Walnut Oil: Variation in oxidation levels dependent on temperature in the extraction methodology

Brenda Jamilett Cruz Rodríguez
Monterrey Institute of Technology and Higher Education
A01745991@itesm.mx
Monterrey Institute of Technology and Higher Education
Andres Carvajal Morales
Monterrey Institute of Technology and Higher Education
A01196067@itesm.mx
Cielo A. Hernández Ricardez
Monterrey Institute of Technology and Higher Education
A00822306@itesm.mx
Abelardo Fuerte Beyer
Monterrey Institute of Technology and Higher Education
A01194238@itesm.mx
Renato Gallifa Quintanilla
Monterrey Institute of Technology and Higher Education
A01411245@itesm.mx
Jorge Hernández Sosa
Monterrey Institute of Technology and Higher Education
A01233439@itesm.mx
Diego Cárdenas
Monterrey Institute of Technology and Higher Education
A01194200@itesm.mx

Abstract

The objective of this work is to carry out an innovation in the walnut oil extraction method, specifically the drying of the walnut is proposed by changing the temperature level between 30 and 50 degrees Celsius in a conventional oven to reduce the available oxygen for the oxidase reaction and avoid rancidity in the final product. The correlation between the temperature and time in the previous drying process and the levels of potential oxidation will be determined by means of a fatty acid profile study to determine the level of rancidity in the final product. By means of a variation in the drying temperatures in the nut, prior to the extraction of the oil from the oleaginous, the evaporation of the water reduces the oxygen present in the water, crucial for the oxidation reaction in the oil. The time scheduled for this work is three months; In this period, it is intended to achieve the development and viability of the project as well as the experimentation period, which will be carried out in a transversal way to obtain a comparison between the range of drying temperatures used against the oxidation potential present. in each sample. It is intended to use an approximate sample of 500 grams of walnut per batch, varying the temperature between each of these. It is expected that at a higher temperature the reduction of water will decrease the oxidation potential. Decreasing the oxidation levels of the unsaturated fatty acids present in the walnut will decrease a rancid taste and increase the quality of the walnut oil.

Keywords:
Oxidase, temperature, extraction, nut, drying

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