THE USE OF SODIUM IODIDE FOR THE MANAGEMENT OF BOVINE RESPIRATORY DISEASE

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ABSTRACT

The purpose of this two part project was to determine if (1) beef cattle could secrete iodine into the upper respiratory tract in the airway surface liquid (ASL) after the administration of a single oral bolus of sodium iodide (NaI). Sixteen apparently healthy, weaned beef calves were utilized. The second (2) study was performed to determine if a single oral bolus of NaI on arrival at a background feedlot operation would effectively reduce the mortality due to bovine respiratory disease (BRD). Six hundred twenty nine high risk beef calves were included in the second study.

In the first study, calves were treated with an oral dose of NaI (70 mg/kg) or an equivalent volume of water. Nasal secretions were analyzed for iodine concentration at 12 hour intervals for 72 hours. In the second study, calves were processed according to industry standards and then administered either NaI, meloxicam, NaI and meloxicam, or no treatment (control group) upon arrival at a backgrounding operation. Mortality events were recorded to determine effect of treatment on survivability of BRD.

The first study demonstrated that administration of oral NaI resulted in a significantly increased concentration of iodine (p < 0.001) in nasal secretions. In the second study all three treatment groups were at increased risk of death compared to the control group (point estimates of 1.37 – 1.89).

Beef cattle are capable of secreting iodine into the ASL when administered a single oral bolus of NaI. The implementation of a single oral bolus on arrival in high risk beef calves to a feedlot cannot be recommended based on the results of this study.