An Update On Milking Frequency

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More than two years ago I wrote an article about the effects of different milking frequencies on dairy cows. In that article I highlighted some of the latest research that compared doubling the milking frequency for the first 3 to 6 weeks of lactation (4x versus 2x, or 6x versus 3x). At that time, most of the reports showed an average increase of 6 pounds milk daily for the entire lactation from doubling the milking frequency during just the early lactation period. This practice appeared to be more profitable than milking 3x for the entire lactation. However, the research had been conducted with relatively small numbers of cows, with most of them being housed in tie stalls, and not in large commercial herds. Recently the results of a study that looked at the impacts of doubling the milking frequency in a large commercial herd was published in the Journal of Dairy Science, and the results do not support the findings of earlier research.

Researchers at the University of Arizona studied the effects of 6x milking for different time periods at the beginning of lactation before switching to 3x for the remainder of the lactation, and compared the results to milking 3x for the entire lactation. The study was conducted in a large commercial Arizona dairy during mainly winter months. They found that milking 6x for either 7, 14, or 21 days and then switching to 3x did not result in any short or long term increase in milk production. It was further found that doubling the milking frequency for 1 to 3 weeks did not affect dry matter intake, body condition scores, milk components, reproduction, mastitis, lameness, digestive disorders, respiratory issues, or retained placenta. The researchers concluded that more research was needed to determine milking regimens that would yield optimal sustained production responses.

There were, however, two differences between the 6x and 3x groups that may have had an impact on milk production. First, it was noted that the 6x cows had to walk a total of over 4,800 feet daily to go to and from the milking parlor, while the 3x group's daily treks to and from the parlor totaled only about 1,000 feet. Secondly, the 3x group was out of its pen an average of 3.25 hours a day, while the 6x groups were away from their pens an average of 6.5 hours a day. These two differences between the 3x and 6x groups suggest to me that the 6x cows may not have been receiving enough rest and rumination time daily to produce the additional milk that was expected. I base this supposition on the information presented by Dr. Richard Grant from the W.H. Miner Agricultural Research Institute in Chazy, New York at dairy producer meetings, and also published in the October 25, 2005 issue of Hoard's Dairyman and other publications.

Dr. Grant believes that lactating cows need 12-14 hours a day of resting time to produce at their maximum potential. This amount of time is needed daily to increase blood flow to the mammary gland for producing milk, increase the feeding and rumination activity, reduce stress on feet, reduce lameness, reduce overall fatigue stress and improve

general health. Based upon animal observations, Dr. Grant contends that cows need about 8-9 hours a day for eating, drinking, and other activities such as grooming, estrous, interaction, etc. Add to that value a minimum of 12 hours resting time needed daily, and you are left with only about 3-4 hours a day for cows to be out of their pen for milking or other functions. Since the 6x groups of cows in the Arizona study were out of their pens for over 6 hours a day, the time they had available for resting (rumination and making milk time) was reduced to less than 10 hours a day. This reduced amount of resting time could have had a significant impact on the milk production performance of the 6x groups, and should be considered when interpreting the results of this study. The logistics of how cows are grouped and handled in large herds may need to be revisited if the potential benefits of doubling the milking frequency in early lactation are to be realized.

All producers with herds housed in free stalls, regardless of the milking frequency being followed, should determine the amount of time each day that cows are kept away from their feed and resting area. Calculate the total daily amount of time spent moving cows, time spent standing in the parlor holding pen, time spent in the parlor, and time required to perform other functions such as herd health check. Add to that total amount of time 8-9 hours for cow maintenance/personal time, and then determine how much time is left for resting each day. If there isn't at least 12 hours as Dr. Grant contends are needed, then consideration should be given to making the changes required that will give cows the daily resting time they need to perform to their maximum potential.