

EFFECTS OF A BOVINE NONSPECIFIC IMMUNE STIMULANT ON THE HEALTH AND PERFORMANCE OF LIGHT WEIGHT CALVES

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Prophylactic use of a nonspecific Mycobacterial Cell Wall Fraction (MCWF) Immunostimulant (*Immunoboost®*, Bioniche Animal Health USA, Inc.) administered subcutaneous, was evaluated in lightweight Holstein steers in a commercial cattle feeding facility.

A total of 480 calves were transported by trucks 18 hours and unloaded into one pen. Highly stressed calves are routinely given metaphylactic antibiotics on arrival to prevent a predictably high incidence of respiratory disease.

In this study no metaphylactic antibiotics were used. Calves were block randomized by two's into one of five pens (96 calves per pen): Pen A, untreated controls; Pen B, 1 mL Immunoboost; Pen C, 3 mL Immunoboost; Pens D and E were further randomized into three commingled groups of 32 each receiving 0, 1 mL or 3 mL Immunoboost. The study design resulted in 160 calves in each treatment Group: 0 mL, 1 mL and 3 mL.

In addition to experimental treatments, all calves received routine processing of two identification ear tags, IBR/PI₃ (modified live) and IBR, BRSV, BVD (inactivated) virus vaccination, vitamin ADE injection, and endectocide treatment.

Individual weights were taken on day 0 and 102. Calves were observed twice daily and morbidity, mortality, treatment costs and production were recorded for the duration of the 102-day study.

The number of sick calves per group were: Control Group, 76; 1 mL Group, 63; 3 mL Group, 37. The 3 mL Group is significantly different from the Control Group and the 1 mL Group ($\chi^2 p < 0.05$). Compared to Controls, the 1 mL calves had a decreased morbidity of 24% and the 3 mL calves a decrease of 62%.

Average treatment medicine costs (USD)* per head between pen groups were: Control Group, \$9.50; 1 mL Group, \$5.82; 3 mL Group, \$3.34. The 3 mL Group is statistically different from Controls and the 1 mL Group (ANOVA $p < 0.05$).

Compared to Controls, the 3 mL calves showed a 66% decrease in medicine costs. Average daily weight gains were: Controls, 3.22 lb (1.46 kg); 1 mL, 3.24 lb (1.47 kg); 3 mL, 3.30 lb (1.50 kg). Deaths were: Controls, 5; 1 mL, 3 and 3 mL, 1.

Overall, calves receiving a single subcutaneous MCWF (Immunoboost) injection on arrival to the feedlot had significantly less morbidity and less antibiotic costs than control calves.

The 3 mL calves showed significant differences over the 1 mL group. Immunoboost treated calves also had less mortality, decreased treatment days and increased weight gain.

* 2001 US dollars

A copy of the complete study is available from:
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