ZOOTECNIA BRASIL
Centro de Convenções da PUC-GO | Goiânia-GO
27 a 30 de agosto de 2018

55ª REUNIÃO ANUAL DA SOCIEDADE BRASILEIRA DE ZOOTECNIA

ZOOTEC 28º CONGRESSO BRASILEIRO DE ZOOTECNIA

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

ESTIMATION OF WEIGHT RELATIONS OF SANTA INES CROSSBRED SHEEP

Sandra de Sousa BARCELOS*[1], Kaliandra Souza ALVES[1], Rafael MEZZOMO[1], Janaina Barros LUZ[1], Darley Oliveira CUTRIM[2], Daiany Íris GOMES[1], Luis Rennan Sampaio OLIVEIRA[1], Mateus Pies GIONBELLI[3]

*corresponding author: ss.barcelos@yahoo.com.br
[1]Universidade Federal Rural da Amazônia, Parauapebas, Pará, Brasil
[2]Instituto Federal do Tocantins, Pedro Afonso, Tocantins, Brasil
[3]Universidade Federal de Lavras, Lavras, Minas Gerais, Brasil

The contents of the gastrointestinal tract are the main sources of errors in weight gain measurements. Moreover, the weight of the body and its constituents are decisive factors to estimate the nutritional requirements of ruminants. For this reason, this study sought to establish the weighting relations of Santa Ines crossbreed sheep, so that, based on field measurements, we can correctly predict the nutritional requirements of the animal. We formed a database from a comparative slaughtering experiment involving castrated Santa Ines crossbreed sheep (n = 150), protocols 03/2014, 04/2013 and 01/2012. The adjustment of three different models was tested to estimate the fasting body weight (FBW) as a function of the fed BW (body weight) and empty body weight (EBW) as a function of the FBW. The relations of average daily weight gain at fasting (ADGF), estimated from the average daily weight gain (ADWG); and empty body weight gain (EBWG), estimated from the ADGF, were determined by the first derivative of the models used to predict the weighting relations as a function of the day weight gain rate. The MIXED and NLMIXED procedures in SAS version 9.2 were used to estimate the parameters of the linear and nonlinear models, respectively. The probability of a better adjustment of a model compared to another one was calculated by the evidence ratio of the AIC based on the absolute difference of the AIC value for both models. The adjustment of a linear model without intercept (AIC = - 62.3) provided a better description of the relation between BW and FBW compared to the linear models (AIC = - 60.3) with intercept and nonlinear (AIC = - 60.3). The linear model obtained by the relation between FBW and BW in this study shows that the FBW corresponds to93.82% of the fed animal's weight, representing a fixed value of 6.18% of losses at fasting. The ADGF was estimated by the equation: ADGF = 0,9382 x ADWG. The relation between FBW and EBW was best described by a nonlinear model: EBW = 0.5072 x FBW $^{1.1351}$ and EBWG = ADWG x 0.5757 x FBW $^{0.1351}$. Therefore, for growing animals, as the ones used in this study, the loss at fasting is fixed and the loss at the EBW represented by the food decreases as the weight increases.

Keywords: fasting, losses, prediction, ruminant