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Evaluation of bioactive micronutrients components and oxidative stability in some oils obtained from food industry by-products

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The goal of this study was the extraction of oil from by-products (tomato waste, apricot kernel and peach kernel) for determination of more bioactive micronutrients components and oxidative stability. Tocopherols and phytosterols were analyzed by HPLC and GLC respectively. In addition fatty acid composition was evaluated in these oils. Concerning phytosterols, β -sitosterol was major component in all oils extracted from non-traditional sources. The fatty acid composition of lipids from apricot kernels varied from other oils. The oleic acid in apricot kernel oil was higher than oil from tomato waste and peach kernel oil. Concerning the vitamin E, it was found that tomato waste contain highest amount of gamma-tocotrienols. Results showed that the apricot kernel oil the highest oxidative stability as shown from its induction period compared to the other investigated oils. The results of this study demonstrated that oil from wastes and kernels is a potential source of considerable amounts of tocopherols, tocotrienols and phytosterols. This oil could be utilized into various food products and cosmetics offering health benefits.

Biography

Minar Mahmoud Mohamed Hassanein has completed his PhD at the age of 39 years from Ain Shams University, Faculty of Science and Postdoctoral studies from National Research Centre. He has published more than 23 papers in international journals. He is Principal Investigator of the project entitled: Extraction of bio-active natural antioxidants from agricultural and industrial wastes using eco-friendly methods, funded by STDF, 2013-2015 and Co- Principal investigator of the project entitled: "Extraction and utilization of bioactive phenolic compounds and compost from agro-industrial residues of Olive, Jojoba and Jatropha", 2013-2015.