

## **EFFECT OF THE CULTIVAR AREA AND VARIETY ON THE FATTY ACID COMPOSITION AND OVERALL QUALITY INDEX (OQI) OF VIRGIN OLIVE OIL**

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### ***Abstract***

The aim of this paper was to study the effect of different cultivar areas located in Egypt, (Wady El-Netron, El-Esmalia and El-Arish) and Varieties (Koronaki, Picual and Arbequin) on the quality characteristics ( $\Delta k$ , FFA, PV,  $K_{232}$  and  $K_{270}$ ) oxidative stability, fatty acid composition, overall quality index and total tocopherols of virgin olive oils of these varieties thus in order to have better knowledge about these properties and components in samples obtained at the same time and the same extraction conditions. These parameters were greatly influenced by the variety and cultivar area, whereas the overall quality index (OQI), fatty acid composition, stability and total tocopherols presented observed differences. These results showed that:

Virgin olive oils of these varieties obtained from El-Arish (A) and Wady El Netron (W) areas showed a higher quality compared with the same varieties grown in El-Esmalia (S) area. Also the results appear to confirm the general consensus on the quality of picual virgin olive oil from El-Arish area (A) are generally of high quality compared to arbequin variety when grown in (S) and (A) areas. While koronaki variety obtained from all areas showed intermediate oil quality characteristics . . The results showed increased stability and OQI of the studied varieties with increasing oleic acid / linoleic acid ratio.

**Keywords:** Virgin olive oil, fatty acid, tocopherols, stability, parameters characteristics and overall quality index (OQI).