



## I-INTERNATIONAL MEETING OF ANIMAL SCIENCE IN SEMI-ARID REGIONS

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Área do trabalho: Nutrição e produção de ruminantes

### **Fatty deposits in goats fed with spineless cactus as an exclusive source of water**

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Goat species presents various adaptation and survival strategies to arid and semi-arid environments, such as the distribution of its body fat that occurs mainly in the abdominal cavity, acting as an energy reserve in situations of food shortage. However, it is important to highlight that excess internal fat deposition is undesirable as there is a need for increased energy for maintenance due to the higher metabolic rate of adipose tissue, promoting energy waste through the diet. Thus, it was aimed to evaluate the weights and yields of the omental, mesenteric, internal and perirrenal fats of goats fed with spineless cactus as the only source of water. The experiment was conducted at the Federal University of Alagoas (UFAL), Campus Arapiraca. Thirty-five castrated male goats with an initial weight of  $18.6 + 1.44$  kg and 8 months old were used. The goats were randomly distributed into 5 treatments, consisting of 2 levels of spineless cactus (25% or 55%), each level with or without access to desedentation water, plus a control treatment (cactus-free diet and with access to water). All treatments presented a forage:concentrated ratio of 80:20, varying only the levels of cactus (25% or 55%) and Tifton-85 hay (55% or 25%), however, only the control treatment did not receive spineless cactus. After 90 days of experiment, the animals were slaughtered and all organs, viscerals and fats (omental, mesenteric, internal and perirrenal) were weighed separately. The variables were subjected to statistical analysis in factor scheme  $2 \times 2 + 1$  control. There was no interaction between palm level and whether or not water was available for any of the assessed adipocyte deposits ( $P > 0.05$ ). There was greater deposition of omental, mesenteric, internal and perirrenal fats in goats receiving spineless cactus in the diet, regardless of access to water or not, compared to those of control treatment. The same happened with the total weight of the fat deposits (TWFD) in relation to the body weight at slaughter (TWFD:BWS%) and to the empty body weight (TWFD:EBW%). The spineless cactus has high levels of non-fibrous carbohydrates and is rapidly digestible, resulting in greater production of volatile fatty acids, especially propionate, allowing an increase in the availability of glucose and consequent body fat deposition. In goats, the main site of fat deposition is in the abdominal cavity, formed by the omental, mesenteric, internal and perirrenal fats, which is a strategy of survival of the species in situations of nutritional deficit. It is concluded that spineless cactus, in the proportion of 25 or 55%, can replace the drinking water without negatively affecting the fat deposits of goats.

**Keywords: non-carcass components, water restriction, omental fat, perineal fat.**

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