



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

Universidade Federal do Agreste de Pernambuco – UFAPE  
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Work Area: Nutrition and production of ruminants

### **Yield and carcass characteristics of lambs fed diets based on spineless cactus with increasing levels of urea.**

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Feedlot sheep production has emerged as a strategic nutritional management practice in semi-arid regions, ensuring year-round meat production. However, this practice increases production costs, which can be mitigated by using diets based on adapted forages and less costly protein sources. Spineless cactus has been widely used due to its adaptations and nutritional characteristics; however, low concentrations of crude protein (CP) have been observed. As an alternative, spineless cactus can be associated with less expensive nitrogen sources, such as urea. The objective was to evaluate the use of diets based on spineless cactus associated with increasing levels of urea as a replacement for soybean meal on the yield and carcass characteristics of Santa Inês sheep in feedlot. Forty non-castrated Santa Inês lambs were used in a completely randomized design with four treatments and ten replications. Hot carcass weight (HCW), cold carcass weight (CCW), gastrointestinal tract content (GTC), bladder and vesicle weight, and empty body weight (EBW) were obtained. Biological yield (BY), hot carcass yield (HCY), and cold carcass yield (CCY) were obtained using the following formulas:  $BY (\%) = (HCW/EBW) \times 100$ ;  $HCY (\%) = (HCW/body\ weight\ at\ slaughter) \times 100$ ;  $CCY (\%) = (CCW/body\ weight\ at\ slaughter) \times 100$ , respectively. After obtaining CCW, subjective evaluations of carcass conformation and finish were conducted, followed by morphometric measurements and calculation of carcass compactness indices. The determination of the relative regional composition of the carcass was performed by calculating the relative weight of each cut by the reconstituted weight of the left half carcass. Increasing levels of urea linearly decreased ( $P < 0.05$ ) average daily gain (ADG), body weight at slaughter, EBW, HCW, and CCW. However, GTC, HCY, CCY, and BY were not influenced ( $P > 0.05$ ). The diets also did not influence ( $P > 0.05$ ) subcutaneous fat thickness, carcass compactness index, as well as the results of fat conformation and finish assessment. Perirenal fat was quadratically influenced ( $P < 0.05$ ). Muscle and fat yield were not influenced ( $P > 0.05$ ), while bone yield was quadratically influenced ( $P < 0.05$ ). Neck, ribs, hindquarter, and leg yields were not influenced ( $P > 0.05$ ), but shoulder yield was quadratically influenced ( $P < 0.05$ ). Regarding HCY, CCY, and BY, these were not influenced due to the same decreasing linear response in the weight of non-carcass components, which, combined with the absence of effect on GTC and cooling loss, resulted in similar carcass yields. Diets based on spineless cactus associated with increasing levels of urea as a replacement for soybean meal reduce ADG and carcass weight in sheep without compromising carcass characteristics and yield.

**Keywords:** Santa Inês breed, feedlot, protein, supplementation.

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