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“Development on the margin”

Effect of Ageing on Chemical Composition and Quality of Desert Camel Meat (*Camelus dromedarius*)

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Abstract

The present work investigates the effect of ageing on chemical composition and quality of the one humped desert camel meat (*Camelus dromedarius*). A total of 7 she-camels (3–4 y-old) fattened by the local camel herders and slaughtered following the normal abattoir procedures in the Sudan. Longissimus thoracis (LT) muscle were obtained from the left carcass sides of all camels, divided into 4 portions, stored at 1–3°C and aged for 1, 3, 5, and 7 days. Chemical composition, pH, drip loss (DL), water holding capacity (WHC), meat colour, fat peroxidation (MDA), vitamin E and myosin heavy chain (MyHC) isoforms were investigated. Ageing of camel longissimus dorsi muscle influenced significantly ($p < 0.001$) moisture, crude protein, and intramuscular fat. The separation of different MyHC isoforms by electrophoresis SDS-PAGE revealed two MyHC isoforms (MyHC I and MyHC IIa) in camel LT muscle with mean percentages of 64.1% and 35.9%, respectively. Significant differences were found during ageing in pH, MyHC types I and IIa, colour, and WHC, however, significant differences were found in drip loss. The formation of MDA increased after 3 days of ageing from 0.08 $\mu\text{g}/\text{g}$ in day 1 to 0.24 $\mu\text{g}/\text{g}$ in day 7 with no significant differences. Camels LT muscle was found to be rich in vitamin E (17.8 $\mu\text{g}/\text{g}$) compared to previous studies in bovine. Ageing did not affect vitamin E significantly and possibly could be suggested as an effective antioxidant against fat peroxidation in camel meat.

Keywords: Desert camel, longissimus thoracis, meat quality