

Relationship of rectal temperature at first treatment for bovine respiratory disease complex in feedlot calves to probability of not finishing the production cycle normally

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Introduction

Monitoring rectal temperature is a common component of health protocols, and treatment decision may be influenced by rectal temperature at time of initial diagnosis of bovine respiratory disease (BRD). The objective of this project was to determine potential associations between rectal temperature at first-time identification of BRD and the probability of not finishing the production cycle normally.

Materials and Methods

Individual animal health data from 19 US feedlots were collected from 2000 to 2009. Data from the initial BRD episode for individual cattle were included in the study population. A binary variable was created to identify calves that did not finish (DNF) the production cycle normally (died or culled prior to harvest of cohort). A generalized mixed linear model was created to evaluate potential associations of common cohort factors with the probability of DNF and a receiver-operating

characteristic curve was used to determine model predictive accuracy.

Results

Data consisted of 344,982 individual calves at first time identification of BRD and 7.97% of these calves DNF. Rectal temperatures were normally distributed with a mean and median of 104°F. Calves exhibited a greater probability of DNF at greater rectal temperatures, although this relationship was influenced by quarter of arrival, gender, and days-on-feed at BRD diagnosis. The area under the curve for the receiving-operating characteristic curve was 0.6460.

Significance

Producers and consulting veterinarians can utilize these results to improve understanding of how to use rectal temperature at first BRD identification to more accurately predict cohort outcomes.

A meta-analysis of vaccine effectiveness against bovine herpesvirus, bovine viral diarrhea virus, bovine respiratory syncytial virus, and parainfluenza-type 3 virus in cattle for bovine respiratory disease complex

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Introduction

Multiple commercial vaccines are available with the goal of decreasing risk and severity of bovine respiratory disease complex (BRDC). The objective was

to perform a systematic review of published literature and meta-analysis to evaluate the efficacy of vaccinating cattle with available viral vaccine antigens to mitigate the effects of BRDC compared to unvaccinated controls.