



Diets containing yellow grease for feeding sheep

Aníbal C. Rêgo * ¹, Cristiane S.B. Oliveira¹, Cristian Faturi¹, Luiz F. S. Rodrigues¹, Otávio R. Machado Neto², Luis E. F. Afonso¹, Melany S. de Souza¹, Ana L. B. Oliveira¹

* Scientific Researcher, UFRA; 2501 Presidente Tancredo Neves Ave.; Belém, PA, 66077-830, Brazil; ¹ Department of Animal Production and Health, Federal Rural University of Amazon, Belém, PA; ² Department of Animal Production, College of Veterinary Medicine and Animal Science, São Paulo State University, Botucatu, SP

* anibalcr@gmail.com

The growth of sheep flocks and consequent intensification of production systems is increasing the demand and search for ingredients for the composition of diets. These ingredients should provide good performance and add value to the product at low cost. The use of yellow grease for feeding sheep may be an interesting alternative to increase the energy concentration of diets. In this way, this study aimed to evaluate the intake of nutrients of diets containing different levels of yellow grease by sheep. The experiment was conducted at the Unit for Metabolic Studies of Small Ruminants, Federal Rural University of Amazon (UFRA) in Belém, Pará State. Twenty Santa Ines woolless sheep, with average age of 90 days, average weight of 20.84 kg, were housed in individual wooden metabolic cages equipped with drinker, salt and feed trough. Animals were assigned to five treatments in a completely randomized design, with four replicates per treatment. Diets were isoproteic with a 50:50 forage: concentrate ratio, the forage was elephant-grass cv. Roxo, and the concentrate contained ground corn, soybean meal, yellow grease, mineral salt, limestone, at variable composition according to the treatment. The only grease used for feeding animals was oil from frying exclusively vegetable products. The grease partially replaced the ground corn of the diet and was included in the diets at concentrations of 0; 2; 4; 6 and 8% (on a DM basis of concentrates). Animals were placed in experimental cages and were given diets twice a day, at 8h and 16h, for 21 days, 16 used for adaptation to management, diet and environment, and 5 days for total collection of the supplied and leftovers. Samples collected for intake calculation were analyzed for DM, OM, CP, EE, NDF, ADF, TC and NFC. Data were subjected to polynomial regression analysis to estimate the fitness of curves at 5% probability. There were no differences ($P>0.05$) in the intake of DM, OM, CP, NDF, ADF, TC and NFC of diets containing different concentrations of yellow grease, both in kg and in percentage of body weight. The DM intake of diets ranged from 866 g day⁻¹ to 1.061 g day⁻¹ and from 3.96% to 4.83% body weight. In turn, the NDF intake varied between 270 g day⁻¹ to 351 g day⁻¹ and from 1.28% to 1.59% body weight. Therewith, it can be inferred that the inclusion of yellow grease at the concentrations studied was not able to enhance or limit the intake of these nutrients. The intake of EE in kg and in percentage of body weight increased linearly ($P<0.05$) with the inclusion of yellow grease in the diet. The EE intake increased from 23 g day⁻¹ to 65 g day⁻¹ and from 0.12% to 0.23% body weight, when the inclusion rose from 0 to 8% grease. On the basis of our results, it can be concluded that the inclusion of 8% yellow grease does not compromise the intake of the nutrients evaluated. Nevertheless, further studies should be developed with higher concentrations of this waste to determine the extent to which this ingredient can be a limiting to intake.

Keywords: by-product, concentrate, fat consumption, feed, ruminant