

U.S. Certified Organic Dairy Production: Three Decades of Growth

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What Is the Issue?

Responding to increased consumer demand for organic milk, U.S. dairy farmers increased the production of organic milk over the last three decades. USDA's National Organic Program (NOP) was established in 2000 (and implemented in 2002) in response to the Organic Foods Production Act of 1990 and has undergone several rule changes for certified organic dairy farms since then, particularly regarding the transition of dairy cows from conventional to organic and forage requirements from pasture. The USDA's Agricultural Resource Management Survey (ARMS) dairy version surveyed both certified organic and conventional (nonorganic) dairy farms in 2005, 2010, 2016, and 2021, allowing for the estimation of costs and returns for both certified organic and conventional dairy production. These surveys have also allowed for charting the structure of certified organic dairy farms by farm size and U.S. region. This report discusses how NOP created national standards and facilitated market development for organic products; how certified organic dairy farms have changed over the past two decades; and how certified organic dairy farms differ in structure, costs, and returns by farm size and region of the United States.



What Did the Study Find?

Over the past two decades, several trends and/or patterns in organic milk production are noted:

- Regulations for certified organic milk production have evolved since NOP's inception. Rule changes have dealt primarily with the transitioning of dairy animals from conventional to organic and pasture requirements for organic milk production.
- U.S. organic dairy production has increased over the last two decades, and some shifts in State rankings of organic milk production have occurred.
- ARMS dairy data show modest changes in organic dairy farm structure over the 2005–21 period, though interpretation of the results should consider that no large Texas organic dairy farms are included in the 2016 or 2021 ARMS dairy data. Texas was the largest organic milk production State in 2021 and the second largest in 2016.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

- Certified organic dairy farms have experienced profitability in some years. Of the 4 ARMS dairy survey years (i.e., 2005, 2010, 2016, and 2021), the average certified organic dairy farm covered feed costs and operating costs in all years, and total economic costs in 2016.
- For the 4 ARMS dairy survey years, organic dairy producers cited certification paperwork requirements as the most difficult aspect associated with certified organic dairy production. The relatively high cost of production was the second-most difficult aspect for 3 of the 4 survey years.

Relative to small certified organic dairy farms, larger certified organic dairy farms, on average:

- Produced more milk per cow; were greater adopters of selected advanced technologies, management practices, and production systems; and depended more heavily on purchased rather than homegrown feeds and paid (hired) labor rather than unpaid (typically family) labor.
- Experienced lower total economic costs per 100 pounds of milk sold and higher returns over total economic cost.

Relative to conventional dairy farms, certified organic dairy farms, on average:

- Received higher prices for milk and incurred higher feed costs per 100 pounds of milk sold, although the premiums for certified organic milk varied over time.
- Experienced higher return over operating costs and return over total economic costs compared with similar sized conventional dairy farms in 2016 and 2021.

Regional differences were found among certified organic dairy farms, including:

- Western certified organic dairy farms tended to adopt advanced technologies, management practices, and production systems at greater rates; depended less heavily on homegrown, relative to purchased feeds; and incurred lower capital recovery costs than certified organic dairy farms in other regions.
- Although northeastern-certified organic dairy farms received among the highest milk prices, these farms also incurred among the highest feed costs per 100 pounds of milk sold.

How Was the Study Conducted?

This study relied on data from several sources, primarily the USDA's ARMS and various organic agricultural data sources reported by USDA, Economic Research Service (ERS) and USDA, National Agricultural Statistics Service (NASS). The most recent four ARMS dairy surveys included oversamples of organic dairy farms, which has allowed us to analyze the costs and returns, structure, and adoption of various technologies, practices, and production systems on organic dairy farms. Periodic surveys conducted by USDA, ERS and USDA, NASS allowed for charting milk cow inventories and farm numbers over the past two decades. Publications and documentation from other USDA agencies, such as the Agricultural Marketing Service, allowed for charting the progress of rulemaking over the course of NOP from its inception in 1990.