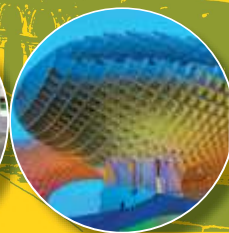


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### BOOK OF ABSTRACTS

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## Fatty Acids Composition of *Longissimus lumborum* Muscle from Alentejano Pigs Finished under Free-range Conditions

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The Alentejano pig is an autochthonous swine breed from southern Portugal. Traditionally, Alentejano pigs are raised under extensive conditions in an agro-silvo-pastoral system and finished on grass and acorns during fall/winter months, period known as „montanheira“. Alentejano pigs are characterized by high lipogenic activity since the early stages of development and high deposition of intramuscular fat (IMF). The IMF of finished Alentejano pigs shows a particular fatty acid (FA) composition, which makes their products highly appreciated by consumers. However, in „montanheira“ system there is a high diversity in terms of feed availability and composition, age and body weight at slaughter, and fatness, which can affect the IMF content and its FA composition. The objective of this work was to characterize the IMF content and its FA composition in a large number of Alentejano pigs fattened in „montanheira“ in commercial farms. In February/March 2017, *Longissimus lumborum* muscle samples of Alentejano pigs raised under uncontrolled production conditions were collected from 242 animals (108 females and 134 males). Carcass weights ranged from 108 to 194 kg. Intramuscular lipids were extracted using dichloromethane:methanol (2:1, v/v) and FA methyl esters were transesterified by sequential basic and acid catalysis and analysed by gas chromatography. A high variation was detected in IMF content, ranging from 15 to 146 mg/g muscle. As expected, oleic acid (c/9-18:1) was the main FA, ranging from 42.0 to 55.4 g/100g total FA. Saturated fatty acids varied between 31.0 and 45.6 g/100g total FA, being mainly composed by palmitic (16:0; 20.2-32.9 g/100g total FA) and stearic acids (18:0, 6.37-11.1 g/100g total FA). Polyunsaturated fatty acids ranging from 3.55 to 10.3 g/100g total FA, being dominated by linoleic acid (18:2n-6) which varied between 3.08 and 8.36 g/100g total FA. Proportion of linolenic acid (18:3n-3) was < 1 g/100g total FA. To the best of our knowledge, this study is the first large scale characterization of IMF content and FA composition of Alentejano pigs finished in „montanheira“, with results revealing a high individual variation.

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