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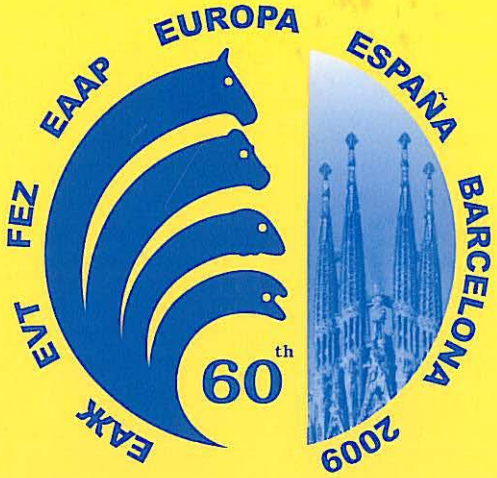

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In vivo Serrana goat kid carcass composition prediction by ultrasound measurements

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The use of real time ultrasound (RTU) to predict carcass composition was widely used for cattle, swine and sheep. However, for goat and particularly for light goat kids, this technique was less investigated. Thus the aim of this work was to *in vivo* predict carcass composition of goat kids using RTU measurements. Forty two goat kids of the Serrana breed (13.4±5.2 kg live weight) were utilized. The *in vivo* RTU images were made with an ALOKA 500V scanner equipped with a 5 MHz probe. The probe was placed over the 9th, 11th thoracic vertebrae and over the 1st, 3rd and 5th lumbar vertebrae. Images between 3-4^{a} sternebrae were also captured. All RTU images were analysed using the ImageJ software. With the images obtained on thoracic and lumbar the depth, width, perimeter and area of Longissimus dorsi muscle (LM) and the subcutaneous fat thickness above this muscle (SFL) were determined. At sternum, the subcutaneous fat depth (SFS) was measured. After slaughter the carcasses were stored at 4 ºC for 24 h. After this period the carcasses were divided and the left half was entirely dissected into muscle, dissected fat (subcutaneous fat plus intermuscular fat) and bone. Prior to the dissection measurements equivalent to those obtained *in vivo* with RTU were recorded. Using the Statistica 5, correlation and regression analyses were performed. The correlation between RTU and carcass measurements were significant (r >0.58, $P<0.01$) for all muscle measurements. For fat measurements only the RTU SFS was significantly correlated with carcass measurement (r=0.96, $P<0.01$). The RTU measurements can explain the kid goat carcass composition variation (r2 between 0.40-0.89; 0.24-0.58 and 0.31-0.83, $P<0.01$, for muscle, dissected fat and bone respectively). This research shows that RTU is able to *in vivo* measure LM but not the SFL, due to its small amount. It can also be concluded that RTU measurements can explain kid goat carcass tissue variation.