Supplemental lysine: effects on a modified-live IBR vaccination


Introduction

- Bovine herpesvirus-1 (BHV-1) is one of the foremost infections contributing to bovine respiratory disease (BRD) (Nandi et al., 2009)
- BHV-1 can lead to the acute infection of infectious bovine rhinotracheitis (IBR; Yates, 1982)
- Lysine supplementation may decrease the incidence and severity of herpesvirus-associated disease (Griffith et al., 1981; Maggs, 2000)

Materials and Methods

Figure 1. Sixty-four neonatal calves randomly assigned to treatments. Calves were supplemented either lysine (LYS) or casein (CAS), fed in milk replacer and vaccinated with either an intranasal (IN) or intramuscular (IM) modified-live vaccination on d 35. Control (CON) received no supplement or vaccine.

Figure 2. Internal temperature was monitored every 5 min with rectal probes from d 28 to 42.

Results

No difference (P > 0.10) in temperature, serum lysine and arginine levels or antibody titer response was observed.

Higher SUN levels (P < 0.05) were observed in LYS compared to CAS calves.

Greater serum lysine: arginine (P < 0.05) in LYS compared to CAS calves.

Conclusion

- Maternal antibodies may have been a factor, reducing the immune response (febrile and antibody titer response) in vaccinated animals.
- Schipper et al. (1978) reported one-third of calves failed to develop antibody titers receiving an initial IBR vaccination.
- Supplemental lysine will not alter febrile response or IBR antibody titer levels after a modified-live respiratory vaccine.
- Supplemental lysine will alter SUN and serum lysine: arginine concentrations in neonatal calves

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Literature Cited:


