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## **The California Dairy Industry**

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California has the most productive, diverse and progressive agricultural economy in the world. This state produces over 50% of the nation's total fruits, nuts, and vegetables and many of these commodities are specialty crops that are almost entirely produced in California. However, the largest agricultural commodity group in the state is the dairy industry.

California's dairy industry generates over \$4 billion annually in milk sales alone. Estimates are that by considering the value-added products that create jobs and revenues in local communities, such as production, manufacturing, and distribution, dairy contributes over \$35 billion to the state's economy. California's dairy industry is still considered fairly young compared to other, more traditional states such as Wisconsin, New York, or Pennsylvania. The state has increased its share of total U.S. milk production from approximately 14% in 1992 to over 21% in 2004 and based on estimates by the California Milk Advisory Board (CMAB), milk production will expand by ~ 30% by 2012. Wisconsin, the nation's second largest producer, lost share from 16% to 13% of the U.S. milk supply over the same time period.

California dairies are among some of the most productive in the world, both in terms of production per cow and in terms of total cow numbers. In 2004, California had 1,725,000 cows on 2,030 dairies. As a state, we rank number one in total cows and total milk production and are in the top five for milk/ cow. The largest single county in the U.S. in milk production is Tulare County. Tulare accounted for approximately 25% of California's total milk production and produced more milk, as a county, than any individual state except for Wisconsin, New York, and Pennsylvania. While the average herd size in the state is ~ 850 cows, Tulare County averages over 1300 milking cows per herd. Tulare and five other counties located in the central valley together accounted for 49% of the total milk production in California.

Many different factors have contributed to the rapid growth and expansion of the California dairy industry. A few of the factors that have influenced the growth of California as a dairy state that will be discussed in this paper are technological advances in the dairy industry, a favorable labor market, the California climate, relative geographical isolation of the state, feed availability, continued population growth and business prowess of its producers.

The general trend for dairies across the country has been that of increasing average herd size, increasing production per cow and a corresponding decrease in the total number of cows. According to estimates by the USDA National Agricultural Statistics Services, milk production per cow has increased from ~ 6,000 lbs per cow in the early 50's to over 18,000 lbs by 2001. This increase has been at a constant rate for the past 50 years and has been due, in large proportion to the continual development and implementation of new technology such as the rapid adoption and utilization of AI, development of better forage varieties, improved design in housing and cooling of cows, improved feed delivery systems, and greater mechanization in the milking parlor.

At the same time, the total number of dairy cows in the U.S. has decreased from ~ 22,000,000 down to ~ 9,000,000 in 2000, while the number of dairies had decreased from over 1.2 million in the early 60's to ~ 100,000 by 2000. The consolidation of the industry into fewer, larger, and newer dairies has been very pronounced in the west, especially in California.

California (and the southwest in general) has had several advantages to support the rapid growth in its dairy industry. First, the climate is relatively mild and dry for most of the year. During the summers, temperatures often exceed 100°F for 30-45 days a year, but the humidity is usually very low, making it much easier to cool cows. In addition, we often have the advantage of night time cooling. Much of the central and southern parts of California are considered moisture deficit areas with typical rainfall in the area of 10-20 inches per year. These conditions are amenable to the open, dry-lot style of dairies that typically require much less capital investment per cow than the more traditional freestall type structures. Lower input costs allow dairymen to add more cows much easier than in any other part of the country.

The dry climate has also been advantageous, at least in the past, with crop production due to the readily available sources of water for crop production. In the Midwest, rains can often delay the harvesting of forages and lead to over-maturation and lower digestibility. In California, our rains are concentrated in the winter and alfalfa and corn can be harvested on schedule without much fear of weather interruption. Our longer growing season also allows for 4-9 cuttings of alfalfa, depending on the location of the farm. Of course, water availability is becoming a serious problem for the West. As our population continues growing, major metropolitan areas such as Los Angeles are competing for more water, often at the cost of the farmers across the state.

Labor, a common problem for dairymen everywhere, tends to be less of a problem in the west due to the abundance of immigrant laborers, most commonly from Mexico, that flow into the state looking for work. Survey work by Encina, at the University of California, shows that 81% of workers on California are foreign born as compared to 49% in the Midwest. Wages are similar in the West, as compared to the Midwest, but the average years spent on the job are higher in the West. An interesting note, only 8% of the milker labor force in California was female in 2003, as compared to 15% in the Midwest.

California had major advantages early in the development of its dairy industry in terms of milk prices. This state has the largest total population of any in the U.S. and is relatively isolated, geographically, from other milk producing areas. Thus, transportation costs, at least in the past, have precluded the inflow of milk into our state and created a large demand for its fluid milk.

The previously mentioned population growth and tax laws related to capital gains have combined to spur dairy expansion in California. Sharp, forward thinking businessmen planned the locations of their dairies to capitalize on future population growth. Dairies were often placed in large, sparsely populated areas located near larger, growing metropolitan areas. After 10-15 years of dairying, urban encroachment allowed these forward thinking dairymen to sell their land to developers at very high prices. Dairymen capitalized on this demand for land, selling their farms and reinvesting in larger dairies. One example would be of a certain family that originally dairied in the extreme southern part of the state. As the population overtook the original dairy, they moved into the Chino area. Within about 15

years, these next generation dairies were in demand by developers and many of the dairymen moved into the central valley or into other areas of the west.

As a non-native Californian, one aspect that I have noticed of many dairymen in this state is their business prowess. Most of the owners of the larger dairies are very astute businessmen. In many parts of the country, dairymen are reluctant to cash in the farm and relocate, either for personal reasons or due to asset fixity, the inability to get a sufficient return for the farm's assets to allow for reinvestment. Many of the dairymen with which I have worked understand that dairies that are managed as businesses are a good way of life. These producers are usually very much aware of costs of production and often work to contract feed prices.

California is not just a series of large scale dry lot dairies. In reality, the state has a very diverse component to its industry. Starting in the Bakersfield area and heading north, freestalls are increasingly common. Many of these newer large scale freestall dairies are transplants from the southern part of the state and use the proceeds to reinvest in larger, confinement operations.

In the northern part of the state, there are many pasture-based dairies that take advantage of the cooler weather and favorable growing seasons for grass. These dairies are less impacted by population encroachment, but also tend to be smaller in scale.

Also, a large proportion of California dairies are Jersey farms. Many of these producers are located near the Hilmar area and take advantage of very favorable cheese pricing strategies. Hilmar is now the largest cheese plant in the U.S.

In the near future, the West is likely to continue to show gains in milk production despite growing problems. There is increased competition for land and water between developers, metropolitan areas, other farmers, and dairymen as the demand for forage to feed the expanding western dairy herd intensifies. Some farmers may take out other crops to plant alfalfa or corn, but only if the prices increase to justify the change. The environmental restraints on dairying are becoming more and more common. These restrictions are becoming more severe and will cover not only water and environmental issues, but also air quality and odor. Larger dairies are more visible, more heavily targeted, and will be forced to spend larger amounts of money to ameliorate these issues. Permitting is very time consuming and difficult, leading to higher prices for pre-existing facilities that are already permitted.

California's dairy industry is not as dependent on the fluid milk market as in the past. Over the last 10-15 years, there has been tremendous development in the area of milk processing plant capacity. In 2004, only 15.7% of all milk was utilized as fluid milk. In comparison, approximately 47% of all milk produced was used to make cheese and another 30% was used to manufacture butter and milk powder. California ranks first in total milk production, nonfat dry milk production, butter, ice cream and whey, and runs a close second in cheese production to Wisconsin. California produces approximately 48% of the nation's nonfat dry milk, 28% of the butter and 20% of the cheese.

Much of the milk is exported to other states or to other countries as manufactured goods. However, some of its fluid milk is exported as well. Due to its proximity, Mexico is the major market for U.S. fluid milk. Exports to Mexico accounted for at least 50 percent of total exports during most years between 1989 and 2002. For logical reasons, most of the exports go to the border cities of northern Mexico.

California's milk marketing program establishes minimum prices for grade A milk received from dairymen, and approximately 98% of all milk is grade A. Commercial market

prices for dairy product commodities weigh heavily in determining the minimum price that processors must pay, and there are five classes of milk, based on the destination of the fluid product. Class 1, 4a and 4b prices are adjusted monthly, whereas class 2 and 3 prices are adjusted bimonthly. Class 1 is milk that is used in fluid products. Class 2 is milk that is used to manufacture heavy cream, cottage cheese, yogurt and condensed milk products. Milk used in ice cream or other frozen products is class 3. Butter and dry milk products are in class 4a, while 4b is milk that is used to make cheese other than cottage cheese.

Milk is pooled, and the price paid is based on the class utilization as well as the fat and solids-non-fat components. In addition, there is a quota system that also affects the prices paid to dairymen. Milk sold under quota receives a higher price than over-quota milk. The use of quotas has the potential to control the supply of milk, but many dairymen have found it profitable to expand production of over-quota milk, and many younger dairymen own no quota due to the high purchase cost and concerns that it may change at some point in the future.

#### Reference List

1. Brunke, H. California dairy profile. <http://www.agmrc.org/agmrc/commodity/livestock/dairy/californiadairyprofile.htm> [November]. 2003.
2. Butler, L. J. The potential for growth in the California dairy/ forage industry and implications of the 2002 farm bill. proceedings, 31st California Alfalfa and Forage Symposium [December 12-13]. 2001.
3. California Department of Food and Agriculture and USDA. California dairy statistics and trends. <http://www.cdfa.ca.gov/> . 2004.
4. California Milk Advisory Board. California: The nation's dairy powerhouse. <http://www.dairyforum.org/FINAL%20PDF%20Dec%209%202003%20CMAB%20Economic%20Study.pdf> November. 2003.
5. Encina, G. B. Dairy USA *Wage Survey 2003*. <http://www.cnr.berkeley.edu/ucce50/ag-labor/7research/7res05.htm> . 2003.