

# STRATEGIES FOR SMALL DAIRY FARMERS TO BE PROFITABLE AND COMPETITIVE IN THE FUTURE

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## Summary

Profitable dairying will not become any easier in the future. Farm level milk prices will continue to be volatile. The government will not provide additional price or income support to dairies. Long-run milk prices will be either flat or perhaps even trending slightly lower. Average annual milk prices will be in the range of \$12.00 to \$13.25 per hundredweight. Dairy producers must be able to generate adequate net income at these milk price levels. Smaller dairy operators need to find means of being cost competitive with the larger operators. Without question, smaller producers can be profitable in the decade ahead with proper changes. Not all profitable dairy operations will be those with at least 300 milk cows. There will be very profitable herds with 40, 50, 75, 100, and 150 cows. Even smaller herds will exist with substantial off-farm income or income from other farming enterprises.

(Key Words: Small Farms, Herd Size, Profitable, Costs, Milk Prices.)

## Introduction

The question is frequently asked, will all dairy producers need to be large to be profitable and competitive in the future? In order to answer the question, we need to define what is a small or large dairy producer. The answer to this varies geographically. In the West and Southwest, small may mean anyone who is milking fewer than 250 cows. In the Upper Midwest, small probably is anyone who milks fewer than 75 cows.

The average herd size for the U.S. was 59.7 milk cows in 1993. Almost 38% of U.S. dairy herds had fewer than 30 milk cows, but they accounted for just 3.9% of total U.S. milk production. Another 21.9% had between 30 and 49 cows which produced 13.1% of the total milk production; 26.9% had 50 to 99 cows and produced 27.2% of total production; 9.2% had 100 to 199 cows and accounted for 19.6% of total production; and just 4.3% had 200 or more cows but accounted for 36.2% of total production.

Clearly, there are a lot of small dairy producers, but the number of producers is declining and the average herd size is increasing. In 1982, there were 278,000 farms with milk cows and the average herd size was 39.1 cows. By 1993, the number of farms with milk cows had declined 42% to 162,450. As previously mentioned, the average herd size was 59.7 cows. We could easily reduce the number of farms with milk cows by at least a fourth and perhaps as many as a third by the year 2000. The average herd size would increase to between 75 and 85 cows. A large percentage of the herds would still have fewer than 100 milk cows.

I will assume for this paper that small means those producers having herd sizes of less than 100 milk cows. For many of these herds to be profitable and competitive and to generate income for adequate family living, they will need to make some changes in how they operate. In this paper, I discuss the environment for dairying in the decade ahead and what strategies smaller producers will need to follow if

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they wish to be a part of the dairy industry in the future.

### **The Environment in the Decade Ahead**

Generating profits in dairying will not become any easier to generate profits in dairying. Profit margins per hundredweight of milk or per cow will remain tight or get even tighter. Thus, the challenge for all dairy farmers to generate adequate total net income to meet an acceptable family living standard will become greater. Even if the smaller dairy herds have equal net profit per cow to that of larger herds, they may not have a sufficient number of livestock units to generate adequate income. This may mean that producers with smaller dairy herds either have to lower production costs per hundredweight of milk, generate some income from off-farm activities, generate income from other farm enterprises, or simply accept a lower living standard.

On what basis do I make the above statements? Let me start with federal dairy policy. From 1950 to 1981, farm-level milk prices were supported at 75 to 90% of parity. In the 10-year period of 1970 to 1980, the support price more than doubled, going from \$4.66 per hundredweight to \$13.10. The average "all milk price" during this period increased from just \$5.71 per hundredweight to \$13.05 per hundredweight. Milk prices were increasing faster than increases in the costs of production. Parity milk prices are not the same as milk production costs. The result was huge milk surpluses by the late 1970's and early 1980's. By 1983, the Commodity Credit Corporation purchased almost 17 billion lb of surplus milk, milkfat equivalent basis, more than 12% of total farm marketings, at a cost of \$2.5 billion. These levels of CCC purchases and associated costs became unacceptable to congress. In fact, in 1981, congress removed the dairy price support program off of parity. Since then, congress has set the support level based upon the level of CCC purchases of surplus dairy products and/or dollar expenditures. In addition, assessments were imposed against dairy producers to reduce government costs of the federal dairy price support program. And for the first time ever, voluntary supply management programs were implemented by congress,

the Dairy Diversion Program in 1984-85 and the Dairy Termination Program in 1986-87.

The support price was reduced from its peak of \$13.10 per hundredweight during 1980-81 to \$10.10 per hundredweight by 1990. The 1990 Farm Bill essentially has kept the support level at \$10.10 per hundredweight through 1995. This price is well below the full costs of production for most all dairy producers and below the cash costs of many. This means that farm-level milk prices will stay above support nearly all of the time. If prices fall near or to support, the higher-cost producers will exit the business, milk production levels will change, and farm-level prices will increase again above support. In fact, since 1988, farm-level milk prices have stayed above support. Clearly, market forces and not the federal dairy price support program determine farm-level milk prices today. The federal dairy price support program may be referred to as a market-oriented program.

Considerations for provisions of the 1995 Farm Bill will soon begin. Frankly, at this time, it does not appear that any major changes in the existing federal dairy price support program will occur. It is hard to believe that dairy policy would revert back to a relatively high support level from the existing market-oriented policy. Several factors limit any major changes in federal dairy policy. The federal budget deficit problem will not allow for an increase in federal dollars for the purpose of supporting dairy or any other farm commodity. In fact, it is quite clear that funding for price and income support programs will be reduced from existing levels in the 1995 Farm Bill. International trade policy also works against any higher support prices for dairy. U.S. policy is to become more competitive on the international market. With NAFTA and the likelihood of GATT being implemented, there is not much room for increasing support prices for milk. There is also a lack of consensus in the dairy industry as to what federal dairy policy ought to be. This lack of consensus has existed every since 1981 when the support program went off of parity and congress started setting support levels based upon CCC purchases and expenditures. Support levels were being reduced because purchases and expenditures were too high, and regionalism developed. Regions began pointing fingers as to who was causing

the surplus. The 1985 Farm Bill further spurred regionalism by increasing Class I differentials in federal order markets distant from the Upper Midwest.

I question whether the dairy industry will do much better in developing a consensus behind one dairy policy option during the 1995 Farm Bill debate. Congress has made it clear that a consensus is essential in order to get any change in federal dairy policy. The best evidence of recent lack of consensus has been the attempt to pass a self-help program for dairy this year. Although more consensus may have existed than in the past for the idea of self-help, major differences remained in how self-help ought to be structured and how it should function.

Many people are pleased with existing federal dairy policy. They feel that the existing program is working. These individuals are dairy producers themselves, members of dairy industry trade associations and some farm organizations, and many in congress. After all, no milk surplus has existed since 1988. The only surplus is butterfat purchased by the CCC as butter. Cheese and nonfat dry milk prices have stayed above support for the most part. As a result, annual government costs for the dairy support program have been below \$300 million for the past 4 years. Financial conditions of dairy farms have improved. In 1987, the debt/asset ratio for dairy farms was .24. In 1992, it was .19. The percent of dairy farms in favorable a financial position increased from 59% in 1987 to an estimated 66% in 1993. U.S. dairy products are now more competitive internationally. Butter prices, for example, are near world prices. Although cheese and nonfat dry milk prices are still well above world prices, they are closer. It is anticipated that full implementation of NAFTA and GATT will result in some increase in world market prices of dairy products. And finally, many dairy producers do not want any increase in support levels that will require supply control programs, restricting their ability to expand milk production.

Of course, a considerable number of people are of the opinion that the existing dairy support program is not working. The market-oriented dairy policy has made dairy product prices and, in turn, farm-level milk prices

highly volatile. Considerable market and price risks now exist in dairy. This has impacted negatively upon dairy producers, dairy cooperatives, and other dairy manufacturers, as well as food ingredient companies that purchase dairy products. Others are concerned about the continual decline in dairy farm numbers. Profitability has been inadequate, especially for smaller commercial dairy farms. Regional shifts in milk production have occurred and continue to occur. Although milk production has declined in the more traditional regions of the Upper Midwest and Northeast, production has grown dramatically in the West, Southwest, and South. A problem of surplus butterfat remains. And finally, an excess milk production capacity exists. That is, the potential for increases in milk production exceeds the potential for increases in domestic plus international commercial dairy sales. Annual increases in milk per cow will be well above 2%, but the mature domestic market for dairy products will result in annual increases in commercial sales well below 2%. This means that the long-run outlook for farm-level milk prices is not upward, but rather fairly flat with yearly fluctuations. Average annual farm-level milk prices for the next few years will fall in the \$12.00 to \$13.25 per hundredweight range.

In summary, the economic environment over the next decade for dairy poses a real challenge for profitability. Federal dairy policy is likely to remain very market oriented. Although farm-level milk prices will remain volatile, the long-run trend in prices is either flat or perhaps slightly downward. History shows that milk production costs on a per hundredweight basis move in the direction of farm-level prices. This is because dairy producers strive to increase profitability by adopting innovative ways to reduce production costs. The modern technology and relatively low per-cow capital costs for milking and dairy facilities that are being applied to the large dairy herds in the West, South, Southwest, and elsewhere are resulting in lower costs of production per hundredweight than the smaller or traditional dairy operations. Some dairy producers are also reducing production costs by reducing input costs through rotational grazing systems.

## **Strategies for Profitability for Smaller Dairy Producers**

With long-run average all-milk prices in the range on \$12.00 to \$13.25 per hundredweight, any individual dairy producer must decide whether or not he/she wishes to remain in dairy. If anyone is currently experiencing too low a profitability and is hanging on the hope that farm-level prices will improve on their own or with higher support levels from federal dairy policy, they need to face the reality that higher milk prices are not likely. If they are unable to reduce production costs, their best decision may be to exit from dairying.

Without question, the larger modern dairy facilities being constructed and well managed are experiencing full costs of production well under \$12.00 per hundredweight and some below \$10.00 per hundredweight. Not all of these are 1,000- to 3,000-milk cow operations. It appears that 300- to 600-cow operations can be nearly as cost competitive. This size can fully utilize the technology and experience labor efficiencies.

Without question, additional environmental regulations will be forthcoming. Animal waste management will be a part of these new regulations. Considerable attention will be given to environmental regulations in the 1995 Farm Bill discussions. The costs of compliance are likely to be less on a per cow or per hundredweight of milk basis for the larger herds than for the smaller herds. This is simply it does not cost 20 times more to build a waste management system for 1000 cows than for 50 cows.

All of this discussion comes down to the fact that smaller dairy herds need to consider means of reducing milk production costs per hundredweight of milk produced. Even then, some minimum herd size will be required to generate adequate net income for adequate family living. This will be extremely difficult with herds fewer than 40 or 50 milk cows. Herds smaller than this will not have a sufficient number of livestock units to generate adequate income, even if they have per hundredweight production costs near the most efficient producers. Either some off-farm income or additional income from other farm enterprises will be needed to supplement dairy income. There may be some niche markets for

these smaller herds to consider, such as going organic and processing this milk into organic dairy products that command a higher value. In Wisconsin, a group of smaller dairy producers, most with 35 to 40 milk cows, formed a cooperative that is marketing organic cheeses, butter, yogurt, and beverage milk not only in the Upper Midwest, but in the Northeast and even in the West. These organic dairy products sell at higher prices than the comparable nonorganic products to the extent that these dairy producers are receiving about \$16.00 per hundredweight for their milk.

More than one means is available for these smaller herds and, for that matter, all sizes of dairy herds, to reduce per cow and per hundredweight production costs. These means include the following:

- 1) Maintain a herd in which milk per cow exceeds the state average. Research on cost-of-production data shows that the highest-producing herds are not necessarily the most profitable. But at the same time, those herds with milk per cow near or below the state average usually are not highly profitable. For a Holstein herd, anything less than about 17,000 lb of milk per cow should be questioned.

Smaller herds should consider hiring nutrition and herd health consultants. Such expenditures could very well reduce milk production costs per hundredweight. More milk per cow could increase the lb of milk per labor hour as well as reduce fixed cost per hundredweight of milk.

- 2) Reduce the capital investment per cow. I don't believe it is any longer feasible for producers with smaller herds, perhaps even herds of 150 cows, to own a full line of modern equipment planting to harvesting. They simply do not have sufficient acres to spread the fixed cost of this investment. Besides, during planting and harvesting, management time is spread thinly and often suffers.

Owners of smaller herds need to consider such options as purchasing all or part of their forages and grain. My experience is that many smaller farmers should not raise any grain, but just concentrate on the forages. This eliminates the need for grain planting and harvesting equipment. Other options include the hiring of

custom operators for planting and harvesting, leasing rather than owning the equipment, and the sharing of machinery (co-ownership or equipment trade) with other dairy producers in the area.

3) Contract for the raising of dairy replacements. This is beginning to be practiced by large size producers and may be a good alternative for small producers. It may free up labor and management time to be devoted to the milking herd.

4) Reduce input costs through rotational grazing systems. Such systems may reduce milk production costs per hundredweight and increase profitability. However, like anything else, a rotational grazing system requires proper management. Simply turning the cows out to grass is not the answer. Further, not all dairy producers have the land resources conducive to grazing systems.

5) Smaller producers can consider getting together and building a larger and more modern dairy facility. Several types of arrangements are possible. The facility could be owned under a cooperative structure, subchapter S corporation, a limited liability company (not

legal in all states), or a partnership arrangement. Each individual producer could keep his/her farm and grow and harvest the forage and grains to supply the combined dairy herds that are housed and milked in the co-owned dairy facility. Or the dairy producers could own the dairy facility, cows, and cropland together as one farming unit. The purpose of this joint ownership is to share the costs of constructing a larger and more modern dairy operation and have the dairy herd managed by trained a herdsman. The fixed costs per cow and per hundredweight of milk from combining individual herds would be lower than if each producer built his/her own more modern milking system.

6) Practice sound financial management. Regardless of size, sound financial and business management is absolutely essential for financial success. Decisions must be made on the basis of profitability. Business and production records must be accurate. Dairy producers need to have detailed records on the costs of production, not just a check book and minimum records for tax purposes.

This certainly is not a complete list. But it does illustrate that more than one way is available to be profitable in dairying.