CARPATHIAN JOURNAL OF FOOD SCIENCE AND TECHNOLOGY

journal homepage: **http://chimie-biologie.ubm.ro/carpathian_journal/index.html**

FATTY ACID PROFILE AND PROXIMATE COMPOSITION OF SIRLOIN AND CHUCK OF SELECTED ETHIOPIA CATTLE TYPES

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https://doi.org/10.34302/crpjfst/2024.16.2.4

Article history:
Received: January 22nd, 2024
Accepted: June 2nd, 2024

Keywords:
Fatty Acid Profile;
Beef;
Sirloin;
Chuck;
Principal component analysis.

ABSTRACT

The fatty acid composition of beef meat is important for nutrition and human health. This study examined the composition of sirloin and chuck of beef from three cattle breeds in Ethiopia (Boran, Senga, and Sheko). Twelve bulls aged 18 to 24 months were used, and standard methods were employed to measure various parameters. The results showed that moisture content ranged from 64.32±0.29% in Boran sirloin to 66.47±0.13% in Sheko sirloin, crude fat ranged from 10.79±0.36% in Sheko chuck to 13.25±0.38% in Boran chuck, and crude protein ranged from 21.65±0.50% in Senga sirloin to 26.83±0.78% in Boran chuck. The color evaluation revealed L* values of28.20±3.09 to 32.52±1.70 for senga chuck and Boran chuck, a* values of 5.18±0.88 to 9.35±2.96 for Boran sirloin and Senga chuck, and b* values of 2.24±1.47 to 4.33±1.05 for Sheko sirloin and Senga sirloin. The dominant fatty acid was Palmitic acid (C16:0), comprising 24.64% to 31.60% of the total. The study found that the sirloin cut had significantly higher levels of monounsaturated fatty acids (42.38%) and lower levels of polyunsaturated fatty acids compared to the chuck cut. In conclusion, Sheko beef had highermoisture content, while Boran beef had higher levels of crude protein and fat compared to Senga and Sheko. Principal component analysis (PCA) identified fatty acid profiles as the main factors influencing variation amongcattle breeds. This research provides valuable information for cattle breeding and meat quality improvement efforts in Ethiopia and beyond.