

Association Between Development of Serum Antibody Against Bluetongue Virus and Productivity in Beef Cattle

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A herd of 300 brood cows was selected due to a high prevalence of serum antibody against bluetongue virus (BTV). Blood samples were taken from all cows and calves every 3 months for a three year period. Serum antibody titers were measured using an agar gel immunodiffusion test. Three of the five serotypes of BTV known to occur in the United State (10, 11 and 17) were detected by serum neutralization test. Weight gain, cull rate, calving interval, and calf birth weight was recorded

for cows and rate of gain and weaning weight for calves. Animals developing serum antibody titers against BTV were compared with two age, sex and breed matched controls. A matched pair analysis was used to test for differences between case and control groups. There were no significant differences found for any of the production measures studied $P>0.05$. We conclude that infection with BTV did not affect productivity in this herd.

Efficacy of Systemic and Oral Oxytetracycline for Control of a Herd Outbreak of Infectious Bovine Keratoconjunctivitis

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The efficacy of a combination of parenterally administered and oral long-acting oxytetracycline formulation was compared to treatment with subconjunctivally administered penicillin in controlling a herd outbreak of infectious bovine keratoconjunctivitis. Six-month-old Hereford calves (n=119) from northern California were examined daily for two days. The presence and severity of ocular lesions were noted and assigned a score. Calves of similar score were randomly assigned to one of three groups: non-treated controls (CTL), those treated with penicillin (PEN), or oxytetracycline (OTC). On the first day of the study, calves in the penicillin group (n=40) with corneal ulcers were given an injection of procaine penicillin G into the bulbar conjunctiva. The injection was repeated 72 hours later; all calves in the OTC group (n=39) received a single intramuscular dose of a long-acting formulation of oxytetracycline (20mg/kg) followed by ten days of an oxytetracycline impregnated feed additive; the remaining calves were not treated and served as controls (n=40). Following allocation of treatment groups, calves were examined three times weekly for a total of 22 observa-

tions. During the examinations, calves were weighed, ocular secretions were cultured for presence of *Moraxella bovis*, and the diameter of corneal ulcers were measured.

A combination of intramuscular and oral oxytetracycline reduced and nearly eliminated the incidence of Infectious Bovine Keratoconjunctivitis with a minimal number of re-treatments. Healing times of corneal ulcers were reduced in both of the treated groups when compared to the controls. Calves in the OTC group had fewer single and multiple recurrences than the PEN or CTL calves. Following the first observation period, the incidence of corneal ulceration in the OTC group was significantly lower than the controls for the remainder of the study, and less than the PEN group for 3/5 observation intervals. Frequency of *M. bovis* isolation from ocular secretions was greatly reduced in the OTC calves when compared to the CTL and PEN groups. The frequency of *M. bovis* isolation from calves in the PEN group was significantly less than CTL calves for 2/5 observation intervals. The conditional probability of an ulcer being healed at a given time was found to be independent of the presence or absence of *M. bovis*.