

21. Production of Phenol-Enriched Olive Oil

Fereidoon Shahidi and Apostolos Kiritsakis

Book Title

Kostas Kiritsakis and Dimitrios Gerasopoulos

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Olives and Olive Oil as Functional Foods: Bioactivity, Chemistry and Processing

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Abstract

The option of olive oil enrichment with phenols in order to achieve a higher phenolic content is of great importance, as it is necessary to increase the daily intake of these beneficial compounds without increasing caloric intake at the same time. The total phenolic content is affected by the extraction technique employed and the conditions applied. Mechanical procedures include the phases of crushing, malaxation, and extraction. Each part of the process, together with the fruit characteristics, specifies the formation of volatile compounds and the release of phenolic antioxidants, which greatly influence the quality of virgin olive oil (VOO). A rich source of the desired compounds is the main by-product of the olive oil extraction process, olive cake. It is possible to extract the main phenolic compounds from olive cake, in order to enrich olive oil, using new extraction procedures that allow reduction of the extraction time and solvent consumption while increasing the efficiency of extraction.