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EXTRACTION OF QUINCE POMACE FROM WINE PRODUCTION USING SUPERCRITICAL CO₂ EXTRACTION

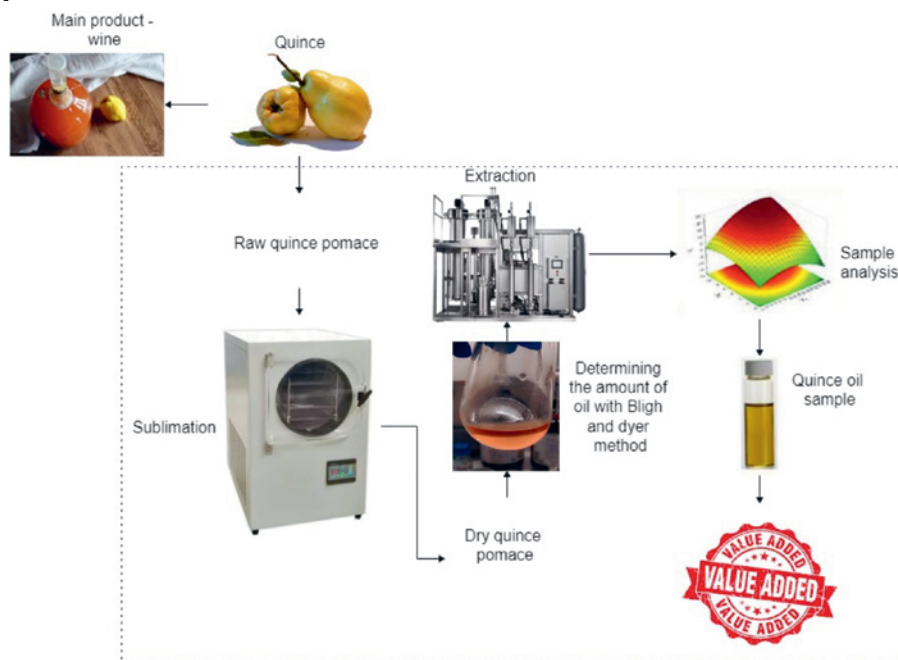
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Abstract – The food processing industry generates a large amount of residues, which can be a sustainable and rich source of bioactive compounds. Extracting these compounds using traditional methods can be expensive and use large amounts of toxic and hazardous organic solvents. Supercritical CO₂ extraction is an environmentally friendly method for extracting bioactive compounds from industrial residues such as quince pomace. This method uses supercritical CO₂, which is the state of CO₂ when it reaches critical temperature and pressure, to extract compounds from the sample matrix. This method is considered 'green' because it does not use toxic or hazardous organic solvents and does not cause pollution. Quince pomace is a by-product of the winemaking process and can be used to produce new products that can be incorporated into nutritional, pharmaceutical and cosmetic formulations. Therefore, the authors investigated the extraction of quince pomace using the supercritical CO₂ method and analyzed the obtained samples. Overall, quince peel can be upcycled into fiber-rich and bioactive ingredients to endow the value chain with natural food fortifiers, preservatives, and health promoters.

Keywords – *Added value products; agriculture; by-products; extraction; quince pomace*



Pathway of quince by-products to apple oil using supercritical CO₂ extraction method.