

# **Use of a Concentrate from Olive Vegetation Waters for Improving the Virgin Olive Oil Phenolic Content.**

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Different specific activities are ascribed to the hydrophilic phenols such as their antioxidant power and other properties that affect the oil shelf-life and several important health and sensory aspects.

In the olive vegetation waters (OVWs) are contained large quantities of these phenolic compounds belonging to different chemical classes such as phenyl alcohols and acids, flavonoids and secoiridoids like oleuropein, demethyloleuropein and ligstroside derivatives (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).

The opportunity to use OVWs with higher phenolic content as phenolic source, instead of destining them to the depollution plants or as fertirrigation, has been already successfully investigated. The recovery of concentrates with high biological value antioxidants from OVWs was obtained applying different steps of membrane separation in industrial scale.

In this research we studied the effect of mixing a phenolic concentrate from OVWs with olive pastes from several Italian cultivars, during malaxation, on the sensory and health parameters of virgin olive oil quality.

The results show that the phenolic addition had a positive effect in all the tested trials, in terms of increase of phenolic concentration in the virgin olive oil.