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Is it Possible to Influence Chemical and Technological Attributes of Eland Meat by Enriched Diet?

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Abstract

The eland (*Taurotragus oryx*) is a cattle sized African antelope commonly hunted for its meat with excellent farming potential. Unfortunately published meat attributes are limited. Therefore, the influence of enriched diet on the chemical and technological meat parameters of farmed eland was studied. Ten young bulls were divided into experimental ($n = 5$) and control group ($n = 5$). Diet of experimental group was enriched with feeding granules for period of 8 months. Both groups were fed with mixed diets based on maize, lucerne silages and cereal straw. *Musculus triceps brachii* (TB), *m. semimembranosus* (SEM), *m. pectoralis profungus* (PP), *m. longissimus thoracis et lumborum* (LTL) were dissected from slaughtered elands and analyzed. The enriched diet increased crude protein content ($p = 0.0251$), total fat content ($p = 0.0291$) and dry matter content measured on drying scales with infra-red radiator ($p = 0.0284$). The interaction between diet and muscle showed differences only in total fat content ($p = 0.0007$). The difference between muscles was proved ($p < 0.0001$) for crude protein content, total fat content, dry matter content, pH value, water-holding capacity (Grau and Hamm's filter paper press method, cook losses), colour and tenderness, measured as Warner-Bratzler shear force, all regardless on diet. Differences between the muscles were found regardless on diet between more valuable cuts (LTL, SEM) and less valuable cuts (TB, PP). The diet influenced chemical attributes, such as protein, total fat and dry matter content, but did not affect technological attributes, such as pH, meat colour, WHC and tenderness.

Keywords: Chemical attributes, eland, meat, nutrition, technological attributes