Bioactive Compounds in Olive Fruits and Leaves

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Nowadays the food research technology use large resources to promote searching of new healthy ingredients from natural sources. Progresses in the identification, isolation and characterization of natural triterpenoids have shed light on the mollecular basis of their pharmacological effects. The aim of this work has been to study the bioactive compounds present in the surface of the olive fruits and leaves. Picual, Hojiblanca and Arbequina varieties were studied. Terpenic compounds were analyzed using an analytical method based on solid-liquid extraction with a polar solvent and following separation by precipitation. Pentacyclic triterpenic acids and di-alcohols present in olive fruits and leaves cuticle -oleanolic, maslinic and ursolic acids; erythrodiol and uvaol- were determined by gas chromatography. Within this group of compounds, triterpenols were minority in all leaves analyzed, while in the surface of the olive fruits were absent. Olive leaves content of each one of these bioactive compounds were at least 40 times higher than in fruits. Oleanolic and maslinic acid were the mayor components in olive leaf and fruit, respectively. On the other hand, olive leaf, by its composition is suitable for the extraction of triterpenic compounds with human health benefits. Oleanolic acid can represent up to 3% expressed on leaf dry weight as free acid. Furthermore, it is a cheap and abundant raw material from which 1.2 million tones are accumulated every year in Spain.