Effects of On-Arrival Application of a Modified-Live Respiratory and Clostridia Vaccination on Health, Growth Performance, and Antibody Titers of Newly-Weaned Calves

Erin Gubbels
Santana Hanson
Tommy Norman
Thiago Ribeiro
Thomas G. Hamilton

See next page for additional authors
Effects of on-arrival application of a modified-live respiratory and clostridia vaccination on health, growth performance, and antibody titers of newly-weaned calves

Erin Gubbels1*, Santana Hanson1, Tommy Norman1, Thiago Ribeiro1, Thomas Hamilton1, Forest Francis1, Jason Griffin1, Warren Rusche1, Zachary Smith1

1Department of Animal Science, South Dakota State University, Brookings, SD 57006

Objective

The objective of this research was to evaluate health, growth performance, and antibody titers to IBR, BVD 1 and 2, PI3, and BRSV in newly weaned calves administered a respiratory and clostridia vaccine upon arrival or no clostridia or respiratory vaccine administered upon arrival.

Study Description

Single-sourced, newly weaned steers (n=70; initial body weight (BW)=560±12.9lb) were allotted to 10 pens (n=5 pens/treatment with 7 steers/pen). Steers were blocked by BW in a randomized complete block design of VAC [vaccinated for IBR, BVD 1 and 2, PI3, and BRSV (Bovi-Shield Gold 5, Zoetis, Parsippany, NJ) and clostridial (Ultrabec 7/Somubac, Zoetis) upon arrival] or NOVAC (not vaccinated for IBR, BVD 1 and 2, PI3, and BRSV or clostridial species upon arrival). Steers were individually weighed on d 0 (arrival), 1, 21, and 42 for growth performance measures. Whole blood samples (10 mL) were collected (n=3 steers/pen closest to the pen mean BW) on d 1, 21, and 42 via jugular venipuncture for metabolite and antibody titer responses.

Take Home Points

Dry matter intake tended (p < 0.07) to increase as a percentage of BW for NOVAC compared to VAC. Collectively, growth performance measures were unaffected by vaccination timing. Blood metabolite analysis for antibody titer responses is ongoing.

Acknowledgements

The author wishes to acknowledge the staff of the South Dakota State University Ruminant Nutrition Center for the daily care and management for the cattle used in the present study. This research was sponsored by funds appropriated to South Dakota State University by the National Institute of Food and Agriculture and the South Dakota State university Experiment Station (HATCH-SD00H690-19) and the Beef Nutrition Program at South Dakota State University.