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Area of Work: Ruminant Nutrition and Production

Non-carcass components of lambs fed a diet containing spineless cactus with increasing levels of urea.

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The use of forage palm in sheep feed is a fundamental practice, especially for semi-arid regions such as the Brazilian Northeast, allied to this the use of urea to supply the protein deficiency of spineless cactus and hay as a fiber provider, alternatives that enable the fixation of man in the field due to its reduction in the cost of animal feed. The objective of this study was to evaluate diets based on spineless cactus with increasing levels of urea as a substitute for soybean meal in the non-carcass components of Santa Inês sheep in feedlot. A total of 40 non-castrated Santa Inês lambs with initial body weight of 22.2 ± 2.1 kg were distributed in a completely randomized design with four treatments and ten replications. The treatments consisted of four diets based on spineless cactus associated with increasing levels of urea (0, 7.3, 14.6 and 21.9 g/kg DM) as a substitute for soybean meal. To determine the weight of the heart, liver, lung, trachea, spleen, omental, mesenteric and inguinal fat of each animal, both were separated and weighed individually. Data were submitted to analysis of variance and Tukey's test ($P < 0.05$) using the SAS software. Among the non-carcass components, the heart and the amount of inguinal fat were not influenced ($P > 0.05$) by the diets. The weight of the liver ($P = 0.0298$), lungs plus trachea ($P = 0.0020$) and kidneys ($P = 0.0014$) decreased linearly, while the weight of the spleen was quadratically influenced ($P = 0.0315$), as well as the weight of mesenteric fat ($P = 0.0212$), omental fat ($P < .0001$), perirenal fat ($P < 0.0001$), with maximum values (0.083, 0.352, 0.656 and 0.341 kg), at the levels (7.3, 21.9, 21.9 and 0.0 g/kg DM) of inclusion of urea in the diet, respectively. As for the non-carcass components, the liver, lungs plus trachea and kidneys followed the same response of the average daily gain, while the weight of the spleen was quadratically influenced, with the lowest weight observed in animals fed at the level of 21.9 g/kg of urea in diets based on spineless cactus. It is therefore concluded that the growth rate of these organs and tissues not participating in the carcass is affected by the nutritional level of the diet. Insufficient nutrient availability may have limited adequate development, or the lack of synchrony between the availability of amino acids and peptides with energy supply may have compromised protein synthesis in tissues.

Keywords: *Opuntia stricta*, Ruminants, Santa Inês breed, Nitrogen Source

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