

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

**THE EFFECT OF ENERGY / PROTEIN BALANCE IN THE DIET AND
SUPPLEMENTATION OF TANIFEROUS EXTRACT ON NITROGEN EXCRETION BY
SHEEP**

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Nitrogen (N) excreted by ruminants in pasturelands is an environmental issue because it can be emitted as nitrous oxide, where the N excreted in the urine is more volatile than the N excreted in the feces. The goal of the study was to evaluate the effect of energy / protein balance and the supplementation of taniferous extract on urine and total N excretion. Six Lacaune lambs, averaging 27 ± 2 kg of body weight, were distributed in a double Latin Square 3 x 3 experimental design. Ryegrass (*Lolium multiflorum* Lam.) haylage was given to the animals *ad libitum* with a daily supplementation of 60 g of soybean meal (S), 140 g of cracked corn grain + 60 g soybean meal (SC) and 140 g of cracked corn grain + 60 g soybean meal and 40 g kg⁻¹ of concentrated feed of *Acacia mearnsii* taniferous extract (SCT). Samples of diet, feces and urine were collected to determine N intake and N excretion. Crude protein contents in the ryegrass haylage and on the supplements of treatments S, SC and SCT were, respectively, 115, 400, 190 and 179 g kg⁻¹ DM. Nitrogen intake was similar for all the treatments averaging 15.7 g day⁻¹. The N apparent digestibility was 13% lower and total N excretion was 10.2% higher for the SCT treatment compared to the S treatment. Otherwise, daily urine N excretion (3.4 vs. 3.0 g day⁻¹) and the ratio of urine N excretion / total N excretion (0.35 vs. 0.29) were higher ($P < 0.05$) for the S treatment when compared to the average of SC and SCT treatments, which did not differ from each other. In conclusion, a better energy / protein balance can be considered as a strategy to mitigate N urinary excretion and the environmental impact of sheep production systems. Nitrous oxide emissions from the excreta of the animals involved in this experiment will be performed.

Keywords: *Acacia mearnsii*, nitrous oxide, ruminant

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