Products from Olive Tree, a new publication with updated information on olive oil and table olives

InTechOpen has published Products from Olive Tree, a new publication composed of 17 monographic chapters organized in seven sections that presents updated information on olive oil and table olives related to production, composition, quality, consumption, innovation and health benefits of both foods.

The main olive tree products are olive oil and table olives. They are both integral components of the dietary pattern known as Mediterranean diet. In the last decade, they have been the subject of intensive research over a short period of time because of the growing interest in this diet and its health benefits. Today it is universally recognized that many important constituents of olive oil and table oils, both triacylglycerols and non-glyceride components, are related to lower levels of systematic inflammation and lower rates of diseases such as cardiovascular heart disease, certain types of cancer and diabetes; they may also have an effect on cognition. Information accumulated from studies on olive oil and olive fruit composition focuses now mainly on the minor bioactive constituents. In light of new evidence, new proposals have recently appeared. These proposals aim at modifying and improving the technology of production to avoid significant losses of bioactive constituents due to

processing and storage. This book presents updated information related to two important olive tree products: olive oil and table olives. Olive-milling wastes as sources of hydroxytyrosol, an important biophenol, are also discussed.

The book is composed of 17 monographic chapters and organized in 7 sections:

Section 1: Bioactive Compounds in Olive Oil

Section 1 contains Chapter 1 ‘Squalene, a Trove of Metabolic Actions’. Squalene’s concentration is uniquely high in olive oil (up to 0.7 %) as compared to other vegetable oils and animal fats. This important phytochemical and its action may help to explain the

protective role of virgin olive oil. New connections between nutrition and gene expression upregulated by squalene administration are highlighted.

Section 2: Olive Oil Production, Composition and Quality

Section 2 has Chapters 2–7.

Chapter 2 ‘Improvement of Olive Oil Mechanical Extraction: New Technologies, Process Efficiency and Extra Virgin Olive Oil Quality’ explores the innovations introduced in the oil extraction, which improve the working efficiency of the production system and preserve volatiles and phenolic compound concentrations that are strictly related to the health and sensory properties of the product.

Chapter 3 ‘Ultrasound in Olive Oil Extraction’ presents ultrasound application and recent innovations in the virgin olive oil extraction process.

Chapter 4 ‘Stabilization of Extra-Virgin Olive Oil’ focuses on the technologies recently proposed for the removal of suspended solids and the water from stored extra-virgin olive oil.

Chapter 5 ‘Chlorophylls and Carotenoids in Food Products from Olive Tree’ is an updated overview about the chlorophyll and carotenoid pigments present in olive fruits and their products. Chlorophyll and carotenoid pigments present in olive fruits change during the processing of table olives according to the main styles of preparation due to the different reaction mechanisms, which occur during the debittering process. Chlorophyll concentration is a key element in the photo-oxidation of virgin olive oil.

Chapter 6 ‘Pigments in Extra-Virgin Olive Oil: Authenticity and Quality’ concentrates mainly on the analytical methods applied to identify and quantify olive oil pigments. Modern chromatographic and spectroscopic techniques are useful tools in the evaluation of authenticity and quality of extra-virgin olive oil.

Chapter 7 ‘DNA-Based Approaches for Traceability and Authentication of Olive Oil’ provides an overview of methods based on DNA analysis that have gained attention in recent years. The reliability and reproducibility of these techniques depend on the quality of the trace amounts of DNA extracted from oil samples. A significant number of DNA isolation published protocols and commercial kits for olive oil DNA extraction are discussed.

Section 3: Consumers' Perception

Section 3 contains Chapters 8 and 9.

Chapter 8 'Evaluation of the "Harmony-Value" A Sensory Method to Discriminate the Quality Range within the Category of EVOO' proposes an extended and reproducible organoleptic profile sheet, apart from the official panel test, with the aim to discriminate oils between different quality levels within the range of extra-virgin olive oil. This more detailed description is important for the evaluation of an additional quality criterion, the so-called harmony-value.

Chapter 9 'Consumer Perception, Attitudes, Liking and Preferences for Olive Oil' analyzes the factors that influence consumers' perceptions, attitudes and preferences for olive oil. Olive growers and olive oil manufacturers and marketers can utilize these insights in order to develop products in line with consumer needs and demands, especially extra-virgin olive oil (EVOO) and virgin olive oil (VOO).

Section 4: Oils with Protected Designation of Origin

Section 4 contains Chapters 10 and 11.

Chapter 10 'Olive Oils with Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI)' discusses PDO/PGI certification and labelling of olive oil. The need for future analytical studies is stressed to indicate that better cultivation and industrial processes associated with PDO/PGI certification result in lower levels of agrochemicals in the final product.

Chapter 11 'Geographical Indication Labels in Moroccan Olive Oil Sector: Territorial Dimension and Characterization of Typicality. A Case Study of Meknès Region' is an extended study of a Moroccan olive-growing area, which looks forward to acquire a geographical indication label. A four-stage methodological approach is presented, which includes excellent chemical work necessary for the oil's characterization and typicality.

Section 5: Innovations in Table Olives Production

This section contains Chapters 12 and 13.

Chapter 12 'Modern Techniques in the Production of Table Oils' is a general review of processing techniques applied today to improve the quality characteristics of table olives.

Chapter 13 ‘How Biotechnology Can Improve a Traditional Product as Table Olives’ examines how microbial starters, selected for specific technological and safety traits, can be used to improve organoleptic characteristics and ensure the maintenance and/or improvement of nutritional and healthy features of the product. Table olives as a carrier of microorganisms with probiotic characteristics are also discussed.

Section 6: Olive-Processing Wastes

Section 6 contains Chapters 14 and 15.

Chapter 14 ‘The Possibility of Recovering of Hydroxytyrosol from Olive Milling Waste Water by Enzymatic Bioconversion’ analyzes an innovative approach to obtain liquid fractions from olive oil waste water (OMW) rich in hydroxytyrosol, an important bioactive phenol. These fractions are further enriched in hydroxytyrosol by ultrafiltration.

Chapter 15 ‘A Brief Review on Recent Processes for the Treatment of Olive Mill Effluents’: In this chapter, the state of the art of oil mill effluent management is presented, with a focus on biological and advanced oxidation processes.

Section 7: Regional Studies

Section 7 contains Chapters 16 and 17.

Chapter 16 ‘Olive Oil in Brazil: Economic and Regulatory Control Aspects’ is an overview of the economic, regulatory and inspection aspects in Brazil, one of the world’s main importers of olive oil. The expansion of the market and the commercial production outlook have intensified efforts to improve control of this product and enable laboratories to monitor quality and authenticity.

Chapter 17 ‘Tocopherols: Chemical Structure, Bioactivity and Variability in Croatian Virgin Olive Oils’ presents research work on the tocopherol content and composition variability in virgin olive oils of the most widespread Croatian cultivar ‘Oblica’.

It is hoped that this book will be a source of special value to food scientists, biotechnologists, olive growers and producers, legislators, nutritionists, dieticians, researchers in the area of food chemistry and also members of the general public and especially consumers who are interested in the benefits of a healthy diet .The editors express their gratitude to the

contributors. Their experience and research work they have conducted are a guarantee for objective state-of-the-art reviews on the matters discussed.

Lien article : http://en.mercacei.com/noticia/1445/news/products-from-olive-tree-a-new-publication-with-updated-information-on-olive-oil-and-table-olives.html