

# DAIRY SITUATION AND OUTLOOK 2008

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## ABSTRACT

The U.S. dairy industry has reached a crossroads, and the very foundations of the industry are being questioned and assessed. The implications are enormous. Government programs of the past are being re-examined to determine their appropriateness and value to the dairy industry. Real participation in international marketing of dairy products appears to be sustainable, rather than just an afterthought. The California dairy industry has also reached a crossroads of its own. The business model for dairying in California that had worked so well in the past is showing its vulnerabilities in the new global economy. As the California dairy industry grapples with the challenges of refining its business model, several challenges have emerged in the State – limited or reduced processing plant capacity, implementation of milk supply management programs, increased feed costs, and the need to expand dairy product exports. This paper discusses the four major challenges in the context of the situation faced since 2007 and then provides an assessment of how they will impact the dairy industry outlook for 2009.

**Keywords: dairy industry outlook, milk processing capacity, supply management, feed costs, dairy exports**

## INTRODUCTION

For years, the U.S. dairy industry has been characterized as having heavy government involvement through price supporting policies. Over the past 20 years, that description has become less applicable. Moreover, as underscored by the passage of the 2008 Farm Bill, government is poised to play even less of a role as the dairy industry continues to evolve and move into an era of increased reliance on both domestic and international markets. During this time of transition, several factors that may have far-reaching implications for dairy producers have emerged, including increased exposure to price volatility, understanding and navigating through international markets, a continued trend of more cows and fewer and larger dairy farms, and the need for a greater understanding of the how milk production, milk processing and dairy product demand interact.

As the dairy industry continues to move forward in its evolution toward freer markets, it has experienced the euphoria of high milk prices in 2007 and devastation of astronomical feed prices in 2008. The focus of this paper is to identify some of the major challenges that have been encountered in the last two years and then conclude with some thoughts on the outlook for 2009.

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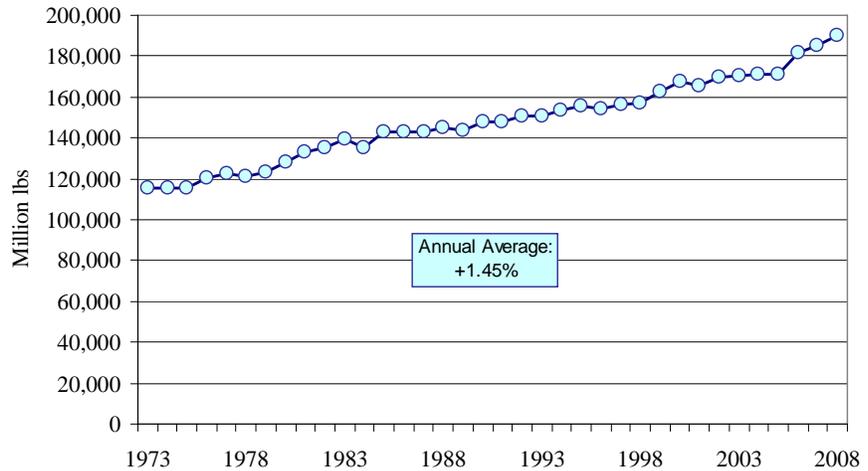
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## BASELINE: RECENT INDUSTRY STATISTICS

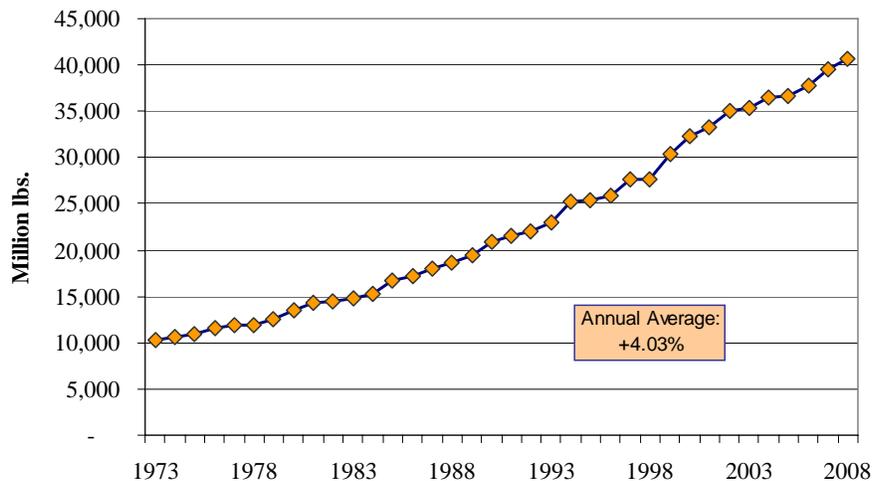
To get some perspective on the current status of the U.S. and California dairy industries and how they have arrived where they are, it may be helpful to review some very basic and essential dairy industry data. Although this paper will primarily focus on the California dairy industry, it is instructive to visualize how California fits in with the remainder of U.S. dairy industry.

In “dairy-speak”, milk production and milk price data are stalwarts for describing a snapshot image of the industry. Figure 1 shows the growth in U.S. milk production since 1973. The growth has been nearly linear and, on a year-over-year basis, mostly positive with the total growth approaching 65% and averaging 1.45% per year. In contrast, the growth in California milk supply has been simply extraordinary increasing by nearly 300% over the last 25 years. Year-over-year growth has not been negative in the last 20 years, and the growth curve suggests that milk production during the last 25 years has been increasing at an increasing rate. The annual average increase in milk production has been 4.03% since 1973, significantly higher than the U.S. average. A simple comparison of Figures 1 and 2 verifies the assertion that California has evolved from a contributing dairy state to nation’s leading dairy state, producing 20% of the total U.S. milk supply.

**Figure 1. U.S. Milk Production**

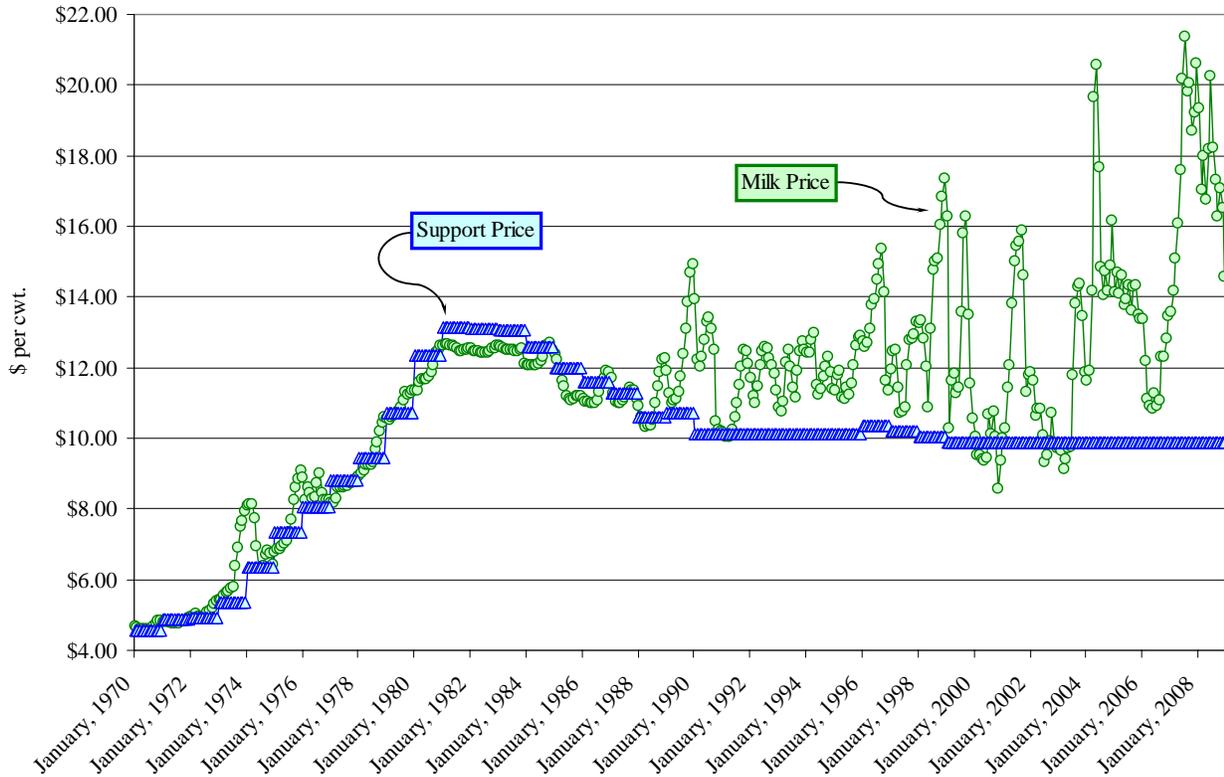


**Figure 2. California Milk Production**



However dramatic milk supply changes appear, they are no comparison at all to the turbulent and sometimes violent movements in milk prices, not only from year to year but month to month as well. Figure 3 provides a very clear picture of the milk price volatility that has characterized the

**Figure 3. Comparison of Milk Price and Government Support Price**



dairy industry since 1988. The chart shows two data series – the government support price for milk (blue triangles), and the basic formula price, a well-recognized indicator of all milk prices (green circles).

Two tenets are evident from the chart and are worth noting. First, as progressive reductions in the federal support milk price have been made, the milk price has been subject to greater levels of price volatility. With higher milk support prices in the 1970s and 1980s (achieved through greater government involvement in dairy markets), milk prices were stable and predictable. Milk prices tended to stay very close to the level of price support. New policies that mandated less government involvement in milk markets emerged in the late 1980s and have incrementally reduced the level of the milk price safety net. As the minimum milk price floor has dropped, milk prices have become anything but stable and predictable. Second, notwithstanding the tremendous price swings seen in the last 20 years, milk prices have generally increased even as the price support from the government has been ratcheted back.

### **A CLOSER LOOK AT 2007 AND 2008**

The background reviewed in the previous section provides a backdrop for discussing the major factors that have shaped the California dairy industry over the last two years. Four readily identifiable factors are considered to be the major factors characterizing and influencing the dairy industry in 2007 and 2008 – processing plant capacity, milk supply management, feed costs, and dairy product exports. Looking forward, it appears that these four factors will continue to shape the California dairy industry for several years. Put another way, these four factors will be the major influences on milk price and dairy farm profitability for years to come.

## ***Processing Plant Capacity***

California has long been regarded as an attractive location for milk processing plants, attributable to its increasing milk supply, strategic site for exporting products, large and growing population and adequate if not generous treatment of processing plants from a regulated milk price viewpoint. At the same time, the cost of “doing business” in California has historically been higher than in other states. This would include the cost of building the plant itself, as well as the cost of operating the plant (for example, labor, energy, insurance, workers’ compensation, etc.). The time required to obtain a permit for constructing a processing plant in California is truly legendary, and the recent passage of legislation that establishes much higher standards for air and water quality must also be considered by prospective milk processors. Until recently, the advantages outweighed the disadvantages, and, consequently, milk processors continued to locate their new facilities in California.

While it is difficult to point to an exact time when the disadvantages began to outweigh the advantages, it is clear that there has been a change in direction. California has not been the location of choice for processors who are building new facilities, and California has been repeatedly mentioned as a possible location that was considered but ultimately was not selected. The obvious question is, why? In addition to the factors noted above which may dissuade a processors from building in California, other states have been much more active in recruiting both dairy farms and milk processing facilities. California has earned itself a reputation for “rolling out the red tape” while other states have done a much better job of “rolling out the red carpet” through tax incentives and grants. There are some bright spots on the horizon, however. California Dairies, Inc., a milk marketing cooperative, is in the process building its second phase of a 10 million pound per day facility, and Leprino Foods is in the process of adding 3 million pounds of capacity to its cheese plant in Lemoore.

Unfortunately, the problem of processing plant capacity is not limited to the lack of construction of new facilities. Closures of existing milk processing facilities in California have had enormous implications for the amount of milk that can be processed in the state. Over the last few years, the State has lost in excess of 13 million pounds (about 12%) of its daily processing capacity as a result of plant closures. A quick comparison shows that the aforementioned additional processing capacity is just equal to the processing capacity that has been lost, meaning that the added processing capacity just keeps California even. There are no short-term fixes available to increase processing capacity, although some preliminary work has started to re-energize milk processors about locating in California. Consequently, the pressure to address the milk supply-demand imbalance on the supply side grew to a point where producers and processors alike had to agree (if somewhat reluctantly) to new policies.

## ***Supply Management***

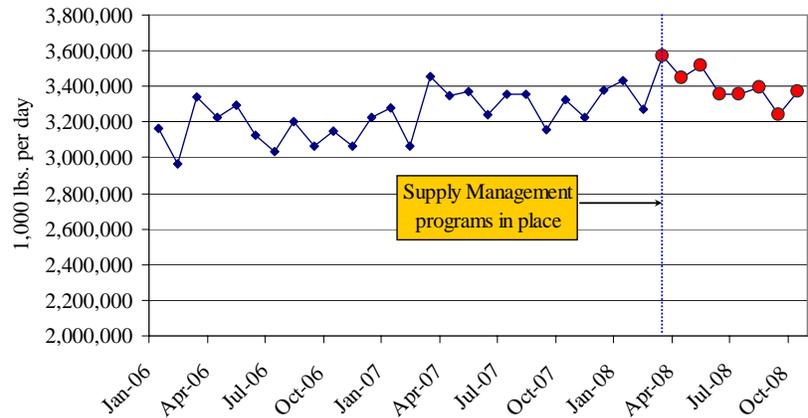
Changes to milk supply policies do not come easily or quickly. Historically, dairy producers have been opposed to policies that would limit how much milk they can produce. However, starting in late 2007 and into 2008, the three major California cooperatives (representing 70% of the state’s milk supply) and some proprietary processors implemented milk supply management programs.

While the programs differ in the details, they all share a common purpose – to reduce the amount of milk shipped from California dairy farms.

The combined effect of the supply management programs is plainly evident in the production data published by the Department of Food and Agriculture. California milk production started to fall off significantly in April 2008, and milk production has averaged only about 1% higher than 2007 since that time, considerably lower than the historic increases of 4% to 5% (Figure 4). In fact, the year-over-year changes in milk production for July and August 2008 were negative, rarities in themselves.

The widespread use of supply management policies in California should curtail milk production to a level that can be managed collectively by both proprietary and cooperative processors. With these programs in place, any additional milk being produced will carry with it a potentially significant penalty, ranging from a fee for the additional cost of handling the milk, all the way up to cancellation of the producer's contract with a handler. A favorable aspect of supply management programs is that they assure the dairy industry as a whole that the milk supply will be more predictable than it has been historically.

**Figure 4. California Milk Production by Month, January 2006 to October 2008**



### ***Increased Feed Costs***

Feedlot-style dairying, i.e., buying instead of growing a large percentage of the feed on the dairy, has been a hallmark of California dairying. While this type of dairying has contributed to tremendous production gains and growth of dairy operations, it also makes the producer community vulnerable to feed price increases. Unanticipated influences such as the ethanol boom in response to the federal government's mandated Renewable Fuel Standard, a weak dollar and high demand for grains from other countries exposed this vulnerability. Oddly, high feed prices have been plaguing dairy producers, and yet the reasons for the higher feed prices were clearly beyond the control of dairy producers.

The Department of Food and Agriculture (Department) collects and publishes cost of production data from California dairy producers. Figure 5 reveals that the price paid by California dairy producers for alfalfa hay has increased by 65% since January 2007. Similarly, the price paid by California dairy producers for corn has increased by 45%. If included here, other feeds used in dairy rations would show the exact same trend, but hopefully the point is clear enough – feed prices for California dairy producers have literally sky-rocketed in the past two years. The Department's calculations show that the cost of production has increased by 30% since 2007, largely attributable

to the total cost of feed increasing by 44% during the same time period (Figure 6). As might be expected from the discussion above, Figure 6 shows the predictable impacts on profitability when feed prices outdistance prices received for milk sold.

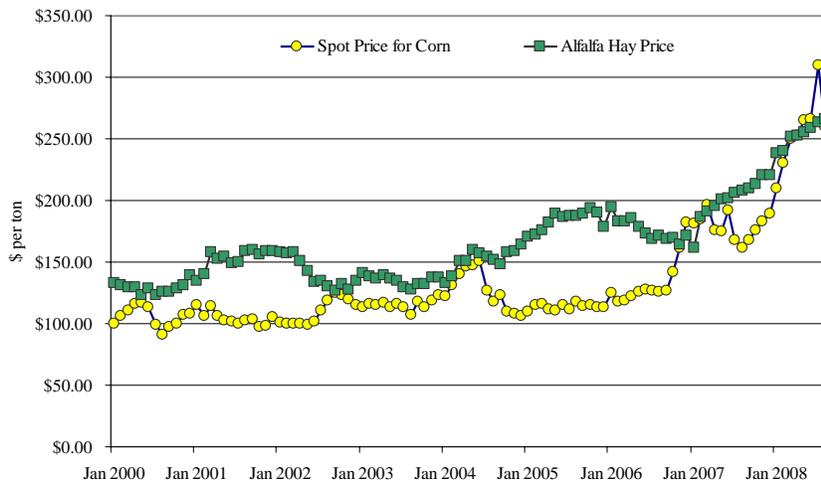
The cost of feed situation that has enveloped California since 2007 has encouraged producers to seek alternative feed rations. Although it may be tempting to think that nutritionists have been able to develop landmark feed ration changes through rebalancing, the reality is that feeding practices have not changed very much at all. Bear in mind that prices for almost all feeds have increased simultaneously, making the ability to substitute away from higher priced feeds a daunting task at best. Even substituting more roughage for concentrates has its consequences; a cost-effective ration that compromises milk production and milk component levels may not be a suitable result for most dairy producers. In other words, there may be no change in profitability if the feed substitutes that appear to be less expensive result in decreased milk production or decreased milk components.

Does feed price relief lie ahead for dairy producers, based on current changes in many of the feed markets? Possibly, but in no way is this outcome assured. What the feed and grain markets have shown the dairy industry in the past two years is that they have become more volatile and remain unpredictable.

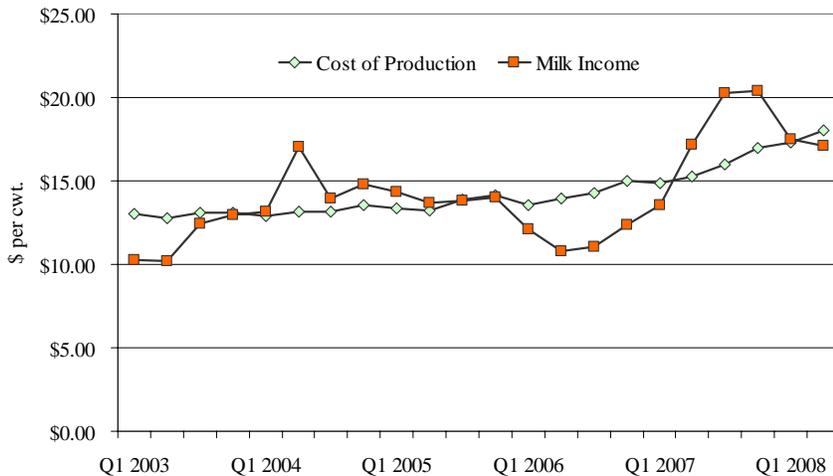
**Export Markets**

The U.S. dairy industry has traditionally not participated significantly in international markets (Figure 7). Occasionally, U.S. dairy products have been exported to “test the waters”. In those instances, U.S. exporters have found international markets to be extraordinarily price competitive with product specifications that can be difficult to meet. Furthermore, with a strong government

**Figure 5. Corn and Alfalfa Hay Prices Paid by California Dairy Producers**



**Figure 6. Cost of Production vs. Milk Income**



price support program, there was no impetus for the U.S. to participate in markets that did not provide a consistently favorable return.

California has faced a slightly different business model with regard to exports of dairy products. First, by virtue of geography, California is strategically located to export products to countries that lie to the West and to the South,

i.e., China, Indonesia, Japan and Mexico. Second, the mindset of California producers has been to market milk through a dairy cooperative. Milk not sold to the cooperative's customers is processed into storable commodities, like butter and nonfat dry milk. If a processing cooperative can commit to making the adjustments necessary to meet world specifications, these products are well-suited for exports. Third, the surge in petroleum prices worldwide gave many developing countries the means to buy dairy products that they had not known before. Fourth, the prolonged weakness of the U.S. dollar made U.S. dairy products an attractive option to those countries with petroleum dollars to spend. Finally, a shortage of dairy products from the traditional countries that supply dairy products to international markets forced world prices to increase to atypically high levels.

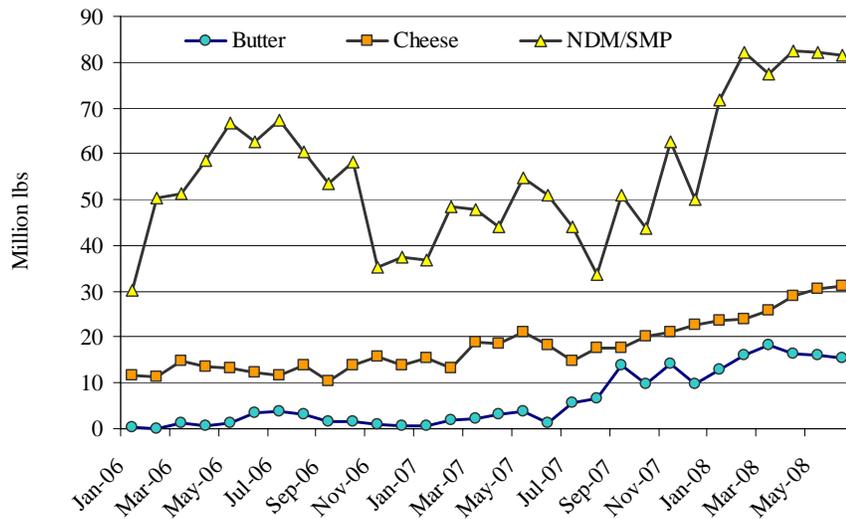
Many expect that the re-emergence of market fundamentals in energy markets, particularly petroleum, will impact the ability of California and the U.S. to continue exports in the future. However, it is clear that the level of milk production in California, the preponderance of manufacturing milk processing facilities and the strategic location of California relative to both ports and export markets dictate the continuation of exports of dairy products from California.

### CONCLUDING REMARKS AND A LOOK TOWARD 2009

Unfortunately, many of the issues discussed above will not have been resolved or their impacts abated in the next few months. There have been no major developments that might provide an increase in plant processing capacity, other than those mentioned earlier. Consequently, while there may be some incremental adjustments in production base allocations for some producers, the supply management programs must remain in place throughout 2009.

Feed prices, particularly corn, have dropped tremendously from their mid-summer highs. However, relative to historic feed prices, they have not dropped nearly enough, especially when considering where milk prices are headed in 2009 (see below). Furthermore, not all producers are benefitting from the recent feed market drops. Some producers, in an effort to hedge against run-away corn

**Figure 7. Monthly Exports of U.S. Dairy Products**



price increases, established contracts at prices that would be considered unfavorable in light of today's market prices.

Exports have been mostly favorable to the U.S. industry recently, but will that continue in the future? With continued currency adjustments and increased supplies of dairy products available from other countries, many producers in the dairy industry will question why exports are even being considered. The reality is that unless there are significant downward adjustments in milk production, California will need to continue to work to find sales of dairy products in off-shore markets. It promises to be challenging. California is new to these markets, and international customers are very well versed in dairy product pricing.

Finally, milk prices have lost much of the luster they held earlier in the year. An abundance of milk across the U.S. has led to softer prices for the major dairy commodities – butter, nonfat dry milk and cheddar cheese. Dairy product buyers do not appear to want to inventory high-priced dairy products and are content to buy product only as sales permit. Inventories of storable dairy products will have to be reduced to reasonable levels to encourage buyer to return. As a result, many dairy market analysts are predicting that dairy commodity prices will remain only fair through the first two quarters of 2009 before starting to trend upward in the third and fourth quarters.