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P92. Chromatographic analysis of macro and micronutrients in the most widely appreciated cultivated mushrooms

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More than 3000 mushrooms are said to be “prime edible species”, of which only 100 are cultivated commercially, and only ten of those on an industrial scale. Their global economic value is nevertheless now staggering, and a prime reason for the rise in consumption is the above mentioned combination of their value as a food (equilibrated macro and micronutrients) [1] as well as their medicinal and nutraceutical values [2,3]. The present work reports and compares the chemical composition and nutritional value of the most consumed species as fresh cultivated mushrooms: *Agaricus bisporus* (White and Brown mushrooms), *Pleurotus ostreatus* (Oyster mushroom), *Pleurotus eryngii* (King oyster mushroom), *Lentinula edodes* (Shiitake) and *Flammulina velutipes* (Golden needle mushroom). Nutritional value was accessed through the composition in macronutrients determined following standard procedures; individual profiles in sugars and fatty acids were obtained by HPLC-RI and GC-FID, respectively. Micronutrients such as vitamin E were also analysed by HPLC-fluorescence. Shiitake revealed the highest levels of macronutrients, unless proteins, as also the highest sugars, tocopherols and PUFA levels, and the lowest SFA content. White and brown mushrooms showed similar macronutrients composition, as also similar values of total sugars, MUFA, PUFA and total tocopherols. Oyster and king oyster mushrooms gave the highest MUFA contents with similar contents in PUFA, MUFA and SFA in both samples. They also revealed similar moisture, ash, carbohydrates and energy values. This study contributes to the elaboration of nutritional databases of the most consumed fungi species worldwide, allowing comparison between them. Moreover it was concluded that cultivated and the wild samples of the same species have different chemical composition, including sugars, fatty acids and tocopherols profiles.

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