

## **Trends in herd dynamics and production**

### Dairy Farm Business Summary and Analysis Program 2024

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The 2024 business year was a higher earnings year on average across New York dairy farms that participated in the Dairy Farm Business Summary (DFBS), as noted in the 2024 DFBS Progress of the Dairy Farm Report<sup>1</sup>. Strong milk prices and component production, high prices paid for beef cows, beef calves and dairy replacements were just a few factors that contributed to higher earnings.

With some unique industry dynamics during the year, the following tables and graphs look closer at trends specific to herd size and milk production across NY farms that participate in the Dairy Farm Business Summary & Analysis Project (DFBS). The DFBS data set includes 128 NY conventional dairy farms in which dairy is their main enterprise, with at least 85% of farm revenue generated from milk, dairy cattle and calf revenue. Data is also provided for a subset of 90 NY dairy farmers who completed the DFBS supplemental survey and answered questions on selected topics related to the dairy herd.

#### **Key takeaways:**

- Herd size continued to increase on New York dairies
- Cull rate and percent heifers to cows continues to decrease on average
- Pounds of butterfat and protein sold per cow averaged 2,083

Table 1 shows the Dairy Herd Inventory averages of the 128 NY dairy farms. Number of animals as well as total asset value of animals is shown by category including dairy cows, bred heifers, open heifers older than six months, and calves less than six months of age. In the beginning of 2024, 1,371 dairy cows were owned on average in the herd. This increased to 1,458 on average by the end of the year, an increase of 87 cows. The average number of cows for the year was 1,428,

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<sup>1</sup> E.B. 2025-07, "Progress of the Dairy Farm Report, Selected Financial and Production Factors", Karszes, J, Koval, H.L., MacKenzie, M.K., Dairy Farm Business Summary and Analysis Program, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY, July 2025.



which includes both owned and leased cows. Heifer numbers also increased on average during the year, with increases seen in each age category. The average number of total heifers for the year was 1,058. During 2024, cattle values increased as well. The end of year total values represent both the increase in owned cattle and changes in valuation (appreciation) of the animals as determined by the participating farms. The total change due to change in value is shown on the “Appreciation” line in Table 1. For dairy cows, asset value increased \$144,846 due to increased numbers, an increase of \$559,814 in total asset value due to change in valuation.

**TABLE 1.**

**Dairy herd inventory**

128 New York dairy farms, 2024

Item	Dairy Cows		Bred		Heifers		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
<b>Average 128 Farms:</b>								
Beginning year (owned)	1,371	\$2,269,277	374	\$604,183	352	\$304,237	303	\$140,551
+ Change w/o appreciation		144,846		25,366		12,433		9,209
+ Appreciation		<u>559,814</u>		<u>152,324</u>		<u>87,756</u>		<u>66,221</u>
End year (owned)	1,458	\$2,973,937	390	\$781,872	367	\$404,427	323	\$215,981
End including leased	1,470							
Average number	1,428		1,058 (all age groups)					

Table 2 shows the average number of animals that left the herd in 2024. The culling rate, which includes cows sold for beef and cows died during the year was 32.2%, of which 26.0% were cows sold for beef and 6.2% were cows that died on the farm. With some farms selling dairy cows to other dairies in 2024, 1.2% of the herd was sold for dairy, an average of 18 cows during the year. Graph 1 shows the average percent cull rate over the last six years for the same 110 NY farms that participate in the DFBS each year. Since 2020 the cull rate has decreased each year. In 2024, cull rate was 31.8% for these 110 farms.

**TABLE 2.**

**Animals leaving the herd**

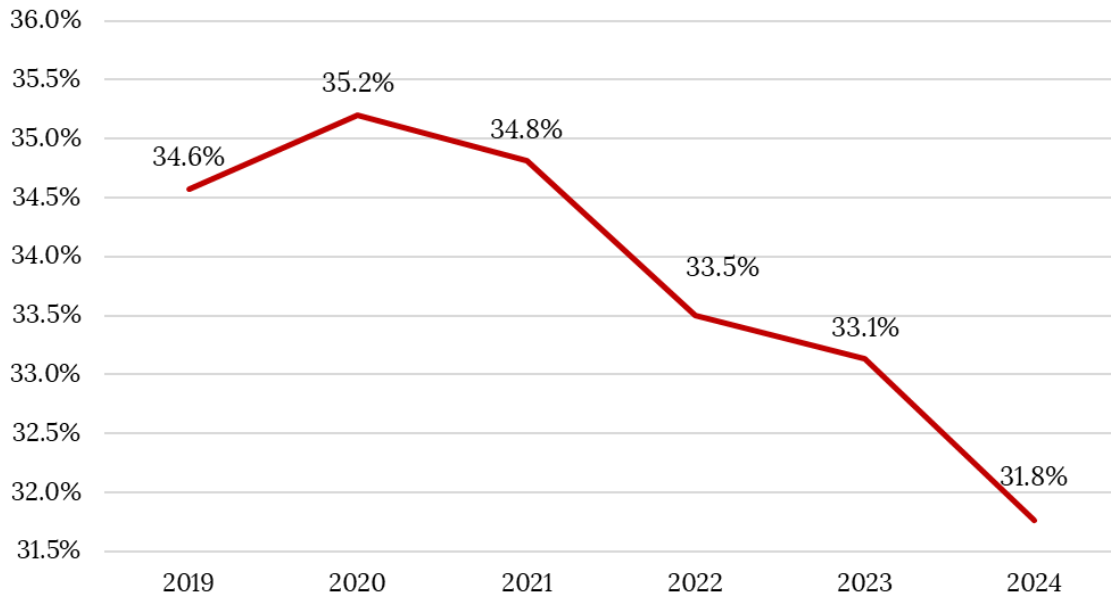
128 New York dairy farms, 2024

	Average 128 Farms	
	Number	Percent% <sup>1</sup>
Cows sold for beef	371	26.0
Cows sold for dairy	18	1.2
Cows died	88	6.2
Culling rate <sup>2</sup>	---	32.2

<sup>1</sup>Percent of average number of cows in the herd.

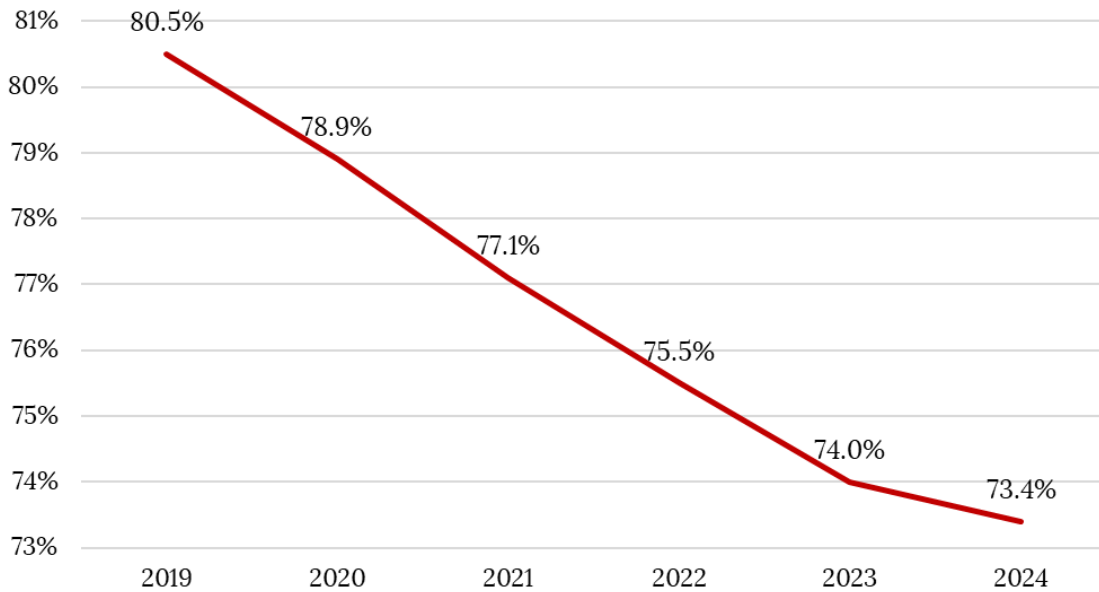
<sup>2</sup>Cows sold for beef plus cows died.

**GRAPH 1.**  
**Average percent cull rate**  
**110 NY Farms, DFBS, same farms in each year 2019 - 2024**



Graph 2 and Table 3 show trends in percent heifers to cows, found by dividing the average number of heifers by the average number of dairy cows for the year. Percent heifers to cows have been decreasing steadily over the past six years for the same 110 farms, as seen in Graph 2. In 2019, the average of the 110 NY farms was 80.5% heifers to cows. In 2024 the same group of farms averaged 73.4%. The average percent heifers to cows for the group of 128 farms in 2024 was 74% as seen in Table 3. The data was then broken down into three groups based on percent heifers to cows, each with just over 40 farms. The high group averaged 89%, the middle group averaged 75% and the low group averaged 58% heifers to cows.

**GRAPH 2.**  
**Average percent heifers to cows**  
**110 NY Farms, DFBS, same farms in each year 2019 - 2024**



**TABLE 3.**  
**Percent heifers to cows**  
**128 New York dairy Farms, 2024**

	Straight average by group	
	Number farms	Percent%
Average	128	74
High group	42	89
Middle group	42	75
Low group	44	58

Herd size increased on average across the 128 farms participating in the summary during the 2024 year. Looking at the combined cow numbers for the 128 farms in Table 4, a similar trend is seen. In the beginning of 2024, the herd for these NY dairy farms totaled 175,491 dairy cows. By the end of the year, the overall herd size was 188,637, a 6% increase of 11,146 cows. This increase was driven by 91 of the 128 farms increasing their dairy herd size during the year. Of the 128 farms, 81 farms also grew their heifer herd, 37 farms purchased cows that entered the dairy herd in 2024 and 38 farms sold dairy cows as dairy animals to other dairies.

Table 4 also shows herd growth trends on the individual farm level. Looking at the 128 farms, individual farms grew their dairy herd by 5.2% on average from the beginning to the end of 2024. Data was then broken down further into three groups, sorted by individual herd growth

rates with just over 40 farms in each group. Farms in the high group grew by an average of 14.7% during the year, the middle group grew by 2.9%, and the low group decreased their herd size by 1.7%. For the two groups that grew the herd, the right side of the table shows what percent of the herd size increase was from external or internal herd growth on average. External growth is defined as growth from purchasing animals that entered the milking herd in 2024. The bottom of Table 4 shows this split for all total herd size for the 91 farms that grew their herd in 2024. On average, 45% of individual farm herd size growth was from internal growth, while 55% was from external herd growth or purchased animals. These numbers are impacted by a few farms that grew by more than 50% in 2024, primarily from purchased animals. Heifer herd size growth trends are also in Table 4, however DFBS does not collect data related to purchasing heifers that don't enter the milking herd during the year.

**TABLE 4.**

**Herd growth trends**

128 New York dairy farms, 2024

<b>New York total herd size trend</b>		
	Beg. of yr. 2024	End of yr. 2024
Number of dairy cows	175,491	186,637
Growth rate	6%	(+11,146 cows)

**Farm Level Trends**

	Number farms	Percent of farms%
Grew dairy herd	91	70
Grew heifer herd	81	63
Purchased animals, Dairy herd	37	29
Sold cows for dairy	38	30

**Growth due to:**

	Number farms	Average percent%	Internal%	External%
<b><u>Dairy Herd</u><sup>3</sup></b>				
Average growth rate	128	5.2	-	-
High group	42	14.7	60	40
Middle group	42	2.9	88	12
Low group	44	-1.7	-	-
<b><u>Heifer Herd</u><sup>4</sup></b>				
Average growth rate	128	3.6		
High group	42	14.3		
Middle group	42	2.7		
Low group	44	-5.8		

**Farms that grew dairy herd in 2024**

Average of 91 farms

<b>Growth due to:</b>	Percent%
Internal Herd Growth	45
External Herd Growth	55

<sup>3</sup>Dairy herd growth includes purchased heifers if they calved and entered the dairy herd in 2024.

<sup>4</sup>Data specific to purchasing heifers is not collected in DFBS.

In 2024, participating DFBS farms were asked to complete a supplemental survey for further data related to industry topics. Farms were asked questions related to purchasing and selling animals, heifer raising, crops and home-grown grain production and labor. Overall, 90 NY farms and over 20 farms from other states completed the survey. Tables 5 and 6 break down and show trends in the herd-specific data provided by NY farms.

**TABLE 5.**  
**Herd trends**

90 NY dairy farms, DFBS supplemental survey data 2024		
	Number farms	Percent of farms%
Purchased animals that entered dairy herd	32	36
Sold heifers for dairy, any age	34	38
Sold cows for dairy	26	29
<b><i>For those farms that marketed animals:</i></b>		
	<u>Number</u>	<u>Per 100 cows:</u>
Heifers sold, Average	11.8	2.60
Cows sold, Average	17.5	0.21

As a part of the supplemental survey, dairy producers were asked questions related to purchasing and selling animals. In 2024 32 of the 90 farms reported purchasing animals that entered the dairy herd, 34 sold heifers for dairy and 26 sold cows for dairy (Table 5). For the 34 farms that sold heifers, farms sold an average of 11.8 heifers or 2.60 heifers per 100 dairy cows. Of the 26 farms that sold cows for dairy, farms sold an average of 17.5 or 0.21 cows per 100 dairy cows.

**TABLE 6.**  
**Animals leaving the herd**

90 New York dairy farms, 2024		
	Average 90 farms	
	Number	Percent%
Cows sold for beef	369	25.6
Cows sold for dairy	18	1.1
Cows died	88	6.0
Culling rate	---	31.6

Table 6 shows the average number of animals leaving the herd for the 90 farms that completed the supplemental survey. The average cull rate was 31.6%, slightly lower than the average of 32.2% of the 128 NY farms looked at prior in Table 2. This was a combination of a lower percentage of animals sold for beef and a lower percent that died on the farm.

**TABLE 7.****Heifer raising trends**

90 NY dairy farms, DFBS supplemental survey data 2024

	Number Farms	Percent of Farms%
Raising Heifers 100% in House	59	66
Some Heifers Custom Raised	31	34
100% Heifers Custom Raised	0	0
<b>Farm utilizing custom heifer raising</b>		
Average of 31 farms		
<b>Average Split Between:</b>		Percent%
Heifers Raised in House		34
Heifers Sent to Custom Raiser		66

Some dairy producers send heifers to custom raisers, outsourcing this task for various reasons. With interest in this topic, farms completing the survey were asked what percentage of their heifers are raised on farm versus sent to a custom raiser. Of the 90 farms, 59 indicated raising 100% of their own heifers in house. Looking at the outsourced side, 31 of the 90 farms indicated that at least some of their heifers are custom raised. None of the farms that completed the survey sent 100% of their heifers to a custom raiser. The bottom of Table 7 shows the average split between heifers raised on the farm and sent to a custom raiser for the 31 farms that do outsource some of their heifer raising. On average, 34% of heifers were raised in house and 66% were sent to a custom raiser. Details related to what age heifers were sent to a custom grower were not collected.

Table 8 shows average milk production data, including fluid and component production detail, for 125 NY dairy farms, focused on those shipping over 1,500 pounds of butterfat and protein per cow. Milk sold per cow averaged 27,387 pounds in 2024. Looking at component production for the 122 farms who provided the detail, pounds of butterfat per cow averaged 1,207 (4.40%) and pounds of protein averaged 893 (3.26%). Adding in other solids, components totaled 3,672 pounds sold per cow. As noted in the 2024 DFBS Progress of the Dairy Farm Report, which included data for 128 NY farms, fluid milk sold per cow did not increase on average from 2023 to 2024. Percent butterfat however increased from 4.18% to 4.34% in 2024, a four percent change. Percent protein also increased from 3.21% to 3.26%, a one percent change.

**TABLE 8.**

**Milk Production**

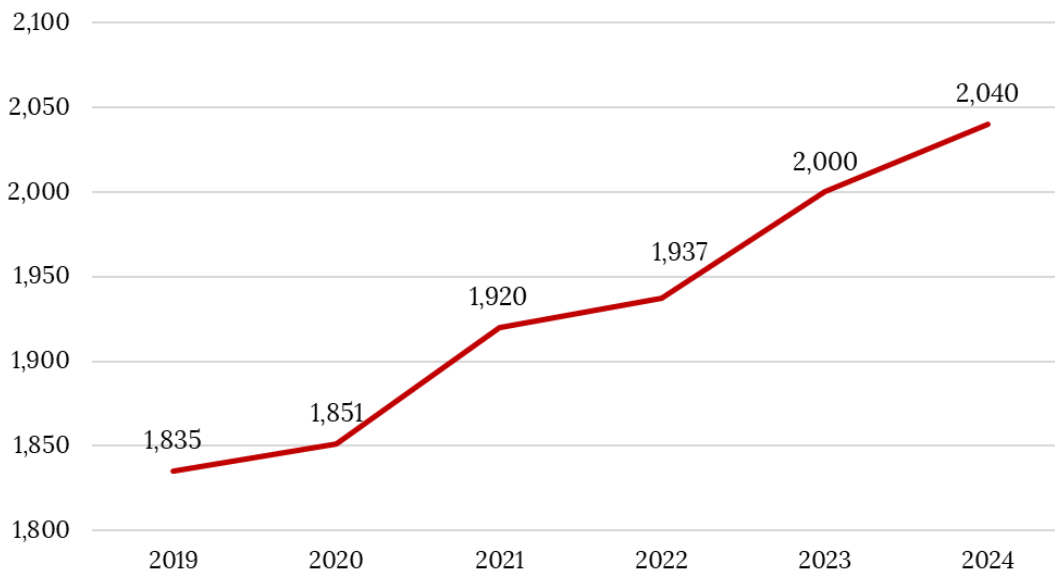
125 New York dairy farms, 2024

Item	Average 125 farms
Total milk sold, lbs.	39,794,680
Milk sold per cow, lbs.	27,387
Butterfat per cow, lbs.	1,207 <sup>5</sup>
Protein per cow, lbs.	893 <sup>5</sup>
Total butterfat and protein per cow, lbs.	2,083 <sup>5</sup>
Other solids per cow, lbs.	1,589 <sup>5</sup>
Total components per cow, lbs.	3,672 <sup>5</sup>

<sup>5</sup> This data is an average for the 122 farms that provided component detail.

**GRAPH 3.**

**Average pounds butterfat & protein sold per cow  
110 NY Farms, DFBS, same farms in each year 2019 - 2024**



With component production a focus on many NY dairy farms, Table 9 highlights production and income measures for five groups of farms determined by pounds of butterfat and protein sold per cow. Farms in the top group, selling greater than 2,200 pounds of butterfat and protein per cow, also averaged the highest fluid production per cow at 29,192 pounds. Farms in this group also averaged the largest herd size. On the income side, the high group averaged the second highest net farm income without appreciation per cow at \$1,307 per cow and second highest rate of return on assets of 9.08%. The second highest group, which sold between 2,100 and

2,199 pounds per cow, averaged 1,680 cows. Though they sold the second highest pounds of milk and pounds of components and they achieved the highest net farm income per cow and rate of return on assets of \$1,479 and 10.42%, respectively. The lowest group, which sold less than 1,900 pounds of butterfat and protein per cow, tended to be smaller farms with lower fluid milk production per cow. They also ranked lowest on income measures on average. Pounds of butterfat and protein sold is calculated by multiplying percent components in milk and total fluid pounds produced. As seen in Graph 3, component production has increased steadily over the last several years.

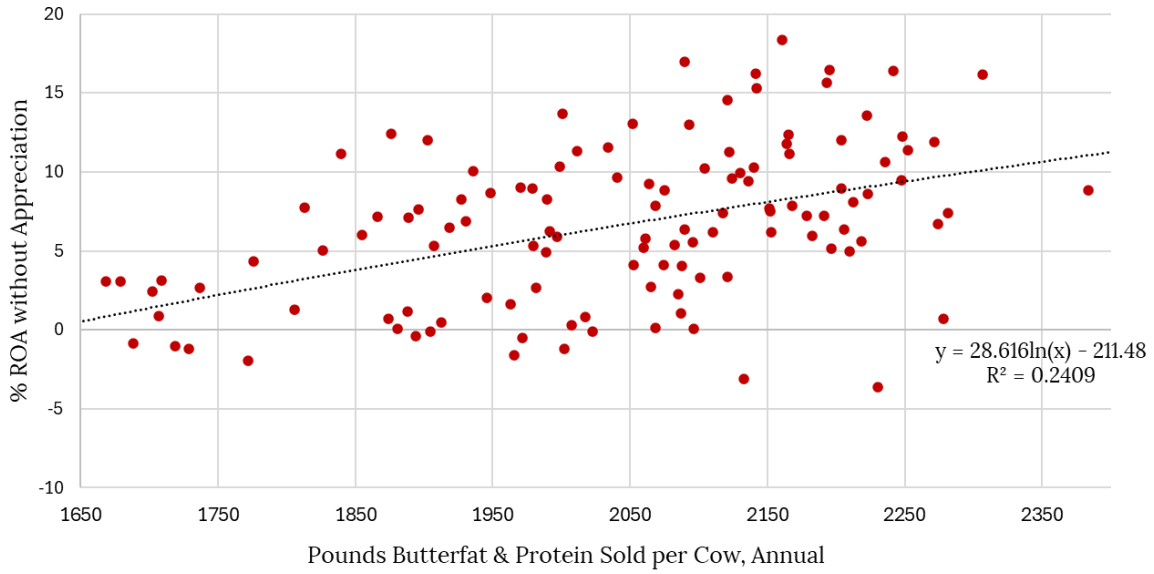
**TABLE 9.**  
**Component production per cow and selected performance measures**  
125 New York dairy farms, 2024

Pounds of butterfat & Protein sold per cow	Number of farms	Average number of cows	Pounds milk sold per cow	Net farm income w/o appreciation per cow, \$	Rate of return on assets w/o appreciation, %
Greater than 2,200	22	1,860	29,192	1,307	9.08
2,100 to 2,199	28	1,680	28,112	1,479	10.42
2,000 to 2,099	27	1,535	27,381	1,131	7.98
1,900 to 1,999	22	1,520	26,192	859	6.52
Less than 1,900	26	722	23,786	747	4.69

Looking more closely at the relationship between component production and financial performance, Graphs 4 and 5 show the association between butterfat and protein produced per cow and rate of return on assets without appreciation (Graph 4) and net farm income per cow without appreciation (Graph 5). Though performance varies across the board, rate of return on assets tended to increase as pounds of butterfat and protein per cow increased (Graph 4). A similar trend is seen in Graph 5. As butterfat and protein pounds sold increases, net farm income per cow tends to trend upwards. However, with many factors affecting net farm income, performance differs from farm to farm.

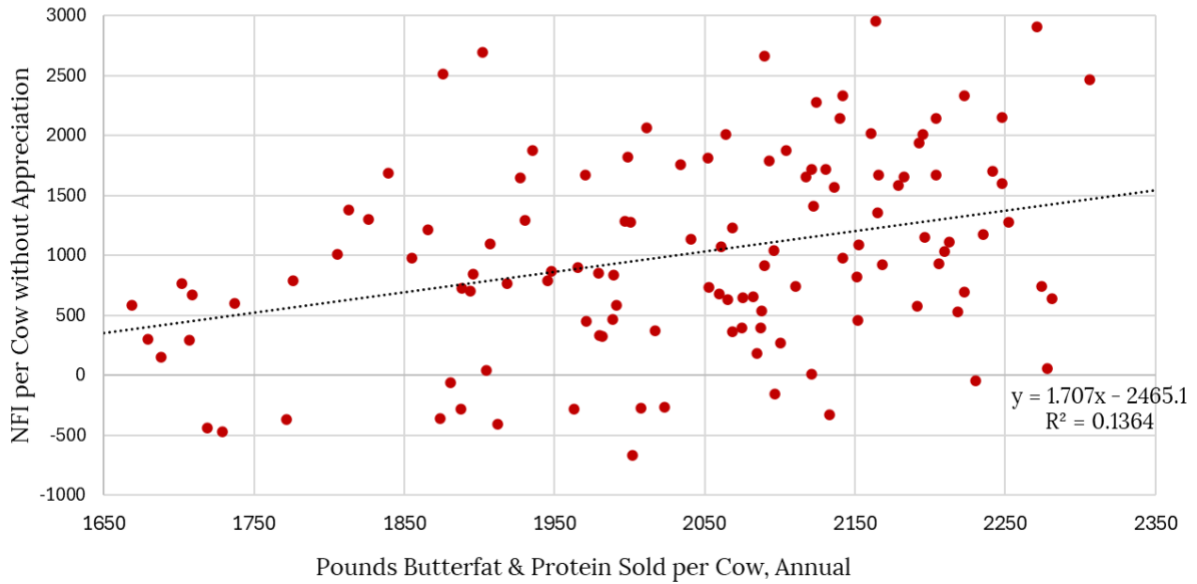
**GRAPH 4.**

**Return on assets by pounds butterfat & protein per cow  
125 NY dairy farms, 2024 DFBS**



**GRAPH 5.**

**Net farm income per cow by pounds butterfat & protein per cow  
125 NY dairy farms, 2024 DFBS**



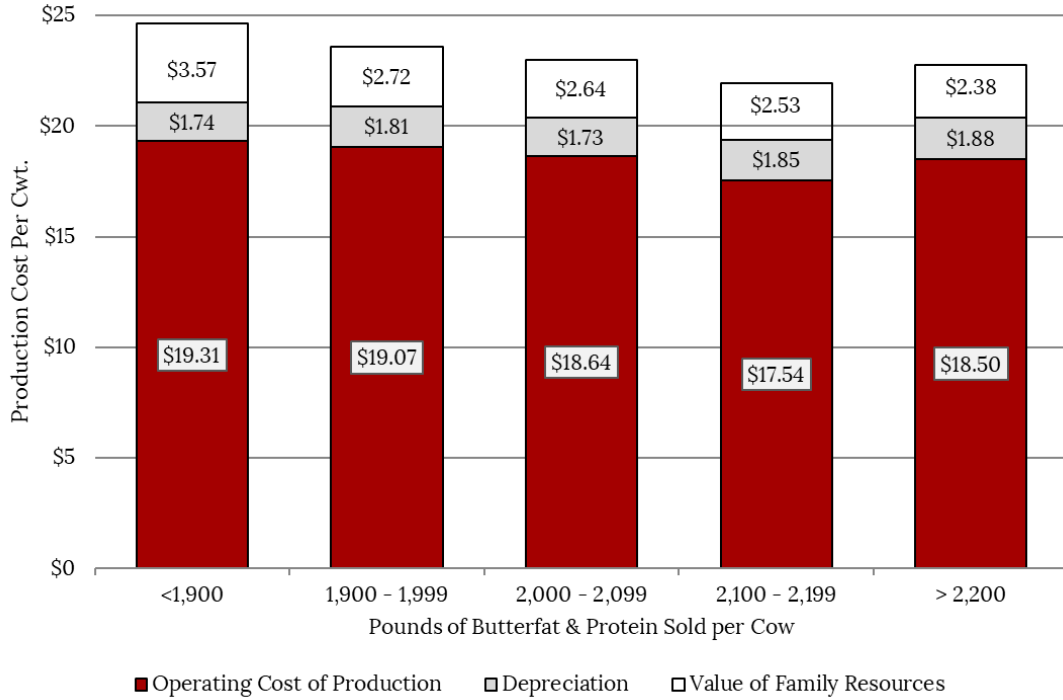
**TABLE 10.**  
**Farm cost of producing milk by milk sold per cow**  
 125 New York dairy farms, 2024

Pounds of butterfat & protein sold per cow	Costs per hundredweight					Accrual receipts from milk per cwt. \$	Net farm Income w/o appreciation per cwt. \$
	Operating costs		Costs of producing milk				
	Hired labor \$	Dairy grain & concentrate \$	Total operating \$	Purchased inputs \$	Total \$		
Greater than 2,200	\$3.29	\$7.52	\$18.50	\$20.39	\$22.76	\$24.86	\$4.48
2,100 – 2,199	3.42	7.30	17.54	19.39	21.92	24.66	5.26
2,000 – 2,099	3.99	7.31	18.64	20.38	23.01	24.51	4.13
1,900 – 1,999	3.69	7.24	19.07	20.89	23.60	24.17	3.28
Less than 1,900	3.52	6.92	19.31	21.05	24.62	24.19	3.14

Table 10 includes selected operating costs, total cost of producing milk, accrual milk receipts, and net farm income per hundredweight (cwt.) for the same five groups determined by pounds of butterfat and protein sold per cow. Like trends seen in Table 9, the second highest component production group producing between 2,100 and 2,199 pounds of butterfat and protein per cow achieved the lowest total operating cost, second highest milk receipts and highest net farm income per cwt. The high group, which sold greater than 2,200 pounds of butterfat and protein, achieved the highest milk receipts but averaged the highest dairy grain and concentrate cost and 84 cents per hundredweight higher total costs to produce milk. Graph 6 below further breaks down costs per cwt. for the five groups. The total cost of producing milk is calculated by adding depreciation expense and the value of family resources to operating costs.

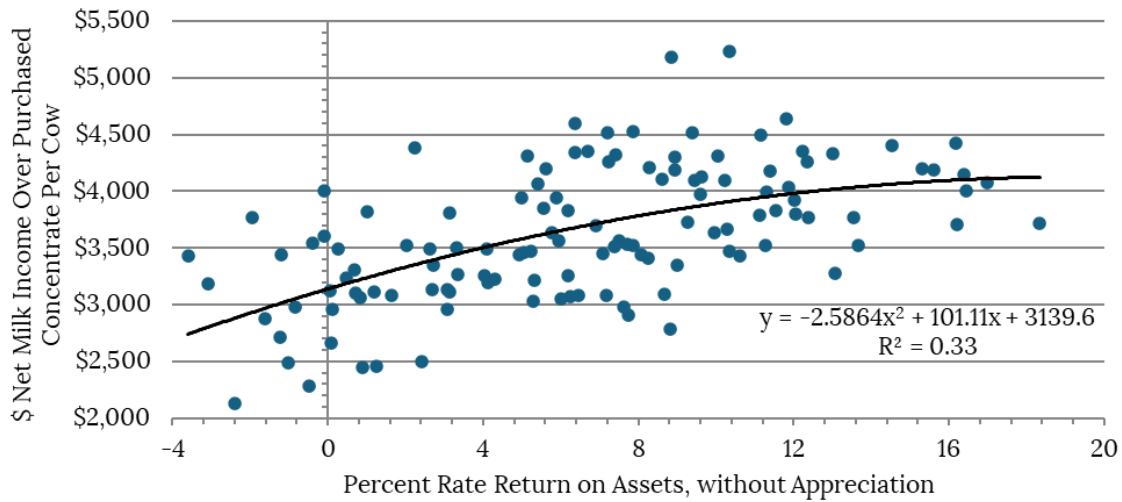
**GRAPH 6.**

**Production cost by pounds butterfat & protein sold per cow  
125 NY dairy farms, DFBS 2024**

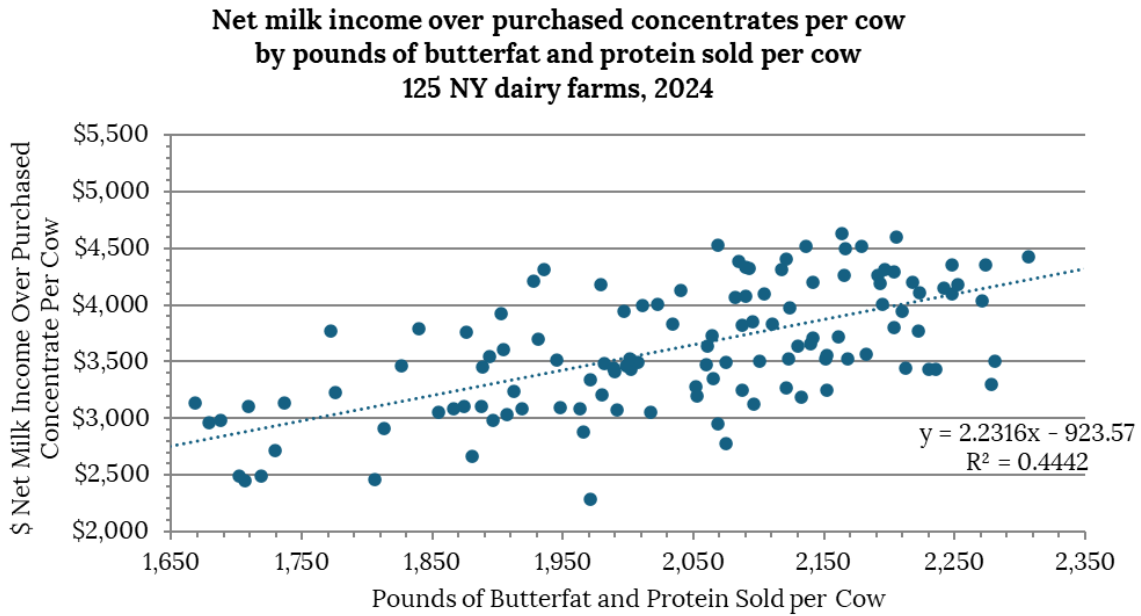


**GRAPH 7.**

**Net milk income over purchased concentrates per cow  
by return on assets without appreciation  
125 NY dairy farms, 2024**



**Graph 8.**



Net milk income over purchased concentrates, also known as net milk income over purchased feed cost (NMIOFPC), is a measure of gross margin found by subtracting purchased feed expense from net milk income. Graph 7 shows the relationship between NMIOFPC per cow and return on assets without appreciation. Graph 8 shows the relationship between this measure and pounds of butterfat and protein sold per cow. Farms with a higher rate return on assets tended to achieve higher NMIOFPC per cow. A similar trend is seen when looking at pounds of butterfat and protein sold per cow in Graph 8. With milk income driven by component value, farms with higher component production also tended to achieve higher NMIOFPC per cow.

### **Conclusions**

In 2024, herd size continued to grow across most herds, with growth coming from external and internal sources. Internal growth continued as both the percent heifers to cows and cull rate is consistent with a continued downward trend from past five years. Across the participating farms, component production ranged from less than 1,650 to greater than 2,350 pounds per cow. Farms that have higher component production tend to have lower costs and higher margins, but the highest output does not necessarily lead to the lowest costs or highest returns.

The PRO-DAIRY Farm Business Management team would like to thank those who continue to participate in the Dairy Farm Business Summary and Analysis Program and those who spent additional time completing the supplemental survey this year.