

# Digital Dermatitis and Footbath Management on Dairy Farms in Alberta

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Digital dermatitis (DD) (i.e. 'Mortellaro', 'hairy heel warts', 'strawberry foot') is a globally widespread infectious foot lesion and the most common one throughout Canada, including Alberta (AB). Footbaths are commonly used to manage DD, through treatment, control and prevention. The purpose of this study was to determine the prevalence of DD within AB dairy farms and to determine management factors associated with DD.

Using a questionnaire, information was collected from 77 free-stall dairies on housing management factors and footbath practices such as products used, frequency of use, refresh/refill of solutions and footbath dimensions. In our collaborative study with the Alberta Hoof Health Project, DD lesions were recorded by 7 hoof trimmers (using Hoof Supervisor®).

DD was present on 97% of the farms, affecting on average 29% of cows/herd (range 2-83%). When looking at DD risk factors, the average floor scrapping frequency was 10 times/day (range: 0-24 times/day), which varied depending on flooring type. A footbath was regularly used on 95% of the farms though no two farms had the same protocol. Twenty-two combinations of 1-4 products were used per farm with a frequency of 0-7 days/week. Copper sulfate was used on 90% of the farms, and 42% of these used it in combination with formaldehyde or another product. Formaldehyde alone was used on 6% of the farms, while 4% used solely other products. The mean concentration for copper sulfate was 5% (range 0.5-25%) and for formaldehyde 4% (range 1-10%). Footbath solution was changed after an average passage of 327 cows (range: 69-1680 cows). Regarding footbath dimensions, the average was 212cm long (range: 100-417cm), 76cm wide (range: 35-219cm) and 16cm deep (range: 15-30cm). None of these variables significantly predicted the prevalence of DD. One reason might be the high variability of on-farm practices, resulting in a small sample size and lack of statistical power.

**Implications:** The high prevalence of DD in AB is concerning, but the wide variation in within-herd prevalence and on-farm practices related to footbath management are promising. By identifying the important risk factors on farm, we can develop appropriate and practical guidelines for footbath management and housing hygiene that can result in significant reduction of DD.