

Cow-calf pregnancy distribution information from records collected at the time of pregnancy diagnosis

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Introduction

Identifying factors that influence pregnancy success is important for both veterinarians and producers to optimize management decisions. The study objective was to evaluate pregnancy diagnosis histograms, and determine if factors such as herd size, breeding season length, body condition of cow, age of cow, or the season of year affected the likelihood of pregnancy at the end of the first 21-day interval and at the end of the breeding season.

Materials and Methods

Data was collected by convenience sampling from herds (n=805) consisting of 32,924 head located in the Midwest and Great Plains regions of the US from 2012 to 2017. Pregnancy diagnosis data was collected in either 20 or 21 day intervals. A logistic regression model was used to evaluate the effect of the relevant factors (herd size category, breeding season length category, body condition score category, cow age category, and timing of breeding season category) on the relative odds of pregnancy status at 2 different time-points (21 days and end of breeding season).

Results

Overall, 51.4% were pregnant by the end of the first 21-day interval, and 89.6% by the end of the breeding season. Herds with short or medium breeding season lengths had increased odds of pregnancy for the first 21-day interval compared to herds with a long breeding season. Cows in thin body condition had reduced odds of pregnancy for both the first 21-day interval and the entire breeding season when compared to cows in moderate condition. Mature cows had an increased probability of pregnancy for the first 21-day interval and entire breeding season when compared to heifers.

Significance

Management factors, such as breeding season length and body condition score, had significant impacts on the probability of pregnancy. In the future, more research needs to be conducted to evaluate the economics of these management choices.