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MINERAL PROFILE OF OLIVE POMACE FROM DIFFERENT CROPS IN PORTUGAL

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Eco-nutrition integrates major challenges for food consumption: health, ingredients/products of natural origin and environmental sustainability [1]. During the olive oil processing, a by-product is obtained – the olive pomace. This by-product has been receiving special attention due to its high environmental impact. On the other hand, it can be a source of compounds with great health benefits [2].

This work aimed to detail the mineral profile of 9 olive pomace samples of different crops from the north and south of Portugal. 4 macro elements (Na, K, Ca, Mg) and 27 trace elements (7Li, 9Be, 11B, 27Al, 48Ti, 51V, 52Cr, 55Mn, 57Fe 59Co, 60Ni, 65Cu, 66Zn, 75As, 82Se, 85Rb, 88Sr,90Zr, 98Mo, 111Cd, 118Sn, 121Sb, 125Te, 133Cs, 137Ba, 182W, 208Pb and 209Bi) were considered. It was used ICP-MS for the determination of trace elements, flame photometry for Na and K, and atomic and molecular spectrophotometry for Ca, Mg and Fe [3].

Results showed that olive pomace stands out for its composition of macro elements and essential trace elements. The mineral composition values of olive pomace for K, Ca and Mg were comprised between 20-30, 1-2 and 0.5-1 g/kg respectively. For trace elements such as 57Fe, 55Mn and 66Zn, the values varied between 30-70 (Fe) and 1020 µg/g, respectively.

This study aims to support olive pomace as a functional ingredient for the food industry, ensuring food security and promoting food diversity, considering the olive pomace mineral profile.

Keywords: Olive pomace, mineral profile, food industry, sustainability

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