

## عنوان مقاله:

Effect of Fatty Acid Composition on Thermal Stability of Extra Virgin Olive Oil

## محل انتشار:

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## خلاصه مقاله:

Background: Fatty acids are the main compounds in edible oils. Oil thermal stability depends on the composition of fatty acids. So, this study was conducted to investigate the effect of fatty acid composition on the oxidative stability of extra virgin olive oil during heating process. Methods: Totally, eight virgin olive oil samples, including five imported oils from market place of Mahabad and three local ones from Qazvin were analyzed to evaluate their thermal stability. Samples were heated at 120 °C for 4 h. Sampling was carried out in 2 h intervals, then fatty acid composition, peroxide, anisidine and totox values were assessed according to Iran national standards. All determinations were carried out in triplicates, and data were subjected to analysis of compare means (t test) and spearman correlation coefficients using SPSS 16.0. Results: Results show that there is a significant correlation between palmitoleic acid and totox index in 2 h ( $r=0.786$ ) and 4 h ( $r=0.762$ ), and the same result is observed between linoleic and totox index in 2 h ( $r=0.643$ ) and 4 h ( $r=0.786$ ). But, there is an inverse relationship between oleic acid and totox index in 4 h ( $r=-0.833$ ). Conclusion: Results indicated that linoleic acid and palmitoleic acid have a reducing effect on thermal stability of extra virgin olive oil in 2 h, but oleic acid increases it in 4 h.

## کلمات کلیدی:

Olive Oil. Fatty Acids. Differential Thermal Analysis

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