Abstract

The use of agricultural waste products in Mexico, and specifically in tropical regions is an area with great economic potential. In some tropical regions in Mexico it is necessary to generate new products with added value to increase regional development. In this work, two different solvents were evaluated (petroleum ether and ethyl ether) and two different size sample (3 and 2.6 g) using a factorial design 2 in order to optimize the extraction of fat from the mango. Additionally, the chemical characterization of fat obtained was carried out. The results showed significant difference in the type of solvents used, ethyl ether showed better results; however, in the size of sample no significant differences were appeared (= 0.01), extraction percent on average of samples were of 5.5%. Chemical characteristics of mango seed kernel oil were found to have a higher ratio of unsaturated fats (53.7%) than saturated fats (45.2%). Oleic acid had the highest proportion (45.6%). The oil obtained showed less than 0.2% moisture and free fatty acid concentration of 2%.

Keywords

Ethyl ether, Mangifera indica L., mango seed kernel oil, petroleum ether, saturated fats, unsaturated fats, utilization of agricultural waste.