

OP&CI_5**HEAT-TREATED OLIVE POMACE PASTE: A SAFE EDIBLE INGREDIENT FOR THE FOOD INDUSTRY**

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Olive oil production generates high quantities of olive pomace (OP), a by-product composed by olives' skin, pulp, and stones. Although, the stones must be removed to allow its' use in food, which results in olive pomace paste (OPP).

This study aimed to access OPP heat-treated chemical composition and its' microbiological safety. OP was collected in Trás-os-Montes, and the stones were removed with a stainless-steel sieve. Then, 4 heat-treatments were applied to OPP: 65 oC/30 min, 77°C/1 min, 88 oC/15 sec, 120 oC/20 min. After, it were performed: nutritional analysis [1]; vitamin E[2] and fatty acid[3] profiles; FRAP[4]; DPPH● inhibition[4]; phenolics[4], flavonoids[4] and hydroxytyrosol (HPLC/DAD/FLD) contents; microbial total counting (22°C; 37C).

OPP has a low lipid fraction (2.4%) of great interest due to the high MUFA/PUFA, and α -tocopherol content (1.5 mg/100 g), a vitamer of high clinical relevance (prevents cells membrane oxidation). It also showed a high content of hydroxytyrosol (0.14 g/100 g). Treatments significantly affected vitamin E, phytochemicals, and fat, however all eliminated OPP microbial load. Moreover, treatment 88°C/15 sec has the best industrial potential since it required less time and preserved OPP quality attributes: vitamin E, fatty acids, and phytochemicals.

To conclude, OPP heat-treatment assures consumers' safety and the upcycling of OPP as a healthy and functional food ingredient.



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