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The influence of the operating conditions adopted during the extraction on the qualitative and typical characteristics of Tuscan mono-varietal oils (Moraiolo, Leccino, Frantoio)

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In the last years, many studies have been performed to remark and describe the safety and nutritional quality of extra-virgin olive oil, with particular attention to the role ascribed to its wealth of bioactive compounds (polyphenols, tocopherols, etc.) in preventing oxidation of the lipid components and, therefore, the formation of free radical damaging for human health. The chemical and organoleptic quality highlighted by an extra-virgin olive oil is a function of several factors such as the geographical location of the olive grove, the evolution of the climatic conditions during fruit ripening, the extraction process adopted etc. Thus, the utilization of suitable working conditions could potentially offer the real possibility to plan the concentration of phenolic and volatile components in this product and also to modulate its nutraceutical properties as well as the sensorial perception produced. Within this context, the aim of this research was to describe the influence of the operating conditions adopted during harvesting (i.e. climate trends, water regime (irrigated or non-irrigated)) on the qualitative and typical characteristics showed by Tuscan mono-varietal extra-virgin olive oils (Moraiolo, Leccino, Frantoio) during two different crop seasons (2014 vs. 2015). The experimental data obtained show the suitability of the adopted operational decisions to the different conditions (cultivar, climate, water regime) allowing to obtain oils with more favorable compositional indices (free acidity, peroxide number, spectrophotometric indices, total phenols content) than those provided by extra virgin olive oil according to the regulation for “Tuscan Protected Geographical Indication” (PGI Toscano).

Biography

Chiara Sanmartin has completed her graduation in Food Biotechnologies, with a PhD in Science of Plant Productions. She is a Researcher at DAFE UNIPi with 7 years of experience. She conducts R&D activities, development and validation of analytical methods for food quality of raw materials and products, qualification, characterization and monitoring of food technologies. She is the author of 30 scientific publications and presentations at national and international conferences. She is also tutor for graduation and international fellowships.

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