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Ruminant nutrition and production

Quantitative carcass evaluation parameters of lambs submitted to different high concentrate diets and body condition score

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The finishing of lambs in confinement from industrial crossbreeds, together with the use of high concentrate diets (HCD), is a possible way to increase sheep meat production. Measuring carcass temperature, pH, conformation and finish is therefore necessary, as these are important factors in meat quantity and quality. The aim of this study was to evaluate the temperature, pH, conformation and finish of the carcass of lambs under two body condition scores (BCS) and fed high concentrate diets in a feedlot system. The experiment was carried out in the semi-arid respirometry laboratory at Embrapa Caprinos e Ovinos, in Sobral-CE. Twenty uncastrated ½ blood Dorper x ½ blood Santa Inês lambs were used, weaned at 100 days of age and with an average weight of 19.47±3.61 kg. The design used was entirely randomized, in a 2 x 2 factorial arrangement, with two high concentrate diets (DAC I - low volume:concentrate ratio, 20:80 and DAC III - no or very low volume inclusion, standard form: pellet + whole grain corn) and two body condition scores (< 2.5 - low and > 2.5 - high). The pH and temperature were measured immediately after slaughter (pH and initial temperature) and after 24 hours of refrigeration (pH and final temperature). Conformation (ranging from 1 to 5, from poor to excellent) and fat finish (ranging from 1 to 5, from absent to abundant) were also assessed. The data was subjected to analysis of variance using the GLM procedure in the SAS statistical package at a 5% significance level. There was no interaction between high concentrate diets (DAC I and DAC III) and body condition score (low and high). There was also no individual effect of diets and BCS. However, for conformation, there was a higher value (3.6) for animals with a high BCS compared to those with a low BCS (3.0). The values observed for conformation indicate that the animals, especially those with a high SCC, were in the standard close to 4 (carcasses with excellent muscle coverage). It is important to note that the averages for initial temperature (37.8°C), initial pH (6.3), final temperature (8.1°C), final pH (5.5) and finishing (2.6) observed in this study are within the appropriate limits for sheep meat. Given the context presented in this work, we can conclude that there is no change in the temperature, pH and finishing values of the carcasses, however, regardless of the type of high concentrate diet provided (DAC type I and III), lambs with a high body score (>2.5) have better carcass muscularity, notably due to the higher conformation values observed.

Keywords: Physical aspects of meat, Feed efficiency, Nutrition, Sheep farming.

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