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P.017. Chromatographic analysis of the effects of gamma irradiation on organic acids composition of wild *Boletus edulis* and *Hydnum repandum*

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The Northeast of Portugal is one of the European regions with higher wild edible mushrooms diversity, which are commonly collected for consumption for being a good source of digestible proteins, carbohydrates, fibers and vitamins. Recently, our research group developed a chromatographic methodology for analysis of organic acids in mushrooms [1]. These compounds play a determinant role in maintaining food quality and organoleptic characteristics (e.g., fruits and vegetables), and have also been used in quality control [2]. Moreover, the nature and concentration of organic acids are important factors in mushrooms flavor [3].

The present work reports the use of the developed chromatographic methodology in the study of the effects of gamma irradiation on organic acids composition of two wild species highly appreciated in the Northeast of Portugal: *Boletus edulis* Bull.:Fr. and *Hydnum repandum* L.:Fr.. The fruiting bodies were collected in Trás-os-Montes (Northeast of Portugal) in November 2012, and the irradiation was performed in a Co-60 experimental chamber, using 1 and 2 kGy as radiation doses (non-irradiated samples were used as controls). The organic acids were analysed by ultrafast liquid chromatography coupled to a photodiode array detector (UFLC-PDA).

The obtained profiles were different between the two studied mushrooms, particularly in what regards malic acid, which was absent in *B. edulis*. However, citric acid was the predominant organic acid, except in *H. repandum* samples irradiated with 2 kGy. Irradiated samples (excluding oxalic acid in *B. edulis*) presented higher organic acids values. This indicates that, up to the doses used in this work, gamma irradiation might represent a useful technology for organic acids preservation in mushrooms.

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