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Farmers' and academia's views"

Effects of wet and dry ageing on the physiochemical and sensory quality of common eland meat (*Taurotragus oryx*)

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Abstract

With a growing population and an increase in demand for meat, alternative protein sources including meat from game species, such as the African antelope, can supplement this need. Meat derived from local game meat species are in line with agroecological practices, as their production is extensive, the antelopes provide services to their local environment, are a source of nutrition, and strengthen the diversity and resilience of local food systems in East and Southern Africa. However, consumers do demand products of high quality that meet their nutritional and sensorial needs. Little is known about the common eland regarding optimising their meat quality for commercial consumption. In this study, the effects of wet and dry ageing on the physiochemical and sensory quality of common eland meat were investigated. The physical quality changes (pH, cooking loss, weep loss, CIE Lab colour, and WBSF) and the sensorial attributes of wet aged (vacuum-packaged) and dry aged longissimus lumborum (LL) muscles were evaluated for female (n = 6) common eland, during a 14-day post-mortem ageing period at 4°C. The dry aged LL muscle reached a shear force of 57.6 N, while the wet aged LL muscle reached a shear force of 63.3 N. These values are typical for game meat, however, the meat would be considered as tough by the average consumer (> 49N). The weep loss of the dry aged muscles were higher than of the wet aged meat, but improved the flavour of aged eland meat by decreasing the abnormal aroma intensity and liver flavour compared to the wet aged LL muscle. The dry aged LL muscle scored higher in overall acceptability, even though the specific differences in tenderness between the two ageing techniques were not noted by the sensory panel. Thus, while ageing did improve the tenderness of the LL muscle, dry ageing showed favourable flavour development.

Keywords: Game meat, longissimus lumborum, meat quality, taurotragus oryx, tenderness

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