

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

DIETARY REPLACEMENT OF GROUND CORN BY SWEET POTATO FLOUR DOES NOT AFFECT THE NITROGEN USE BY SHEEP

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Brazil produces around of 500,000 tons of sweet potato (*Ipomoea batatas*) per year, a rich-carbohydrate feedstuff available to be used in animal feeding programs. Nevertheless, any research information is available on their nutritional potential for ruminants as its use has been made on an empirical basis by small farmers. The efficiency of N use by ruminants is highly dependent on the ruminal degradation of the diet carbohydrates which may vary between carbohydrate sources. The aim of this study was to evaluate the replacement of ground corn by sweet potato flour in sheep diet and its effects on nitrogen retention, rumen microbial N (Nm) supply and on the efficiency of rumen microbial protein synthesis (ERMPS). Eight castrated male sheep, kept in metabolism cages, were used in a 4 × 4 Latin Square trial, which was conducted throughout four 15 days periods. The control diet was composed by oat hay, corn silage, soybean meal and ground corn, which was replaced by sweet potato flour at either proportion: 0.33, 0.66 and 1.00. Urea was added as to keep diets isonitrogenous. Total feed offered and refusals, as well as total feces and urine excreted were measured during the last five days in each experimental period. The urinary excretion of purine derivatives was used to estimate the rumen microbial protein synthesis. The N retention (g day⁻¹), the Nm (g day⁻¹) and the ERMPS (g Nm kg⁻¹ digestible organic matter intake) were, on average ± standard error, 7.04 ± 1.18, 11.1 ± 2.07 and 18.4 ± 2.86 respectively, and were not affected by treatments. In conclusion, sweet potato flour can replace ground corn in sheep diet without compromising the efficiency of N use.

Keywords: byproduct, carbohydrate, ruminant nutrition

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