

Autohydrolysis Treatment of Olive Cake to Extract Fructose and Sucrose

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Abstract : The production of olive oil is considered as one of the most important agri-food industries. However, some of the by-products generated in the process are potential pollutants and cause environmental problems. Consequently, the management of these by-products is currently considered as a challenge for the olive oil industry. In this context, several technologies have been developed and tested. In this sense, the autohydrolysis of these by-products could be considered as a promising technique. Therefore, this study focused on autohydrolysis treatments of a solid residue from the olive oil industry denominated olive cake. This one comes from the olive pomace extraction with hexane. Firstly, a water washing was carried out to eliminate the water soluble compounds. Then, an experimental design was developed for the autohydrolysis experiments carried out in the hydrothermal pressure reactor. The studied variables were temperature (30, 60 and 90 °C) and time (30, 60, 90 min). On the other hand, aliquots of liquid obtained fractions were analysed by HPLC to determine the fructose and sucrose contents present in the liquid fraction. Finally, the obtained results of sugars contents and the yields of the different experiments were fitted to a neuro-fuzzy and to a polynomial model.

Keywords : ANFIS, olive cake, polyols, saccharides

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