

# Changes in the Tri-State Dairy Industry

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## Abstract

The evolving size and structure in the dairy industry in Indiana, Michigan, and Ohio (the Tri-State area) is examined. The dairy farm industry changed quickly in the past 15 years as smaller herds declined in number and especially in the percentage of total milk production. While the Tri-State dairy industry declined as a share of the U.S. dairy industry in the late 1990's, it recovered in the 2000's and produced more than 8% of U.S. milk in 2005.

## Introduction

The Tri-State dairy industry, composed of Indiana, Michigan, and Ohio, has undergone many changes since the early 1990's. Fewer, larger farms produce more milk. The average herd size in the area grew from 47 cows in 1992 to 78 cows in 2005. Total milk production increased from 12.38 billion pounds in 1992 to 14.64 billion pounds in 2005. In the late 1990's, the relative size of the industry declined as a share of the U.S. industry. However, in the 21<sup>st</sup> century, the region seems to have recovered with a relatively large growth rate in the larger (200+ cow) herd sizes. This paper describes the trends in milk production and herd size from 1992 through 2005.

## Farm-Level Changes

Milk production in the Tri-State area was steady to slightly down in the late 1990's but has recovered since 2000 (Figure 1). Figure 2 highlights the decline of the region's milk production relative to U.S. production and the recovery in recent years. Beginning at 8.17% of national production in 1992, the Tri-State share declined to 7.43% in 1999 but had increased to 8.27% by 2005.

Total number of milk cows in the region was also around 8% over the 1992-2005 period (Figure 3). Indiana increased in milk cows from 144,000 (1992) to 156,000 (2005); Michigan milk cow numbers declined from 339,000 to 311,000; and Ohio milk cows declined from 324,000 to 270,000.

Milk production per cow increased steadily at an average of 1.96% per year (Figure 4). Michigan had the highest average production at 21,656 lb/cow in 2005 as well as the highest average growth rate, increasing 2.4% annually from 1992 to 2005. Indiana increased at an average of 1.95% while Ohio increased at 1.53%.

The number of operations with milk cows, defined as having one or more milk cows, is tracked by USDA. Data are available on total operations by state starting in 1965. All

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3 states have witnessed a very similar decline in operations over the 40 year period ending in 2005 (Figure 5). Indiana had 23,000 operations with milk cows in 1965 with 2,200 remaining in 2005. There were 31,000 operations in Michigan in 1965 but only 2,800 remained in 2005. Finally, Ohio had 40,000 operations in 1965 with 4,400 operations remaining in 2005. The decline in the US as a whole was even more dramatic with only 78,000 of the 1.1 million operations with milk cows present in 1965 in business in 2005.

In 1965, about 8% of U.S. operations with milk cows were in Indiana, Michigan, and Ohio. In 2005, 12% of the nation's operations with milk cows were in the region. In the combined Tri-State area, the number of operations with milk cows declined from 16,800 in 1993 to 9,400 in 2005. This loss in 44% of operations with milk cows was actually a smaller decline than in the U.S. over the same period, resulting in the region have a larger share of U.S. operations in 2005 than it did in 1993 (Figure 6).

Most of the decline in operations occurred in operations with 99 cows or less. Figures 7 through 9 display the change in number of herds with 100 or more cows in the 3 states from 1993 to 2005. All 3 states witnessed an increase in the number of 100 to 199 cow herds, followed by a decline in this herd size as the commercial herds grew beyond 200 cows. The number of 200+ cow herds grew throughout the period in all 3 states. In Indiana, there were 60 200+ cow herds in 1993 and 80 in 2005. In Michigan, the number of 200+ cow herds grew from 200 in 1993 to 340 in 2005. In Ohio the numbers were 90 in 1993 and 200 in 2005.

As a percentage of production, Figures 10 through 12 display the relative importance of the herds by size category in each state in 1993 and 2006. The largest size category, 200+ cow

herds, grew from 12.7% of milk in Indiana in 1993 to 53% in 2006. Similarly, in Michigan, the largest herds produced 21.2% in 1993 and 63% in 2006; in Ohio, the growth was from 8% in 1993 to 41% in 2006.

For the US as a whole, the 200+ cow herds produced 66.6% of total milk production in 2006, up from 36.3% in 1993 (Figure 13). In 2006, 0.8% (573) of US herds had 2000+ cows, but these herds produced 23.4% of the milk (Figure 14). In contrast, 28.3% (21,280) of US herds had 1 to 29 cows but produced only 1.2% of the milk.

### **Processors, Retailers and Consumers**

Population in the Tri-State area has increased from 26.38 million (1993) to 27.86 million (2005). Milk production in the area has outpaced this population growth, resulting in a decline in fluid utilization. Other issues, such as distant pooling of milk from Wisconsin, have exacerbated the fluid utilization decline.

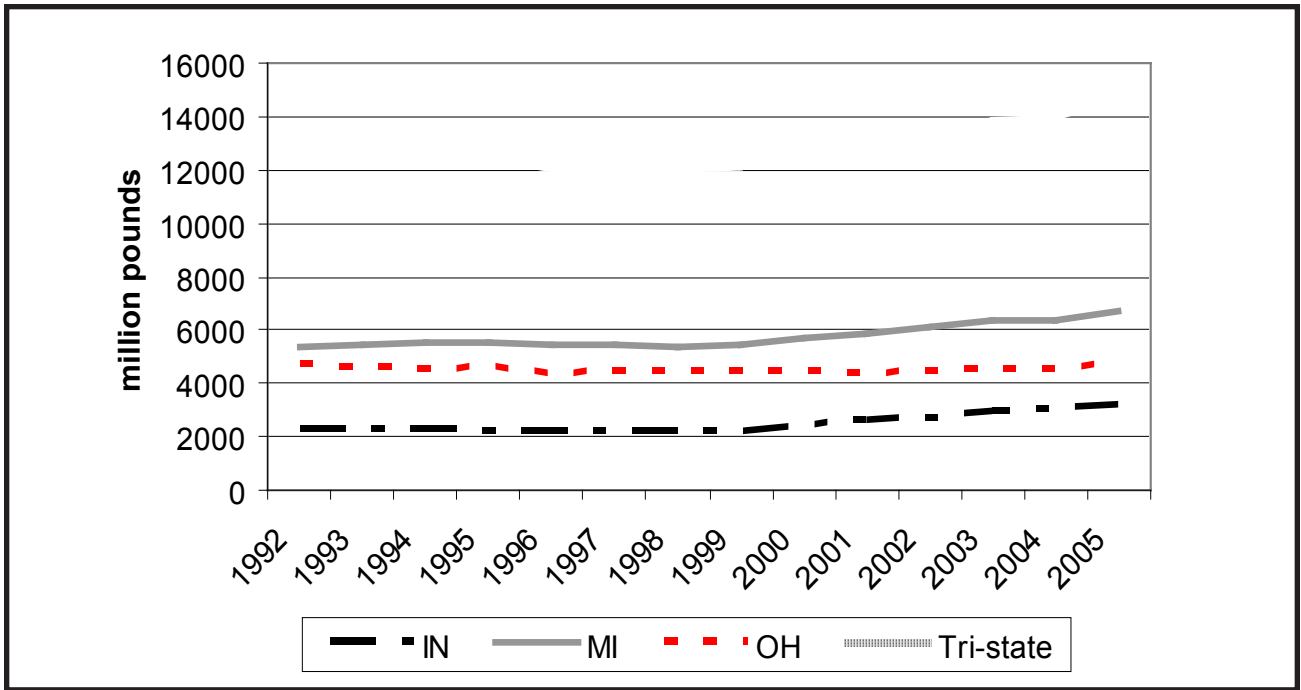


Figure 1. Total milk production, 1992 to 2005.

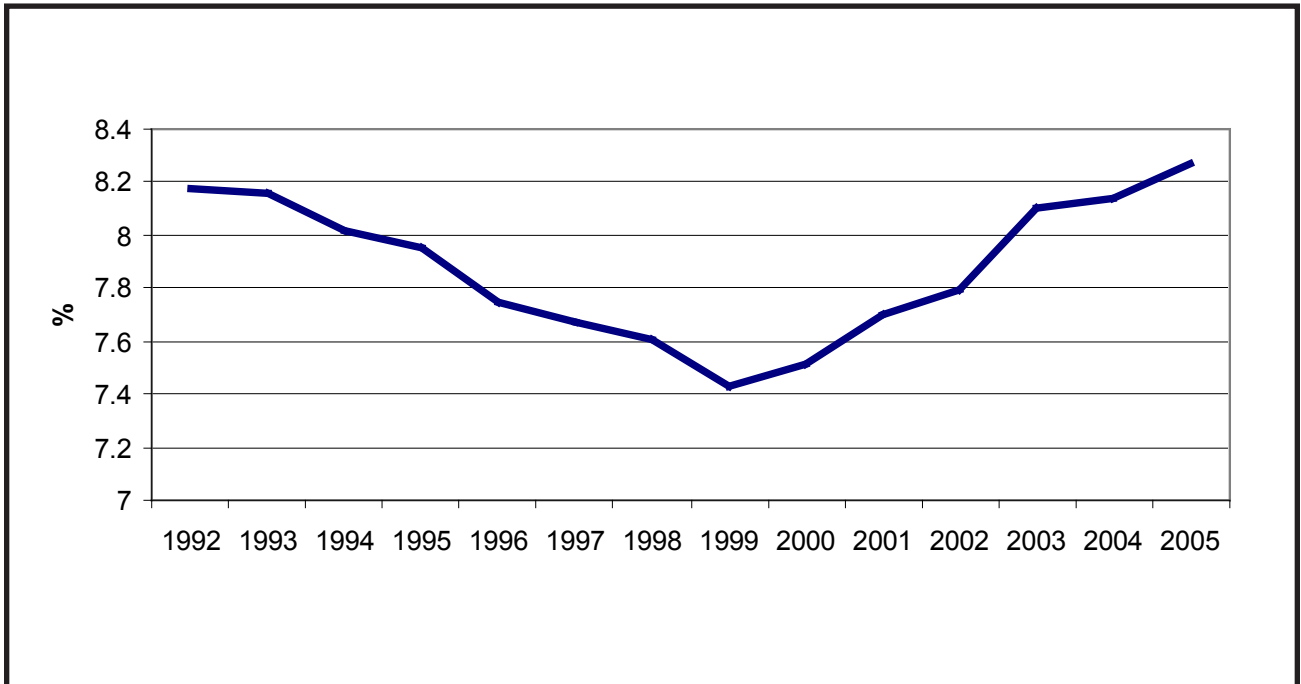


Figure 2. Tri-State milk production as a share of U.S. milk production, 1992 to 2005.



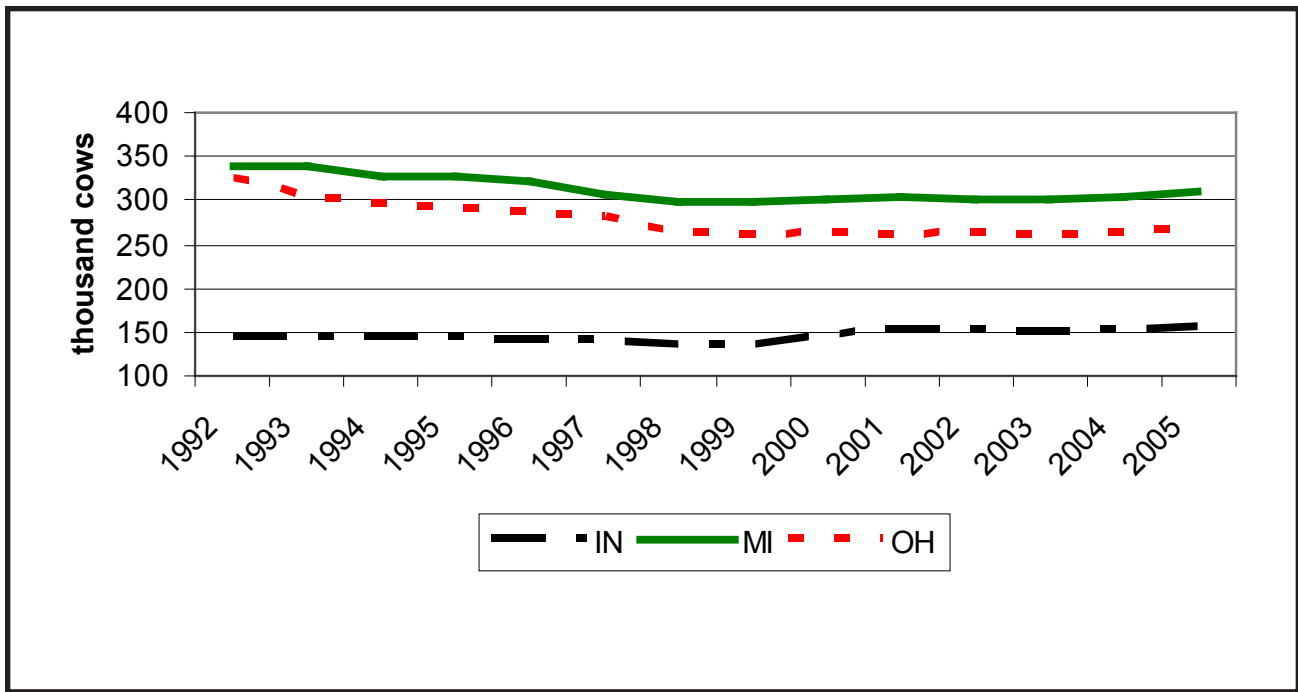


Figure 3. Number of milk cows, 1992 to 2005.

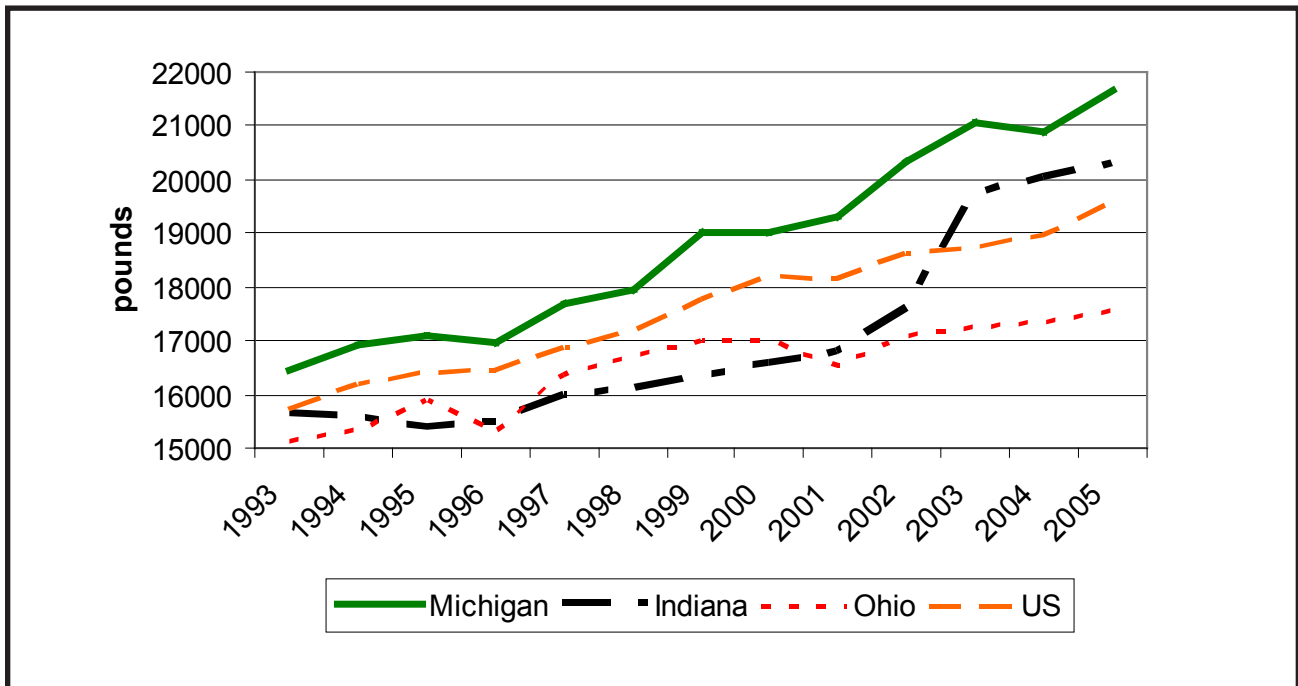


Figure 4. Milk production per cow, 1993 to 2005.



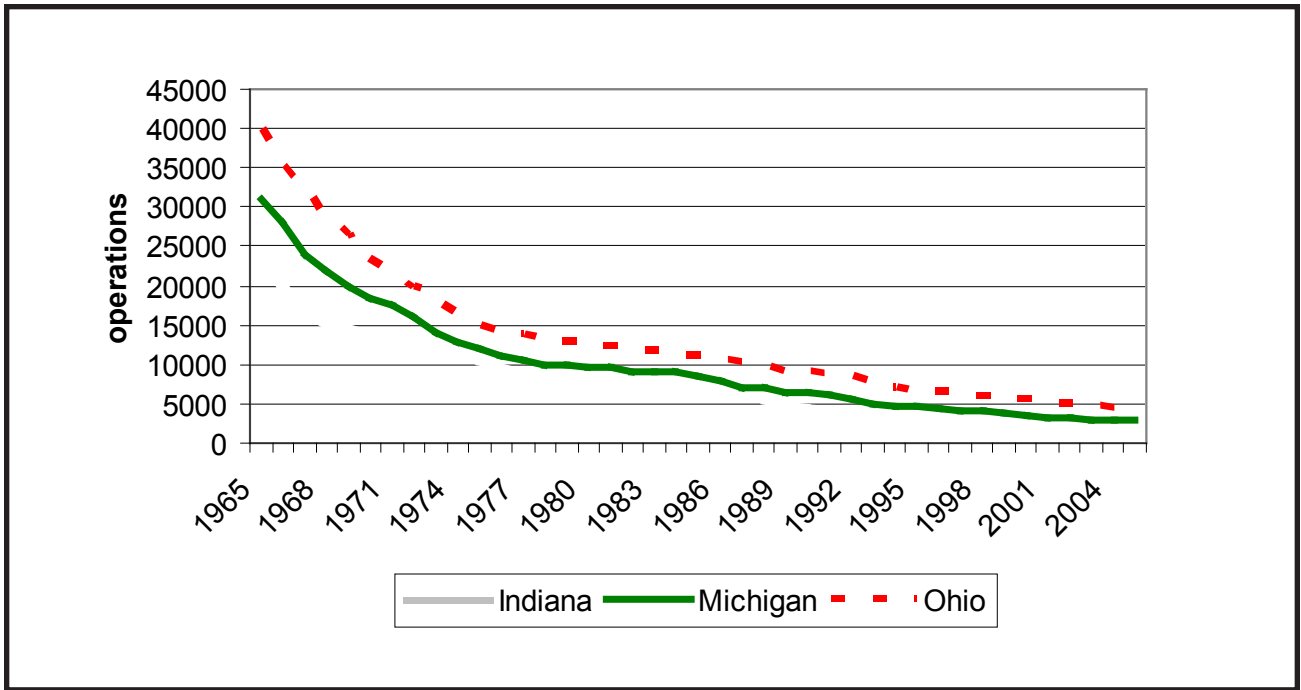


Figure 5. Number of operations with milk cows, 1965 to 2005.

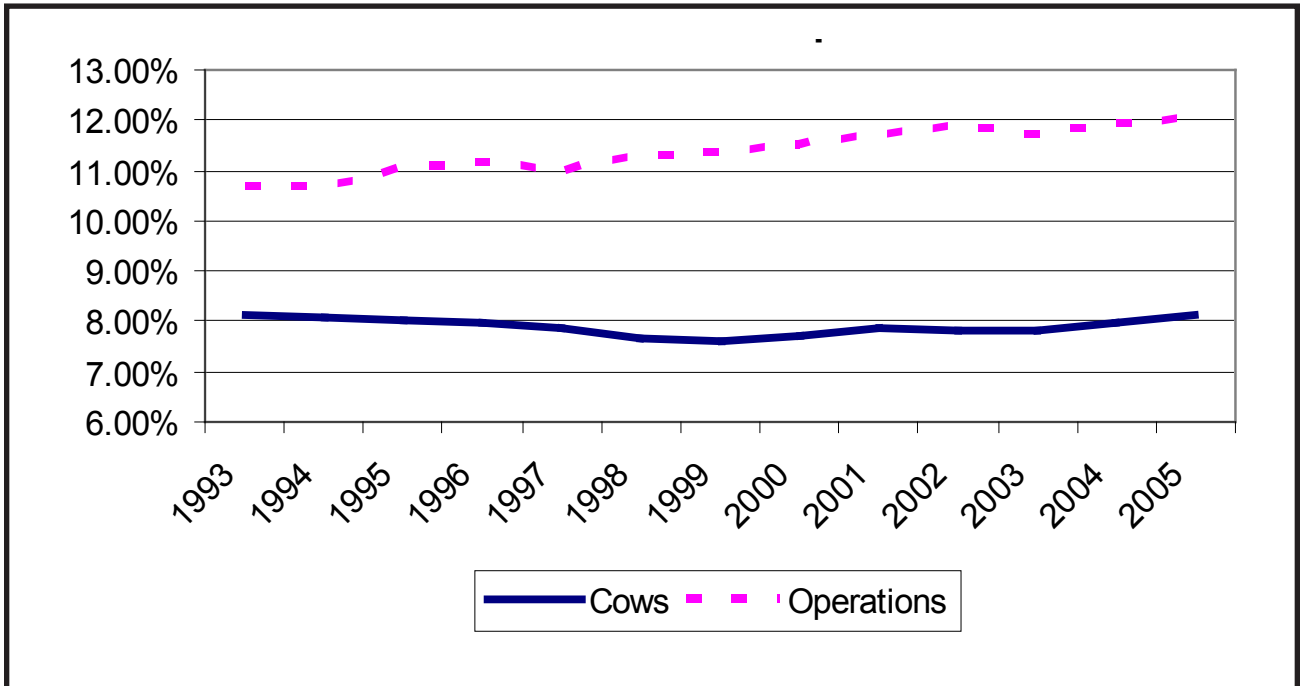


Figure 6. Tri-State milk cows and dairy operations as a percentage of U.S., 1993 to 2005.



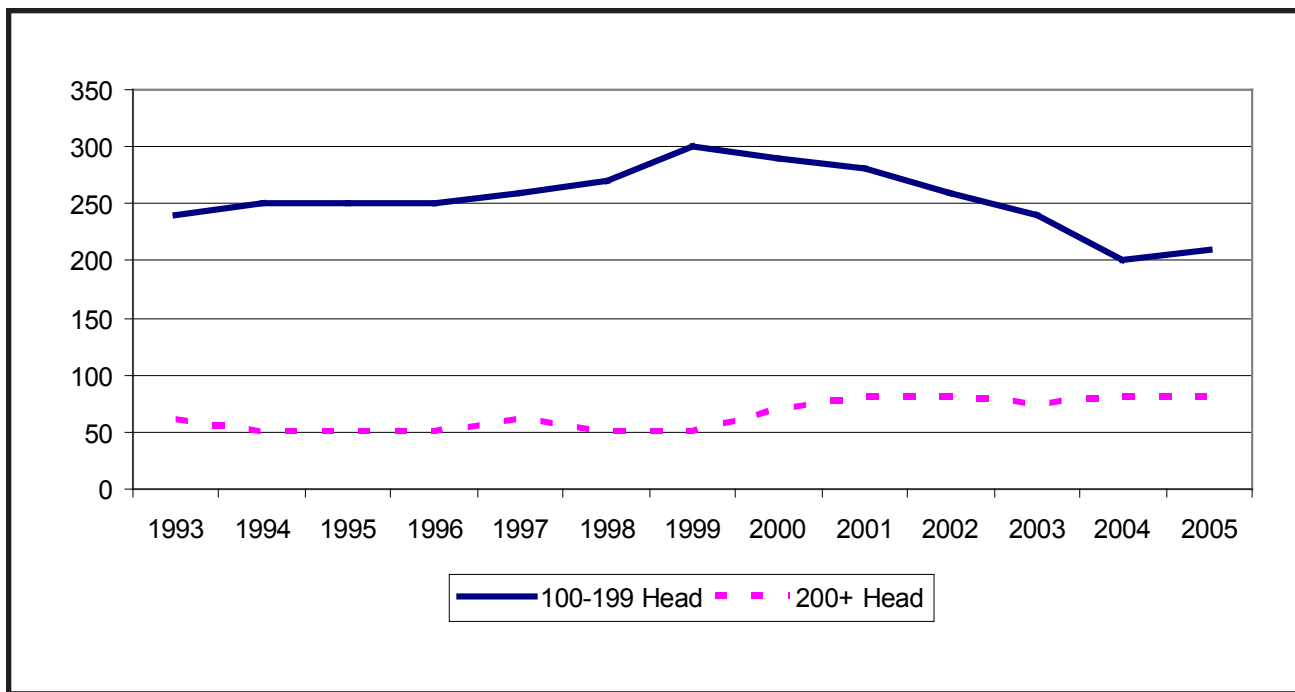


Figure 7. Number of 100+ cow operations in Indiana, 1993 to 2005.

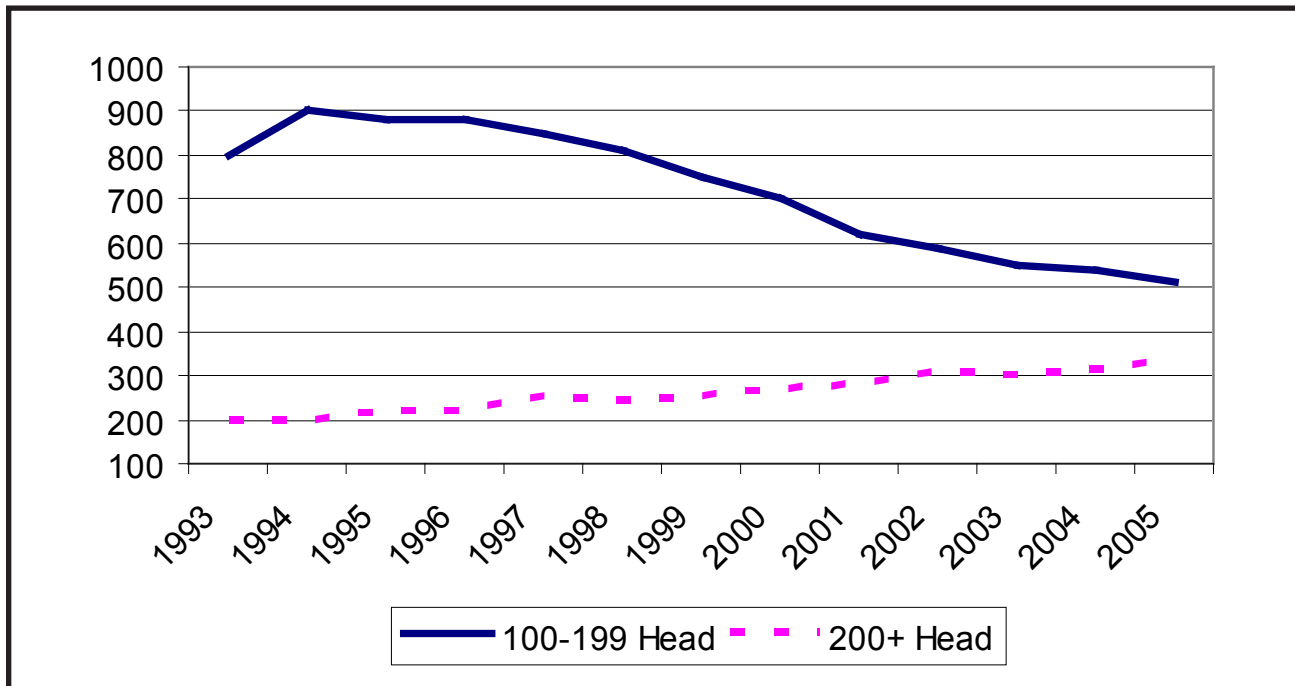


Figure 8. Number of 100+ cow operations in Michigan, 1993 to 2005.

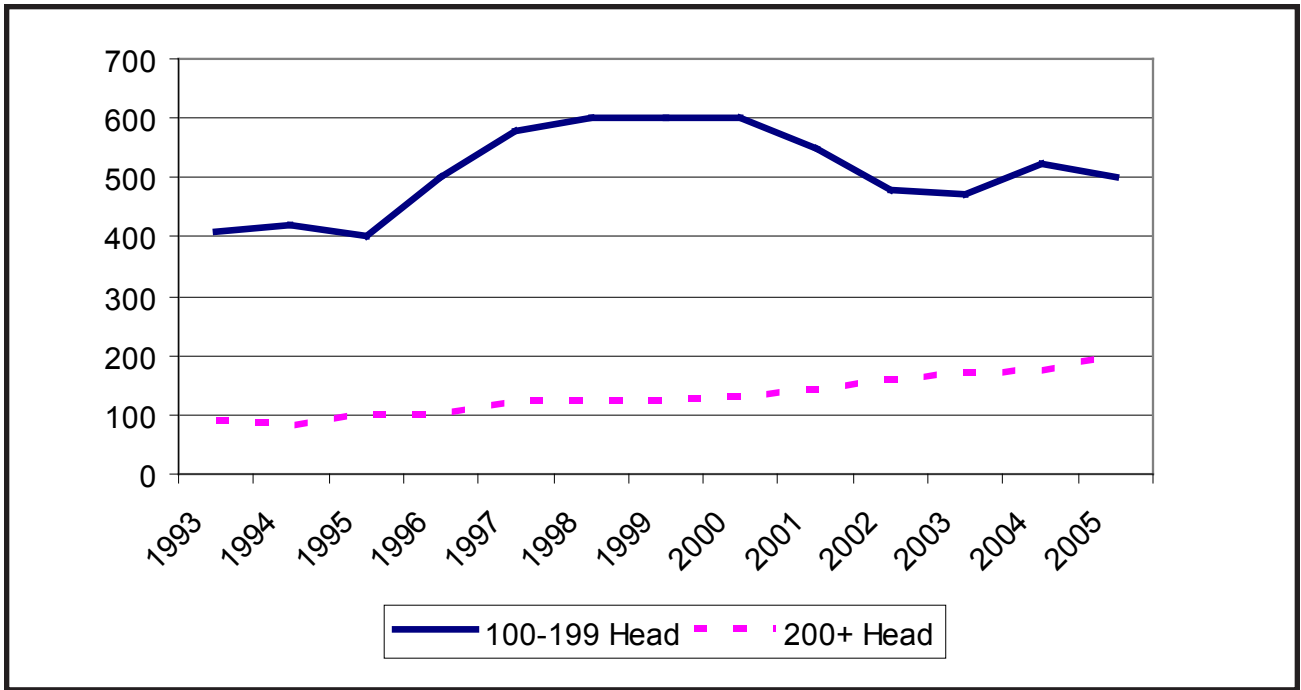


Figure 9. Number of 100+ cow operations in Ohio, 1993 to 2005.

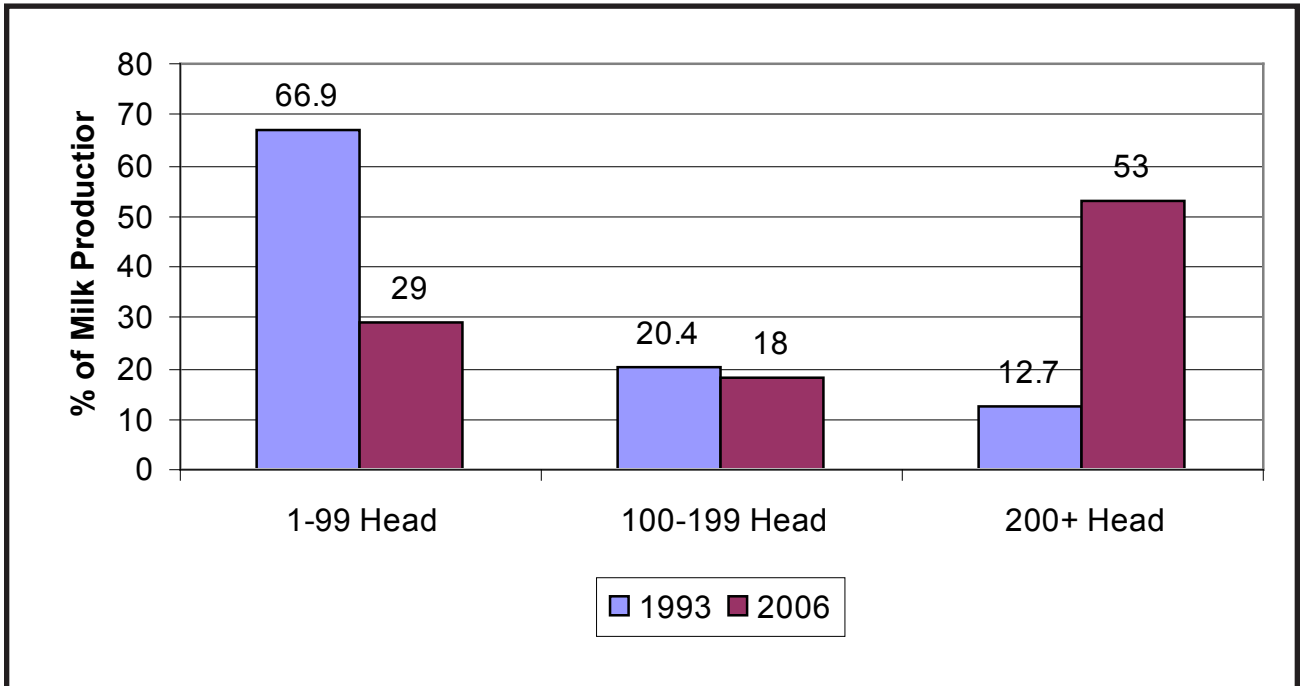


Figure 10. Percentage of milk production by herd size, Indiana.



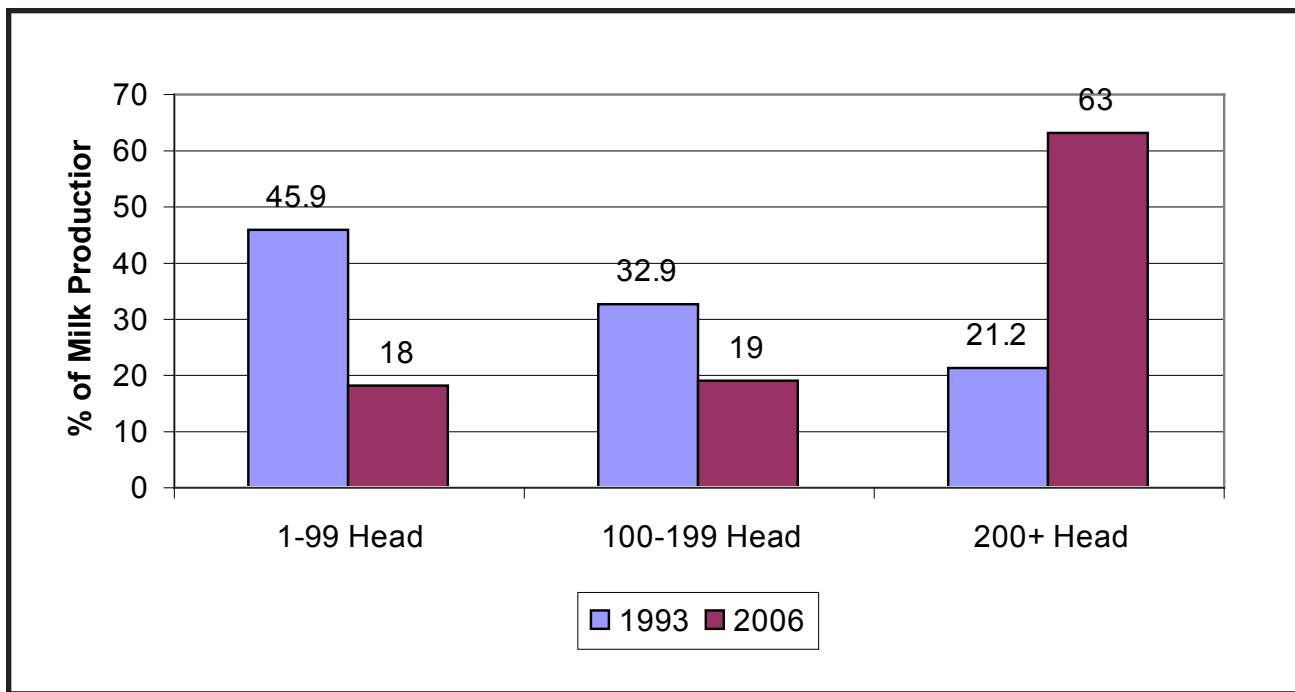


Figure 11. Percentage of milk production by herd size, Michigan.

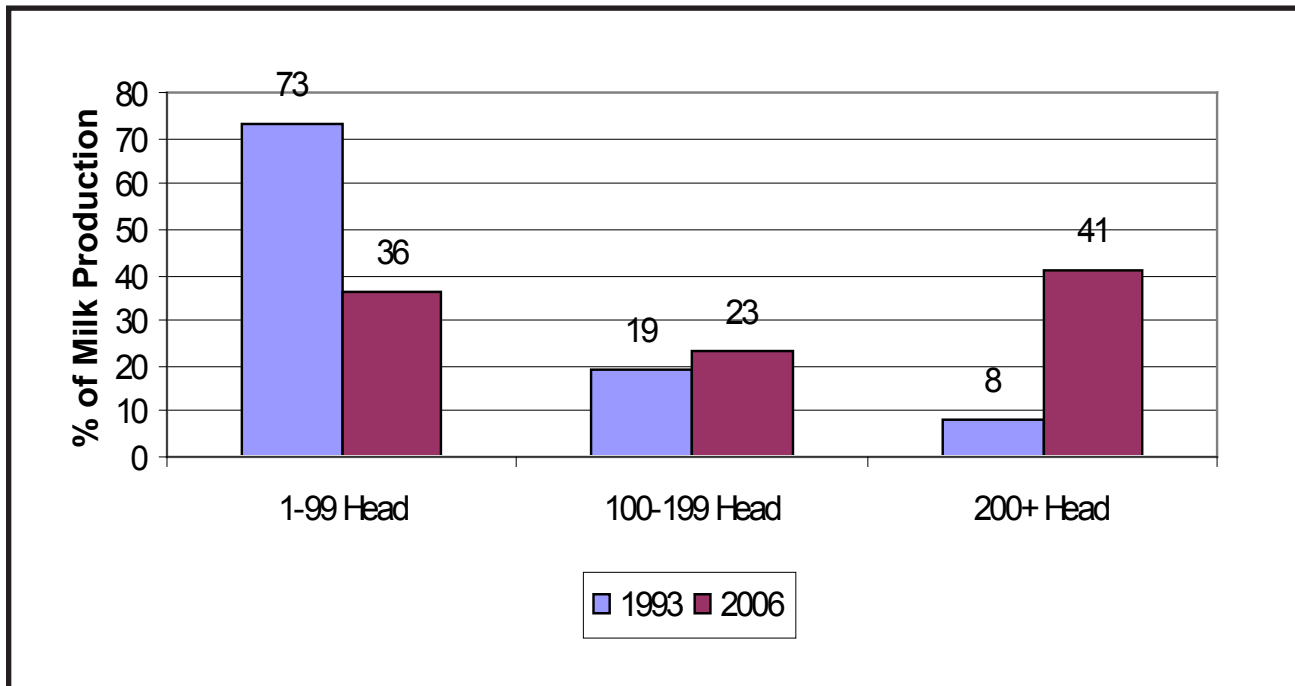


Figure 12. Percentage of milk production by herd size, Ohio.



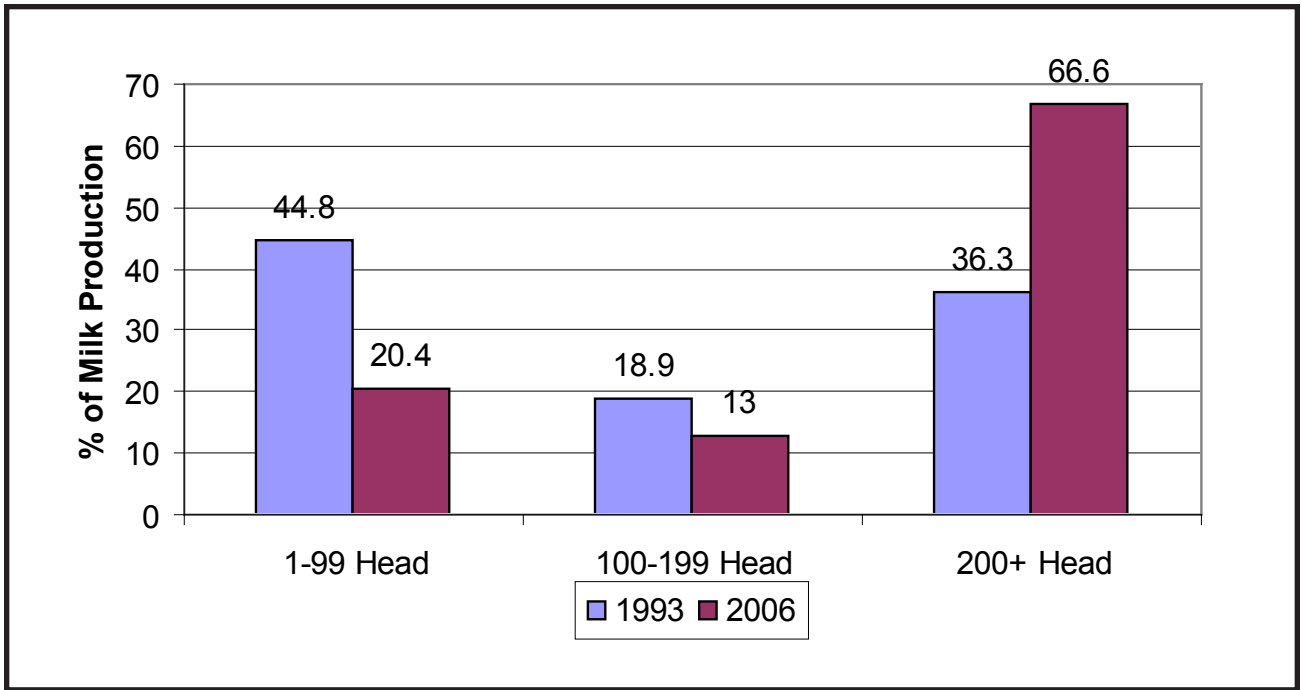


Figure 13. Percentage of milk production by herd size, U.S. 1993 and 2006.

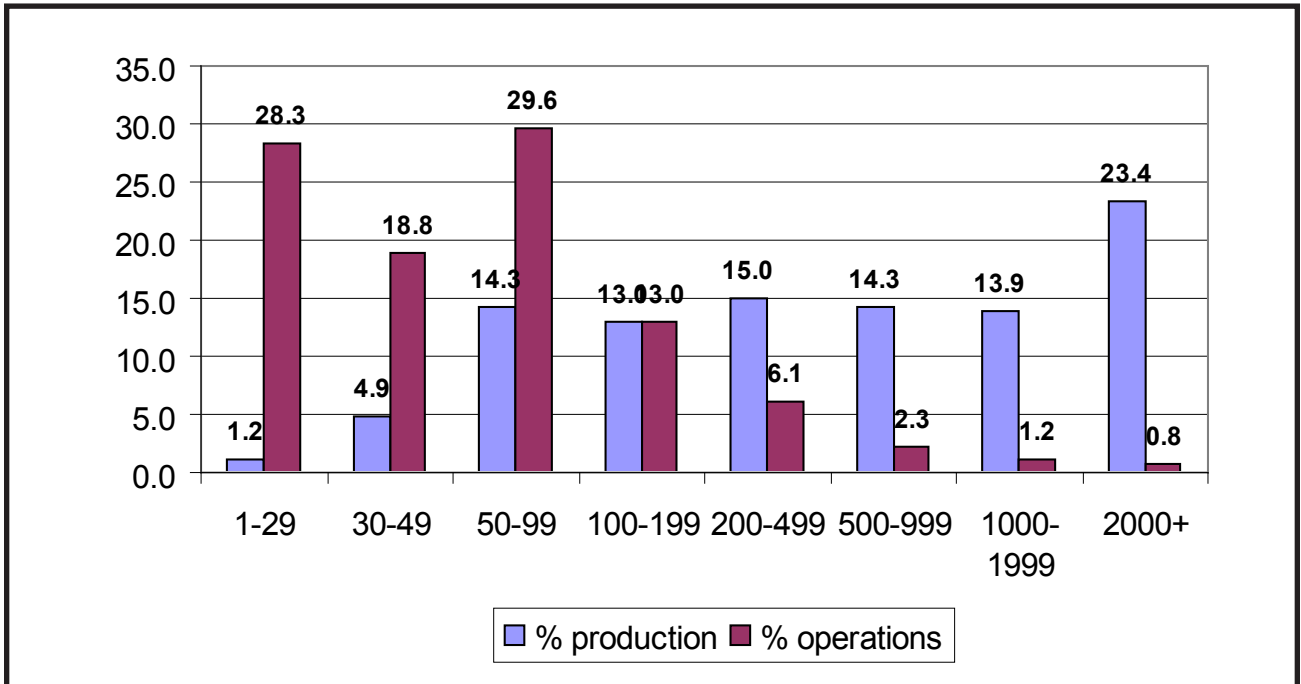


Figure 14. Percentage of operations and milk production by herd size, U.S. 2006.

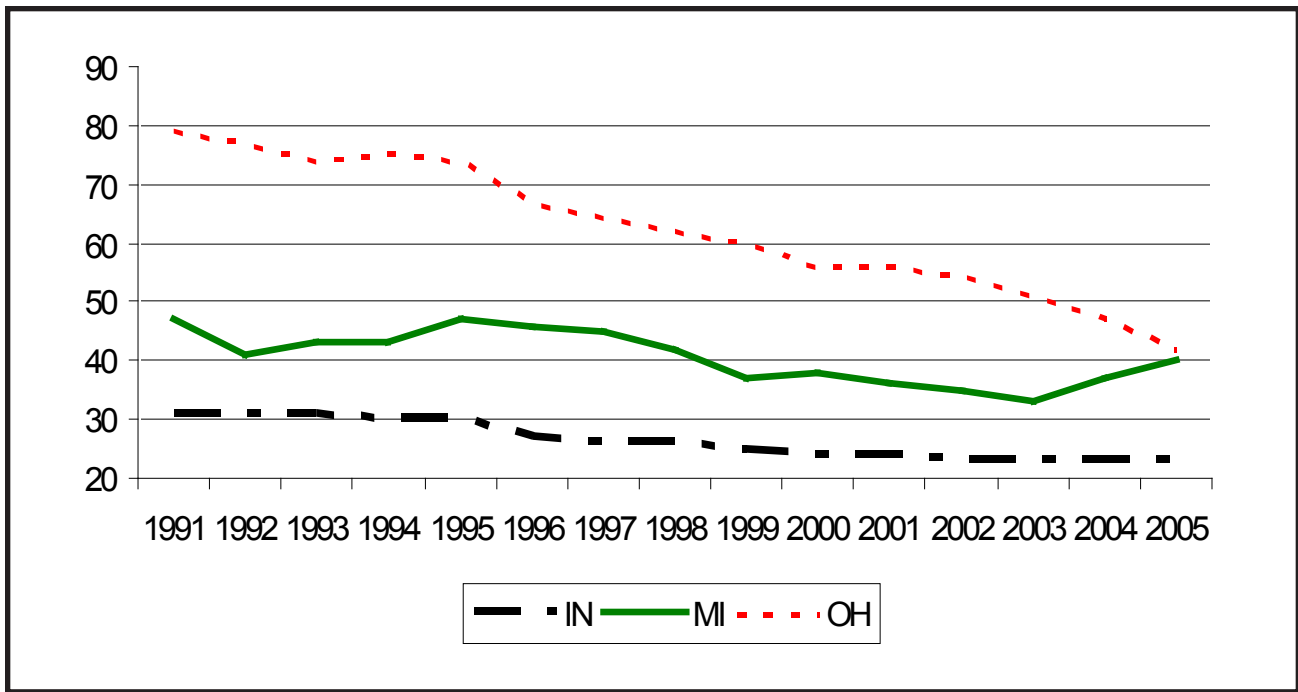


Figure 15. Number of dairy manufacturing plants, 1991 to 2005.

