

## Alaska Dairy Producers and Milk Production

Report prepared for:  
Commissioner Mike Mene of the Alaska Department of Natural Resources, and  
The Alaska Dairy Industry Ad Hoc Committee

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First, I relate my background as a way to indicate my ability to provide input to this endeavor. Prior to coming to Alaska in 1999, I spent 20 years involved in production dairy management in the lower 48. I began as a Herdsman while achieving my BS degree in Animal Science and Agricultural Economics. I then worked as a Dairy Farm Manager while achieving my MS degree in Animal Science. I followed that experience by working as Manager of one of the top producing university dairy herds in the United States and Director of a nationally recognized Dairy Herd Management teaching program while achieving my PhD. I share this with the reader only as a means to indicate my expertise in modern dairy herd management.

For a comprehensive review and analysis of the Alaska Dairy Industry, I refer the reader to the report prepared by Dr. Bruce E. Godfrey at the request of the Alaska Board of Agriculture and submitted during spring 2005. I do not aim to reiterate that report. Instead, I will briefly add a couple of thoughts of my own and reinforce a couple of important points brought out in that report about dairy farming in Alaska.

Two important points from that report are that producing milk in Alaska costs more than producing milk in the lower 48 and milk production per cow on Alaska dairy farms is considerably lower than lower 48 counterpart farms. Some important points not brought out in that report have to do with the type of feeds and quality of feeds being fed to milk cows in Alaska and a trade-off between potential further increased costs to dairy operations to acquire higher quality feeds in Alaska versus increased milk production per cow on our Alaska dairy farms. Currently Alaska dairy producers feed timothy and brome grass hay to milk cows and that grass hay forms the basis of the dairy ration. To the contrary, there are virtually **no** modern confinement dairy farms in the lower 48 that feed grass hay to milk cows. Grass hay is used strictly for dry cows and no dairy farm manager holding cattle in a barn or on a dry lot would consider feeding grass hay to milking cows. Milk production on Alaska-type of dairy farms in the lower 48 is based on alfalfa hay because of the considerable difference in feed quality of alfalfa hay compared to grass hay. In the dairy industry we routinely use an analysis figure called relative feed value (RFV) as a means to compare hay qualities. RFV is a numerical index that combines several different analysis measures into one index that allows easy comparison of different hays. RFV includes factors associated with fiber content, digestibility, and intake potential by the cow, all factors that help increase milk production. When I managed dairy cows in the lower 48, I didn't even consider hays with RFV's less than

180 as being suitable for my milk cows. Since being in Alaska I have routinely gathered data on hay RFV's from dairy farms as well as other sources that have hay analysis accomplished by the UAF-AFES feed testing laboratory at Palmer. Over a period of more than 7 years, I have yet to see an RFV value over 150 and routinely see many RFV values below 100, hardly even sufficient quality for beef cows or dry dairy cows, yet this is the quality of hay Alaska dairy farmers must feed to their milk cows. The only alternative would be to ship alfalfa hay to Alaska and that cost is prohibitive. The only exception to the 'no feeding grass hay to milking cows' rule in the lower 48 occurs on pasture-based dairy farms in areas with a longer pasture season than is available in Alaska. In those situations, managers utilize intensive grazing techniques with grasses not eligible for production in Alaska and that intensive grazing of young grasses boosts the nutritive value of the plant, making it acceptable feed for milk cows.

Another feed related factor affecting the level of milk production on Alaska dairy farms has to do with the limited concentrate (high-energy) feeds available or practical for import. Contrary to the thought of many in Alaska, achieving high levels of milk production per cow is not accomplished by feeding high levels of barley or corn combined with soybean meal as the concentrate portion of the ration. Instead, research and modern practice on lower 48 confinement dairy farms utilizes many different concentrate feeds ranging from hominy, almond hulls, beet pulp, tallow, molasses, gluten meal, dried brewers grains, sorghum meal, and whole cottonseed seed to mention just a few. Referring to my own experience when I was managing high-producing dairy cows, I would have been very hard pressed to even consider a ration that didn't contain whole cottonseed as a portion of the ration because of the high energy content of that feedstuff combined with some fiber characteristics not found in other concentrate feeds. Cottonseed is a bulky material and costly to ship to Alaska and is therefore not used on our dairy farms. Furthermore, dairy farm managers in the lower 48 have options available for feeds such as corn other than cracking or grinding. For example, research from about 10 years ago indicates better rumen utilization of corn when it is flaked compared to ground or cracked. Flaking corn is a process not available in Alaska and shipping flaked corn to Alaska would be cost prohibitive. Lastly, modern dairy managers in the lower 48 are constantly aware of changes in prices of these different commodities and utilize private dairy cattle nutrition consultants to recommend ration modification based on those prices in order to create the lowest possible cost ration that will make the most milk. In closing this section of the report, I must say that I applaud Ken Sherwood's efforts at Alaska Feed and Mill for supplying reasonable cost feed and having a contracted dairy nutritionist on retainer available for our dairy farmers. Nevertheless, shipping realities limit feed ingredient and ration ingredient possibilities and are a limiting factor on milk production by Alaska dairy cows.

Alaska dairy farms are not like most profitable dairy farms in the lower 48. Size is a major difference. Most relatively new confinement dairy farms in the lower 48 contain more cows than are located in the entire State of Alaska. Size of dairy farms has increased to achieve economies of scale not available on smaller farms. On large confinement dairy farms, individuals are hired specifically for their expertise. For instance, one specialist is hired to manage the herd breeding activity, another to manage the milking, another the calf raising operation, another the feeding operation, another to manage herd health (often a veterinarian), etc., while the overall farm manager likely

works with hired dairy accounting specialists to manage costs. On all of our small dairy farms in Alaska, the owner-operator is frequently task-saturated and trying to maintain with hired help from a labor pool consisting of people lacking in experience in modern dairy practices, but requiring higher hourly pay than some experienced people in some parts of the lower 48.

Alaska dairy farms lack other services vital to the operation of a profitable business. We have no one in the State of Alaska that trims cattle hooves. When I was managing dairy cattle, I had a hoof trimmer that came at least every 90 days and was skilled in hoof health. This is important because a 1400 pound cow that is walking uncomfortably will not walk to the feed bunk and will be stressed in the milking parlor, both of which lead to lower milk production. Southcentral Alaska lacks large animal veterinary services vital to the reproductive success and overall herd health of any dairy farm. When I was managing dairy cattle, I had a veterinary preventative herd health visit on an every-other week basis. Time and again the cost of this type of service has been shown to be associated with increased profitability of dairy farms. Alaska has no cattle semen sales or technical service people or technicians. In the lower 48, there are consistently opportunities for training in artificial insemination (AI) and enough cows to become proficient at that technology. People involved in the AI industry hire to mate cows to selected bulls to produce calves that will excel in milk production and other traits such as udder quality, feet and legs and longevity in the herd. Instead, nearly all of our herds are bred by natural service, a practice that results in lower herd milk production compared to AI herds, as has been demonstrated in several research studies over the last 40 to 50 years. Furthermore, with the closure of the US-Canadian border to movement of cattle, opportunities to bring cattle of higher genetic quality to Alaska have been severely limited.

Alaska dairy farms lack options for income. Each of our dairy producers has only a single creamery to which they can sell their milk. Well managed dairy farms in the lower 48 often have different creameries vying for the opportunity to market their milk and cases of signing bonuses for year long or two year long contracts have been noted in recent reports on NPR. Even beyond milk sales, income by sales of cull cattle and bull calves is limited or in some cases non-existent. In my own experience, when I had a cull cow to leave the farm, I had choices of where to go with her and when she should leave. I had the choice of selling directly to one of two slaughter facilities, one of two near-by sales barn auction houses, or private treaty sales to individuals with a waiting list of potential buyers. All this created competition and helped increase the bottom-line income figure for the farm. Furthermore, I could sell the animal whenever I wished to do so. Instead, our Alaska dairy farmers must call ahead and sometimes are required to wait until some future date to bring their cattle to slaughter, at which point the animal(s) may be worth little or nothing to the buyer.

One other economic point that is negatively affecting profitability on our Alaska dairy farms is debt level. A general point of consideration in the lower 48 is that a dairy farm will not be able to service a debt load greater than \$4000 per cow. In Alaska, we have farms that are far above that figure with no division of the business organization into farm enterprises, resulting in the expectation that the dairy cows will service all that debt. Combined with the lower milk production on farms in Alaska, even with a higher

price per cwt. of milk, the ability of our Alaska cows to service this debt load is unlikely at best.

In closing, I want to make it plain that the people in the dairy business in Alaska are my friends and I always want to be optimistic and support their endeavor. At the same time I have to be realistic. We have extremely small numbers in our dairy production industry and the individuals involved are often working as an island to themselves. When I came here in 1999, Alaska had nine operating dairy farms. That number has changed little since then. However, if what I currently hear is truly coming to pass, we will be down to six operating dairy farms by the beginning of 2007. With that small number of farms and the consequent lack of critical mass, the real question that needs to be asked is; 'Does Alaska have a dairy industry?'

To recap important points concerning the Alaska dairy producer:

- Milk production in Alaska costs more than milk production in the lower 48.
- Milk production per is considerably lower in Alaska compared to many areas of the lower 48.
- Hay quality in Alaska is below the quality of hay fed to milk cows in confinement dairy operations in the lower 48.
- Choice of feeds and types of feed available are severely limited in Alaska compared to the lower 48.
- Vital support services such as veterinary, other animal care specialists, and artificial insemination technical people are lacking or non-existent in Alaska.
- Alaska dairy farms lack options for income enhancement.
- Debt load on many Alaska dairy farms appears to be higher than can be serviced by dairy cows and farm business organization does not allow for shared debt allocation.
- Alaska dairy producers may not possess critical mass for survival as an industry.