

THEME 9 | RUMINANT NUTRITION AND PRODUCTION

Body chemical composition of lambs from seven genetic groups at three feeding levels

Ingrid Harumi S. Fuzikawa*^{1,5}, Wignez Henrique², Fabiane S. Costa^{2,5}, Gabriela Aferri³,
Maurício M. Allencar^{4,6}, Sérgio N. Esteves⁴, Angélica Simone C. Pereira¹

¹USP, Pirassununga/SP, Brazil; ²APTA, São José do Rio Preto/SP; ³APTA, Jaú/SP; ⁴CPPSE/
Embrapa, São Carlos/SP, ⁵Capes Scholarship, ⁶CNPq Fellowship

*Doctoral student – ingrid.fuzikawa@gmail.com

The objective was to evaluate final body chemical composition of lambs at three feeding levels from seven genetic groups: 15 White Dorper, 15 Ile-de-France, 11 Texel, 18 Santa Ines, 18 ½ White Dorper + ½ Santa Ines, 18 ½ Ile-de-France + ½ Santa Ines and 18 ½ Texel + ½ Santa Ines. The animals were weaned with 90-day-old on three dates, and they were kept in individual pens with slatted floors for 42 days, after 15 days of adaptation. They received pelleted diet with 10% alfalfa hay and 90% concentrate, at following levels: *ad libitum* (AL) (leftovers around 10%, adjusted daily), 0.75 and 0.63 g dry matter kg⁻¹ of metabolic weight (MW). Diets offered in the restricted treatments were readjusted weekly after weighing of animals without fasting. At the beginning and at the end of experimental period, animals were weighed after solid fasting for 14 hours. Animals were slaughtered and final body composition was calculated from chemical analyzes of components (blood, carcass, head+hooves+pelt and empty viscera). It was considered for statistical analysis a randomized block design (considering the dates of weaning) in a factorial scheme 7 x 3 (genetic groups x feed supply levels); means were compared by Tukey test. There was no interaction (P>0.05) between genetic group and feeding level for final body composition, expressed as amount and percentage of water, ether extract, protein and minerals. Body chemical constituents did not change (P>0.05) with feed level when expressed as a percentage, but, in kilograms, animals fed AL had greater (P<0.05) deposition of all constituents. The genetic group significantly influenced (P<0.05) the proportion and amount of all constituents of empty body, except percentage of protein. Lambs ½ White Dorper + ½ Santa Ines and ½ Ile-de-France + ½ Santa Ines had a higher (P<0.05) percentage of water in the empty body (64.68 and 63.92, respectively) than Texel (60.76). Texel lambs presented higher (P<0.05) ether extract percentage (19.00). Genetic group and feeding level influenced significantly (P<0.05) all the constituents amounts. Santa Ines had the lowest amount of water (17.09 kg), and ½ White Dorper + ½ Santa Ines lambs showed the lowest quantity of ether extract (4.35 kg). Santa Ines (4.60 kg) and ½ White Dorper + ½ Santa Ines lambs had lower (P<0.05) amount of protein, 4.60 and 4.69, respectively; and White Dorper (0.93 kg) and ½ White Dorper + ½ Santa Ines (0.93 kg) lower amounts of minerals. For the AL treatment, there were no differences (P>0.05) among genetic groups for gain rates of body constituents, in kilograms of water, ether extract, protein and minerals (0.124, 0.078, 0.044 and 0.009 kg day⁻¹, respectively). Lambs of different genetic groups showed distinct final body chemical composition, especially if there was no restriction food.

Keywords: body constituents, ether extract, mineral, protein, ovine, water

Acknowledgments: To FAPESP by supporting the project (2011/51564-6).