and on-farm devices (FT, GT), as well as Krippendorff's alpha coefficient among all 3 methods were calculated. Analyses were performed using R version 3.1.2. Statistical significance was set at $P<0.05$ for all tests.

### Results

Based on the Bland-Altman plots, there was significant disagreement ($P<0.001$) between DS and both the FT and GT. On average, FT overestimated weight in beef calves by 3.40 lb (1.54 kg) ($P<0.001$), and GT underestimated weight in dairy calves by an average of 3.02 lb (1.37 kg) ($P<0.001$). However, the mean difference for both devices was not equal across weights, and both overestimated at lower weights and underestimated at higher weights. Weighted Kappa for agreement with DS for weight category was moderate at 0.56 ($P<0.001$) for FT and 0.44 ($P<0.001$) for GT. Krippendorff's alpha coefficient among all 3 methods was 0.66 and 0.52 in beef and dairy calves, respectively.

### Significance

Determining accurate birth weights is important for management strategies to reduce calving difficulties, ensure cow and calf health, and optimize performance. Currently available on-farm devices for estimating calf body weight had poor agreement with digital scales, and may not be appropriate for detecting calves at either end of the weight spectrum.

# Current feedlot cattle health and well-being program recommendations in the United States and Canada: The 2014 Feedlot Veterinary Consultant Survey

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### Introduction

Veterinary consultants routinely give recommendations to feedlot employees and managers on all areas of cattle health and well-being. Recommendations are made based on veterinarians' field experience and review of peer-reviewed literature. However, there is little data available about how the literature is merged with field experience and the actual recommendations given by consulting veterinarians to feedlot employees and managers. A survey conducted by Vasconcelos and Galyean (2007) reported baseline recommendations of select feedlot nutritionists in the United States. This survey is to be repeated every 4 to 5 years, as changes in recommendations can be useful in determining areas in nutritional practices that warrant further research. A similar study was conducted for feedlot veterinary recommendations in 2009 to establish a baseline for recommendations of feedlot veterinary consultants in the United States and Canada. The objective of the current survey was to report specific recommendations currently made by feedlot consulting veterinarians and to compare the current recommended practices to those recommended in the survey conducted 5 years ago.

### Materials and Methods

Selection of veterinarians for this study was based upon personal knowledge of their consulting areas and their reputation within professional veterinary organizations. Twenty-three consulting feedlot veterinarians were contacted by phone to inform them of the purpose of the survey and to request their participation. If interested, participants were provided a link to the survey via an email communication. All 23 veterinarians agreed to participate. Approval to conduct the survey was granted by the Kansas State University Institutional Review Board (IRB #7431). Data were collected using Kansas State University's web-based survey system. The survey consisted of 78 questions covering general information/demographics (n=8); employee training (n=9); receiving and processing practices, including BVD testing (n=10); castration, dehorning, and pregnancy management (n=10); metaphylaxis and feed-grade antibiotics (n=8); revaccination (n=5); disease diagnosis and treatment, including pen riding (n=8); morbidity and mortality (n=15); and euthanasia and necropsy (n=5). Data were downloaded into Microsoft Excel for summary and analysis.

## Results

The veterinarians visited feedyards in their practice an average of 1.7 times monthly. Ninety-six percent of veterinarians aided in training pen riders. All were familiar with the Beef Quality Assurance (BQA) Feedlot Assessment Tool, and 95% used BQA concepts in employee training. Participants recommended 1 pen rider/3,464 high-risk calves, and 1/6,405 low-risk calves. Banding was the most commonly recommended method of castration in cattle over 500 lb (227 kg). Ancillary therapy for BRD was recommended by half the participants. Cattle health risk was considered the most important factor for predicting morbidity.

## Significance

The findings of this research and the comparison this report to those in the past increase knowledge of common recommendations made by feedlot consulting veterinarians and have an impact on the feedlot and veterinary industries. The changes reported here may be the most important outcomes of this research, as they provide insight into how veterinarians' recommendations evolve as the industry changes and as new research is being produced and used. This information will be valuable both today and in the future, when other surveys contribute to make an even larger base of knowledge.

# Effect of vaginal temperature on behavior patterns of *Mannheimia haemolytica* challenged beef heifer calves

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## Introduction

Behavior is one criteria that can be used to identify sick animals, but the relationship between behavior and body temperature changes are not well-defined. The objective of this project was to evaluate associations between vaginal temperature and behavior in beef heifers challenged with *Mannheimia haemolytica*.

## Materials and Methods

Ten heifer calves were endoscopically challenged with *M. haemolytica*. Intravaginal data loggers recorded hourly temperatures, and rectal temperature was recorded 3 times over 3 days. Remote location monitoring determined distance traveled, time spent near locations within the pen (grain, hay, water, and shed), and percent time lying. Vaginal temperatures were evaluated in quartiles and potential associations with behavioral variables were tested.

## Results

Vaginal temperature was significantly associated with time spent at the grain, shed, water, distance traveled, and time lying. Calves in the greatest vaginal temperature quartile (104.4 to 107.6°F; 40.2 to 42.0°C) spent a greater amount of time at the water compared to middle quartiles (101.8 to 104.2°F; 38.8 to 40.1°C). Calves in the greatest vaginal temperature quartile also spent less time at the grain and traveled less distance compared to other quartiles. Laying time decreased with higher vaginal temperature quartiles, compared to the least quartile (93.9 to 101.7°F; 34.4 to 38.7°C). A positive correlation ($R^2$=0.71) between vaginal temperature and rectal temperature was identified.

## Significance

As vaginal temperature increased, calves were less likely to be near the grain and more likely to be standing or near the water or shed. This work illustrated associations between behavior and vaginal temperature which may be useful to improve overall case definition of identifying diseased calves.