

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

had a 30% increased culling risk. The presence of any lesion significantly increased culling risk by 22%. However, this was mainly due to the effect of non-infectious lesions such as white line abscess, solar hemorrhage, white line separation and sole ulcers, as they increased culling risk by 46%, 32%, 69% and 34%, respectively. None of the infectious lesions had a significant association with culling risk. Addition of a housing variable to the model did not significantly change culling risks.

Significance

These results highlight the importance the dairy industry should place on lameness and hoof lesion prevention. Dairy producers cannot afford to ignore a problem that increases the culling risk of high-producing cows by 20-70%. Since the majority of these lesions were found at a routine hoof trimming, there appears to be a need for earlier detection and more effective therapy in addition to ensuring proper housing and feeding.

Determination of Papillomatous Digital Dermatitis (PDD) Prevalence in the U.S. Feedlot Industry through Practitioner Survey

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Introduction

Papillomatous digital dermatitis has been recognized and studied within the dairy industry for nearly 30 years. Published literature describing the incidence, risk factors, treatment and probable etiology within dairies is readily available. Far less information is available concerning papillomatous digital dermatitis and its effects on the US feedlot industry. Although papillomatous digital dermatitis is rarely reported in feedlot cattle, there have been at least three confirmed cases in feedlots in Kansas and Iowa.

Materials and Methods

Following a short presentation on papillomatous digital dermatitis in feedlot cattle, practitioners were surveyed on their experiences with this disease in their clients feedyards. Results were tabulated and analyzed by the production medicine faculty at Kansas State University.

Results

Twenty-nine veterinarians completed the survey. Six surveys were excluded from the final results due to type of practice indicated by the veterinarian. Of the 23

veterinarians included in the survey, 10 veterinarians indicated that they had seen lesions consistent with papillomatous digital dermatitis in their clients' feedyards, but only one veterinarian had diagnosed the disease through culture and/or histopathology.

These 23 veterinarians estimated that their clients' feedyards fed approximately 4.9 million cattle a year. Of the ten veterinarians reporting this disease, six estimated the number of cases of papillomatous digital dermatitis seen in the past 2 years to be 935. Based on these data, we estimated an approximate papillomatous digital dermatitis yearly prevalence of 0.01% of cattle fed.

Significance

Results of this survey indicate that papillomatous digital dermatitis may be an emerging disease with the United States feeder cattle industry. The prevalence of papillomatous digital dermatitis reported underestimates the true prevalence in these feedyards due to the fact that 4 out of 10 veterinarians reporting the disease did not estimate number of cases seen.

Our experience with papillomatous digital dermatitis in feedyards is that it often goes unrecognized until it becomes endemic. This may further contribute to an underestimate of the disease prevalence.