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Feeding Behaviour of Lactating Dairy Cows

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Do you know that your lactating dairy cows spend nearly six hours a day at the feed bunk? Most dairy producers are well aware that maintaining dry matter intake in lactating dairy cows is critical to their milk production and health status. However, there is little known about how cows spread their meals throughout the day. Do they eat breakfast, lunch and dinner with a few snacks thrown in between or do they just eat from the feed bunk whenever they get hungry? How do changes in feed management such as increasing the schedule of sweeping feed back into the bunk (push-up), affect when they eat? Will such a change in management cause cows to come to the feed bunk more often?

Over the past year we have been working with new equipment that allows us to monitor how often each individual cow goes to the feed bunk and allows us to determine how many minutes she spends at the bunk each trip. Each cow is fitted with a transponder that is read by an electronic mat placed directly under the feed. The information provided allows us to determine exactly when she is at the feed bunk and her position along the feed line. This equipment has allowed us to do the world's first experiments on how changes in routine feeding management affect feeding behaviour of free-stall housed dairy cows. In this article we will highlight some of the results of our recent work, which was designed to determine the effects of the

frequency of pushing up feed on the feeding behaviour of high producing lactating dairy cows housed in a free stall barn.

The objectives of our research were: 1, to describe the daily feeding patterns of lactating dairy cows, and 2, to determine the effects of increasing the frequency of feed push-ups on the cows 24 hour feeding patterns. We used 24 high producing cows housed in a free-stall barn and fed a TMR twice daily at 6:00 am and 3:30 pm. During the first week we pushed up the feed at 11:00 am and 9:30 pm. During the second week we added two more push-ups at 12:30 am and 3:30 am.



Cow fitted with a transponder at the bottom of her neck strap.

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The results from our study show that during the first week, the cows consumed 7.3 meals per day and spent 5.8 hours per day at the feed bunk. Interestingly, only 8% of the total time spent at the feed bunk occurred between 12 midnight and 6:00 am. Most importantly, our study showed that milking and delivery of fresh feed clearly had a much greater effect on increasing the percentage of cows present at the feed bunk over the course of a day than did the feed push-ups themselves (see Figure 1). The added feed push-ups did not change the number of meals, and resulted in only an additional 12.4 minutes at the feed bunk per day.

In conclusion, our work with this new technology has shown that both milking and delivery of fresh feed have dramatic effects on feeding behaviour in lactating dairy cattle. In comparison, increasing the number of feed push-ups has only a minor effect on time cows spend at the feed bunk.

In new work, we hope to determine how other changes in feeding practices, such as providing fresh feed once a day or more often, affects feeding time, and ultimately how these changes in feeding practices relate to feed intake, cow health and milk production.

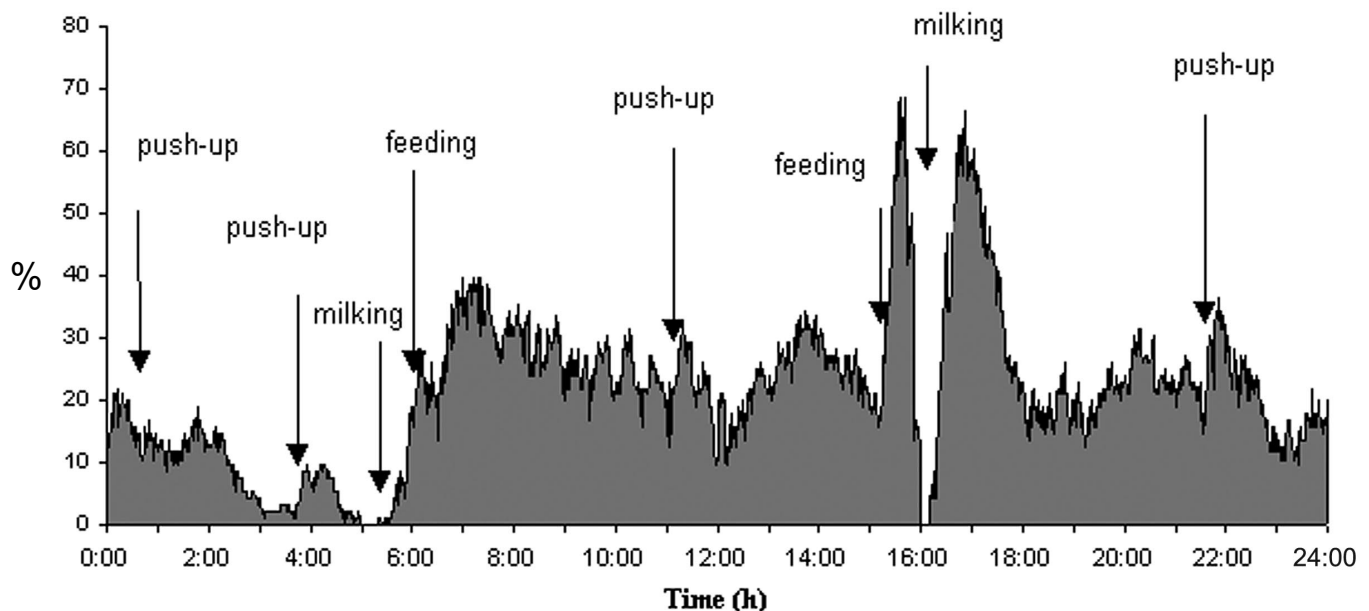


Figure 1. Percentage of cows present at the feed bunk over the course of a day.

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NEXT MONTH: Cow Comfort II