

Lameness in dairy cows: using gait score as a predictor for claw lesions

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Early detection of lameness is critical for optimizing treatment and prevention plans, minimizing impaired animal welfare and reducing economic loss. Gait scoring systems by trained observers are reliable and practical methods that effectively identify lame cows. It is commonly thought that lameness relates directly to the occurrence of either infectious or non-infectious claw lesions. The intent of our study was to evaluate the use of gait scoring as a tool to identify cows with claw lesions.

As part of the Dairy Cluster project on cow comfort and longevity led by AAFC, the team from the University of Calgary visited twelve representative free-stall dairy farms in Alberta. Data collected included video recordings to assess gait score done by trained observers on a sub-sample of 40 cows from each herd. Limping, asymmetric steps and head bob were the 3 clinical signs recorded. The presence of claw lesions on each farm was determined by one of 7 trained hoof trimmers using an automated recording system (Hoof Supervisor®) as part of the Alberta Dairy Hoof Health Project (www.hoofhealth.ca). Gait scores were recorded within 4 weeks of the hoof trimmer's scheduled visit to allow correlation analysis between gait score and claw lesions.

Association was analyzed using Chi-square statistics and sensitivity and specificity were calculated to demonstrate the ability of gait score to identify the presence of claw lesions. Although claw lesions are very common, not all of them result in lameness. Our study shows that asymmetric steps detect 60% of the cows affected with claw lesions. The other clinical signs did not contribute significantly to increase the identification of cows with claw lesions. Therefore false positive and negative results should be anticipated.

Implications: Abnormal gait does not consistently distinguish cows with claw lesions. However, clinical signs like asymmetric steps are more difficult to detect compared to limping, but do add value as asymmetric steps identify a higher percentage of cows with claw lesions.