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Fatty acid composition and cholesterol distribution in edible tissues of long-horned Ankole cattle

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Highlights

- First report on fatty acid and cholesterol profiles of Ankole cattle meat.
- Brisket and round cuts had the lowest fat and cholesterol levels.
- Monounsaturated fatty acids were the most abundant.
- Kidney, liver, and heart had healthier fat profiles (lower cardiovascular risk).

Abstract

Ankole cattle is a vital genetic resource and an economic asset in East and Central Africa, usually reared for their beef and milk. For the first time, the total lipid content, fatty acid composition and cholesterol concentration in beef of Ugandan long-horned Ankole cattle were determined using gas chromatography-mass spectrometry and high performance liquid chromatography. Significant variations in the total lipid content, fatty acid composition and cholesterol concentration were observed among the different samples, with the liver and kidneys possessing the highest values ($P < 0.05$). The fatty acid composition followed the order: monounsaturated fatty acids> saturated fatty acids > polysaturated fatty acids. Nutritional indices indicated that the kidney, liver, and heart had better fatty acid compositions. In contrast, the rib, large intestine, and chuck had higher atherogenic and thrombogenic indices, which may be associated with increased risks of cardiovascular diseases when consumed.

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Keywords

Cholesterol; Fatty acid; Thrombogenic index; Watusi cattle