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**Six Year Trend Analysis 2020  
New York State Dairy Farms  
Selected Financial and Production Factors**

**Dairy Farm Business Summary  
New York State  
Same 122 Farms  
2015 - 2020**

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**Selected Characteristics, Six Year Comparison**  
**Same 122 Farms**

**Table 1**

New York State, Dairy Farm Business Summary & Analysis Program

	2015	2016	2017	2018	2019	2020	% Change
<b>Size of Business</b>							
average number of cows	867	912	969	1,033	1,091	1,131	30.4%
percent heifers to cows	86%	87%	87%	85%	81%	79%	
milk sold, pounds	22,206,262	24,061,638	25,245,205	26,735,505	28,705,750	29,868,881	34.5%
worker equivalent	19.2	19.7	20.4	21.1	21.6	21.9	
tillable acres per cow	2.05	2.04	1.97	1.90	1.84	1.85	-9.8%
corn grain acres per cow	0.20	0.17	0.15	0.22	0.12	0.14	
<b>Rates of Production</b>							
milk sold per cow, pounds	25,619	26,383	26,063	25,891	26,318	26,402	3.1%
cull rate	35%	34%	34%	32%	35%	36%	
net calf & cow sales, per cow	569	417	379	302	270	274	
<b>Labor Efficiency</b>							
cows per worker	45.2	46.4	47.5	48.9	50.6	51.6	14.4%
milk sold per worker, pounds	1,156,576	1,224,511	1,238,724	1,266,485	1,332,053	1,363,876	17.9%
<b>Cost Control and Milk Price</b>							
dairy feed & crop expense per cwt. milk	\$ 8.23	\$ 7.21	\$ 7.11	\$ 7.12	\$ 6.95	\$ 7.44	
labor and machinery costs per cow	\$ 1,755	\$ 1,755	\$ 1,687	\$ 1,743	\$ 1,695	\$ 1,731	
hired labor cost per cwt.	\$ 2.98	\$ 2.84	\$ 2.97	\$ 2.98	\$ 2.98	\$ 3.09	
labor cost per hired worker equivalent	\$ 39,931	\$ 40,362	\$ 42,468	\$ 43,384	\$ 45,505	\$ 48,103	20.5%
operating cost of producing milk per cwt. <sup>1</sup>	\$ 15.60	\$ 14.46	\$ 14.81	\$ 14.95	\$ 15.36	\$ 15.78	
purch. input cost of producing milk per cwt. <sup>1</sup>	\$ 17.28	\$ 16.15	\$ 16.56	\$ 16.61	\$ 16.96	\$ 17.40	
total cost of producing milk per cwt. <sup>1</sup>	\$ 19.69	\$ 18.44	\$ 18.83	\$ 18.81	\$ 19.07	\$ 19.61	
net milk price per cwt.	\$ 17.39	\$ 16.11	\$ 17.39	\$ 16.03	\$ 18.22	\$ 17.19	
<b>Capital Efficiency(average for year)</b>							
farm capital per cow	\$ 12,066	\$ 12,112	\$ 12,051	\$ 11,696	\$ 11,401	\$ 11,773	-2.4%
machinery and equipment per cow	\$ 1,997	\$ 1,962	\$ 1,886	\$ 1,795	\$ 1,743	\$ 1,817	
net reinvestment per cow	\$ 1,261	\$ 902	\$ 887	\$ 559	\$ 584	\$ 823	
<b>Profitability</b>							
net farm income without appreciation	\$ 234,043	\$ 217,370	\$ 479,048	\$ 161,781	\$ 697,874	\$ 922,198	
net farm income w/o apprec. per cow	\$ 270	\$ 238	\$ 495	\$ 157	\$ 640	\$ 815	
labor & management income per oper.	\$ (58,826)	\$ (68,453)	\$ 36,390	\$ (98,521)	\$ 119,831	\$ 195,452	
rate of return on equity capital w/o apprec.	0.9%	0.6%	3.8%	-0.4%	6.1%	7.9%	
rate of return on all capital w/o apprec.	1.6%	1.5%	3.9%	1.3%	5.7%	6.6%	
<b>Financial Summary</b>							
farm net worth, end of year	7,405,173	7,545,664	8,017,361	7,800,775	8,492,779	9,570,298	12.1%
debt to asset ratio	0.31	0.33	0.33	0.35	0.33	0.31	
farm debt per cow	\$ 3,837	\$ 3,993	\$ 4,043	\$ 4,057	\$ 3,828	\$ 3,700	-3.6%
retained earnings	\$ (39,995)	\$ (34,508)	\$ 280,879	\$ (95,397)	\$ 418,328	\$ 663,476	
valuation equity change	\$ 54,743	\$ 41,517	\$ 130,227	\$ (236,513)	\$ 216,855	\$ 103,252	

<sup>1</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included in the calculation as an offset to the cost of milk production measures for 2020 in this report.

**Table 2**

**Top 25% of Farms vs. Remaining 75% of Farms**  
 Percent Change and Differences, Selected Measures  
 Same 122 Farms, 2015 - 2020  
 Dairy Farm Business Summary, New York State

	2015	2020	Change	Percent Change	Percent Difference	
					2015	2020
<b>Average Herd Size, Milking &amp; Dry</b>						
Top 25%	1,268	1,795	527	41.6%	73.7%	98.3%
75%	730	905	175	24.0%		
<b>Milk per Cow, Lbs.</b>						
Top 25%	26,185	26,812	627	2.4%	3.6%	2.6%
75%	25,285	26,125	840	3.3%		
<b>Milk Sold per Farm, Lbs.</b>						
Top 25%	33,200,924	48,129,541	14,928,617	45.0%	79.8%	103.5%
75%	18,460,827	23,648,216	5,187,389	28.1%		
<b>Cows per Worker</b>						
Top 25%	46.9	55.9	9.03	19.2%	6.3%	13.9%
75%	44.1	49.1	4.97	11.3%		
<b>Milk Sold per Worker, Lbs.</b>						
Top 25%	1,228,299	1,499,830	271,531	22.1%	10.0%	16.9%
75%	1,116,132	1,283,137	167,005	15.0%		
<b>Hired Labor Cost per Cwt.</b>						
Top 25%	\$2.92	\$3.00	\$0.07	2.5%	-3.0%	-5.0%
75%	\$3.01	\$3.15	\$0.14	4.7%		
<b>Cost per Hired Worker</b>						
Top 25%	\$39,737	\$48,665	\$8,928	22.5%	-0.8%	1.9%
75%	\$40,044	\$47,741	\$7,697	19.2%		
<b>Investment Per Cow</b>						
Top 25%	\$11,416	\$11,082	-\$335	-2.9%	-8.3%	-9.5%
75%	\$12,450	\$12,240	-\$211	-1.7%		
<b>Machinery Invest. per Cow</b>						
Top 25%	\$1,874	\$1,604	-\$269.40	-14.4%	-9.5%	-18.2%
75%	\$2,071	\$1,960	-\$110.47	-5.3%		
<b>Debt Per Cow, End of Year</b>						
Top 25%	\$3,191	\$2,883	-\$308.00	-9.7%	-24.5%	-32.2%
75%	\$4,228	\$4,251	\$23.00	0.5%		
<b>Net Worth, Beginning of 2014 to End of 2019</b>						
Top 25%	\$10,365,323	\$15,578,964	\$5,213,641	50.3%	65.0%	107.1%
75%	\$6,282,306	\$7,523,389	\$1,241,083	19.8%		





**Table 3 Continued**

	2015	2016	2017	2018	2019	2020
Hired Labor Cost per Cwt.						
Top 25%	\$2.92	\$2.79	\$2.93	\$2.89	\$2.87	\$3.00
75%	\$3.01	\$2.87	\$2.99	\$3.03	\$3.06	\$3.15
Purchased Feed per Cwt.						
Top 25%	\$6.60	\$5.84	\$5.73	\$5.81	\$5.69	\$5.95
75%	\$6.55	\$5.64	\$5.64	\$5.69	\$5.62	\$6.03
Livestock Expenses, Total per Cwt. <sup>4</sup>						
Top 25%	\$3.12	\$2.91	\$3.03	\$3.01	\$3.02	\$3.23
75%	\$3.62	\$3.36	\$3.40	\$3.15	\$3.24	\$3.42
Machinery & Fuel Expenses per Cwt. <sup>5</sup>						
Top 25%	\$1.95	\$1.66	\$1.79	\$1.74	\$1.81	\$1.87
75%	\$2.20	\$1.92	\$2.10	\$2.05	\$2.19	\$2.12
Machinery Depreciation Expense per Cwt.						
Top 25%	\$0.98	\$0.99	\$0.98	\$0.86	\$0.85	\$0.87
75%	\$0.98	\$0.95	\$0.97	\$0.92	\$0.85	\$0.87
Crop Input Costs per Cwt. <sup>6</sup>						
Top 25%	\$1.19	\$1.11	\$1.07	\$0.98	\$0.88	\$0.97
75%	\$1.45	\$1.20	\$1.15	\$1.13	\$1.04	\$1.13
Additional Fixed Costs per Cwt. <sup>7</sup>						
Top 25%	\$1.69	\$1.45	\$1.43	\$1.41	\$1.44	\$1.48
75%	\$1.78	\$1.54	\$1.61	\$1.61	\$1.58	\$1.70
Interest Costs per Cwt.						
Top 25%	\$0.36	\$0.38	\$0.46	\$0.56	\$0.58	\$0.39
75%	\$0.50	\$0.60	\$0.71	\$0.81	\$0.87	\$0.65
Total Farm Operating Expenses per Cwt.						
Top 25%	\$18.20	\$16.45	\$16.69	\$16.70	\$16.64	\$17.25
75%	\$19.40	\$17.49	\$17.96	\$17.82	\$17.92	\$18.61

<sup>4</sup>Livestock Expenses = sum of replacement livestock, breeding, vet, milk marketing, bedding, milking supplies, cattle lease, custom boarding, bST, livestock professional fees, and other livestock expenses categories

<sup>5</sup>Machinery & Fuel Expenses = sum of machine hire, rent, & lease, machine repairs & parts, and fuel, oil, & grease expense categories

<sup>6</sup>Crop Input Costs = sum of fertilizer & lime, seeds & plants, spray & other crop expenses, and crop, professional fees expense categories

<sup>7</sup>Fixed Costs = sum of land, building & fence repair, taxes, rent & lease, insurance, utilities, other professional fees, and miscellaneous expenses categories



**Six Year Per Cwt. Comparison**  
**Same 31 Farms, Top 25% Sorted by Return on Assets w/o Appreciation**  
 New York State, Dairy Farm Business Summary & Analysis Program

Table 4

	Year					
	2015	2016	2017	2018	2019	2020
number of cows	1,268	1,335	1,442	1,587	1,706	1,795
milk sales in pounds	33,200,924	35,923,590	38,152,975	41,869,799	45,794,942	48,129,541
milk per cow	26,185	26,916	26,466	26,384	26,841	26,812
<b>RECEIPTS</b>						
milk sales-\$	\$18.39	\$17.12	\$18.61	\$17.39	\$19.50	\$18.74
dairy cattle sales	\$1.93	\$1.66	\$1.61	\$1.30	\$1.22	\$1.03
dairy calf sales	\$0.39	\$0.16	\$0.19	\$0.11	\$0.08	\$0.15
other livestock sales	\$0.04	\$0.10	\$0.10	\$0.10	\$0.03	\$0.05
crop sales	\$0.46	\$0.42	\$0.50	\$0.51	\$0.11	\$0.25
government receipts	\$0.13	\$0.18	\$0.13	\$0.11	\$0.22	\$1.95
custom machine work	\$0.06	\$0.07	\$0.07	\$0.07	\$0.08	\$0.09
gas tax refund	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
other	\$0.38	\$0.38	\$0.43	\$0.46	\$0.37	\$0.46
non-cash transfer (subtract)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Farm operating receipts	\$21.79	\$20.08	\$21.64	\$20.05	\$21.62	\$22.71
<b>EXPENSES</b>						
Hired labor	\$2.92	\$2.79	\$2.93	\$2.89	\$2.87	\$3.00
Feed						
dairy grain & concentrate	\$6.60	\$5.84	\$5.73	\$5.81	\$5.69	\$5.95
dairy roughage	\$0.36	\$0.30	\$0.24	\$0.29	\$0.35	\$0.35
nondairy feed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
professional nutritional services	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Machinery						
machine hire, rent & lease	\$0.36	\$0.37	\$0.37	\$0.39	\$0.44	\$0.49
machine repairs & parts	\$1.02	\$0.87	\$0.94	\$0.81	\$0.88	\$1.00
fuel, oil & grease	\$0.57	\$0.42	\$0.48	\$0.54	\$0.49	\$0.39





Table 4 Continued

Livestock	2015	2016	2017	2018	2019	2020
replacement livestock	\$0.00	\$0.01	\$0.01	\$0.03	\$0.08	\$0.13
breeding fees	\$0.19	\$0.20	\$0.21	\$0.19	\$0.15	\$0.18
veterinary & medicine	\$0.67	\$0.61	\$0.63	\$0.59	\$0.56	\$0.53
milk marketing	\$0.97	\$0.95	\$1.10	\$1.24	\$1.19	\$1.33
bedding	\$0.35	\$0.34	\$0.33	\$0.30	\$0.31	\$0.31
milking supplies	\$0.34	\$0.33	\$0.28	\$0.28	\$0.31	\$0.32
cattle leased	\$0.01	\$0.00	\$0.00	\$0.00	\$0.01	\$0.00
custom boarding	\$0.27	\$0.24	\$0.27	\$0.26	\$0.27	\$0.28
bST	\$0.18	\$0.12	\$0.03	\$0.00	\$0.00	\$0.00
livestock, professional fees	\$0.06	\$0.06	\$0.06	\$0.05	\$0.05	\$0.06
other livestock expense	\$0.08	\$0.05	\$0.11	\$0.07	\$0.08	\$0.07
<b>Crops</b>						
fertilizer & lime	\$0.54	\$0.40	\$0.38	\$0.38	\$0.36	\$0.37
seeds & plants	\$0.43	\$0.44	\$0.45	\$0.37	\$0.33	\$0.40
spray & other crop expense	\$0.21	\$0.22	\$0.22	\$0.21	\$0.18	\$0.19
crop, professional fees	\$0.02	\$0.04	\$0.02	\$0.01	\$0.01	\$0.01
<b>Real estate</b>						
land, build., fence repair	\$0.36	\$0.25	\$0.25	\$0.26	\$0.31	\$0.34
taxes	\$0.24	\$0.24	\$0.23	\$0.22	\$0.22	\$0.21
rent & lease	\$0.28	\$0.27	\$0.26	\$0.27	\$0.25	\$0.30
<b>Other cash expense</b>						
insurance	\$0.22	\$0.17	\$0.16	\$0.15	\$0.15	\$0.16
utilities	\$0.37	\$0.31	\$0.31	\$0.33	\$0.30	\$0.28
interest paid	\$0.36	\$0.38	\$0.46	\$0.56	\$0.58	\$0.39
other, professional fees	\$0.12	\$0.11	\$0.11	\$0.11	\$0.11	\$0.10
miscellaneous	\$0.11	\$0.09	\$0.10	\$0.09	\$0.10	\$0.09
<b>Farm operating expenses</b>	<b>\$18.20</b>	<b>\$16.45</b>	<b>\$16.69</b>	<b>\$16.70</b>	<b>\$16.64</b>	<b>\$17.25</b>
Expansion Cattle	\$0.06	\$0.09	\$0.28	\$0.14	\$0.18	\$0.06
Extraordinary Expense	\$0.00	\$0.00	\$0.03	\$0.01	\$0.00	\$0.00
Machinery Depreciation	\$0.98	\$0.99	\$0.98	\$0.86	\$0.85	\$0.87
Building Depreciation	\$0.68	\$0.71	\$0.75	\$0.75	\$0.72	\$0.71
<b>Total Accrual Expenses</b>	<b>\$19.91</b>	<b>\$18.24</b>	<b>\$18.73</b>	<b>\$18.46</b>	<b>\$18.38</b>	<b>\$18.89</b>
<b>Net Farm Income w/o Appreciation</b>	<b>\$1.88</b>	<b>\$1.84</b>	<b>\$2.92</b>	<b>\$1.59</b>	<b>\$3.24</b>	<b>\$3.82</b>



**Selected Characteristics, Six Year Comparison**  
**Same 31 Farms, Top 25% Sorted by Return on Assets w/o Appreciation**  
 New York State, Dairy Farm Business Summary & Analysis Program

**Table 5**

	Year						Percent Change
	2015	2016	2017	2018	2019	2020	
<b>Size of Business</b>							
average number of cows	1,268	1,335	1,442	1,587	1,706	1,795	41.6%
average number of heifers	1,083	1,159	1,228	1,288	1,326	1,350	24.7%
percent heifers to cows	85%	87%	85%	81%	78%	75%	
milk sold, pounds	33,200,924	35,923,590	38,152,975	41,869,799	45,794,942	48,129,541	45.0%
worker equivalent	27.03	27.66	28.99	30.51	31.29	32.09	18.7%
total tillable acres	2,496	2,588	2,645	2,788	2,845	2,957	18.5%
<b>Rates of Production</b>							
milk sold per cow, pounds	26,185	26,916	26,466	26,384	26,841	26,812	2.4%
hay DM per acre, tons	3.40	3.20	3.50	3.20	3.30	3.00	-11.8%
corn silage per acre, tons	17.90	16.60	18.50	18.50	18.10	17.70	-1.1%
grain acres per cow	0.13	0.11	0.09	0.19	0.10	0.10	-21.0%
cull rate	33%	33%	33%	30%	33%	35%	6.1%
net calf & cow sales, per cow	\$ 593	\$ 464	\$ 401	\$ 323	\$ 280	\$ 265	
<b>Labor Efficiency</b>							
cows per worker	46.9	48.3	49.7	52.0	54.5	55.9	19.2%
milk sold per worker, pounds	1,228,299	1,298,756	1,316,074	1,372,330	1,463,565	1,499,830	22.1%
<b>Cost Control and Milk Price</b>							
grain & conc. purchased as % of milk sales	36%	34%	31%	33%	29%	32%	
dairy feed & crop expense per cwt. milk	\$ 8.15	\$ 7.24	\$ 7.04	\$ 7.08	\$ 6.93	\$ 7.28	
labor and machinery costs per cow	\$ 1,696	\$ 1,627	\$ 1,663	\$ 1,590	\$ 1,617	\$ 1,676	-1.2%
hired labor cost per cwt.	\$ 2.92	\$ 2.79	\$ 2.93	\$ 2.89	\$ 2.87	\$ 3.00	
labor cost per hired worker equivalent	\$ 39,737	\$ 40,082	\$ 42,306	\$ 43,201	\$ 45,620	\$ 48,665	22.5%
operating cost of producing milk per cwt. <sup>1</sup>	\$ 14.86	\$ 13.57	\$ 13.93	\$ 14.19	\$ 14.69	\$ 15.06	
purch. input cost of prod. milk per cwt. <sup>1</sup>	\$ 16.52	\$ 15.28	\$ 15.69	\$ 15.80	\$ 16.25	\$ 16.64	
total cost of producing milk per cwt. <sup>1</sup>	\$ 18.69	\$ 17.39	\$ 17.79	\$ 17.77	\$ 18.15	\$ 18.64	
net milk price per cwt.	\$ 17.43	\$ 16.17	\$ 17.51	\$ 16.15	\$ 18.31	\$ 17.40	

<sup>1</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included as an offset to the cost of production measures for 2020 in this report.



Table 5 Continued

Capital Efficiency(average for year)	2015	2016	2017	2018	2019	2020	
farm capital per cow	\$ 11,416	\$ 11,514	\$ 11,473	\$ 10,985	\$ 10,689	\$ 11,082	-2.9%
machinery and equipment per cow	\$ 1,874	\$ 1,861	\$ 1,739	\$ 1,601	\$ 1,525	\$ 1,604	-14.4%
asset turnover ratio	0.52	0.49	0.52	0.46	0.57	0.57	
net reinvestment per cow	\$ 1,223	\$ 847	\$ 1,177	\$ 737	\$ 684	\$ 812	
<b>Profitability</b>							
net farm income without appreciation	\$ 622,545	\$ 662,095	\$ 1,112,747	\$ 665,262	\$ 1,484,928	\$ 1,839,465	\$6,387,043
net farm income w/o apprec. per cow	\$ 491	\$ 496	\$ 772	\$ 419	\$ 870	\$ 1,025	
net farm income with appreciation	\$ 972,275	\$ 990,496	\$ 1,496,709	\$ 326,206	\$ 1,959,353	\$ 2,225,708	
net farm income with apprec. per cow	\$ 767	\$ 742	\$ 1,038	\$ 206	\$ 1,149	\$ 1,240	
labor & management income per oper.	\$ 40,778	\$ 43,839	\$ 224,592	\$ 23,598	\$ 373,321	\$ 497,423	\$1,203,550
net non-farm withdrawals per cwt.	\$ 1.47	\$ 1.04	\$ 0.74	\$ 1.29	\$ 1.12	\$ 0.93	
rate of return on equity capital with apprec.	7.4%	7.1%	10.9%	0.9%	13.5%	13.7%	
rate of return on all capital with apprec.	6.2%	6.0%	8.8%	2.0%	10.9%	11.0%	
rate of return on equity capital w/o apprec.	4.1%	4.1%	7.6%	3.7%	9.8%	11.0%	
rate of return on all capital w/o apprec.	3.8%	3.9%	6.5%	3.9%	8.3%	9.0%	
<b>Financial Summary</b>							
farm net worth, end of year	\$ 10,701,524	\$ 11,418,834	\$ 12,323,131	\$ 12,132,266	\$ 13,482,992	\$ 15,578,964	50.3%
debt to asset ratio	0.28	0.28	0.29	0.31	0.29	0.25	
farm debt per cow	\$ 3,191	\$ 3,144	\$ 3,285	\$ 3,286	\$ 3,051	\$ 2,883	-9.7%
debt coverage ratio	1.50	1.78	2.75	1.42	2.48	2.98	
working capital, as % of expenses	29%	26%	27%	27%	30%	36%	
retained earnings	\$ 134,056	\$ 288,284	\$ 829,961	\$ 123,832	\$ 972,105	\$ 1,389,551	
valuation equity change	\$ 83,210	\$ 133,343	\$ 70,504	\$ (510,912)	\$ 317,615	\$ 172,577	



**Six Year Per Cwt. Comparison**  
**Same 91 Farms, Remaining 75% Sorted by ROA w/o Appreciation**  
 New York State, Dairy Farm Business Summary & Analysis Program

Table 6

	Year					
	2015	2016	2017	2018	2019	2020
number of cows	730	768	808	844	881	905
milk sales in pounds	18,460,827	20,020,753	20,848,053	21,579,867	22,884,156	23,648,216
milk per cow	25,285	26,067	25,818	25,575	25,972	26,125
<b>RECEIPTS</b>						
milk sales-\$	\$18.30	\$17.01	\$18.36	\$17.11	\$19.31	\$18.37
dairy cattle sales	\$1.90	\$1.51	\$1.48	\$1.14	\$1.04	\$1.04
dairy calf sales	\$0.47	\$0.21	\$0.21	\$0.07	\$0.08	\$0.16
other livestock sales	\$0.42	\$0.32	\$0.51	\$0.46	\$0.04	\$0.05
crop sales	\$0.42	\$0.32	\$0.51	\$0.46	\$0.24	\$0.36
government receipts	\$0.20	\$0.19	\$0.18	\$0.17	\$0.23	\$2.37
custom machine work	\$0.08	\$0.06	\$0.07	\$0.06	\$0.06	\$0.07
gas tax refund	\$0.01	\$0.00	\$0.01	\$0.00	\$0.00	\$0.00
other	\$0.31	\$0.36	\$0.34	\$0.43	\$0.46	\$0.47
non-cash transfer(subtract)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Farm operating receipts	\$21.77	\$19.69	\$21.17	\$19.54	\$21.47	\$22.88
<b>EXPENSES</b>						
Hired labor	\$3.01	\$2.87	\$2.99	\$3.03	\$3.06	\$3.15
Feed						
dairy grain & concentrate	\$6.55	\$5.64	\$5.64	\$5.69	\$5.62	\$6.03
dairy roughage	\$0.29	\$0.34	\$0.35	\$0.33	\$0.31	\$0.40
nondairy feed	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
professional nutritional services	\$0.01	\$0.01	\$0.01	\$0.00	\$0.01	\$0.00
Machinery						
machine hire, rent & lease	\$0.61	\$0.53	\$0.61	\$0.56	\$0.65	\$0.65
machine repairs & parts	\$0.99	\$0.94	\$0.96	\$0.88	\$0.96	\$1.04
fuel, oil & grease	\$0.60	\$0.45	\$0.53	\$0.62	\$0.58	\$0.43



Table 6 Continued

	2015	2016	2017	2018	2019	2020
<b>Livestock</b>						
replacement livestock	\$0.05	\$0.06	\$0.06	\$0.02	\$0.06	\$0.07
breeding fees	\$0.24	\$0.23	\$0.22	\$0.22	\$0.20	\$0.22
veterinary & medicine	\$0.68	\$0.64	\$0.65	\$0.60	\$0.61	\$0.58
milk marketing	\$0.92	\$0.94	\$1.05	\$1.15	\$1.15	\$1.32
bedding	\$0.41	\$0.37	\$0.35	\$0.34	\$0.37	\$0.36
milking supplies	\$0.42	\$0.34	\$0.37	\$0.35	\$0.35	\$0.37
cattle leased	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
custom boarding	\$0.54	\$0.48	\$0.46	\$0.32	\$0.33	\$0.32
bST	\$0.19	\$0.14	\$0.05	\$0.00	\$0.00	\$0.00
livestock, professional fees	\$0.06	\$0.06	\$0.07	\$0.06	\$0.06	\$0.07
other livestock expense	\$0.10	\$0.09	\$0.10	\$0.09	\$0.10	\$0.09
<b>Crops</b>						
fertilizer & lime	\$0.61	\$0.44	\$0.39	\$0.40	\$0.37	\$0.42
seeds & plants	\$0.54	\$0.48	\$0.48	\$0.48	\$0.44	\$0.46
spray & other crop expense	\$0.26	\$0.26	\$0.25	\$0.22	\$0.20	\$0.22
crop, professional fees	\$0.04	\$0.03	\$0.04	\$0.03	\$0.03	\$0.03
<b>Real estate</b>						
land, build., fence repair	\$0.36	\$0.28	\$0.30	\$0.24	\$0.26	\$0.33
taxes	\$0.25	\$0.25	\$0.26	\$0.26	\$0.26	\$0.27
rent & lease	\$0.30	\$0.28	\$0.31	\$0.34	\$0.33	\$0.36
<b>Other cash expense</b>						
insurance	\$0.23	\$0.18	\$0.17	\$0.18	\$0.18	\$0.18
utilities	\$0.40	\$0.35	\$0.37	\$0.40	\$0.35	\$0.35
interest paid	\$0.50	\$0.60	\$0.71	\$0.81	\$0.87	\$0.65
other, professional fees	\$0.11	\$0.10	\$0.09	\$0.09	\$0.10	\$0.10
miscellaneous	\$0.12	\$0.10	\$0.11	\$0.10	\$0.10	\$0.10
<b>Farm operating expenses</b>	<b>\$19.40</b>	<b>\$17.49</b>	<b>\$17.96</b>	<b>\$17.82</b>	<b>\$17.92</b>	<b>\$18.61</b>
Expansion Cattle	\$0.12	\$0.18	\$0.20	\$0.06	\$0.05	\$0.05
Extraordinary Expense	\$0.02	\$0.00	\$0.01	\$0.02	\$0.01	\$0.00
Machinery Depreciation	\$0.98	\$0.95	\$0.97	\$0.92	\$0.85	\$0.87
Building Depreciation	\$0.70	\$0.73	\$0.75	\$0.77	\$0.76	\$0.78
<b>Total Accrual Expenses</b>	<b>\$21.21</b>	<b>\$19.36</b>	<b>\$19.90</b>	<b>\$19.58</b>	<b>\$19.60</b>	<b>\$20.31</b>
<b>Net Farm Income w/o Appreciation</b>	<b>\$0.55</b>	<b>\$0.33</b>	<b>\$1.27</b>	<b>-\$0.05</b>	<b>\$1.88</b>	<b>\$2.58</b>



**Selected Characteristics, Six Year Comparison**  
**Same 91 Farms, Remaining 75% Sorted by ROA w/o Appreciation**  
 New York State, Dairy Farm Business Summary & Analysis Program

**Table 7**

	Year						Percent Change
	2015	2016	2017	2018	2019	2020	
<b>Size of Business</b>							
average number of cows	730	768	808	844	881	905	24.0%
average number of heifers	632	672	717	737	733	736	16.5%
percent heifers to cows	87%	88%	89%	87%	83%	81%	
milk sold, pounds	18,460,827	20,020,753	20,848,053	21,579,867	22,884,156	23,648,216	28.1%
worker equivalent	16.54	16.91	17.44	17.91	18.24	18.43	11.4%
total tillable acres	1,492	1,569	1,609	1,636	1,687	1,756	17.7%
<b>Rates of Production</b>							
milk sold per cow, pounds	25,285	26,067	25,818	25,575	25,972	26,125	3.3%
hay DM per acre, tons	3.30	3.20	3.30	3.20	3.20	3.10	-6.1%
corn silage per acre, tons	18.00	17.50	18.00	19.10	18.60	18.40	2.2%
grain acres per cow	0.24	0.20	0.19	0.25	0.14	0.17	-27.6%
cull rate, %	36%	35%	35%	33%	36%	36%	0.0%
net calf & cow sales, per cow	\$ 556	\$ 388	\$ 367	\$ 290	\$ 264	\$ 281	
<b>Labor Efficiency</b>							
cows per worker	44.1	45.4	46.3	47.1	48.3	49.1	11.3%
milk sold per worker, pounds	1,116,132	1,183,959	1,195,416	1,204,906	1,254,614	1,283,137	15.0%
<b>Cost Control and Milk Price</b>							
grain & conc. purchased as % of milk sales	36.00	33.00	31.00	33.00	29.00	33.00	
dairy feed & crop expense per cwt. milk	\$ 8.28	\$ 7.19	\$ 7.15	\$ 7.15	\$ 6.97	\$ 7.56	
labor and machinery costs per cow	\$ 1,790	\$ 1,722	\$ 1,792	\$ 1,762	\$ 1,806	\$ 1,831	2.3%
hired labor cost per cwt.	\$ 3.01	\$ 2.87	\$ 2.99	\$ 3.03	\$ 3.06	\$ 3.15	
labor cost per hired worker equivalent	\$ 40,044	\$ 40,532	\$ 42,566	\$ 43,503	\$ 45,429	\$ 47,741	19.2%
operating cost of producing milk per cwt. <sup>1</sup>	\$ 16.05	\$ 15.00	\$ 15.36	\$ 15.45	\$ 15.81	\$ 16.28	
purch. input cost of prod. milk per cwt. <sup>1</sup>	\$ 17.74	\$ 16.68	\$ 17.10	\$ 17.15	\$ 17.44	\$ 17.93	
total cost of producing milk per cwt. <sup>1</sup>	\$ 20.31	\$ 19.08	\$ 19.47	\$ 19.50	\$ 19.69	\$ 20.29	
net milk price per cwt.	\$ 17.37	\$ 16.08	\$ 17.31	\$ 15.96	\$ 18.17	\$ 17.05	

<sup>1</sup>Due to the pandemic and the government response, the increase in government receipts from 2019 to 2020 was unusually large. Therefore, this change isn't included as an offset to the cost of production measures for 2020 in this report.



**Table 7 Continued**

Capital Efficiency(average for year)	2015	2016	2017	2018	2019	2020	
farm capital per cow	\$ 12,450	\$ 12,466	\$ 12,403	\$ 12,152	\$ 11,871	\$ 12,240	-1.7%
machinery and equipment per cow	\$ 2,071	\$ 2,021	\$ 1,976	\$ 1,920	\$ 1,887	\$ 1,960	-5.3%
asset turnover ratio	0.47	0.43	0.46	0.40	0.50	0.51	
net reinvestment per cow	\$ 1,284	\$ 934	\$ 710	\$ 446	\$ 519	\$ 831	
<b>Profitability</b>							
net farm income without appreciation	\$ 101,697	\$ 65,871	\$ 263,173	\$ (9,733)	\$ 429,977	\$ 609,723	
net farm income w/o apprec. per cow	\$ 139	\$ 86	\$ 326	\$ (12)	\$ 488	\$ 674	
net farm income with appreciation	\$ 355,734	\$ 217,030	\$ 506,793	\$ (88,089)	\$ 701,975	\$ 807,671	
net farm income with apprec. per cow	\$ 487	\$ 283	\$ 627	\$ (104)	\$ 797	\$ 892	
labor & management income per oper.	\$ (93,341)	\$ (107,226)	\$ (24,953)	\$ (136,803)	\$ 40,807	\$ 101,381	
net non-farm withdrawals per cwt.	\$ 1.08	\$ 1.06	\$ 0.81	\$ 0.74	\$ 0.88	\$ 0.82	
rate of return on equity capital with apprec.	3.1%	0.8%	5.2%	-4.2%	7.8%	8.5%	
rate of return on all capital with apprec.	3.2%	1.8%	4.8%	-1.0%	6.8%	6.9%	
rate of return on equity capital w/o apprec.	-0.9%	-1.6%	1.4%	-3.0%	3.7%	5.7%	
rate of return on all capital w/o apprec.	0.4%	0.2%	2.4%	-0.2%	4.2%	5.1%	
<b>Financial Summary</b>							
farm net worth, end of year	\$ 6,282,240	\$ 6,226,233	\$ 6,550,561	\$ 6,325,212	\$ 6,792,817	\$ 7,523,389	19.8%
debt to asset ratio	0.33	0.36	0.36	0.38	0.36	0.34	
farm debt per cow	\$ 4,228	\$ 4,503	\$ 4,524	\$ 4,564	\$ 4,352	\$ 4,251	0.5%
debt coverage ratio	0.77	0.72	1.24	0.73	1.40	1.64	
working capital, as % of expenses	20%	16%	16%	15%	17%	22%	
retained earnings	\$ (99,287)	\$ (144,469)	\$ 93,829	\$ (170,080)	\$ 229,679	\$ 416,132	
valuation equity change	\$ 45,046	\$ 10,235	\$ 150,572	\$ (143,036)	\$ 182,531	\$ 79,636	



Table 8

**"Legal 21" Farm Financial Ratios**  
**Same 31 Farms, Top 25% Sorted by ROA w/o Appreciation, New York State, DFBS**  
**2015-2020**

	DFBS page	2015	2016	2017	2018	2019	2020	6 Year Average	Your Farm
<b>Liquidity</b>									
Current Ratio	7	3.02	2.58	2.64	2.91	3.49	3.72	2.93	<input type="text"/>
Working Capital	7	\$1,907,969	\$1,701,544	\$1,898,712	\$2,052,178	\$2,508,646	\$3,270,974	\$2,013,810	<input type="text"/>
As % of Total Expense	7	29.0%	26.0%	27.0%	27.0%	30.0%	36.0%	27.8%	<input type="text"/>
As % of Gross Revenue <sup>1</sup>	calc	26.4%	23.6%	23.0%	24.4%	25.3%	29.9%	24.5%	<input type="text"/>
<b>Solvency</b>									
Debt/Asset Ratio	7	0.28	0.28	0.29	0.31	0.29	0.25	0.29	<input type="text"/>
Equity/Asset Ratio	7	0.72	0.72	0.71	0.69	0.71	0.75	0.71	<input type="text"/>
Debt/Equity Ratio(Leverage Ratio)	7	0.38	0.38	0.41	0.45	0.40	0.34	0.40	<input type="text"/>
<b>Profitability</b>									
Net Farm Income w/o Apprec. (Per Cow)	1	\$491	\$496	\$772	\$419	\$870	\$1,025	\$610	<input type="text"/>
ROA w/o Apprec.	4	3.8%	3.9%	6.5%	3.9%	8.3%	9.0%	5.3%	<input type="text"/>
ROE w/o Apprec.	4	4.1%	4.1%	7.6%	3.7%	9.8%	11.0%	5.9%	<input type="text"/>
Operating Profit Margin Ratio <sup>2</sup>	calc	0.08	0.08	0.13	0.08	0.15	0.16	0.11	<input type="text"/>
EBITDA(Per Cow) <sup>3</sup>	calc	\$867	\$907	\$1,206	\$858	\$1,311	\$1,424	\$1,030	<input type="text"/>
<b>Repayment Capacity</b>									
Capital Debt Repayment Capacity(per cow) <sup>4</sup>	calc	\$634	\$776	\$1,154	\$651	\$1,144	\$1,303	\$872	<input type="text"/>
Capital Debt Repayment Margin(per cow) <sup>5</sup>	calc	\$213	\$340	\$734	\$194	\$682	\$866	\$433	<input type="text"/>
Replacement Margin(per cow) <sup>6</sup>	calc	\$379	\$510	\$894	\$424	\$917	\$1,071	\$625	<input type="text"/>
Term Debt Coverage Ratio	1	1.50	1.78	2.75	1.42	2.48	2.98	1.99	<input type="text"/>
Replacement Margin Coverage Ratio <sup>7</sup>	calc	0.9	1.1	1.7	1.0	1.7	1.9	1.27	<input type="text"/>



**Financial Efficiency**

**Table 8 Continued**

Asset Turnover Ratio <sup>8</sup>	14	0.52	0.49	0.52	0.46	0.57	0.57	0.51	
Operating Expense Ratio	14	0.82	0.8	0.76	0.81	0.75	0.74	0.79	
Depreciation Expense Ratio	14	0.08	0.08	0.08	0.08	0.07	0.07	0.08	
Interest Expense Ratio	14	0.02	0.02	0.02	0.03	0.03	0.02	0.02	
Net Farm Income from Operations Ratio	4	0.09	0.09	0.13	0.08	0.15	0.17	0.11	

1 Calculated utilizing gross income instead of value of farm production.  $(\text{Current Assets} - \text{Current Liabilities}) / \text{Gross Receipts} * 100$

2  $(\text{Net Farm Income} + \text{Interest Paid} - \text{Unpaid Family Labor} - \text{Owner Value}) / \text{Gross Revenue}$

3  $(\text{Net Farm Income} + \text{Depreciation} + \text{Interest} - \text{Value of Unpaid Owner Labor \& Management}) / \text{Average Cows}$

4  $(\text{Net Farm Income} + \text{Depreciation} + \text{Net Non-Farm Income} - \text{Non-Farm Cash Expenses} + \text{Interest Paid on Term Loans}) / \text{Average Cows}$

5  $(\text{Capital Debt Repayment Capacity} - \text{Scheduled Principle and Interest on Term Loans}) / \text{Average Cows}$

6  $(\text{Capital Debt Repayment Capacity} - \text{Unfunded(cash) Capital Replacement Allowance} - \text{Annual machinery depreciation expense utilized to represent unfunded capital replacement requirement})$

7  $(\text{Capital Debt Repayment Capacity} / (\text{Scheduled Principle \& Interest on Term Loans} + \text{Unfunded(cash) Capital Replacement Allowance}))$

8 Utilizing Gross Farm Income to calculate instead of value of farm production

Source: Farm Financial Ratios and Guidelines, Farm Financial Standards Council, 2014



Table 9

**"Legal 21" Farm Financial Ratios  
Same 122 Farms, New York State, DFBS  
2015-2020**

	DFBS page	2015	2016	2017	2018	2019	2020	6 Year Average	Your Farm
<b>Liquidity</b>									
Current Ratio	7	2.51	2.14	2.18	2.15	2.5	2.94	2.40	<input type="text"/>
Working Capital	7	\$1,074,444	\$905,826	\$974,531	\$979,610	\$1,211,763	\$1,623,774	\$1,128,325	<input type="text"/>
As % of Total Expense	7	23.0%	20.0%	20.0%	19.0%	22.0%	28.0%	0.22	<input type="text"/>
As % of Gross Revenue <sup>1</sup>	calc	22.2%	19.0%	18.1%	18.6%	19.6%	23.8%	0.20	<input type="text"/>
<b>Solvency</b>									
Debt/Asset Ratio	7	0.31	0.33	0.33	0.35	0.33	0.31	0.33	<input type="text"/>
Equity/Asset Ratio	7	0.69	0.67	0.67	0.65	0.67	0.69	0.67	<input type="text"/>
Debt/Equity Ratio(Leverage Ratio)	7	0.45	0.49	0.50	0.55	0.50	0.44	0.49	<input type="text"/>
<b>Profitability</b>									
Net Farm Income w/o Apprec. (Per Cow)	1	\$270	\$238	\$495	\$157	\$640	\$815	\$436	<input type="text"/>
ROA w/o Apprec.	4	1.6%	1.5%	3.9%	1.3%	5.7%	6.6%	3.4%	<input type="text"/>
ROE w/o Apprec.	4	0.9%	0.6%	3.8%	-0.4%	6.1%	7.9%	3.2%	<input type="text"/>
Operating Profit Margin Ratio <sup>2</sup>	calc	0.03	0.03	0.08	0.03	0.12	0.13	0.07	<input type="text"/>
EBITDA(Per Cow) <sup>3</sup>	calc	\$631	\$640	\$922	\$589	\$1,076	\$1,205	\$844	<input type="text"/>
<b>Repayment Capacity</b>									
Capital Debt Repayment Capacity(per cow) <sup>4</sup>	calc	\$497	\$546	\$900	\$524	\$1,001	\$1,159	\$771	<input type="text"/>
Capital Debt Repayment Margin(per cow) <sup>5</sup>	calc	\$2	\$27	\$366	-\$24	\$426	\$597	\$232	<input type="text"/>
Replacement Margin(per cow) <sup>6</sup>	calc	\$247	\$291	\$645	\$293	\$777	\$930	\$530	<input type="text"/>
Term Debt Coverage Ratio	1	1.00	1.05	1.69	0.96	1.74	2.06	1.42	<input type="text"/>
Replacement Margin Coverage Ratio <sup>7</sup>	calc	0.7	0.7	1.1	0.7	1.3	1.5	0.98	<input type="text"/>

**Financial Efficiency**

**Table 9 Continued**

Asset Turnover Ratio <sup>8</sup>	14	0.49	0.45	0.49	0.42	0.52	0.53	0.48	
Operating Expense Ratio	14	0.85	0.84	0.8	0.85	0.78	0.77	0.82	
Depreciation Expense Ratio	14	0.08	0.09	0.08	0.08	0.07	0.07	0.08	
Interest Expense Ratio	14	0.02	0.03	0.03	0.04	0.03	0.02	0.03	
Net Farm Income from Operations Ratio	4	0.05	0.05	0.09	0.03	0.11	0.14	0.08	


1 Calculated utilizing gross income instead of value of farm production.  $(\text{Current Assets} - \text{Current Liabilities}) / \text{Gross Receipts} * 100$

2  $(\text{Net Farm Income} + \text{Interest Paid} - \text{Unpaid Family Labor} - \text{Owner Value}) / \text{Gross Revenue}$

3  $(\text{Net Farm Income} + \text{Depreciation} + \text{Interest} - \text{Value of Un-Paid Owner Labor \& Management}) / \text{Average Cows}$

4  $(\text{Net Farm Income} + \text{Depreciation} + \text{Net Non-Farm Income} - \text{Non-Farm Cash Expenses} + \text{Interest Paid on Term Loans}) / \text{Average Cows}$

5  $(\text{Capital Debt Repayment Capacity} - \text{Scheduled Principle and Interest on Term Loans}) / \text{Average Cows}$

6  $(\text{Capital Debt Repayment Capacity} - \text{Unfunded(cash) Capital Replacement Allowance}) / \text{Annual machinery depreciation expense utilized to represent un-funded capital replacement requirement.}$

7  $(\text{Capital Debt Repayment Capacity}) / (\text{Scheduled Principle \& Interest on Term Loans} + \text{Unfunded(cash) Capital Replacement Allowance})$

8 Utilizing Gross Farm Income to calculate instead of value of farm production

Source: Farm Financial Ratios and Guidelines, Farm Financial Standards Council, 2014

**OTHER A.E.M. EXTENSION BULLETINS**

<b>EB No</b>	<b>Title</b>	<b>Fee (if applicable)</b>	<b>Author(s)</b>
2022-01	Six Year Trend Analysis 2020 - New York State Dairy Farms - Selected Financial and Production Factors		Karszes, J. and Augello, L.
2021-07	Progress of the Dairy Farm Report, Selected Financial and Production Factors, Dairy Farm Business Summary, New York State, 2020		Karszes, J. and Augello, L.
2021-06	Effects of NY Overtime Laws on Agricultural Production Costs and Competitiveness		Wolf, C, Stup, R, And Karszes, J.
2021-05	Hired Labor on New York State Dairy Farms: Cost, Efficiency & Change from 2011 through 2020		Karszes, J. and Wolf, C.
2021-04	The Economic Contributions of Agriculture to the New York State Economy: 2019		Schmit, T.
2021-03	2020 New York Berry Price Information		Yang, Z., Park, K.S., and Gómez, M.I.
2021-02	Central NY Farmland Cash Rental Rate Survey Findings		Ifft, J., and Tommell, N.
2021-01	“Six Year Trend Analysis 2019, New York State Dairy Farms, Selected Financial and Production Factors”, Dairy Farm Business Summary		Karszes, J. and Augello, L.
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