

Characterisation of Wild and Cultivated Raspberry Pomace Oil

María Elvira Zúñiga-Hansen, Carmen Soto, Paola Poirrier; School of Biochemical Engineering, Pontificia Universidad Católica de Valparaíso; Regional Centre for the Study of Healthy Foods, Valparaíso, Chile

Processed berries converge into a high quantity of solid residues, which involves an environmental trouble. An alternative to revalue these agro-industrial residues is the recuperation of their bioactive components. Among them, the oil recovered from raspberry seeds is highly recognised by its anti-inflammatory activity.

The aim of this work is to evaluate the main characteristics of the oil recovered from the pomace of two types of raspberries, a wild type (non-cultivated) and a cultivated type.

Dried pomaces were extracted by Soxhlet method using petroleum ether as solvent. Peroxide index, saponification index and acidity value of recovered oil were quantified according to AOAC methodologies. The fatty acid profile was determined by means of gas chromatography with a FID detector and an Omegawax 320 column.

Oil from wild raspberry pomace (WRPO) has a free fatty acid content higher than the obtained from cultivated raspberry pomace (CRPO), which was 0,3%. Both results were similar to the values reported by other authors. The saponification index of WRPO is slightly smaller than the observed for CRPO, but both values are smaller than the informed one. A similar result is obtained for peroxide index, also indicating that the oil is not oxidised (peroxide index of 4 meq O₂/kg). The fatty acid profile of the extracted oils showed a high content of oleic, linoleic and linolenic acid with 91,3 and a 93,1% of unsaturated fatty acids for WRPO and CRPO, respectively. For either oil, the most important fatty acid is linoleic, being more than 50% of the total fatty acid.

According to the results obtained, the WRPO as well as CRPO are an important source of essential fatty acids as linoleic, becoming the raspberry residue into an important source of bioactive components for both types evaluated.

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