

# Food Safety and Hygiene &

# Nutrition, Food Science and Technology

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### Quality and safety in olive oil production

Quality and safety of extra virgin olive oil (EVOO) are defined by the European Legislation (EC 61/2011), International Olive Council (IOC) and the Codex Alimentarius. They rely on markers describing the possible alterations and the genuineness of the oil. By contrary, the sensory and healthy quality of the oil are not taken into account. These properties of EVOO are strongly related to the amount of unsaturated fatty acids, phenolic and volatile components. Olive oil contains lipophilic phenolic compounds as well as hydrophilic phenolics, such as secoiridoids, that are exclusive of the olive plant (*Olea europaea*) and are responsible of the bitter and pungent taste of EVOO. EVOO flavor depends on the volatile components, including saturated and unsaturated short chain aldehydes, alcohols and esters, whose formation is due to the catalytic activity of lipoxygenase (LOX). The concentration of fatty acids, phenolic and volatile compounds is dramatically affected by different factors, such as olive

cultivar, olive tree cultivation and the operations of olive picking, storage and processing, including oil extraction conditions during crushing, malaxation and EVOO separation. In this lecture the recent approaches and innovations introduced in the oil extraction process to obtain high-quality extra virgin olive oils are reported and discussed.

### Speaker Biography

Pierluigi Plastina obtained his Ph.D. in 2005 from University of Calabria, Italy. In 2007-2008 he was post-doctoral fellow at the division of human nutrition of the Wageningen University, the Netherlands, where he spent also other periods in 2012 and 2013 as visiting scientist. From 2016 he is permanent researcher and adjunct professor at the department of pharmacy, health and nutritional sciences at the University of Calabria. His main research interests are devoted to the preparation of structured lipids with potential anti-inflammatory, and anticancer properties and to the investigation of their occurrence in food. He has been serving as an editorial board member of reputed Journals, such as Food Quality and Safety and current research in Nutrition and Food Science.

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