

Consolidation in U.S. Dairy Farming

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What Is the Issue?

Dairy farm closures have attracted widespread news coverage in recent years. Small and mid-sized dairy farms have been facing significant financial challenges. During 2018, milk prices fell, and the gap between milk prices and feed costs narrowed. As a wave of farm closures in the industry hit many traditional dairy States in the Northeast and Midwest, the number of dairy farms licensed to sell milk fell by 15 percent between 2017 and 2019.

In response to these financial challenges, Congress expanded support for dairy farms in 2018, with a primary focus on smaller operations. In the Bipartisan Budget Act of 2018, and later in the 2018 Agriculture Improvement Act, Congress restructured premiums charged to farmers and extended coverage of a major Federal dairy support program, renamed the Dairy Margin Coverage (DMC), and made adjustments to other dairy-related programs. These changes are expected to substantially increase Federal expenditures in support of dairy producers.

This report details the continuing structural and geographic transformation of U.S. dairy farming, identifies the financial and productive factors that have driven those structural and geographic shifts, and evaluates prospects for further consolidation.

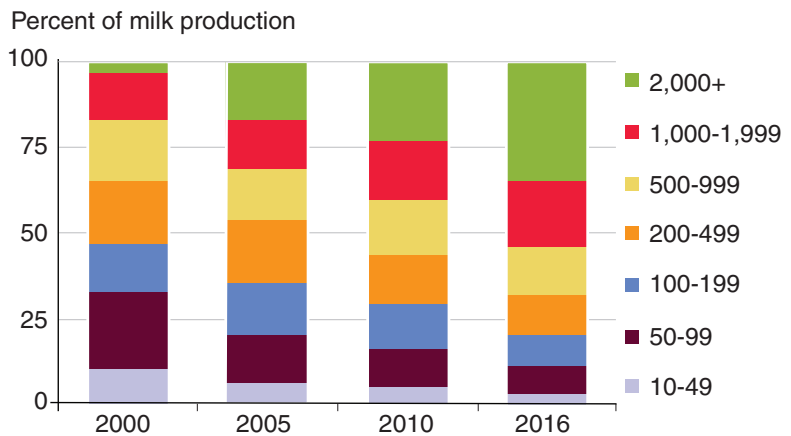
What Did the Study Find?

- In 1987, half of all milk cows in the United States were in herds of 80 or more, and half were in herds of 80 or fewer. Since that time, the midpoint size has risen consistently; by 2017, the midpoint was 1,300 cows. The pace of consolidation in dairy far exceeds the pace of consolidation seen in most of U.S. agriculture.
- The 2017 Census of Agriculture counted 54,599 farms with milk cows. Of those farms, 30,373 were small commercial farms, with 10–199 cows. The number of small commercial dairy farms has fallen substantially over time, from 47,873 a decade before (in 2007), and 146,685 three decades before (in 1987).
- By 2017, nearly 2,000 farms had herds of at least 1,000 milk cows, and those farms milked over half of U.S. cows. Twenty-five years earlier, there were just over 500 such farms, and they milked less than 10 percent of cows. Over time, production has shifted toward much larger farms, often with 5,000 or more cows.

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- The major dairy States in the Northeast and Midwest have long had many small commercial dairy farms, while production in the major Western Dairy States has revolved around large farms. Production in all States is shifting to larger operations, but the decline of small commercial dairy farms is concentrated in the Midwest and Northeast, and in four States in particular: Minnesota, New York, Pennsylvania, and Wisconsin.

Milk production has shifted to larger herds



- There are powerful cost incentives behind farm consolidation. Larger dairy farms have substantially lower costs of production, on average, than smaller farms. This cost advantage appears to extend across a wide range of larger sizes, with farms with 2,000 cows realizing lower costs than farms with 1,000 cows, which in turn realize lower costs than farms with 500 cows.
- Some farms in each size class are profitable. Although herd size is a powerful determinant of costs and returns, there is wide variation of costs and of net returns among farms, even within narrowly defined size classes. Weather, location, physical infrastructure, and management can each affect the financial performance of a dairy farm.
- Dairy farms that are certified organic showed higher net returns per hundredweight (cwt) than similarly sized conventional dairy farms in 2016. Organic operations with 100–199 cows and larger showed positive net returns on average, while only very large conventional operations of 2,000 or more cows showed positive net returns on average. However, there are significant costs associated with making a transition from conventional to organic production.
- Many farms with gross returns less than total costs will continue to operate if they are covering all non-capital costs, as their operators can earn a better living from dairy farming than from other pursuits. Dairy farm exit is therefore a gradual process, playing out over years, and so consolidation is also a gradual process.
- The number of licensed dairy herds fell by more than half between 2002 and 2019, and the rate of decline accelerated in 2018–2019, even as milk production continued to grow. Consolidation will likely continue. Dairy finances still favor larger operations, and while there are fewer small commercial dairy farms today, many operators are approaching retirement age. Should the number of farms continue to decline at a rate of 4 percent per year, in line with past trends and a model developed in the report, then we should expect to count about 31,500 licensed dairy herds at the end of 2021, down from 34,187 in 2019.

How Was the Study Conducted?

The study relied on farm-level records drawn from two U.S. Department of Agriculture (USDA) sources: the Census of Agriculture and the Agricultural Resource Management Survey (ARMS). Census records provide detailed information on farm structure and location, while ARMS records supplement census evidence on farm structure, and add information on farm costs, production practices, and financial performance. The report also relies on data from USDA's National Agricultural Statistics Service (NASS), Agricultural Marketing Service (AMS), and Economic Research Service (ERS) for further information on industry prices and production trends.