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Effects of cooking process on the chemical composition and functional properties of sweet potato

Worldwide, sweet potato is considered the sixth most important food crop. Alongside with its nutritional value, it is also recognized as a healthy and functional food due to the bioactive compounds present in its chemical composition. Lira is a variety of sweet potato cultivated in south Portugal, Aljezur. It is considered a product of Protected Geographical Indication (PGI) due to its distinctive features, longstanding tradition of cultivation and the fact that, it is grown in a specific region. The consumption of sweet potato is essentially undertaken after being cooked. The characteristic aroma is chemically dominated by the presence of furan derived compounds produced by Maillard reaction. This work involved the qualitative and quantitative study of aroma composition to compare the effect of cooking processes-baking, boiling and microwaving-on chemical composition and some functional properties of sweet potato. Using Head Space (HS) and Direct Immersion (DI) Solid Phase Micro-Extraction Gas Chromatography Coupled to Mass Spectrometry (SPME-GC-MS) analysis, 2-furaldehyde, 2-acetylfuran, benzaldehyde, 5-methylfurfural, phenylacetaldehyde and furfuryl alcohol were identified in the aromas of cooked Lira sweet potato. Differences of composition and content were shown to be dependent on the cooking process. The study illustrates how food processing may change chemical composition of food. Because humans are what they eat, the study contributes to verify how cooking choices may influence human health and well-being.

Biography

Elvira M Gaspar has completed her PhD from New University of Lisbon. She is currently working as Assistant Professor in the New University of Lisbon and is well-known for her research in the areas of Analytical and Green Chemistry. She has completed her Doctoral research working at Faculty of Sciences and Technology in University of Lisbon. She has been Regent and Professor of different disciplines of Chemistry Department of Faculty of Science and Technology of New University of Lisbon including Organic Chemistry, Chemical Information and Documentation. She is also serving as the Member of Scientific Board of Brazilian Publication: *Orbital-The Electronic Journal of Chemistry*.

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