

New Dairies Expected to Increase Livestock Receipts in North Dakota

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North Dakota's dairy industry has undergone significant changes and hardships over the past three decades, particularly in comparison to the changes experienced by neighboring states. For instance, between 1992 and 2024, North Dakota realized an 88% reduction in milk cow inventory, reducing the herd from 80,000 to 10,000 cows (Table 1). Conversely, during the same period, South Dakota experienced a 60% increase in its milk cow inventory, rising from 132,000 cows to 210,000 cows. Like North Dakota, Minnesota realized a decline in its dairy cow herd, but by only 32%, moving from 660,000 to 450,000 milk cows. Over the same period, however, dairy operators in all three states experienced significant increases in milk production, driven by higher production per cow per year. Between 1992 and 2024, milk production increased by 85%, 82% and 55% for North Dakota, South Dakota and Minnesota, respectively (Table 1). This data suggests that Minnesota adopted genetic improvements in its cow herd before North Dakota and South Dakota, experiencing about 15% more milk production per cow in 1992 compared to its neighbors.

The increased difficulties of the North Dakota dairy industry over this period become strikingly apparent in the data reflecting changes in total cash receipts from the sale of fluid milk and the number of certified dairy farms (Table 1). Between 1992 and 2024, North Dakota experienced a 56% decline in gross cash receipts, while South Dakota and Minnesota saw substantial increases of 434% and 84% in their herds, respectively. Even though Minnesota realized a 32% drop in its milk cow inventory, the productivity levels achieved in milk production per cow resulted in higher overall receipts. Moreover, between 1987 and 2022, the number of certified dairy farms fell by 99%, 94% and 87% in North Dakota, South Dakota and Minnesota, respectively

(USDA-NASS, 2025a). South Dakota and Minnesota were able to offset losses of smaller farms by adding larger, more modern, confined dairy farms. North Dakota, however, did not see the same growth in large operations. So, even though North Dakota did realize substantial growth in milk production per cow, like South Dakota and Minnesota experienced, it did not outpace the number of dairies that exited the industry — exits that increased more profoundly in recent years due to closures of accessible long-standing milk processing facilities in various locations in central and southcentral regions. As a result, the state's dairy base continued to shrink in a more permanent way.

Table 1. Dairy Cow Inventory, Milk Production, Gross Cash Receipts from Fluid Milk Sales and the Number of Dairy Farms by State and Year

Year	North Dakota	South Dakota	Minnesota
<i>Inventory (milk cows)¹</i>			
1992	80,000	132,000	660,000
2024	10,000	210,000	450,000
Change (%)	-88%	59%	-32%
<i>Milk production (pounds/cow)¹</i>			
1992	12,679	12,769	15,096
2024	23,478	23,239	23,405
Change (%)	85%	82%	55%
<i>Cash Receipts (\$, million)¹</i>			
1992	118	211	1,253
2024	52	1,127	2,307
Change (%)	-56%	434%	84%
<i>Certified Dairy Farms²</i>			
1987	1,810	2,333	15,000
2022	24	150	1,996
Change (%)	-99%	-94%	-87%

¹<https://quickstats.nass.usda.gov>

²<https://nass.usda.gov/Publications/AgCensus/2022/index.php>

In July 2024, announcements revealed the intentions of two new large dairies to locate in alternative locations along the Interstate 29 corridor in eastern North Dakota. This news provided a positive outlook for improvements to the declining milk cow inventory and corresponding receipts from milk production in the state. Since the announcement, both dairies have successfully secured the necessary zoning and water permits required to build the two dairies. The first is a 12,500-head dairy that will be built and operated near the community of Abercrombie in Richland County, and the second is a 25,000-head dairy that will be built near the community of Hillsboro in Traill County. The two dairies combined are expected to inject approximately \$270 million in initial investments and add 37,500 milk cows to North Dakota's dairy cow inventory.

Projected levels of milk production and corresponding gross receipts for the two dairies are reported in Table 2. To project milk production at the two dairies, we assumed that each cow at both locations would produce 24,000 pounds of milk per cow per year. Based on this assumption, the two dairies combined would produce approximately 900 million pounds of milk annually, equivalent to roughly 105 million gallons of milk per year. Further, we calculate a base-case value of the projected milk production using the North Dakota 10-year (2015-2024) average fluid milk price of \$19.40/cwt (\$1.940/lb) (USDA-NASS, 2025b). Based on our milk production and price assumptions, the value of milk produced at both dairies is expected to be worth about \$175 million annually. To account for variation in the price of milk from year to year, we provide additional calculations of the value of fluid

milk sales by applying a 30% increase and decrease to the base-case value, resulting in values of gross revenue that are expected to range between \$122 million in a low-price year and \$227 million in a high-price year.

Note, the base-case projected cash receipts of \$175 million from the two new dairies would be \$123 million (or 245%) more than the cash receipts from fluid milk realized in North Dakota in 2024. In addition to the expected revenues from fluid milk production, these two dairies would also provide additional value to rural and state economies through increased local and state taxes, local purchases of feed ingredients (e.g., alfalfa haylage, corn silage, feed corn, soybean meal and hulls, etc.), purchases of utilities (e.g., electricity, fuel, trash, phones, internet services, etc.), purchases of services and products from local suppliers (e.g., utility trucks, tractors, repairs and maintenance of equipment, etc.) and from the sale of liquid manure applied to cropland acres located in close proximity to the dairy, offsetting the use of more expensive sources of commercial fertilizers.

Feel free to reach out with any additional questions at jon.biermacher@ndsu.edu.

References:

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA-NASS). 2025a. Census of Agriculture. Found at: <https://www.nass.usda.gov/Publications/AgCensus/2022/index.php>.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA-NASS). 2025b. QuickStats Database. Found at: <https://quickstats.nass.usda.gov>.

Table 2. Projected Milk Production and Revenue from Fluid Milk Sales for Proposed Riverview Dairies in North Dakota

Variable of interest:	Abercrombie	Hillsboro	Total
Number of milk cows	12,500	25,000	37,500
Milk production (lbs/cow/yr) ¹	24,000	24,000	24,000
Milk production (lbs/yr)	300,000,000	600,000,000	900,000,000
Pounds per gallon of milk	8.6	8.6	8.6
Milk production (gal/yr)	34,883,721	69,767,442	104,651,163
Average price of milk (\$/cwt) ²	19.40	19.40	19.40
Base-case revenue (\$/yr)	58,200,000	116,400,000	174,600,000
Base-case revenue + 30% (\$/yr)	75,660,000	151,320,000	226,980,000
Base-case revenue - 30% (\$/yr)	40,740,000	81,480,000	122,220,000

^{1,2}Source: quickstats.nass.usda.gov

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