



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

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Research Line: Ruminant nutrition and production

## **Physicochemical composition of meat from lambs fed with lipid sources associated with spineless cactus**

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The search for better quality sheep meat produced in conditions of semi-arid regions encounters difficulties in the supply of energy sources and regularity of forage production. Spineless cactus is rich in soluble carbohydrates and can be produced in most semi-arid regions. The use of Spineless cactus with protein and lipid sources can increase the supply and quality of meat. Furthermore, the presence of phenolic compounds in the spineless cactus associated with lipid sources can alter rumen modulation and produce better quality meat with reduced greenhouse gas emissions. In view of the above, the objective was to evaluate the effects of different lipid sources associated with cactus on the physical-chemical attributes of the meat and the chemical composition of *Longissimus lumborum* from 39 castrated sheep, with an initial body weight of  $21.58 \pm 1.43$  kg, in a experimental period that lasted 60 days. The treatments were different oil sources: full-fat corn germ, cottonseed and coconut peelings associated with the Spineless cactus, include others foods: Tifton-85 grass hay, ground corn and soybean meal. The experimental design adopted was completely randomized, with three treatments and thirteen replications. The animals were slaughtered at the end of the experimental period. The carcasses were cooled at 4°C for 24 hours; then, the pH and carcass characteristics were measured, and commercial carcass cuts were made. *Longissimus lumborum* was used to perform the physical-chemical analysis of the meat. The following meat color analyzes were carried out: Luminosity (L\*), red color intensity (a\*) and yellow color intensity (b\*) with the aid of a digital colorimeter, considering three measurements at different points of the muscle; weight loss due to cooking; shear force in texture analyzer; and water retention capacity, and the physical analysis of the pH of the meat using a digital pH equipment. The proximate composition of the meat was analyzed to determine the moisture, protein, fat and mineral content. There was no effect ( $P > 0.05$ ) of the addition of lipid sources in the diets on meat pH, L\*, a\*, b\*, weight loss, water retention capacity and shear force. The addition of fat sources to the diet had no effect ( $P > 0.05$ ) on the chemical composition of *Longissimus lumborum* from sheep when evaluated in relation to moisture, ash and proteins. However, the fat content was higher ( $P < 0.05$ ) for treatments with full-fat corn germ. Therefore, the bromatological composition of *Longissimus lumborum* proved the influence of lipid addition in the diet on the fat content in the muscle, especially in the treatment with the addition of full-fat corn germ.

**Keywords: Sheep, loin, composition.**

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