

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

**METAFILATIC EFFECT OF SELENIUM AND VITAMINS ASSOCIATED WITH
SECNIDAZOLE ON PARASITOLOGICAL CONTROL, DIARRHEA AND
PROTEINOGRAM IN DAIRY CALVES**

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The morbidity and mortality rates of calves, may hamper dairy farm activities mainly because these animals have immature immune system and depend on colostrum supply during the first hours of life since placental transfer of immunoglobulins is minimal, leaving them more susceptible to infections that cause diarrhea, the main clinical sign related of death at this age. It is known that diarrhea in calves can be caused by different pathogens, including *Giardia* spp., protozoan found more frequently. In this context, it is necessary the use of chemical substances for a complete elimination of this parasite, as the use of secnidazole, an anti-protozoan used in humans, and untested in calves until the present moment. The aim of this study was to verify whether selenium (Se) and vitamins (A and E) applied via subcutaneous associated with secnidazole via oral exert positive effects in the immune systems, as well as whether prevent infections caused by protozoan, and consequently, reduce the number of cases of diarrhea in calves. Thirty-two newborn Holstein calves were divided into two groups with sixteen animals each: the control group and the treated group that received sodium selenite (0.2 mg/kg) and vitamins A (35 mg/kg) and E (1 mg/kg) with one day of life, and a second application associated with secnidazole (400 mg/animal) on day 10 of life. Sample collection (blood and feces) were performed on days 1, 15, 30, 45 and 60 of life. No difference on weight gain was observed on day 60 of life ($P>0.05$). Secnidazole was able to prevent infections caused by *Giardia duodenalis* in the 30 first few days of life, but no difference was observed between groups after this period. Calves from the treated group showed higher hematocrit values compared to the control group on day 60 of life ($P<0.05$), while total serum protein and globulin levels were higher on days 15 and 30 ($P<0.01$). The ceruloplasmin (15, 30 and 60), IgG of heavy chain (15, 30, 45 and 60), IgG of light chain (45 and 60) and haptoglobin (15, 30, 45 and 60) were higher in the animals of treated group compared to the control group ($P<0.05$). Based on these evidences, we concluded that the injectable application of Se and vitamins (A and E) associated to secnidazole can improve the immunological system, as well as prevents giardiasis in the first weeks of life of dairy calves.

Keywords: disease pathogenesis, giardiasis, nutraceutical, selenite sodium

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