

DAIRYINFO

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Lameness in dry cows & ketosis in fresh cows...

In dairy cows, one problem often leads to another. The falling domino scenario is particularly the case around calving time. Over-conditioning can lead to ketosis that can lead to a displaced abomasum. And metabolic problems after calving can mean reduced reproductive performance later. The underlying causes that start the sequence of problems can be many and often several in combination.

In the June 2011 issue of the Journal of Dairy Science, researchers Cook and Calderon (U-WI- Madison School of Veterinary Medicine) published a study** looking at the impact of lameness on both cow behavior and metabolic status around the time of calving.

This study took place on a commercial dairy with a high incidence of lameness. The researchers recorded the number and length of times that cows laid down and the total time spent lying down, before and after calving.

They also took blood samples before and after calving once per week while they were in the hospital or fresh pens. Post-calving samples were analyzed for beta-hydroxybutyrate (BHB), a chemical that is a measure of ketosis in cows.

The bottom line is that cows with moderate or severe lameness in the dry period were at a significantly greater risk of ketosis.

Blood serum results for cows that were classified as moderately-to-severely lame had an average measurement of 1165 for BHB. Twenty-six percent of cows had a BHB measurement greater than 1400, the cutpoint used in blood serum to define subclinical ketosis. The average for cows classified as slightly lame was 697 and the average for cows not lame was 687. These cows were at low risk for the development of ketosis. Interestingly, there was no relationship between lameness and pre-calving levels of NEFA (non-esterified fatty acids). Elevation of this blood component is an indicator of fat mobilization before calving and subsequent ketosis. In this study, the ketosis occurred in spite of NEFA levels, which may say more about the impact of lameness on the cow after calving.

It was also found that lame cows had more episodes lying down and a greater total time, approximately two (2) hours more, spent lying. This seems to make sense that they would want to get off their feet and yet that they would be uncomfortable and would get up and down more often. In addition, though eating behavior and intake was not measured in this study; cows that spend more time lying down may eat less, and

therefore, consume less energy and be more likely candidates for ketosis.

This shows that lameness in cows is not a problem to tolerate. We need to be better at recognizing the signs of lameness and reducing the conditions that lead to it. Don't overlook overcrowding and time spent away from their pen (total time for milkings and lock-ups) as contributing factors.

It is also imperative to identify cows with subclinical ketosis sooner and more consistently. There are new tools that can help with that, including milk test strips. These offer a cow-side test for relatively low cost on a sample that is easily obtained.

No singular aspect of cow health and comfort can be sacrificed. Problems do not occur in isolation or without impact on other areas of health and productivity. This study was the first to look at the effect of lameness on transition cow behavior and metabolic status. Cows in the transition period are particularly vulnerable to problems and their profitability, and even life in the herd hangs in a delicate balance. Take time to monitor cows throughout the dry period and for the first few weeks after freshening.

***Calderon, D. F. and N. B. Cook. 2011. The effect of lameness on the resting behavior and metabolic status of dairy cattle during the transition period in a freestall-housed dairy herd. J. Dairy Sci. 94:2883-2894.*

(Edited from an article in Phil Durst, Michigan State University Extension, as presented in Dairy Herd Management.)



*Interested in discussing topics in this newsletter, or want to do a better job feeding and managing your cows? Call me! From calves to heifers, dry and lactating cows, my goal is to help you.
That's Renaissance's commitment!*

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THE TEAM FOR RESULTS

Forage, Feed & Winter

In many locations, the weather this past spring and summer have combined to make what has been an interesting growing season! From the extremes of wet and cold, to hot and dry drought conditions, forages and feeds may be impacted for the coming fall and winter season. Take time to assess your forage and feed inventory now. This is critical to your entire ration program with impact on productivity and profitability. I can work with you to review what you will have on-hand, as well as what may be needed in coming weeks and months. Don't wait! Contact me today, so we can chart your forage and feed inventories... and plan ahead. It can make a big difference to your cows and your bottom line!

**WORKING TOGETHER
A TEAM FOR RESULTS!**

MONITOR WHAT HEAT STRESS MAY BE DOING TO MILK!

This has been a hot summer in many parts of the U.S. In addition to monitoring impact of heat stress on dry matter intake and milk production, it's important to monitor milk composition, points out Maurice Eastridge (The Ohio State University). He suggests looking at these possible effects:

- **Milk fat % often decreases during heat stress.** Cows may be sorting through the feed, reducing fiber intake. Or, cows may be losing saliva from panting, which could mean less buffer entering the rumen.
- **Milk protein % may decrease during heat stress.** With the reduction in dry matter intake, there is reduced amino acid intake and consumption of fermentable organic matter, which can reduce microbial protein synthesis.
- **The somatic cell count often increases during the summer,** which results in reduced milk yield and can lead to a reduced price for the milk. In addition to the pathogen load increasing, the cow's ability to fight the infection may be compromised during heat stress.
- **Milk urea nitrogen often changes during the summer.** Typical concentrations should be 10-15 mg/dl; however, changes even within this range can signal problems.

Changes in milk composition should be monitored as frequently as the data are available. Changes in milk fat may be occurring within groups but not the bulk tank (or the overall herd average from DHI), so changes should be monitored within groups and for the herd. *(Edited from an article by Dairy Herd Management)*



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CHECK IT OUT!

