

Olive Oil Quality Control

Olive oil is well recognized by its healthy and balance characteristics. Typical from the Mediterranean countries, its use has spread rapidly around the world due to the high nutritional value and the technological properties useful in the kitchen and food industry. Its economical importance is rising as global olive oil demand generally increases. This communication emphasizes the importance of the certification of virgin olive oils aiming at avoiding it from fakes and assuring the accomplishment and maintenance of high standards of quality. In addition, it is stressed the importance to improve continuously fine analytical methods to detect adulterations, thus contributing primarily to the food safety.

Virgin olive oil is defined as the olive oil obtained from olive fruit solely through mechanical or other physical means, particularly thermal conditions, which do not lead to deterioration of the olive oil, and which is not subjected to treatments other than washing, decantation, centrifuging and filtration. Excluded from this definition are oils obtained by solvent or re-esterification and mixtures with food oils of other types. While considered a crime, the adulteration of olive oils can be a strong temptation, since the price of olive oil is much higher than that of other vegetable oils. Although legislation provides several mandatory analyses to detect the adulteration of olive oils, this illicit practice is unfortunately increasingly common – endangering public health. For example, it has been already reported the sale of tampered European oils in the US market as “extra virgin olive oil”, which in fact contained more than 90% (v/v) of hazelnut oil. These improper practices are tempting due to both the high price of good quality olive oil and the high demand from the market.

The quality of olive oil can be represented by the combination of the following factors: the absence of defects, purity (absence of residues), genuineness, chemical equilibrium and organoleptic characteristics. Besides, as for any other food, the quality of olive oil is based on certain explicit requirements – health, taste, and effects upon well-being – and implicit requirements – hygiene, food safety and safety regarding the market and nutritional value. The final characteristics of food products such as olive oil result from the interaction between genetic, technical and procedural, and environmental factors. Typical characteristics of virgin olive oil of a certain geographical area may, therefore, be defined and controlled through a rigorous combination of laboratory and administrative instruments. The geographical boundaries that define the existence of a particular olive oil with unique and distinctive features from the other are created in order to establish homogeneous geographical areas for certain production and/or climate factors. Within these geographical areas, the

techniques of production and extraction can be carefully controlled so as to obtain a product with well defined typical characteristics and clearly distinct from other olive oils, so that these characteristics and product quality may remain constant over time. This authentication as well as assurance and maintenance of quality can only be ensured by the certification of food products, which flows naturally through the definition of Protected Designation of Origin (PDO) olive oils – whose sale is governed by tighter controls than the standards used for normal trade.

