

DAIRY SITUATION AND OUTLOOK 2010

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ABSTRACT

Just a few years ago, there was much discussion of the U.S. dairy industry reaching a crossroads, with government programs of the past being re-examined, increased discussion of real and committed participation in international markets, and debates about the significance and implications of higher and more volatile feed prices for dairy producers. Those questions are still relevant today but the lack of sustainable dairy farm profitability has shifted the focus away from longer term changes in policy and in direction and toward short-term needs for survival. With its reliance on a dairying business model that depends on sources of low cost feed, California has become the reference standard and the barometer across the U.S. for determining the survivability of large-scale, feedlot-style dairy farms. As the California dairy industry grapples with the challenges of reshaping itself, several challenges have emerged – limited milk processing plant capacity, implementation of milk supply management programs, higher and more volatile feed costs, and obtaining financing for dairy farms under the new requirements adopted by lending institutions. This paper discusses these major challenges in the context of the situation faced since 2008 and then provides a brief assessment of how they will impact the dairy industry outlook for the remainder of 2010 and into 2011.

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

INTRODUCTION

It is truly a time of transition in the California dairy industry. For years, the milk production growth in California was nothing short of remarkable and the talk of the dairy world. Low cost of milk production was the key to dairy farm profitability, and good returns to producers led to further rapid expansion of production facilities. It was a simple business model that held up for 25 years with the key being low input costs and excess milk processing capacity within the State. Only recently have the vulnerabilities of this business model been exposed – milk plant processing capacity became a limiting factor, the cost of feed skyrocketed and milk prices plummeted. The simultaneous appearance of these game-changing factors has left the dairy industry struggling to understand how milk production capabilities, milk processing capacity, dairy product demand and milk prices interact. The focus of this paper is to review the recent history of events that has led to the current business environment for the California dairy industry, identify some of the major challenges that have been faced in the last five years and then conclude with some thoughts on the outlook for the remainder of 2010 and into the first few quarters 2011.

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BASELINE: A HISTORIC PERSPECTIVE

Past events of the dairy industry are certainly not indicators of what may happen in the future, as will be demonstrated repeatedly in this paper. Nonetheless, establishing a baseline using simple industry statistics is instructive in any regard. Although this paper will primarily focus on the California dairy industry, it will be clear that California does not stand isolated in the dairy industry. The factors that impact California also impact other dairy producing regions in the U.S., but not necessarily in the same way nor to the same degree.

The most basic measures used in the dairy industry to describe its situation are milk production and milk price. For either measure, the data are the data, and simple graphs are adequate to portray the data. As such, the data collected and published are rarely debated. It is the *interpretation* of the data that leads to discussion and debates. This section will focus mostly on

presenting the data and will only delve minimally into interpretations of the “tea leaves” presented by the data. Figure 1 shows the trend in U.S. milk production since 1973. On a year-over-year basis, milk production has been mostly positive with the total increase approaching 65% and averaging 1.4% per year. The change in milk production has been remarkably close to linear despite the myriad of conditions in which milk was produced. Evidently, national dairy policy changes, weather, feed quality and availability, technological advances, farm managerial changes and a host of other potentially influencing factors do not have a large or sustainable impact on milk production.

The change in California milk supply has been similarly positive in most years (Figure 2). However, it is the *rate* of milk production increases that has been simply extraordinary. California milk production has

Figure 1. U.S. Milk Production, 1973 to 2009

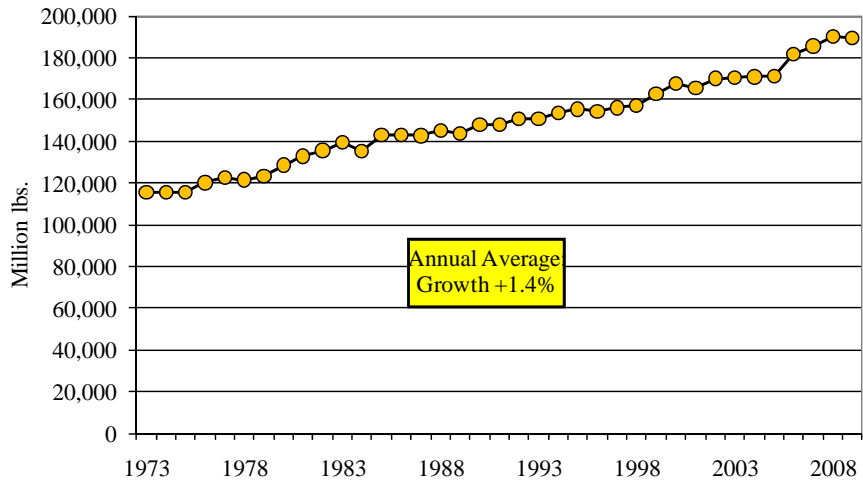
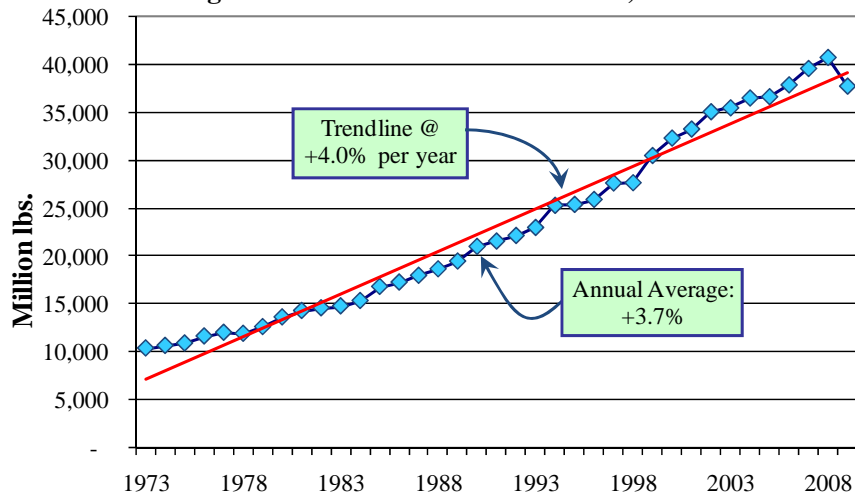


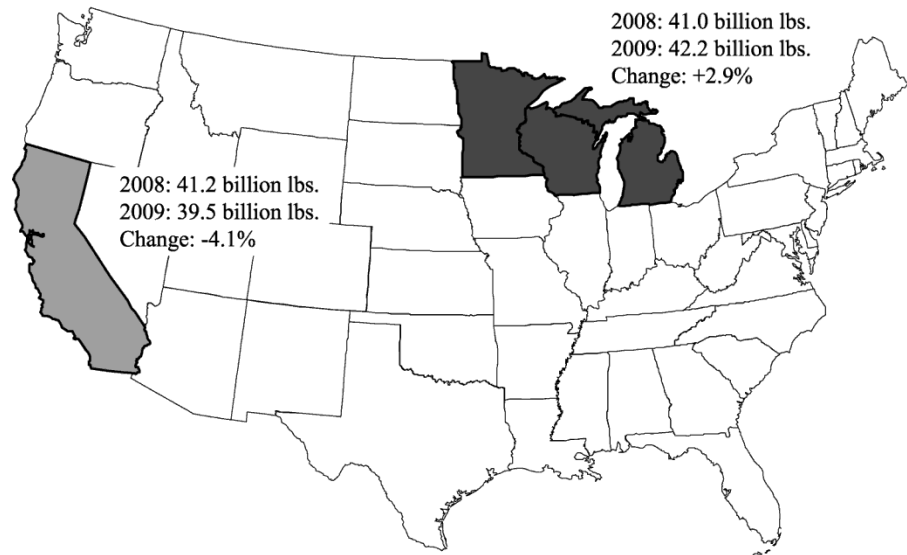
Figure 2. California Milk Production, 1973 to 2009



increasing by nearly 300% over the last 25 years. Year-over-year growth has been negative only twice in the last 26 years and has averaged 3.7% since 1973 (significantly higher than the U.S. average). Until 2009, the prior ten years of milk production were solidly over 4% per year. While California continues to be the nation's leading dairy state, producing 20% of the total U.S. milk supply, it is the enormous downward movement in the milk production chart in 2009 that has sparked many debates. Before moving toward a discussion and an explanation of this phenomenon, one more comparison bears

mentioning. At the same time that California was dropping off in milk production like never before, three Upper Midwest states (Minnesota, Michigan and Wisconsin) were increasing their milk output at a far greater rate than had been seen historically. Figure 3 shows that in 2008 the milk output of California was about equal to the milk output of the three Upper Midwest states. In 2009, California's milk production plummeted while the milk output in the three Upper Midwest states soared.

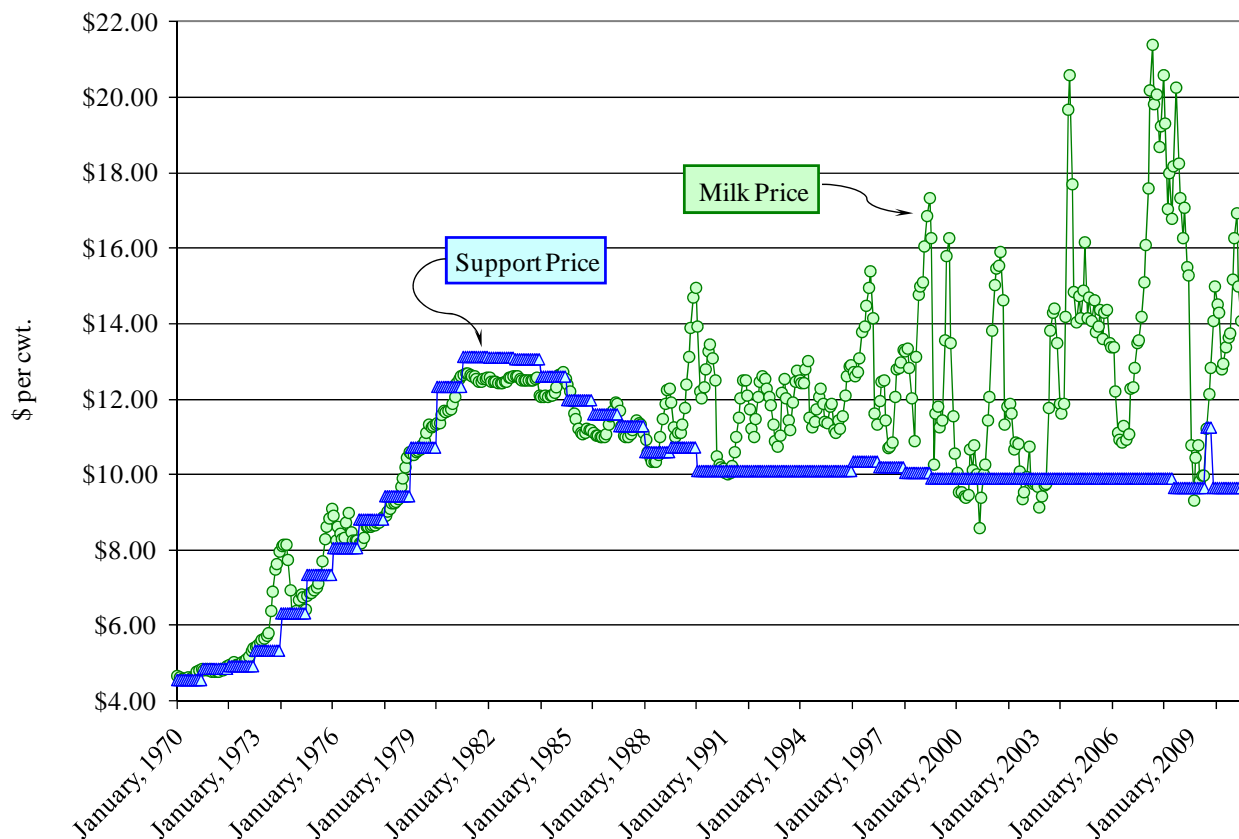
Figure 3. Milk Production Comparison: CA vs. Upper Midwest



Milk supply has been migrating from the Northeast and Upper Midwest regions to the West for many years so a movement in the reverse direction does raise some eyebrows and garner some attention. But no matter how much milk supply shifts regionally, it is no comparison at all to the one aspect of the dairy industry that has become the subject of nearly every workshop, seminar, conference or meeting – milk price volatility. Figure 4 shows two data series – the government support price for milk (blue triangles), and the basic formula price for milk, a well-recognized index for all milk prices (green circles). While California milk prices do not follow federal milk prices precisely for a variety of reasons, the milk price environment to which all dairy producers are exposed knows no bounds. Hence, the situation that is captured in Figure 4 is virtually the same for all U.S. dairy producers. Without getting into the details of the federal government price support program, Figure 4 verifies that progressive reductions in the level of milk price support has given rise to more turbulent, less stable and less predictable milk prices. Interestingly, during this same time period of increased milk price volatility, milk prices have generally increased even as the price support from the federal government has been ratcheted back.

Perhaps it is easiest to sum up the tenor of the discussions that have developed with a simple question – is what happened to California in 2009 part of a long term trend? Put another (and more colorful) way, is this a sign that the sun is setting on the Golden State's dairy industry? A few years ago, these questions would be laughable, and even now some dairy industry participants would say that the rumors of California's demise are greatly exaggerated. True, the dairy industry in California

Figure 4. Comparison of Milk Price and Government Support Price



is not likely to return to where it once was with milk production increasing an average of 4% every year – too many things have changed and too few things have changed to allow for that to happen. It is fairer and more accurate to say that the dairy industry in California has matured, but that is not to say it is dying off. California dairies are no longer the low-cost leader for milk production. Dairies in Idaho, Texas, Illinois and Indiana have adopted the model of operating large-scale dairies but with enough land to grow a high percentage of the feed required. Dairies in these states are also closer to the east coast markets and have huge freight advantages over California dairies for shipping both milk and dairy products into those markets.

The stage has been set for a “new dairy world” in California that will present some familiar challenges as well as some new ones. Dairies in California must adapt do a different way of conducting business where rapid growth in milk production is not the main foundation for profitability.

CHALLENGES IN THE FUTURE

The previous section provides a backdrop for discussing some emerging factors that will shape the California dairy industry for years to come. Four readily identifiable factors are considered to be the major factors characterizing and influencing the dairy industry in 2010 and 2011 – limited milk processing plant capacity, maintenance of in-state (not national) milk supply management programs, higher and more volatile feed costs, and obtaining financing for dairy farms. Looking

forward, it appears that these four factors will continue to shape the California dairy industry in the near-term and perhaps for several years beyond.

Processing Plant Capacity

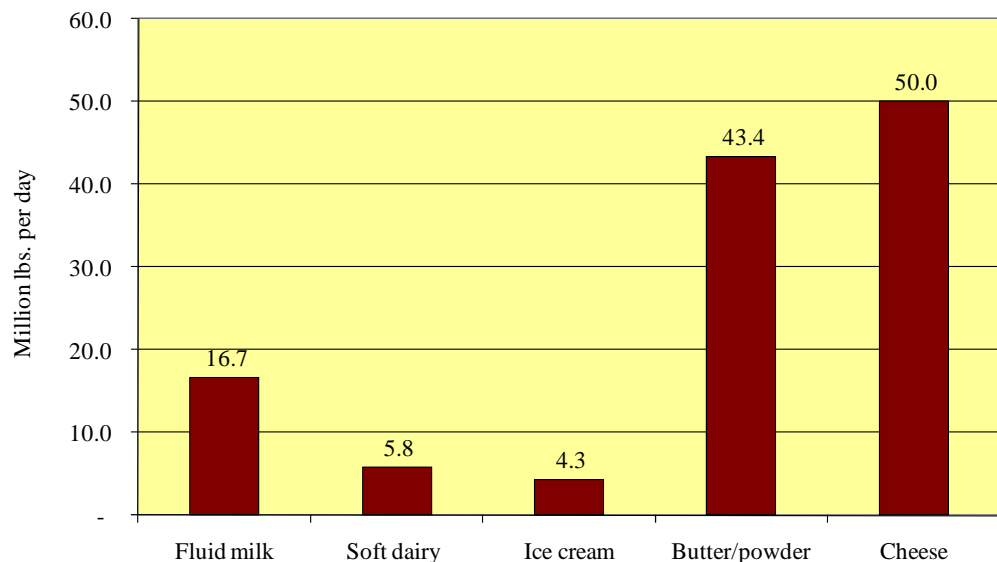
About five years ago, the California dairy industry began to recognize that a problem was brewing – gains in milk production were far outstripping gains in milk processing capacity. While it is difficult to point to an exact time when the disadvantages of locating a plant in California began to outweigh the advantages, it is clear that there was a change in sentiment of processors. California has often been an “also-ran”, i.e., it was considered as a possible location but ultimately California was not the location of a new plant or planned expansion of an existing plant.

The reasons why are all too familiar – higher cost of construction, higher cost of operating the plant (for example, labor, energy, insurance, workers’ compensation, etc.), difficulty in obtaining permits for constructing a processing plant in California, cost of compliance with air and water quality standards head up the list. Furthermore, other states have been much more active in recruiting both dairy farms and milk processing facilities by using tax incentives and grants. California has not followed suit, and is not likely to any time soon.

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. In the last five years, California has had its processing capacity reduced by 12% because of plant closures. Fortunately, plant expansions and one new plant have offset that lost processing capacity. Figure 5 is an estimate of the processing capacity available in California by type of product produced. Relative to milk production, the

chart suggests that there is only 5% to 10% idle processing capacity in the state on average. Given that seasonal fluctuations in milk supply do occur in California, this puts California production during the spring flush months of March, April and May very close to the State’s processing capacity.

Figure 5. Estimated California Plant Processing Capacity
by Classification of Milk Processed



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.

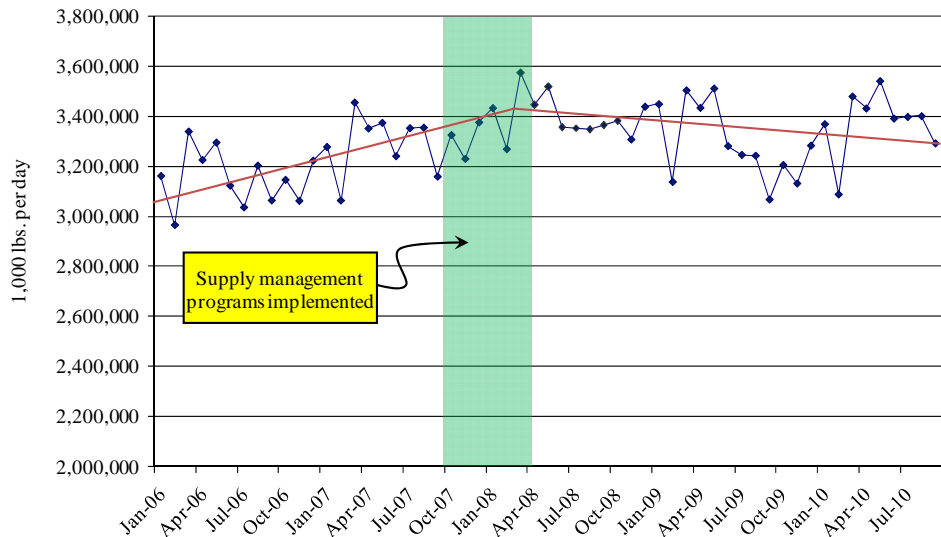
California Supply Management

In the last year, several programs have been suggested for national supply management. The goal of reduced milk production via a governmental program may be about the only characteristic that the programs share, as they differ wildly in their complexity and scope. Thus far, only the Dairy Price Stabilization Act has been introduced into Congress (H.R. 5288 and S. 3531) but it does not appear that the legislation will be acted on this year. Although there has been some movement to bring the variety of proposals together into a single program, the evolution continues to take place even today. It is likely that if a program can garner the support of the producer community, it will likely be included in the 2012 Farm Bill and not addressed as a stand-alone change in dairy policy. With the continued changes affecting a national supply management program, further discussion here is unlikely to be productive. Instead, this section focuses on the measures that the California dairy industry has taken to align milk production with milk processing capacity.

Dairy producers, particularly those in western states, have a long track record for opposing to policies that might impose limits on how much milk they can produce. However, rapid gains in California’s milk supply during 2007 and 2008 combined with only incremental changes in California’s milk processing capacity led to an imbalance of milk supply and milk processing capacity. It did not take long for a proliferation of milk supply management programs to emerge across California. While the programs differ in the details, they all share a common purpose – to reduce the amount of milk shipped from California dairy farms to a level that could be handled by the State’s processing plants.

The combined effect of the supply management programs is plainly evident in Figure 6. California milk production was a steady rise prior to the implementation of supply management programs, but started to fall off significantly after March 2008.

Figure 6. California Milk Production by Month with Trend Lines, January 2006 to October 2010



Milk production has been on a slow downward movement since the peak, averaging about -0.2% lower over the last 30 months. Referring back to Figure 2, the trend of milk production decreases is unprecedented but not unexplainable. Curiously, while it appears that the widespread use of

supply management policies in California curtailed milk production to a level that can be managed collectively by both proprietary and cooperative processors, the programs are not limiting factors currently. Most if not all of these programs remain in place, but penalties are not being administered. Other factors have surfaced in the last two years that have effectively limited milk production in California as would any of the supply management programs, namely profitability.

Survival Mode: Beyond Increased Production Costs

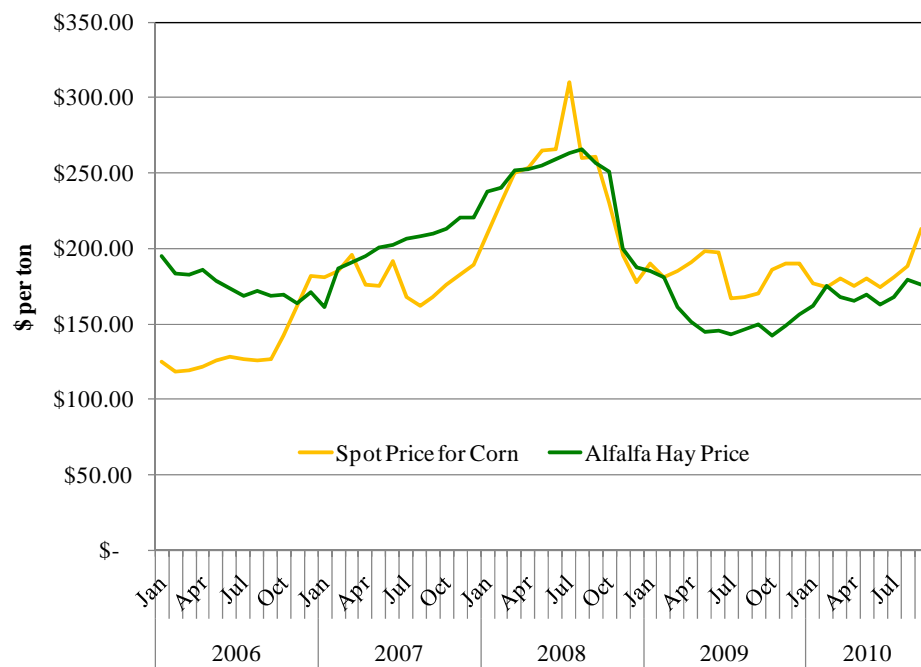
Starting in 2008, a severe weakness was revealed for the hallmark of California dairying – feedlot–style dairying. In such a system, dairy producers buy feed in bulk quantities instead of growing the feed on or near the dairy. Feedlot–style dairying follows in concert with the “cheap food” policies that have characterized the U.S. for decades, and relies heavily on inexpensive feed that can be shipped in from the Midwest. However, the dairy industry has found out what can happen when unanticipated influences and subtle shifts in national policy come to pass – the focus on ethanol as a fuel alternative in response to the federal government’s mandated Renewable Fuel Standard, a weak dollar and high demand for grains from other countries. Quite clearly, the reasons for the higher feed prices were beyond the control of dairy producers, and there are few tools or strategies readily available to protect dairy producers from higher costs of feed, which represents almost 60% of the cost of producing milk in California.

The Department of Food and Agriculture (Department) collects and publishes cost of feed data obtained from California dairy producers. Figure 7 reveals that California dairy producers are paying 45% more for corn than they did in 2006. The chart also shows that the corn price reached dizzyingly high levels in 2008 and appears to be poised reach \$250 per ton in the near future. With dairy cow diets being based largely on corn, these recent upward price movements for corn are not encouraging. The price

paid by California dairy producers for alfalfa hay is near the low point over the last four years but has increased by more than 20% in just the last nine months.

The cost of feed situation that has cast a long shadow over California since 2007 has encouraged producers to seek alternative feed rations. Although it may be tempting to think that nutritionists have been able to

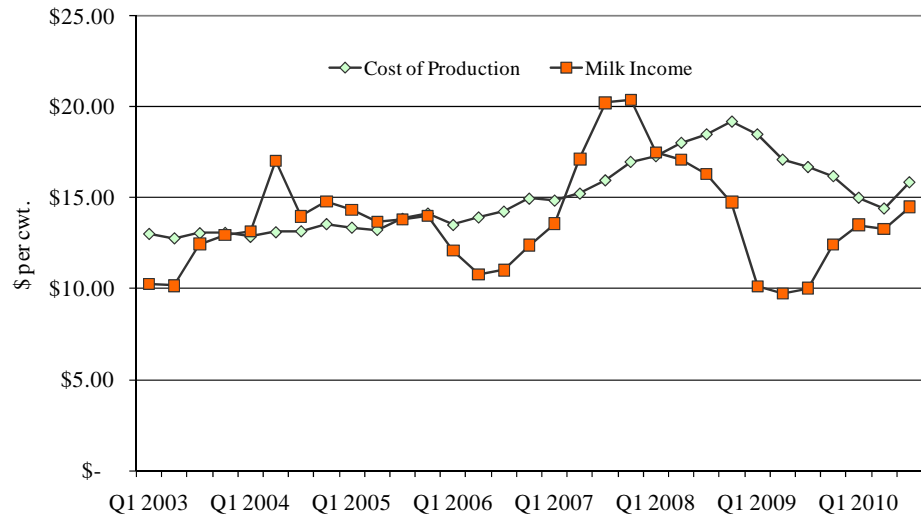
Figure 7. Corn and Alfalfa Hay Prices Paid by California Dairy Producers.



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, the so-called “sympathetic” price increases that are evident across all feedstuffs when the price of one major commodity increases suddenly. This effect limits the ability of dairy producers to substitute away from higher priced feeds. Even substituting more lower-priced roughage for concentrates may have the unwanted consequence of lowering milk output and altering milk component levels. 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 or both.

The Department’s calculations show that the cost of production has remained above income from milk sales since Q1 2008 (Figure 8). As might be expected from the discussion above, the chart reveals all too clearly the predictable impact on dairy farm profitability when feed prices outdistance prices received for milk sold.

Figure 8. Cost of Production Relative to Milk Income for California Dairy Farms



What do these recent developments mean for California dairy producers? Primarily, the focus has switched over to the impact on obtaining financing. After the devastation of 2009, many of the lending institutions in California have re-examined their portfolios with a keen eye on dairies. Some banks are focused on re-establishing the equity that was eroded away in 2009, while others are making an effort to rebalance their portfolios away from dairy loans. Those banks that have stayed with their dairy loans have adopted new policies for loans to dairy producers, such as imposing higher interest rates, implementing six-month reviews and requiring dairy producers to pursue risk management strategies.

CONCLUDING REMARKS AND A LOOK TOWARD 2011

Unfortunately, the issues discussed above have little chance of being resolved anytime soon; these are guidelines that will come to define the California dairy industry. There have been no major developments that might provide an increase in plant processing capacity, nor are there expected to be. For the near future, it appears that dairy farm profitability will be the largest factor that limits milk output.

The national policy to favor fuel over food does not appear to be losing any of its momentum, despite the evidence that the policies to put animal agriculture at tremendous risk for higher

production costs with no guarantee of higher prices for product produced. As such, feed prices cannot be counted on to return to stable and predictable levels. This has presented a new challenge for dairy producers – developing some proficiency with hedging and forward contracting in markets that are characterized by extreme price volatility. Needless to say, inexperience and lack of knowledge when making decisions in these kinds of markets are principal ingredients for disastrous results. But there is no avoiding the issue, and dairy producers will need to develop the skills necessary to navigate through unpredictable feed markets.

Finally, milk prices have been in recovery mode for more than a year with the usual ups and downs along the way. But as prices have recovered, so has milk production. Currently, an abundance of milk across the U.S., particularly in western states, has led to a softening in prices for the major dairy commodities – butter, nonfat dry milk and cheddar cheese. Dairy product buyers have shown themselves to be patient and resourceful and are content to wait to see where commodity prices are headed before committing to large volume purchases. On the flipside, no buyer wants to build inventory with high-priced dairy products. Production of storable dairy products will have to show signs of reduced outputs to encourage buyer to return to the market. As a result, many dairy market analysts are predicting that dairy commodity prices will remain only fair through at least the first quarter of 2011 before starting to trend upward slowly for the remainder of the year.