Evaluation of bedding application on steroidal ear implant abnormality rate in beef steers

Elizabeth M. Buckhaus, Dathan T. Smerchek, and Zachary K. Smith

Objective
To evaluate the effects of bedding application on steroidal implant abnormalities (i.e. abscess, hard, knot, missing, partial, and soft inflammation).

Study Description:
Continental × English beef steers (n = 240; allotment BW = 805 lbs [±49.6]) were used in a randomized complete block design feedlot study to evaluate the effects of bedding application on steroidal implant retention rates. Steers were allotted to 30 concrete surface pens (78 ft²/steer; n = 8 steers/pen; 10 pens/bedding treatment group) at the Ruminant Nutrition Center in Brookings, SD 36 d prior to being implanted. Pens were assigned to 1 of 2 bedding treatments: 1) No bedding applied (NO), 2) 4.0 lbs (as-is basis) of wheat straw bedding/steer/d (BED). Steers were also assigned 1 of 3 implants: 1) No implant, 2) Synovex Choice [100 mg TBA + 10 mg E₂; CH], or 3) Synovex Plus [200 mg TBA + 20 mg E₂; PL] in a 2 x 3 factorial arrangements, main effects of bedding and implants. For statistical analysis of implant abnormality only pens administered CH and PL were analyzed, leading to a total of 160 steers. Ears were not scrubbed with disinfectant prior to implantation, however, large debris was removed from implantation site. Implant status was evaluated by a single trained observer 28 d post-implantation. Pen served as the experimental unit; an α of 0.05 determined significance.

Take home points:
Pen conditions pre- and post-implantation can have an impact on the number of implant abnormalities observed. Steers from NO and BED had similar (P = 0.27) implant abnormality rates (15.18 vs. 7.50 ± 4.726%) for NO and BED, respectively. Steers had similar normal implants rates (P = 0.27; 84.82 vs. 92.50 ± 4.726%) for NO and BED, respectively. Administering implants to cattle from excessively muddy pens can potentially increase the likelihood of observed implant abnormalities.

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