for eliciting expert opinion in areas where hard data are lacking. The anonymous method allows participants to express their views without any one individual dominating the group. This study is significant because hard data are not available on what practices are most related to risk for beef feedyards. Differences in awareness of these issues is significant because veterinarians are pivotal in educating the feedyard staff about the prevention of disease entry and spread. They further provide information on the views of each group that are useful in arriving at effective biosecurity programs.

Feedyard managers are not always cognizant of the various risks or their relative importance and need expertise from feedyard consulting veterinarians in the area of biosecurity. This Delphi survey series has identified environmental control of disease, disease transmission control and preventative products as particular areas where perception of risk and effectiveness of mitigation strategies differs between feedyard managers and feedyard consulting veterinarians. Veterinarians should be experts on disease risks and transmission in the feedyard, and their knowledge is an important source of information for feedyard biosecurity. Veterinarians can provide training to managers and feedyard employees on biosecurity practices and the development of effective and economic biosecurity plans.

Hard data are lacking on real risks and the effectiveness of mitigation strategies. Objective data on real versus perceived risk are difficult to obtain for terrorist disease introduction risks. Objective data on natural or accidental disease introduction risk and impact are more available, but still incomplete. Further data from experimental studies and disease modeling would be helpful to further characterize these risks and impacts. These results are helpful in further understanding risk perception in the feedyard from those who likely know it best. Knowledge of risks and mitigation strategies will assist in risk assessment and the development of economic and effective biosecurity plans for feedyards.

The Association between Hoof Lesions and Milk Production in Ontario Dairy Cows

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Introduction

To preserve and improve the perception of the dairy industry among consumers, there is a need to identify and act upon animal welfare concerns. Lameness is the dairy industry's most visible animal welfare concern. Unfortunately, dairy producers and practitioners often underestimate the level and impact of lameness and hoof lesions on their farm. The impact of lameness and hoof lesions on milk production in North America has not been widely evaluated across a wide number of herds. The objective of this project was to determine the association between infectious and non-infectious hoof lesions and 305-day milk production in dairy cows.

Materials and Methods

A convenience sample of five hoof trimmers were trained and asked to record lesions on a standardized form for all cows they trimmed in a herd. The standardized recording form was based on the lesions descriptions and codes proposed by the Lameness Committee of the American Association of Bovine Practitioners. Individual cow lesion data from 7300 cows in 173 herds were merged with dairy herd improvement (DHI) production data. To determine the association between individual lesions and milk production, the cow's projected and actual 305-day milk production were used as outcome variables in a linear mixed model. All models in-

cluded breed, lactation, days in milk and hoof trimmer as fixed effects and herd as a random effect.

Results

Average projected 305-day milk production was 20,607 lb (9367 kg; 95% CI: 9314, 9400), and average actual 305-day milk production was 20,783 lb (9447 kg; 95% CI: 9398, 9496). From all recorded individual hoof lesions, only deep sepsis had a negative association with projected 305-day milk production (-3456 lb; -1571 kg). The presence of white line separation (+664 lb; +302 kg), any non-infectious lesion (+240 lb; +109 kg), and any hoof lesion (+161 lb; +73 kg) all had a significant positive association with projected 305-day milk production. Similarly, the presence of a sole ulcer (+448 lb; +204 kg), any non-infectious lesion (264 lb; +120 kg) and any lesion (+222 lb; +101 kg) all had a significant positive association with actual 305-day milk production.

Significance

The positive association between hoof lesions and small increases in cumulative milk yields shows that cows with non-infectious lesions are higher-producing cows. The reason for this positive association is unclear. It is likely that the hypothesized negative effect of these lesions on 305-day milk production is being masked by the higher production potential of the affected cows. To quantify this negative effect, a more complex model using multiple, individual test-day measurements is required.

The Association between Hoof Lesions and Culling Risk in Ontario Dairy Cows

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Introduction

Lameness is one of the most important issues facing the dairy industry, both in terms of production costs and consumer perception of dairy cow welfare. One way that lameness and hoof lesions reduce the productivity of dairy cattle is by decreasing longevity. Within the dairy industry, there is widespread concern about the longevity of today's dairy cow. Considering the high prevalence of lameness and hoof lesions, it is surprising that the association between hoof lesions and culling has not been widely evaluated. The objective of this project was to determine the association between infectious and non-infectious hoof lesions and culling risk in dairy cows.

Materials and Methods

A convenience sample of five hoof trimmers was trained and asked to record lesions on a standardized form for all cows they trimmed in a herd. The standardized recording form was based on lesion descriptions and codes proposed by the Lameness Committee of the American Association of Bovine Practitioners. Individual cow lesion data from 7,610 cows in 173 herds were merged with dairy herd improvement (DHI) removal data. Using a Cox proportional hazard model, the association between individual lesions and culling risk was determined. All models included 305-day milk, breed, lactation, days-in-milk, linear score and hoof trimmer as fixed effects. Since cows are clustered within herd, herd was accounted for using robust standard errors. Additional cow level disease information was unavailable for analysis.

Results

Over a 20-month time period 2,888 (38%) cows were culled. Median time to culling from hoof trimming was 245 days. Cows identified as lame by the hoof trimmer