

CAMEL MEAT PRODUCTION AND QUALITY: A REVIEW

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ABSTRACT

Approximately 250,000 thousand camels are slaughtered annually in different countries. About 50% of the camels slaughtered are young males aged around 4 years. The camel meat is described as tough, coarse, watery and sweetish in taste compared to meats from other animals. However, evidence suggests that quality characteristics of camel meat are not much different from beef if animals are slaughtered at comparable ages. In some of the African and Asian countries, camel meat has been used for its medicinal properties. Based on recent FAOSTAT (2015) database, in 2013 global camel meat production reached 539,100 Tonnes. Region wise Africa was leading with 416,292 Tonnes produced, followed by Asia (122,608 Tonnes) and Europe (200 Tonnes). Camel meat is much better than beef in that it has lesser fat than all the other red meats such as beef and mutton. Camel lean meat contains about 78% water, 19% protein, 3% fat and 1.2% ash with a small amount of intramuscular fat. Camel meat has a comparable essential amino acid contents to beef, lamb and goat meat. The camel hump is important and commonly used for cooking in camel producing countries. On fresh weight basis, the camel hump contributes about 64.2-84.8% fat with very high content of saturated fatty acids of about 63.0%. The semitendinosus muscle in the dromedary and bactrian camels had more magnesium than infraspinatus, triceps brachii, longissimus thoraces and biceps femoris muscles. The semitendinosus and semimembranosus muscles had more iron than other muscles in dromedary. The male camels should be slaughtered between 1 to 3 years of age. This might be due to that less than 3 year of age, camels were not yet fully-grown (60-70% of full live weight), therefore, their meat is tender. A high ultimate pH in camel muscles is a consequence of low muscle glycogen as a result of pre-slaughter stress, including, poor nutrition, rough handling and long transportation. Muscle structure, glycogen concentration, collagen content, solubility and the activities of proteases and their inhibitors are the most important physiological parameters affecting meat tenderness. Water retention in meat is primarily caused by immobilisation of water within the myofibrillar system. The volume of the camel meat was reduced by 44.3% and weight by 48.2% after boiling in water for 40 min. The age of the camel has a significant effect on their meat colour (Kadim *et al*, 2006). Meat colour from 6-8 and 10-12 year old camels was darker (lower L^*), redder (higher a^*) and yellower (high b^*) than 1-3 year old camels because of higher concentrations of myoglobin. Camel meat is rich in many essential amino acids, minerals, vitamins, bioactives compounds such as carnosine, anserine, glutathione and essential fatty acids such as omega 3 fatty acids. Meat in general is considered a functional food for cures of many ailments and for improved performance in many cultures around the world. Camel meat has been processed into burgers, patties, sausages and shawarma to add value. The nutritional value of camel meat is similar to other red meats.

Key words: Camel, meat production, quality