

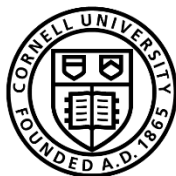
Dairy Farm Business Summary & Analysis Program: 30 years of change Jason Karszes

[The Dairy Farm Business Summary & Analysis Project \(DFBS\)](#) is one of the longest applied research efforts within the [College of Agriculture and Life Sciences](#) at [Cornell University](#) that interacts directly with rural stakeholders of the land grant mission. The DFBS project works with dairy farm families to analyze financial and business performance over time, with the objective to improve business and financial management within the dairy industry using modern analysis techniques and historical farm data.

DFBS started within the old department of Agricultural Economics as a project in 1955 across seven central NY counties: Cayuga, Chenango, Fulton, Madison, Montgomery, Oneida, and Otsego. Professor C. Arthur Bratton published the first summary of dairy farm business data from 201 dairy farms for the 1955 business year¹ in 1956. With success from the first year, the project was expanded in partnership with Cornell Cooperative Extension staff around the state over the next few years. “A.E. 1068, New York Dairy Farm Business Summaries for 1956” prepared in 1957 by C.A. Bratton, George Conneman, Robert Smith, and Clifton Loomis summarized 342 farms across 10 counties and was the first summary published as an extension bulletin. It is still available through the Dyson School of Applied Economics and Management at dyson.cornell.edu/outreach/extension-bulletins/. The Dyson School of Applied Economics and Management is shared between the College of Agriculture and Life Sciences and SC Johnson College of Business at Cornell and is where the program is currently housed.

The most recent bulletin, E.B. 2023-08, “Progress of the Dairy Farm Report, Dairy Farm Business Summary, 2022” by Jason Karszes and Lauren Augello was published in July 2023, 67 years after the first publication. Over 520 extension and research bulletins associated with DFBS have been published over the years, with over 16 different lead faculty and senior extension associate authors within the department, and contributions from numerous other faculty, extension staff, graduate students, and research staff. Professor C.A. Bratton, Professor Wayne Knoblauch, senior extension associate Stuart Smith, extension support specialist Myrtle Voorhees, and extension support specialist Linda Putnam were some of the key staff within the department who provided years of leadership and support for the DFBS program.

¹ R.B. 96-11, “Business Summary New York State 1995”, Pg. 10, Smith, S., Knoblauch, W., & Putnam, Department of Agricultural, Resource, and Managerial Economics, College of Agriculture and Life Sciences, Cornell University, August 1996.

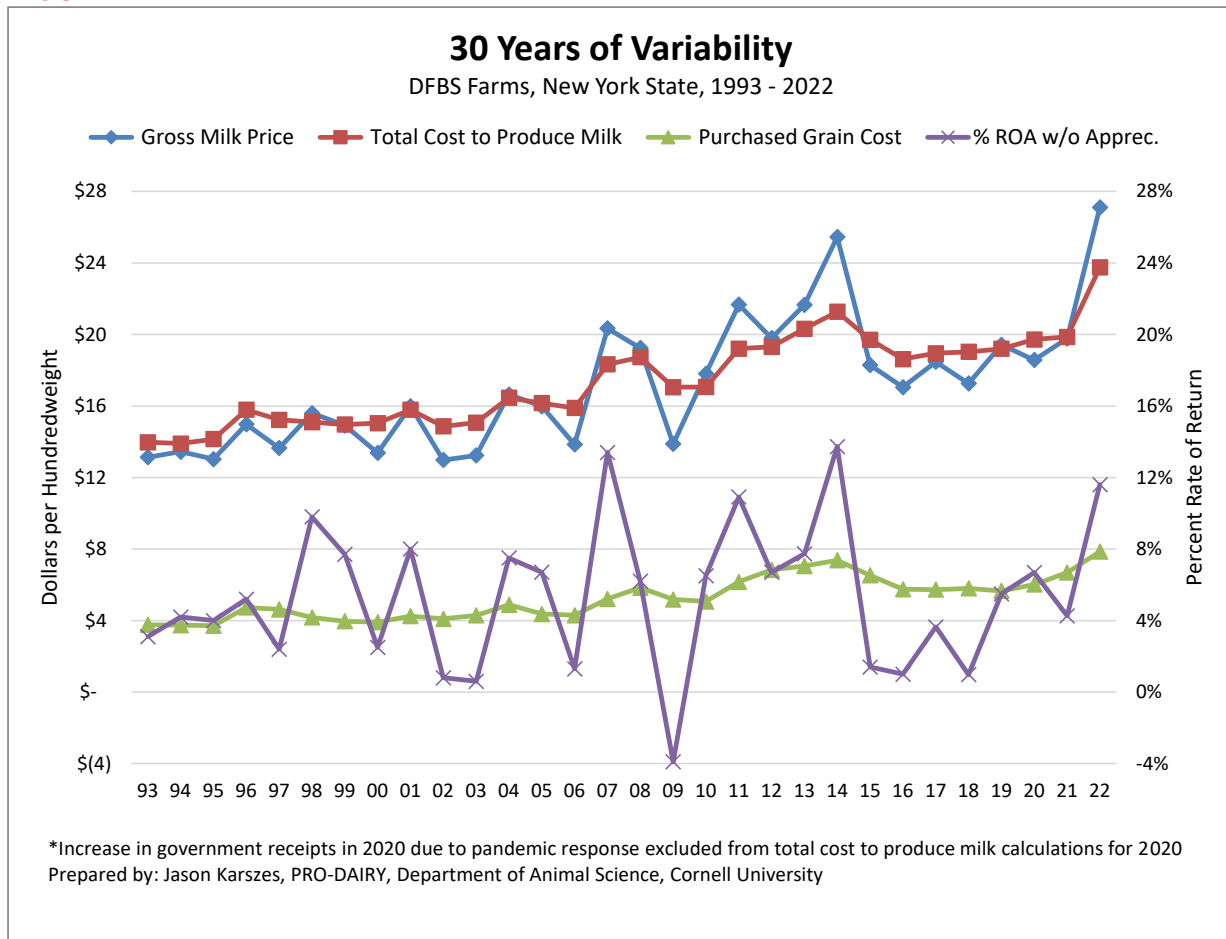


Over the proceeding years, many changes were made to the DFBS, including calculating labor efficiency measures in 1969, capturing assets and liabilities in 1970, micro-computerizing the program in 1982, adding accrual adjustments in 1985, continually updating to follow Farm Financial Standards Council recommendations analyzing financial performance, and moving to a confidential and secured web-based program in 2002. With the move to a web-based system, historical data going back to 1993 was entered for all participating farms. With the completion of the 2022 year by participating farms, there are now 30 years of data within the web-based system, covering the business years of 1993 through 2022.

Recognizing this 30-year milestone of data within the web-based system is an opportunity to recognize the continued participation over time by dairy farm families across New York State. 38 farms statewide participated for both the 1993 and 2022 business years. Out of these 38 farms, 21 have participated every year since 1993, which is a testament of the importance these farm families place on participating in the DFBS and supporting this applied research and extension project at Cornell. Many of these farms may also have participated before 1993 but records of individual farms participating before 1993 have been lost to time.

Over the 30 years, many changes in the dairy industry have impacted many aspects of managing the dairy farm, including new management approaches, technologies, inputs, designs, and equipment. Figure 1 highlights how milk prices, costs, and returns have changed.

FIGURE 1



The variation in milk price started to increase in the mid 1990's, with variations continuing to increase moving from the mid 2000's into the 2010 years. Costs per cwt. have steadily increased, with the largest increase in one year occurring from 2021 to 2022. There were also several periods of declines, most noticeably from 2008 to 2009, and from 2014 to 2016. With the increased variations in milk prices and change in costs, the change in rate of return from one year to the next has been more significant. Large increases occurred in 1998, 2001, 2004, 2007, 2010, 2014, and 2022. Large decreases in earnings occurred in the years between the high earning years, with the change from 2014 to 2015 being the largest one-year decrease.

Table 1 highlights some selected characteristics for all specialized dairy farms participating in the DFBS in 1993, 2002, 2012, and 2022, representing 30 years of performance. This is a descriptive look at how selected measures from the DFBS have changed for farms that participated in the DFBS. This does not represent the same farms for all years, and some of this change is due to a change in the farms participating over the years. This does not represent or describe how the average farm in New York may have changed over this timeframe.

TABLE 1

Selected Measures from DFBS, 30 Years of Performance

New York Dairy Farms, DFBS

	1993	2002	2012	2022
Number of Farms	343	219	169	133
Average Number of Cows	130	297	609	1,233
Percent Heifers to Cows	77%	76%	86%	73%
Milk per Cow	18,858	22,312	25,401	27,222
Cows per Worker Equivalent	35.3	41.0	44.8	53.4
Milk Sold per Worker Equivalent, Pounds	664,868	917,854	1,138,769	1,453,746
Capital Investment per Cow	\$6,462	\$6,794	\$10,232	\$13,182
Debt per Cow	\$2,254	\$2,899	\$3,171	\$4,045
Crop Input Costs per Acre	\$53	\$70	\$143	\$226
Tillable Acres per Cow	2.7	2.2	2.0	1.8
Gross Milk Price per Cwt.	\$13.14	\$12.98	\$19.77	\$27.10
Hired Labor Expense per Cwt.	\$1.86	\$2.44	\$2.72	\$3.27
Hired Labor Expense per Worker Equivalent	\$22,770	\$31,755	\$37,406	\$54,024
Purchased Grain & Conc. per Cwt.	\$3.76	\$3.84	\$6.83	\$7.85
Milk Marketing Expense per Cwt.	\$0.64	\$0.65	\$0.87	\$1.69
Farm Operating Expense per Cwt.	\$12.17	\$13.27	\$18.70	\$22.41
Operating Costs to Produce Milk per Cwt.	\$10.18	\$11.01	\$15.73	\$19.79
Purchased Input Cost to Produce Milk per Cwt.	\$10.73	\$12.40	\$17.16	\$21.36
Total Cost to Produce Milk per Cwt.	\$13.97	\$14.25	\$19.34	\$23.74
Labor and Management Income per Operator	\$9,000	-\$14,243	\$92,417	\$563,621
Return on All Capital w/o Appreciation.	3.1%	0.7%	5.6%	11.6%
Farm Net Worth	\$553,370	\$1,173,836	\$4,484,930	\$12,216,386
Debt to Asset Ratio	0.35	0.43	0.31	0.29

In 1993, 343 farms participated in the DFBS, averaging 130 cows, and producing 18,858 pounds of milk per cow. Over the next 30 years, participating farms fell to 133, with herd size now averaging 1,233 cows, producing 27,222 pounds of milk per cow. Cows per worker increased from 35.3 to 54.3 for the participating farms, with the average cost per hired worker increasing from \$22,770 to \$54,024.

Tillable acres per cow fell from 2.7 to 1.8, while crop input costs went from \$53 per acre to \$226 per acre. Investment per cow increased from \$6,462 to \$13,182 while debt per cow increased from \$2,254 to \$4,045. Milk prices increased over the last 20 years and 2022 was a record high for milk prices, as shown in Figure 1.

Rate of return on all capital without appreciation was 3.1 percent in 1993 and averaged 11.6 percent in 2022.

Dairy farms that are long-time participants in the DFBS utilize this information to make more informed decisions to meet their family goals, monitor progress, ask questions, and support continued research by Cornell University into factors impacting financial performance. Without their continued interest and support, the DFBS program would not have lasted 67 years, or continue to be a focus within PRO-DAIRY and the Dyson School of Applied Management and Economics at Cornell.

If you have a dairy farm in New York and are interested in learning more about participating in the DFBS, please reach out to your farm business management extension educator through your local Cornell Cooperative Extension office or visit the DFBS website: cals.cornell.edu/pro-dairy/our-expertise/business/dfbs.