Chapter 12
Camel Meat Production, Structure, and Quality

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ABSTRACT

This chapter aimed to discuss population, meat production, and quality characteristics of camels. Camels are considered environmentally friendly and well adapted to the desert's harsh arid and semiarid environment due to their high movability, adequate fodder demand, and water regulation. Camels are most populous in the East Africa and Middle East. Although approximately 250,000 camels are annually slaughtered in many countries and camels as a producer of meat is becoming much more significant, camel meat market has not yet developed. In 2019, the global camel meat production in Africa was leading with 419,933 tonnes production, followed by Asia (210,000 tonnes) and Europe (179 Tonnes). An important feature that characterizes camelid meat products is the low level of intramuscular and subcutaneous fat compared to red meat sources. Pre- and post-mortem factors should be carefully considered to improve camel meat quality characteristics. According to the health aspects and quality of camel meat, it can be successfully marketed alongside cattle, dear, sheep, and goat.

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INTRODUCTION

The Camelidae is divided into Camelinae (dromedary and Bactrian) and Laminae (guanaco and Ilama) and Vicugna (vicuna and alpaca) (Saadoun & Cabera, 2008). The dromedary camel is mainly found in the Middle East, Asia and Africa, and Bactrian is prevalent in China, Russia, Kazakhstan and in central Asia. Camels are generally found in remote areas, mostly arid lands or high mountains, and the most numerous camel species (90%) in the world are the dromedaries (Kadim, Mahgoub & Purchas, 2008). The historical background of camels has been discussed in details in chapter 1. According to FAOSTAT, (2019), between 2000 and 2017, approximately 35 million camels in the world have enlarged in number by 72%, while camel meat production increased by 81%. Camel meat is mainly exported from the Horn of Africa to the Arabian Peninsula and from Western Africa to countries of Northern Africa (Faye, 2013). For many countries, camels are significant to the markets by providing quality food products. Due to increase of the human population, camel meat can accomplish the growing demand for meat sources (Saparov & Annageldiyev, 2005).

Camels are considered environmentally-friendly and very well adapted to desert harsh arid and semi-arid environment (discussed in chapter 17) because of their high movability, adequate fodder demand and water regulation. Globally, in terms of population, camels are most populous in the East Africa (Horn of Africa) and Middle East (see chapter 1), with eight of the top ten leading camel producers are in Africa. These are Somalia, Sudan, Kenya, Niger, Chad, Mauritania, Ethiopia, Pakistan, Mali and Yemen.

Meat quality characteristics of camel are described as tough, watery, and coarse in taste compared to other red meats (Kadim et al. 2008). However, many studies revealed that at similar ages, quality parameters of camel meat are compatible to beef (Kadim et al. 2008). An important feature that characterizes most camelid meat products is the low level of intramuscular and subcutaneous fat compared with many other red meat sources (Kadim et al., 2008). Currently, camelid meat products are receiving increased interest, not only in countries raising camels but also on a worldwide scale, owing to the meat unique health beneficial features (Chapter 13). Therefore, many countries of Asia and Africa started to consume camels' meat. A thorough understanding and optimization of the production steps for camelid meat products, including conservation and processing, are essential for successful upgrading, industrial implementation and marketing of camelid meat. Marketing the nutritional values of camelid meat products are a promising future perspective that can be used as a tool to enhance the value of quality camel meat. The nature of the meat characteristics outlined here, along with the ability of camels to thrive under conditions that may be a challenge to many other meat-producing species, suggest that meat production from camels has a valuable role to play in helping to meet future demands for meat. Almost 250,000 camels are annually slaughtered in many countries. However, camel meat market has not yet developed. Future research is needed for using the prospects of the camel as a meat source by broad spectrum research into effective production system, and enhanced meat technology. Some features of dromedary camel meat with distinctive emphasis on number of camel, meat manufacture, meat value characteristics and health aspects have been summarized in this chapter.

WORLD CAMEL POPULATION

Camels are mainly owned by nomadic people and pastoralists who are constantly moving in pursuit of pasture, therefore, it is difficult to exactly determine the number of camels in the world (Faye, 2013).