Phenolic compounds recovered from agro-food by-products using membrane technologies: An overview

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"Phenolic compounds recovered from agro-food by-products using membrane technologies: An overview"

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Abstract

Typically, the various agro-food by-products of the food industry are treated by standard membrane processes, such as microfiltration, ultrafiltration and nanofiltration, in order to prepare them for final disposal. Recently, however, new membrane technologies have been developed. The recovery, separation and fractionation of high-added-value compounds, such as phenolic compounds from food processing waste, are major current research challenges.
The goal of this paper is to provide a critical review of the main agro-food by-products treated by membrane technologies for the recovery of nutraceuticals. State-of-the-art of developments in the field are described. Particular attention is paid to experimental results reported for the recovery of polyphenols and their derivatives of different molecular weight. The literature data are analyzed and discussed in relation to separation processes, molecule properties, membrane characteristics and other interesting phenomena that occur during their recovery.

Keywords

High added value compounds; nutraceuticals; wastes; recovery; membrane technology.