

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## ANESTHESIA PROTOCOL FOR DUAL ENERGY X-RAY ABSORPTIOMETRY EVALUATION IN GOATS

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Sedation is a mandatory practice that enables studies using dual energy x-ray absorptiometry (DXA), a noninvasive method for measuring body composition. In this context, the objective of this study was to propose an anesthesia protocol to enable *in vivo* DXA evaluation in goats of five or seven months of age fed *ad libitum* or not. We used nineteen castrated males Saanen goats: nine evaluated at five months of age (four fed *ad libitum* - AL and five at maintenance level - L), and ten at seven months of age (four fed AL and six at L). The average dry matter intake was 3.16% and 2.61% of the body weight (BW) for the AL and L groups, respectively. The anesthesia protocol consisted of the association between one sedative and one anesthetic inducer (i.e. xylazine at 0.3 mg kg<sup>-1</sup> and ketamine at 8.0 mg kg<sup>-1</sup>). For the dosage calculation was used the BW after fasting of solids and liquids for 24 hours. Ketamine was administrated intravenous ten minutes after xylazine administration (intramuscular via). Behaviors, such as vocalization, salivation, urination, sternal decubitus, total decubitus and total anesthesia recovery, were tracked. None goat presented regurgitation during the process or recovery. Before the DXA analysis, goats were positioned on DXA's table and the scanning started as soon as it was noticed unconscious sedation state. The experiment was completely randomized in factorial 2x2, with age and level as fixed effects. As expected, AL goats were heavier ( $P < 0.01$ ) than those feed at L five months of age ( $17.0 \pm 0.780$  vs.  $12.2 \pm 0.697$ ) and at seven months of age ( $25.2 \pm 0.779$  vs.  $18.5 \pm 0.636$ ). The time from xylazine application until total decubitus was not affected by age ( $6.29 \pm 0.61$  and  $6.00 \pm 0.67$  in goats aging five and seven months, respectively;  $P = 0.75$ ), by level of intake ( $6.29 \pm 0.61$  and  $6.00 \pm 0.67$  in goats fed AL and at L, respectively;  $P = 0.31$ ), nor the interaction of main factors ( $P = 0.27$ ). Indicating this protocol applicability for goats under the evaluated conditions. The observed behaviors did not differ statistically ( $P < 0.01$ ). The time from ketamine administration until total anesthesia recovery varied individually, ranging from 25 minutes to 1 hour and 56 minutes. To our knowledge this is the first anesthesia protocol to enable DXA evaluation in live goats, it may assist future researches in which the animal must be stationary.

**Keywords:** ketamine, sedation, small ruminant, xylazine

Promoção e Realização:



Apoio Institucional:



Organização:

