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VALORIZATION OF MINOR OLIVE CULTIVARS AND OLIVE OIL FROM DIFFERENT ITALIAN REGIONS: A PHYSICOCHEMICAL AND THERMAL APPROACH

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The project Sustainability of the Olive-oil System – S.O.S., founded by the Ager foundation (AGER 2 Project, grant no. 2016-0105), presents a multidisciplinary approach, aimed to produce transferable contributes for the improvement of quality and quantity of the Italian extra virgin olive oil, and to support its promotion through cultural outcomes. One of the planned activities was the biological, chemical, physical and thermal characterization of minor olive cultivars and related extra virgin olive oils, coming from three different Italian regions where the project partner Universities were located. Eight minor cultivars were analyzed: two from Apulia (*Oliva Rossa* and *Cima di Melfi*), three from Sardinia (*Corsicana da Olio*, *Semidana* and *Sivigliana*) and three from Abruzzo (*Dritta*, *Tortiglione* and *Gentile de L'Aquila*). From each of the selected cultivar, the drupes were harvested at three different ripening times, at intervals of 15 days, starting about one month before the traditional harvest time, and submitted to the determination of water content, oil percentage, phenol content, total soluble solids content (sugars) and antioxidant activity. To characterize the cultivars, the oil yield and quality were also assessed in terms of fatty acid composition, volatile profile, chlorophylls, oxidative and hydrolytic degradation other than antioxidant content. For each of the oils, at any harvest time, a physical and thermal characterization was also performed: viscosity and colour, other than the measurement of the phase transitions upon cooling and heating, and the heat capacity by means

of differential scanning calorimetry were assessed. Several differences were evidenced between varieties and harvesting time of olives and oils, with good correlations between the chemical, physical and thermal measurements, suggesting the robustness and the effectiveness of the investigation method. The experimentation will be conducted over the three years project, opening a good way for the characterization, recovery and valorization of the minor olive cultivars, botanical heritage of the Italian regions.

Biography

Maria Paciulli has completed her MSc and PhD in Food Science and Technology at the University of Parma, Italy. She is currently working as a Postdoctoral Fellow in the Department of Food and Drug of the same University, in the area of Food Technology. Her research activity is primarily focused on the investigation of the effect of processing and formulation on the physio-chemical and thermal properties and stability of food products, with a particular focus on oil and fats, bakery products and vegetables. She is an author of 24 papers in reputed journals and 3 book chapters, along with participation in several national or international conferences.

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