



Fatty acid composition, including isomeric profile of conjugated linoleic acid, and cholesterol in Mertolenga-PDO beef

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Abstract: This paper describes the fatty acid composition, including the isomeric distribution of conjugated linoleic acid (CLA), total lipids and cholesterol in *longissimus dorsi* (LD) and *semitendinosus* (ST) muscles of Mertolenga beef from young bulls reared according to Protected Designation of Origin (PDO) specifications. Mertolenga purebred young bulls ($n = 30$) were raised in a semi-extensive production system, including a finishing period on concentrate feeds for the last 5 or 3 months (October and June samplings, respectively). Mertolenga-PDO beef showed seasonal changes in the levels of some fatty acids (including the predominant 18:2n-6), sums of *trans* fatty acids and n-3 polyunsaturated fatty acids, some CLA isomers (t11,t13, t11,c13 and t10,c12), sums of geometric groups of CLA isomers and total cholesterol. In addition, significant differences were obtained between LD and ST muscles for most of the analysed parameters. From a nutritional perspective, beef-PDO from June seems to be more healthful than that from October as a consequence of its lower n-6/n-3 ratio. Moreover, the results suggest that the polyunsaturated fatty acid/saturated fatty acid ratio in the ST muscle is consistently above the recommended guideline for human diets, although the values were below that guideline for the LD muscle. Taken together, the data indicate that, although the finishing period of Mertolenga young bulls on concentrate attenuates most of the beneficial grass effects on meat fat throughout the year, beef-PDO from late spring is of greater nutritional value than that from early autumn.

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Keywords: Mertolenga-PDO; meat quality; total lipids; total cholesterol; fatty acids; CLA isomers

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