

## Olive pomace paste as a promising ingredient for cosmetic and hygiene products

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In recent years, cosmetic industry had to reinvent itself to respond to the pressing question of sustainability in skincare products, in an effort to attend to a more conscious market. Considering olive oil's ancient use in cosmetics, olive by-products could be promising sustainable ingredients to provide skincare benefits and, at the same time, contribute to save resources. Olive pomace, the main by-product of olive oil production, is discarded in considerable amounts every year and, due to their phytotoxic content, represents an environmental concern (1).

This study aimed to characterize an olive pomace paste (OPP) and acknowledge its potential for cosmetic and hygiene products.

This secondary by-product was obtained after subjecting fresh olive pomace to a hydraulic press. The fluid was then centrifuged, and the obtained pellet (OPP) was freeze-dried. OPP was studied regarding proximal composition (2), total phenolics (3), hydroxytyrosol content (4), vitamin E profile and antioxidant activity (3).

The results, expressed in dry weight, revealed a high content in fiber (49%) and carbohydrates (31%), as well as an appreciable amount of protein (9%), fat (8%) and minerals (4%). The vitamin E profile comprised  $\alpha$ ,  $\beta$ , and  $\gamma$ -tocopherols (4.5 mg/100 g), being  $\alpha$  the major one. The total phenolics content was 3.4 g GAE/100 g and the hydroxytyrosol concentration was 0.6 g/100 g. OPP showed a ferric reducing power of 6.8 g FSE/100 g and a DPPH• scavenging ability of 5.0 g TE/100 g.

Different studies have reported hydroxytyrosol antioxidant activity as well as anti-aging, antibacterial and anti-inflammatory properties (4).  $\alpha$ -Tocopherol is a well-known antioxidant that can act in synergy with the phenolic compounds present in OPP. Moreover, the high fiber content can be an asset in formulations as a rheology modifier, increasing viscosity and promoting emulsion stability (1).

Considering this outcome, the next step is to incorporate OPP in cosmetic formulations and study their safety profile, stability, and efficacy, as well as texture qualities and consumers' acceptability in order to establish OPP as an alternative and eco-friendly raw material in the cosmetic sector.

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