



Po4. Comparison between semi-intensively and intensively grown beef

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ABSTRACT

Extensive production system of beef is sought for improved animal welfare but there are environmental sustainability issues^{1,2}. This work was developed in the framework of a project aiming to create a decision support service for integrated sustainability management in extensive livestock production. The goal of this work was to chemically characterize beef from extensive, semi-intensive and intensive systems to identify nutritional differences between production systems. A total of more than twenty samples of meat, from both production systems, were collected from controlled producers through a retailer that guarantees traceability of the samples. Analysis to total fat content, fatty acids profile, cholesterol and α -tocopherol content have shown that there are variability along the year in meat from the same producer as expected. Comparing means, semi-intensive meat have higher amount of PUFA (polyunsaturated fatty acids) in percentage of total fatty acids, and equal amount of SFA (saturated fatty acids) than intensive meat. However, semi-intensive meat have lower amount of total fat. α -tocopherol content varies as well along the year for both production systems, with intensive meat presenting a tendency to have higher values in average, although this difference is not significant. Cholesterol is the component with less variation along the year as well as between samples with values around 300 $\mu\text{g/g}$ of fresh meat for both production systems. Thus, apparently besides the fat content and profile there are no significant nutritional differences between production systems, although it is necessary to increase the number of samples to achieve a more constant quality level for each type of system.

KEYWORDS: Meat production systems, Beef quality, Portuguese beef