



**Physical, Chemical and Biological Studies on Some  
Oils Rich in Omega 3 and Omega 6 Fatty Acids.**

**By**

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## **Abstract**

The aims of this study were to investigate the effect of extraction method on physical, chemical and sensory characteristics of olive and flaxseed oils, the effect  $\omega$ -3 and  $\omega$  6 fatty acid content of olive oil, flaxseed oil and their blend on the stability of these oils, and study the effect of olive and flaxseed oil their blend on the hepatocytes liver of rat fed on these oils. The results indicated that oil sample extracted by press with centrifugation showed the best result in terms of sensory evaluation.

The results of storage stability of olive, flaxseed and their blend oils showed decreasing in iodine value, and increasing of acid value and peroxide value, and TBA at the end of the storage time. On the other hand, the results showed increasing of the physical characteristics for olive, flaxseed and mixed oil.

The effect feeding rats on diets containing deferent levels of (olive, flaxseed and blend oils) on lipid profile was studied. The diet containing olive, flaxseed oils 100%) led to significantly increase of in the weight of rats reached the (9.07 and 9.66%) respectively, while it was 1.74 % for therapy of liver by 0.4ml hepaticum compared to the control negative group which recorded 6.50%. On the other hand, control positive group indicated significant decrease in the final body weight and recorded-17.15% of the initial body weight.

The effect feeding rats on diets containing deferent levels of (olive, flaxseed and blend oils) on lipid profile was studied. The diet containing olive oil and flaxseed oil 100% substitution caused significantly decrease of total cholesterol and recorded 59.71 and 46.18 respectively, compared to the positive control group which recorded 187.95. The effect of feeding rats on olive and flaxseed oil on treatment of hepatitis was higher than that obtained by treated rats with 0.4ml/day hepaticum.

*Key word:* olive oil, flaxseed oil, oil stability, oil storage, liver damage.