

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## **FASTER PHOSPHORUS DISAPPEARANCE FROM BLOOD OF SANTA INES LAMBS INFECTED WITH *Trichostrongylus colubriformis***

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The aim of the trial was to determine the biological half time ( $T_{1/2}$ ) of phosphorus (P) in Santa Ines lambs infected with *Trichostrongylus colubriformis* and restricted of P. The experiment was conducted in the Animal Science Laboratory facilities located in the Centre for Nuclear Energy in Agriculture. The project was approved by the Ethics Committee on Animal Uses (nº 004/2015). Eighteen castrated male Santa Ines lambs (BW = 22.4 ± 2.70 kg; mean ± SE) were studied in a completely randomized design in a factorial arrangement 2x2, with two P requirements (Adequate and Restricted;) and two infection condition (Infected or Not). Therefore, the four groups tested was: AN (adequate P and not infected; 4 animals); RN (restricted P and not infected; 4 animals); AI (adequate P and infected; 5 animals); and RI (restricted P and infected; 5 animals). The animals were infected in a simple dose of 40,000 L<sub>3</sub> larvae stage of *T. colubriformis*. The diet was calculated for 100 g day<sup>-1</sup> gain, and based of forage, using Tifton-85 hay (*Cynodon* spp.) and concentrate, using cassava meal, glutenose 60, sodium chlorite, urea and soy oil. The diet forage: concentrate ratio was 60:40 and the feed and water were provided *ad libitum*. To reach the adequate requirement of P, the treatments was supplemented with dicalcium phosphate. After infection the animals were housed individually during 51 days, seven days before slaughter the animals were submitted to a radioactive <sup>32</sup>P injection. For the radioactive phase, 0.5 mL of a <sup>32</sup>P solution (7.4 MBq of activity) was injected in each animal and the blood sample were collected five minutes after injection and once a day during seven days. The blood sample was analyzed by the Cerenkov effect technique. The  $T_{1/2}$  was calculated as  $\ln_2 * K^{-1}$  (hour), where K was the constant obtained in an exponential function. The statistics was tested for the fixed effects of P restriction, Infection and the interaction. The data was tested for normality and the means was tested by Tukey (P<0.05). The results indicate an effect of infection (P = 0.04) in the  $T_{1/2}$ , where infected lambs had faster blood P disappearance (26.9 h) compared to health (28.4 h). However,  $T_{1/2}$  was not affected by amount of P intake. In conclusion, parasite infection could accelerate the way out of P from the blood.

**Keywords:** Lambs, Metabolism, Macromineral, Nematode, Parasite

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