

Effectiveness of a Standardized Footbath Protocol in the Prevention of Digital Dermatitis in Alberta

Laura Solano, Herman W. Barkema, Charlotte Pickel and Karin Orsel

Department of Production Animal Health, Faculty of Veterinary Medicine, University of Calgary, 3330 Hospital Dr NW Calgary AB T2N 4N1.
Email: lsolano@ucalgary.ca

Digital dermatitis (i.e. 'Mortellaro'), a contagious bacterial disease that can rapidly spread and persist for a long time in herds, is the most prevalent foot lesion in Alberta and Canada. The most common on-farm prevention strategy is the use of footbaths. However, based on our previous lameness study, there is a wide variability in footbath practices including frequency of use, footbath dimensions, products and concentration. Despite a wealth of information in scientific literature regarding the most effective practices, there seems to be a knowledge translation gap between researchers and on-farm application. This study's objective was, therefore, to evaluate the effectiveness of a science-based standardized footbath protocol in the field as a preventive measure for digital dermatitis (DD).

Nine Alberta dairy farms were evaluated before and after the introduction of a new footbath and protocol. The intervention consisted of implementing an automated footbath on all farms with a standardized protocol based on literature recommendations. DD scoring was done in the milking parlour (every 2 weeks) and during 3 hoof trimming sessions (beginning, half-way and end of the study) using the M0-M4.1 scoring system (Berry et al., 2012). Data on DD lesions from 1,300 cows were collected over 7 months.

Table 1. Herd-level percentage of no lesions (M0), chronic (M3, M4) and active (M1, M2, M4.1) DD stages

Scoring place	Lesions	Intervention		P-value (Paired T-test)
		Before	After	
Milking parlour	No lesions	37	37	0.561
	Active	21	8	< 0.001*
	Chronic	41	55	< 0.001*
Trim chute	No lesions	31	40	0.005*
	Active	41	25	0.009*
	Chronic	28	35	0.091*

* Statistical significant difference before and after intervention

Implications: The use of a standardized footbath protocol significantly decreased the presence of active DD lesions and increased the number of cows without lesions as observed in the trim chute. Following footbath management guidelines as recommended by scientific literature can result in significant reduction of DD.