

Prediction of the chemical body composition of suckling goat kids protected by the PGI ‘Cabrito de Barroso’ from ultrasound measurements

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In the Barroso region (Portugal) there is traditional consumption of light goat kids (Cabrito do Barroso, CB), belonging to the local breeds Serrana and Bravia. Accurate measurements of changes in body chemical composition (BCC) of live animals are important to understand the response to the production system. Among others the real time ultrasonography (RTU) associated with image analysis is able to predict BCC. The present study was undertaken to determine the best combination of RTU measurement and live weight (LW) to predict the BCC in PGI kids. Data from 43 kids (10 ± 2 kg LW) were scanned with an Aloka SSD500V real time scanner using a linear probe of 7.5 MHz, which was placed over the 8th, 11th, 13th thoracic and over the 4th lumbar vertebrae. At these points the subcutaneous fat depth (SF) and *Longissimus thoracis et lumborum* muscle depth (MD) were measured. The probe was also positioned over the 3rd sternebra of the sternum and over the 11th rib at the middle of thoracic cage, the SF and the tissue depth (TD) being recorded. The RTU measurements were obtained after image analysis using the ImageJ software. Carcasses and all non-carcass body components were ground. Two samples were obtained and analysed for moisture, protein, fat and ash. Stepwise regression analyses were established between chemical body components and RTU measurements and LW as independent variables. The best fitting regression equations were evaluated by the coefficients of determination (r^2), residual standard deviation (rsd) and Mallows statistic (Cp). For moisture and fat the best fit was achieved with 3 RTU measurements and LW ($r^2=0.948$; RSD=181g; Cp=1.98 and $r^2=0.924$; RSD=130g; Cp=0.95; respectively). For protein the best fit was obtained with LW and one RTU measurement ($r^2=0.794$; RSD=129g; Cp=7.1). These results showed the usefulness of *in vivo* RTU in assessing body composition of kids protected by the PGI Cabrito de Barroso.

Estimating body weight in Turkish Hair goats using body measurements

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Body weight estimation could be calculated more accurately by combination of two or more measurements. This study was carried out to estimate the body weight from different body measurements of Turkish Hairy Goat (Kılkeçi) reared under rural conditions. Relationships between body weight and wither height, heart girth, body length, heart width, rump height and body length were studied using data from four different Turkish Hair Goat (Kılkeçi) farms with 175 observations. Body weight was regressed on the body measurements. The correlation coefficient between body weight and body measurement was positive and strong ($P < 0.01$). The highest determination coefficients (R) of body weight were found on heart depth and heart girth (0.775 and 0.847, respectively). It was concluded that the liveweight could be estimated by the equation of $Y = -47.8 + 1.12 \text{ HG}$; $R^2 = 0.717$ in Turkish Hair Goat.