170	\$0.61	\$176	\$0.63
Machine repair & vehicle expense	\$371	\$1.44	\$370	\$1.36	\$323	\$1.15	\$312	\$1.11
Fuel, oil & grease	\$229	\$0.89	\$225	\$0.83	\$208	\$0.74	\$195	\$0.69
Replacement livestock	\$100	\$0.39	\$11	\$0.04	\$57	\$0.20	\$10	\$0.03
Breeding	\$65	\$0.25	\$68	\$0.25	\$57	\$0.20	\$58	\$0.21
Veterinary & medicine	\$166	\$0.64	\$169	\$0.62	\$153	\$0.55	\$158	\$0.56
Milk marketing	\$615	\$2.38	\$507	\$1.87	\$532	\$1.90	\$462	\$1.65
Bedding	\$108	\$0.42	\$134	\$0.49	\$108	\$0.39	\$101	\$0.36
Milking supplies	\$122	\$0.47	\$126	\$0.46	\$109	\$0.39	\$103	\$0.37
Cattle lease	\$0	\$0.00	\$7	\$0.03	\$0	\$0.00	\$6	\$0.02
Custom boarding	\$30	\$0.12	\$85	\$0.31	\$153	\$0.55	\$76	\$0.27
BST expense	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00
Livestock professional fees	\$24	\$0.09	\$19	\$0.07	\$16	\$0.06	\$23	\$0.08
Other livestock expense	\$50	\$0.20	\$46	\$0.17	\$29	\$0.11	\$34	\$0.12
Fertilizer & lime	\$150	\$0.58	\$187	\$0.69	\$168	\$0.60	\$184	\$0.66
Seeds & plants	\$139	\$0.54	\$147	\$0.54	\$132	\$0.47	\$121	\$0.43
Spray & other crop expense	\$80	\$0.31	\$81	\$0.30	\$71	\$0.26	\$75	\$0.27
Crop professional fees	\$11	\$0.04	\$5	\$0.02	\$4	\$0.01	\$4	\$0.01
Land, building & fence repair	\$93	\$0.36	\$97	\$0.36	\$86	\$0.31	\$109	\$0.39
Taxes	\$77	\$0.30	\$76	\$0.28	\$58	\$0.21	\$58	\$0.21
Real estate rent & lease	\$71	\$0.27	\$86	\$0.32	\$92	\$0.33	\$80	\$0.28
Insurance	\$76	\$0.29	\$64	\$0.23	\$57	\$0.20	\$47	\$0.17
Utilities	\$117	\$0.45	\$131	\$0.48	\$108	\$0.39	\$121	\$0.43
Interest paid	\$299	\$1.16	\$282	\$1.04	\$258	\$0.92	\$155	\$0.55
Other professional fees	\$32	\$0.12	\$34	\$0.13	\$31	\$0.11	\$27	\$0.10
Miscellaneous	<u>\$53</u>	<u>\$0.20</u>	<u>\$32</u>	<u>\$0.12</u>	<u>\$27</u>	<u>\$0.10</u>	<u>\$24</u>	<u>\$0.08</u>
Total Operating Expenses	\$6,338	\$24.57	\$6,586	\$24.30	\$6,260	\$22.41	\$5,908	\$21.04
Expansion livestock	\$4	\$0.01	\$27	\$0.10	\$25	\$0.09	\$42	\$0.15
Extraordinary expenses	\$0	\$0.00	\$2	\$0.01	\$1	\$0.00	\$0	\$0.00
Machinery depreciation	\$239	\$0.93	\$266	\$0.98	\$284	\$1.02	\$269	\$0.96
Real estate depreciation	<u>\$189</u>	<u>\$0.73</u>	<u>\$205</u>	<u>\$0.75</u>	<u>\$219</u>	<u>\$0.78</u>	<u>\$181</u>	<u>\$0.65</u>
Total Expenses	\$6,770	\$26.25	\$7,085	\$26.14	\$6,789	\$24.30	\$6,400	\$22.80
Net Farm Income w/o Appreciation	-\$187	-\$0.72	\$192	\$0.71	\$515	\$1.84	\$1,038	\$3.70

2 Average of farms reporting milk income detail.

TABLE 3**SELECTED FARM BUSINESS CHARTS**

Sorted by Return on All Capital without Appreciation, 139 New York Dairy Farms, DFBS, 2023¹
 Each Column Sorted Independently

Lowest Quartile

Average Number of Cows	Cull Rate	Pounds Milk Sold Per Cow	Percent Butterfat	Percent Protein	Pounds Milk Sold Per Worker	Hired Labor Cost per Worker Equiv.	Operating Cost to Produce Milk Per Cwt.	Total Cost of Milk Prod. Per Cwt.	Milk Receipts per Cwt.
104	21.3	17,841	4.50	3.41	618,642	33,869	17.45	24.68	21.31
228	28.6	23,858	4.25	3.25	914,163	47,603	19.53	25.87	22.44
411	34.1	25,884	4.12	3.20	1,110,300	49,704	20.83	27.12	23.08
692	36.4	27,246	4.00	3.14	1,257,021	54,893	22.28	28.83	23.69
1,938	45.3	29,643	3.87	3.06	1,578,114	61,415	25.17	31.70	25.02

2nd Quartile

Average Number of Cows	Cull Rate	Pounds Milk Sold Per Cow	Percent Butterfat	Percent Protein	Pounds Milk Sold Per Worker	Hired Labor Cost per Worker Equiv.	Operating Cost to Produce Milk Per Cwt.	Total Cost of Milk Prod. Per Cwt.	Milk Receipts per Cwt.
400	26.4	22,071	4.67	3.42	933,113	46,510	18.17	23.17	21.68
718	30.9	25,762	4.27	3.25	1,184,858	51,777	19.85	24.37	22.73
954	33.6	27,320	4.20	3.22	1,257,012	54,679	20.55	24.99	23.19
1,236	37.0	28,188	4.12	3.18	1,383,939	57,758	21.13	25.68	23.60
2,836	42.3	29,694	3.94	3.09	1,641,815	65,301	22.71	28.05	25.59

3rd Quartile

Average Number of Cows	Cull Rate	Pounds Milk Sold Per Cow	Percent Butterfat	Percent Protein	Pounds Milk Sold Per Worker	Hired Labor Cost per Worker Equiv.	Operating Cost to Produce Milk Per Cwt.	Total Cost of Milk Prod. Per Cwt.	Milk Receipts per Cwt.
272	22.4	24,833	4.33	3.33	1,044,624	47,049	16.36	22.02	21.78
928	29.6	26,540	4.22	3.22	1,316,248	52,238	17.88	22.67	22.24
1,276	32.6	27,954	4.13	3.19	1,494,530	54,578	18.74	23.42	22.79
1,946	35.6	29,023	4.06	3.17	1,680,193	57,583	19.47	24.02	23.40
3,413	39.7	30,294	3.98	3.11	1,958,397	64,308	20.80	24.87	24.21

Top Quartile

Average Number of Cows	Cull Rate	Pounds Milk Sold Per Cow	Percent Butterfat	Percent Protein	Pounds Milk Sold Per Worker	Hired Labor Cost per Worker Equiv.	Operating Cost to Produce Milk Per Cwt.	Total Cost of Milk Prod. Per Cwt.	Milk Receipts per Cwt.
560	25.1	25,287	4.48	3.34	1,162,380	49,971	15.12	20.13	21.73
1,128	28.9	27,074	4.29	3.24	1,395,933	52,846	16.56	21.33	22.32
1,525	31.1	27,870	4.19	3.21	1,590,428	54,675	17.12	21.57	22.74
1,809	34.7	28,787	4.10	3.18	1,856,766	57,358	18.07	22.09	23.17
3,484	39.3	29,816	3.98	3.12	2,323,574	66,848	20.09	23.48	24.18

¹ Groups determined by Percent Rate of Return to All Capital w/o Appreciation

TABLE 3 CONTINUED

SELECTED FARM BUSINESS CHARTS

Sorted by Return on All Capital without Appreciation, 139 New York Dairy Farms, DFBS, 2023¹
 Each Column Sorted Independently

Lowest Quartile

Investment Per Cow	Machinery Investment per Cow	Asset Turnove Ratio	Operating Expense Ratio	Debt Coverage Ratio	Planned Debt Payments Per Cow	Percent Equity	% Rate of Return on All Capital w/o Apprec.	Net Farm Income per Cow	Working Capital as % of Opr. Expense
9,142	1,066	0.75	0.75	1.82	23	96	0.4	902	51
12,158	2,142	0.56	0.85	0.75	361	85	-0.2	275	32
14,736	2,717	0.48	0.89	0.37	620	71	-1.2	55	22
17,048	4,098	0.43	0.92	0.05	783	59	-3.2	-237	13
25,080	6,018	0.32	1.02	-2.58	1,213	35	-7.1	-706	-6

2nd Quartile

Investment Per Cow	Machinery Investment per Cow	Asset Turnove Ratio	Operating Expense Ratio	Debt Coverage Ratio	Planned Debt Payments Per Cow	Percent Equity	% Rate of Return on All Capital w/o Apprec.	Net Farm Income per Cow	Working Capital as % of Opr. Expense
10,504	1,173	0.83	0.81	3.00	149	92	2.8	618	39
13,332	1,994	0.60	0.84	1.37	517	71	2.5	381	22
14,367	2,745	0.53	0.85	1.02	661	61	2.2	233	16
17,270	3,120	0.48	0.87	0.85	759	54	1.7	123	12
22,394	4,242	0.40	0.91	0.51	1,335	43	0.9	-79	-1

3rd Quartile

Investment Per Cow	Machinery Investment per Cow	Asset Turnove Ratio	Operating Expense Ratio	Debt Coverage Ratio	Planned Debt Payments Per Cow	Percent Equity	% Rate of Return on All Capital w/o Apprec.	Net Farm Income per Cow	Working Capital as % of Opr. Expense
11,182	1,673	0.71	0.75	7.32	141	96	5.3	1,224	69
12,927	1,998	0.62	0.79	2.19	427	78	4.6	820	40
14,552	2,461	0.56	0.81	1.71	607	71	4.3	625	27
16,302	2,946	0.51	0.84	1.35	810	60	3.8	438	19
19,633	4,607	0.42	0.87	0.87	1,016	47	3.2	168	8

Top Quartile

Investment Per Cow	Machinery Investment per Cow	Asset Turnove Ratio	Operating Expense Ratio	Debt Coverage Ratio	Planned Debt Payments Per Cow	Percent Equity	% Rate of Return on All Capital w/o Apprec.	Net Farm Income per Cow	Working Capital as % of Opr. Expense
8,828	620	0.94	0.71	22.86	0	98	10.5	1,588	100
12,549	1,741	0.67	0.75	3.12	124	92	8.3	1,262	66
13,982	2,375	0.57	0.77	1.77	419	82	6.9	1,075	40
15,928	2,887	0.51	0.80	0.79	700	67	6.3	862	25
20,161	4,353	0.43	0.85	0.00	1,124	44	5.8	548	13

¹ Groups determined by Percent Rate of Return to All Capital w/o Appreciation