

## **Recovery and Chemical Characterization of Bioactive Phenols from Virgin Olive Oil Vegetation Waters**

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Vegetation waters contain a large amount of phenolic compounds that are included in different classes such as secoiridoids, lignans, phenyl alcohols, phenyl acids and flavonoids. The most concentrate compounds are oleuropein, demethyloleuropein and ligstroside derivatives, like the dialdehydic form of elenolic acid linked to 3,4-DHPEA, or p-HPEA (3,4-DHPEA-EDA or p-HPEA-EDA) and an isomer of the oleuropein aglycon (3,4-DHPEA-EA), that are also the most concentrate phenolic compounds of virgin olive oil. Several processing innovations such as the control of endogenous oxidoreductases during malaxation, by stone (wich are rich in that specific enzymes) removal and oxygen control during malaxation, lead to an increase of the phenolic antioxidant concentration in the oil and vegetation waters. Thus the possibility to obtain vegetation waters with high phenolic concentration that, instead to be destined to the depollution plants or as fertirrigation, has been investigated. Extraction technologies were utilized for the recover and partial purification of high biological value antioxidants.