

mildly lame cows. Interestingly, locomotion scores did not accurately predict the presence of infectious lesions.

Significance

These results demonstrate that locomotion scoring can be used to predict the type of lesion present in the

claw of a dairy cow. However, care should be taken when locomotion scoring is used to assess the presence or absence of a lameness problem since it did not accurately predict the presence of infectious lesions. For cows unable to be locomotion scored, the use of the leg score system appears to be useful to predict the presence of infectious lesions.

Herd Level Risk Factors for Non-infectious and Infectious causes of Lameness for Ontario Dairy Herds

Gerard Cramer, DVM¹; Kerry Lissemore, DVM, DVSc¹; Dave Kelton, DVM, PhD¹; Chuck Guard, DVM, PhD²; Ken Leslie, DVM, MSc¹

¹Department of Population Medicine, University of Guelph, Guelph, Ontario, Canada

²Department of Population Medicine and Diagnostic Sciences, Cornell University, Ithaca, NY

Introduction

Lameness is one of the most important issues facing the dairy industry, both in terms of production costs and public perception of dairy cow welfare. To assist bovine practitioners in making recommendations that reduce or prevent lameness, there is a need for knowledge about the prevalence of lameness and a more complete understanding of the factors that contribute to lameness in different North American management systems. The objective of this project was to determine the effect of selected risk factors on the prevalence of infectious and non-infectious claw lesions on dairy farms in Ontario.

Materials and Methods

Five professional hoof trimmers were recruited, trained and asked to record lesions on a standardized recording form for all cows that they trimmed. The standardized recording form was based on the lesions descriptions and codes proposed by the American Association of Bovine Practitioners Lameness Committee. In addition to recording lesions, the selected hoof trimmers were asked to complete a risk factor questionnaire for each herd. Both questionnaire and lesion data were entered into a database (MySQL) via the internet. Data management and analysis were done using a commercially available statistical program (STATA). To facilitate analysis, lesions were categorized into infectious and non-infectious categories based on etiology. Since risk factors vary depending on housing and lesion category, the impact of specific risk factors was evaluated using separate linear regression models for each housing and lesion category.

Results

Complete data were collected on 24 free stall and 89 tie stall herds. Average herd size for tie stalls and free stalls was 45 (CI: 40-47) and 76 (CI: 55-97) cows, respectively. Herd level mean prevalence of infectious causes and non-infectious lameness lesions was 22.9 and 17.9%, respectively. For both infectious and non-infectious lesions, cows housed in free stalls had a significantly higher prevalence compared to herds using tie stalls. For tie stall herds, the use of wood shavings for bedding and routinely spraying cows feet were associated with an increased prevalence of infectious lesions. However, the use of a total mixed ration was associated with decreased infectious lesion prevalence. For non-infectious lameness lesions in tie stall herds, trimming heifers prior to calving decreased prevalence by 4.6%. In this subset there was a tendency for a higher prevalence in larger herds. In free stall herds, using less than one inch (2.5 cm) of bedding was associated with a 13.3% increase in non-infectious lesion prevalence.

Significance

From these results, it is clear that the dairy industry continues to struggle with both infectious and non-infectious lameness lesions. The results also identified certain risk factors that were associated with prevalence levels. These risk factors should be managed accordingly to reduce the overall prevalence of lameness lesions.