

# Introduction to the Dairy Industry

## Lesson I: Introduction to the Dairy Industry

The dairy industry is an important component of Missouri's animal agriculture industry. Dairy cow operations are found throughout the state. Many Missouri producers derive their entire income from the dairy industry.

### The Dairy Industry in Missouri

The many phases of the dairy industry—milk production, transportation, processing, packaging, and merchandising—generate valuable economic activity in Missouri. In the last couple decades, the number of dairy farms and cows has decreased in Missouri and many of the surrounding states. Agricultural leaders in the state are hoping to reverse this trend by encouraging producers to implement better technologies and management strategies for dairy operations that will increase efficiency and improve profit margins.

In 2006, Missouri ranked seventh among the states in the number of milk cow operations and twenty-first in milk production. About 125,000 head of dairy cows were present throughout the state in 2003. Each of these cows produced an average of 14,620 pounds of milk during the

year. The production of milk generated over \$237 million of income in 2003. Dairy producers are primarily located in southwest Missouri around Springfield. As of January 1, 2004, Wright County was the top dairy county in Missouri with 11,500 head of dairy cows. Figure I.1 illustrates dairy cow numbers in the top ten counties.

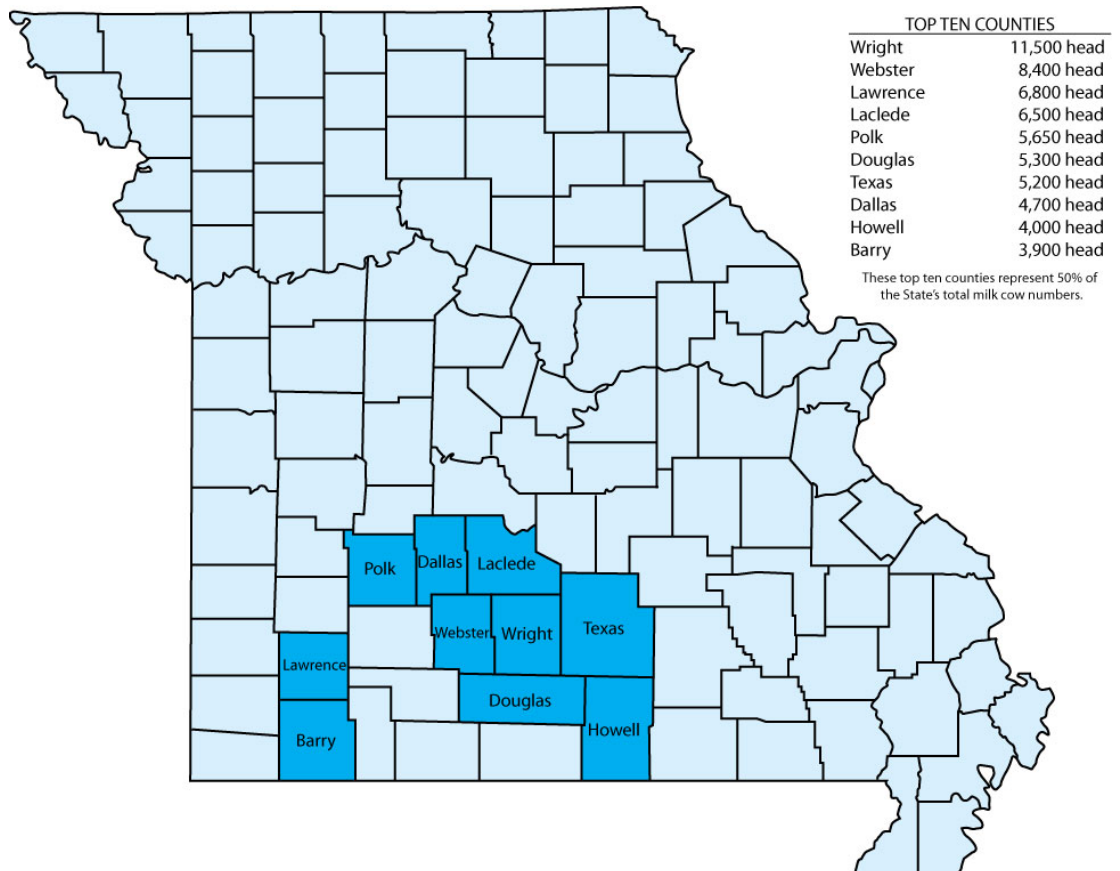
### Evolution of the Dairy Industry

The dairy industry began when settlers brought cows to colonial America in the early 1600s. Until the mid-nineteenth century, a cow's owner consumed most of the milk it produced. Some milk and other dairy products were sold to people who lived nearby and did not have their own cows.

In the nineteenth century, technological advancements led to the growth of the dairy industry. Refrigerated railroad cars allowed producers to ship their milk long distances to urban areas. Milk began to be pasteurized, which involves treating milk by heating it to kill disease-causing bacteria. Commercially manufactured cheese became available as well.

These advances allowed dairy production to become a commercial business. Today, dairy operations supply milk

Figure I.1 - Milk Cow Numbers in Missouri, Top Ten Counties, as of January 1, 2004



# Introduction to Dairy Production

to many people. Through improved breeding, selection, and nutrition, a modern dairy cow can produce thousands of additional pounds of milk.

## Modern Trends

Dairy operations have changed over the last several decades. The number of dairy operations nationwide has decreased, but the number of cows per farm has increased. Dairy production is usually the sole enterprise of these operations.

Milk production per cow has increased due to management factors, including the introduction of BST (bovine somatotropin). BST is a naturally occurring hormone that can be synthesized through biotechnology. It improves milk production when given to lactating cows. Producers are thus able to increase the milk production of existing dairy cows. Using BST requires precise nutritional management of the dairy herd. In the past, some consumers were concerned about the safety of using BST; they feared the residues would show up in fluid milk. Today, however, most consumers have accepted the use of BST.

The location of dairy production has also shifted from the Midwest to the western United States. Large dairies are now found in California, Arizona, and New Mexico. The warm, dry climate allows animals to be managed in dry lots with minimal housing. High quality alfalfa hay grown using irrigation is also abundant, creating a good supply of feed. Dairies in these states are often large, with more than 1,000 head of dairy cows.

## Career Opportunities

The dairy industry offers many challenging and rewarding careers. Areas such as production, genetics, nutrition, and veterinary services, as well as dairy product transportation, processing, and promotion, are open to individuals who are interested in the industry. Some possible careers are described below.

Dairy producers are directly involved in the production of milk for fluid milk and milk products, such as cheese and ice cream. They also may supply dairy animals to other producers. Dairy producers often own part or all of their operations.

Other careers are also available in the industry. Loan officers are needed to work in agricultural financing in banks or other lending institutions providing financial management planning or loans for dairy enterprises. Geneticists are available to

help with breeding decisions and reproductive work such as embryo transfer. Feed company representatives provide information about feeds and nutrition to dairy producers. Veterinarians help care for dairy animals and provide advice and supplies to maintain animal health and the production levels of the dairy operation. Equipment sales and service representatives sell and service equipment used for milk production. Fluid milk haulers transport fluid milk to the processing plant or milk cooperative. Processing plant supervisors help ensure the safety of dairy food products. Sales representatives for dairy food products market dairy products to wholesale and retail stores where they are sold to the public.

## Conclusion

The dairy industry is important to agriculture in Missouri and the United States. The dairy industry has undergone many changes from its beginnings, when the milk produced by cows was consumed chiefly by their owners. Today Missouri dairy producers are producing more milk with fewer cows, but the number of dairy operations and cows are decreasing. In addition to milk production, thousands of other careers are tied to the modern dairy industry.

## Credits

*2004 and 2006 Missouri Farm Facts.* Columbia: Missouri Agricultural Statistics Service in cooperation with the Missouri Department of Agriculture and the U.S. Department of Agriculture.

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