BODY WEIGHT ESTIMATION IN SHEEP SANTA INES

ESTIMATIVA DO PESO CORPORAL EM OVINOS DA RAÇA SANTA INÊS

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The body weight (BW) determination is important to evaluate the growth of animals, their nutritional condition and reproduction and to establish the slaughter time and the sale value of the animal. The chest girth (CG) could be an alternative to determine the body weight of sheep on properties that do not have scales. The objective of this study was to investigate the feasibility of using chest girth to determine the estimated body weight (EBW). The data file contained 1762 records of body weight (BW) and chest girth (CG) from 426 Santa Ines breed sheep, belonging to eight herds located in Southeastern Brazil. The chest girth was measured using the sternum and the withers as base, passing the tape measure behind the shoulder. Body weights were related to CG values through linear regressions using the software *Statistical Analysis Systems* (SAS Inst., Inc., Cary, NC). The age classes 1, 2, 3, were defined respectively as: 0 to 12 months; 13 to 22 months; over 34 months. The regression equation used to predict the body weight through chest girth in different age classes was $y = b_0 + b_1x$, where y is the dependent variable EBW, x is the independent variable CG, b_0 is the intercept, b_1 is the slope of the equation that defines the relationship between EBW and CG. The other variables were constant. The regression equations for specific age groups of animals were: Class 1 EBW = -42.2018 + 1.0081CG (R^2 = 0.91); Class 2 EBW = -61.2794 + 1.2660 CG (R^2 = 0.79) and Class 3 PCE = -72.6146 + 1.3885PT (R^2 = 0.84). The BW average observed and the respective standard deviations for Classes 1, 2 and 3 respectively, were 27.19 (13.37); 49.90 (13.64) and 53.27 (11.83). EBW average observed and respective standard deviations for Classes 1, 2 and 3, respectively, were 27.31 (12.72); 49.69 (12.55) and 53.56 (11.11), small differences were observed between BW and EBW, indicating the regression equations are adequate to estimate body weight based on chest girth in different age classes studied. The highest coefficient of determination (R^2) was 0.91 for Class 1. It can be concluded that these regression equations presented can be used to estimate the body weight of Santa Inês sheep at different ages based on chest girth.

Keywords: age, chest girth, regression.