CHARACTERIZATION OF THE FATTY ACIDS PROFILE IN EXTRA VIRGIN OLIVE OILS FROM THE DOURO REGION

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Introduction
The Douro region is traditionally known for its Port wine production, but other cultures might also benefit from characterization and adequate dissemination. In this sense, the olive oils of this region are being characterized, defining their intrinsic characteristics and quality attributes. As part of this project, we aim to define the compositional range of fatty acids in olive oils from this region, naturally influenced by the specific geographical environment, including natural and human factors.

Aim
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Methodology
Sampling consisted of independent extra virgin olive oils (N = 57) from different areas of the Douro region, NE Portugal, collected in 2020. The analysis of the fatty acid profile was performed according to the current European standard for oils and fats (ISO 12966-2:2017). Briefly, a cold derivatization was performed to undergo a transesterification and originate the methyl esters further identified by gas chromatography with flame ionization.

Results
The relative proportion of the most abundant fatty acids: oleic acid (64.7 – 74.5%), palmitic acid (10.7 – 15.7%) and linoleic acid (7.0 – 13.7%) are indicative of a high variability between samples, but all fatty acids were within the ranges for authentic extra-virgin olive oils according to the Regulation (EEC) No. 2568/91 [1]. The relative percentage of total trans fatty acids was reduced (< 0.08%) which is consistent with a low temperature extractive process.

Conclusion
This assessment contributes for enhancing the knowledge of the olive heritage from the Douro region. These results are a starting point for the overall characterization of olive oils in this region and tentative certification as a PDO i.e., “Protected designation of origin”.

References

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