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Waste management for smoking salmon by- products to extract omega-3 fish oil

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The main objective of this research was to investigate the possibility of producing fish oil from smoking salmon waste by using cold pressing and wet rendering methods. The amount and the characteristics of extracted oil were tested. The samples were used about 33.810 kg., smoked fish caused about 9.610 kg. As a Salmon waste (skin, viscera, backbone frames and cuts off) it's recorded about 20% of the total mass from salmon slices. The results showed the smoking salmon waste have more than 18% of oily fish per one kg of salmon waste. The oil weight from Salmon by-products was increased with pressing time increase as well as oil productivity increased. The oil extraction yield increased and characterization of quality. The optimum conditions at pressing time were 180 min., oil weight was 93 g. oil/500 g. Salmon by-products, oil productivity was 18.00% and extraction efficiency was 98.46 % at constant pressure. The oil weight from Salmon by-products was increased with heating time increase as well as oil productivity increased. The oil extraction yield increased with the wet rendering processes at the heating time of 60 min. have oil weight about 90 g. oil/500 g. Salmon by-products, oil productivity about 18.00% and extraction efficiency was 95.23% The oil extraction yield increased with the wet rendering processes and characterization of the oil increases with cold pressing processes.

Biography

Tarek Fouda has completed his PhD at the age of 34 years from Zagazig University and postdoctoral studies from Tanta University Agricultural Engineering Department Faculty of Agriculture. He is a head of the Agricultural Engineering Department. He has published more than 78 papers in reputed journals and has been visiting Scientist, as guest research associate in Agricultural process Engineering laboratory, Agricultural Engineering Department, faculty of agricultural , Kyoto University, Japan also visiting professor, to Dept. of Biological and Environmental Sciences, School of Natural Sciences, University of Stirling, FK9 4LA, Stirling United Kingdom Addition to Vice President of the TUEF2016 Third International Environmental Forum, Environmental Pollution: Problem & Solution, Tanta University, Egypt, July 12-14, 2016 and President of the The International 17th Conference of Misr Society of Agricultural Engineering. Agric. Eng. Dept., Fac. Of Agric. Tanta Univ. 27-28 Oct. 2010.

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