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## Chemical and Nutritional Characteristics of Traditional Meat Products of Borana Community in Marsabit County, Kenya

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### Abstract

The Borana community, who are pastoralists in northern Kenya, has well established traditional meat processing and preservation practices. The preserved meat products help to contribute to household food security, particularly during periods of droughts. The meat products are produced mainly from cattle (*Bos indicus*) goat (*Capra hircus*) and camel (*Camelus dromedarius*) meat. The processing of these products involves the use of preservation techniques such as striping, drying and heating, with or without the use of various added ingredients. However, upscaling of the traditional meat conservation has been constrained by lack of adequate information on the nutritional content and quality of the products. The objective of this study was therefore, to determine the nutritional composition and indicators of spoilage in traditional meat products of the Borana Community in Marsabit County, Kenya.

Traditionally processed meat samples were collected in Marsabit County. The proximate composition, quality indices and mineral content of the samples were analysed using the methods of the Association of Official Analytical Chemists (AOAC).

The result showed that traditional meat products were high in protein, with mean contents ranging from 55.8–72.5%. The minerals calcium, magnesium, iron and potassium ranged from 35.8 – 110 mg/100 g, 52.8 – 60.7 mg/100 g, 4.5 – 7.4 mg/100 g, and 701 – 826 mg/100 g, respectively. The fatty acid composition showed that traditional beef and goat meat products contained good amount of monounsaturated oleic acid at mean levels of 37.2% and 39.2% respectively. The linoleic acid content for the same products was 13.3% and 13.5%, respectively. Peroxide Value (PV), ranged from 1.8 – 2.6 mg Eq. kg<sup>-1</sup>, acid value was 0.01% while Thiobarbituric Acid (TBA) ranged from 0.32 – 0.52 mg malondialdehyde (MDA) kg<sup>-1</sup>. The PV, acid value and TBA levels were below the value associated with meat spoilage during the expected shelf life. Hence there is good potential for upscaling of the production of these traditional meat products including exploring options for packaging and selling products to increase income while contributing towards improved food security among the community.

**Keywords:** Borana, drying, Marsabit, meat, nutrition composition, quality, traditional