

Effect of Trace Mineral Level and Source on Cow/Calf Performance and Immune Response

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Zinc, copper and manganese are needed for proper production and immune response in the cow/calf herd. A series of experiments were conducted over a period of three years throughout the High Plains region evaluating the role of trace mineral level and source on cow and calf liver trace mineral status, immune response, reproduction parameters and growth. Across studies, liver biopsy results revealed differences between mineral treatment groups in both the cow and calf. Metal complexes significantly increased liver trace mineral status over iso-biological levels of inorganic trace min-

erals in the sulfate form. Level of trace mineral affected skin fold thickness but trace mineral source influenced initiation of immune response. Blood cell parameters differed by both level and source of trace mineral supplementation. Metal complexes significantly increased rebreeding percentage over both inorganic forms and the control animals. Overall, data suggests that practitioners must increase awareness of the trace mineral status and supplementation programs of their client herds.

The Efficacy Of 5 Topical Spray Treatments For Control Of Papillomatous Digital Dermatitis In Dairy Herds

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Papillomatous digital dermatitis (PDD or Footwarts) is prevalent on California dairies. The prevalence on some dairies exceeds 50%. An effective and long-lasting treatment for digital dermatitis is needed to minimize the need for repeated treatments. The objective of our treatment trials was to test the efficacy of antimicrobics (Oxytetracycline and Lincomycin/Spectinomycin) at 2 concentrations and 1 astringent (RotNot™) on footwart lesions in dairy cows over a 90 day observation period. We located 3 cooperating dairies with a high prevalence of the disease. Cows were selected based on having visible lesions on one or both rear feet and being less than 210 days in milk at the start of the trial. Cows were randomly assigned to one of the 5 treatment groups or a control group. Cows were treated and observed for 90 days. The treatments were: Lincomycin/Spectinomycin (LS50) at 2 concentrations (LoLS50 = 0.5 mg/ml, HiLS50 = 1 mg/ml), Oxytetracycline (OTC) at 2 concentrations (LoOTC = 1 mg/ml, HiOTC = 4 mg/ml), and Rot Not™ (1 cc/L). Treat-

ment solutions were mixed and applied with a garden sprayer to the feet of dairy cattle (n=334) having active PDD lesions. Affected cows in the treatment groups were sprayed once daily for 5 consecutive days, spraying was suspended for 2 days, then cows were sprayed once daily for 5 consecutive days for a total of 10 topical treatments. Lesions of control and treatment cows were evaluated and recorded at enrollment and at days 5, 12, 30 and 90 (day 1 = the first day of treatment). Paired t-Tests were used to compare lesion score change following treatment. LoLS50, HiLS50, LoOTC, and HiOTC cows had significantly lower lesion scores at d5 and d12 (p<.05) compared to controls. Rot Not™ cows had significantly lower lesion scores at d12 (p<.05) than controls. LoLS50, HiLS50 and HiOTC cows had significantly lower lesion scores at d30 (p<.05) and LoLS50 and HiLS50 cows had significantly lower lesion scores at d90 (p<.05) than control cows. Lincomycin/Spectinomycin appeared to provide more persistent improvement to cattle affected with PDD lesions.