

# DRECA DAIRY RESEARCH SUMMARY

Vol. 1 No. 2 2014

## “Lameness in Dairy Cattle”

### Why is lameness important?

Lameness in dairy cattle is an important research area in the Department of Production Animal Health at UCVM. Our research group recently completed data collection on 86 Alberta dairy farms as part of a Canada-wide study on lameness and cow comfort. In Alberta, on average 20% (range 3-69%) of cows within a herd were lame. These results were consistent with our collaborative study, the Alberta Dairy Hoof Health Project ([www.hoofhealth.ca](http://www.hoofhealth.ca)), overseen by Alberta Milk and utilizing hoof trimmer based data, which found an average of 50% of the presented cows with a lesion (see table). A more detailed analysis of the lesions found in 33,000 cows showed that digital dermatitis (DD) was accounting for 44% of these lesions. Furthermore, DD was present on 98% of the 86 farms included in the current study, affecting an average of 28% of cows per herd (range 1-81%). DD is known to be a painful lesion and will often result in lameness in cattle.



*Cow foot with  
Digital Dermatitis  
lesion*

### Results from the Alberta Hoof Health Project

Type of Lesion	(%)
Digital dermatitis (DD)	43
Sole ulcer (SU)	17
White line (SU)	16
Sole hemorrhage (SH)	6
Others	17

### What did we do?

Based on the outcomes of our study, we designed two new studies. With DD being the most prevalent and also identified by producers as a concern, our focus is now on DD control through foot bath use and optimizing foot bath management.

### What did we find so far?

We analyzed foot bath use in Alberta. There is huge variation among farms regarding footbath management. In our AB study, there was no consistency in the frequency of use and refreshing of solutions, nor the type and concentration of products. Although 95% of the farms in the study regularly used a footbath, no two farms had an identical protocol. There were 22 product combinations, with a range of 1-4 products used per farm, and a frequency of 0-7 days per week. Clearly, there is a need to provide dairy farmers with practical, science-based recommendations for foot bath management, with the long-term goal of controlling infectious foot lesions like DD on dairy farms.

## What studies are ongoing?

- 1) A clinical trial to determine the efficacy of a new product for prevention of DD, relative to a copper sulfate treatment and a group where no foot bath protocol is used.
- 2) An intervention study to determine the impact of a standardized foot bath protocol on reducing the incidence and prevalence of infectious claw lesions. We also plan to estimate the economic consequences of these on-farm actions, considering not only the costs related directly to the foot bath use and treatments, but also herd production efficiency. The long-term goals of our research is to better understand farmers' compliance, and attitude and perception towards implementation of a foot bath protocol, and to provide the dairy industry with science-based recommendations for prevention and control of DD through foot bath management.



*UCVM's team at the 2013 Western Canadian Dairy Seminar*

## What does this mean for the future of lameness research at UCVM?

With our study results we hope to shed some light on possible ways to deal with the most common cause of lameness; Digital Dermatitis.

Although lots of research has been done, we clearly lack field proven data that show effectiveness under field circumstances like in Alberta. Although common, a lot of aspects of DD are unknown; Our future plans are to study in more detail the impact of different chemicals on active DD lesions as that will provide us with a better understanding of the disease dynamics. With that knowledge, we can better anticipate sources of new infections, and develop prevention and control strategies. Ultimately, a field trial on dairy farms in Alberta should be the next step; i.e., testing the most promising new chemicals from the lab under field conditions.

### Summary Points

- DD is an important health issue in AB dairy cows; its prevalence is equal or higher than other regions in Canada or countries.
- AB dairy farmers who responded to our questionnaire identified DD as an important issue.
- Optimizing foot baths and foot bath management is a key element in controlling DD on a herd level and we aim to find the best protocol for Alberta.

## Want to know more?

[www.hoofhealth.ca](http://www.hoofhealth.ca)

[www.wcm.ucalgary.ca/orselreach](http://www.wcm.ucalgary.ca/orselreach)

[http://www.youtube.com/watch?v=U\\_eUhmnxda0](http://www.youtube.com/watch?v=U_eUhmnxda0)

# DRECA



**UNIVERSITY OF CALGARY**  
FACULTY OF VETERINARY MEDICINE

This research was supported by the Alberta Livestock and Meat Agency,  
Dairy Farmers of Canada, University of Calgary and Alberta Milk.

For further information please contact Dr. Karin Orsel at [Karin.orsel@ucalgary.ca](mailto:Karin.orsel@ucalgary.ca)