



## Olive Oil Quantity and Quality as Affected by Different Irrigation Water and N-Fertilization treatments

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**Abstract:** A field experiment was conducted in the experimental station of National Research Centre in El-Nobaria area, Egypt, during two successive seasons 2012 and 2013 to investigate the effect of using various ratios from ammonium sulphate (as mineral nitrogen fertilizer) and farmyard-manure (as organic fertilizer) under three different rates of irrigation water requirements on olive oil yield and quality of two olive cultivars, Kronaki (as oil production) and Picual (as dual purpose) under drip irrigation system. Five fertilization treatments were used, 100% ammonium sulphate (F<sub>1</sub>), 75% N<sub>2</sub>SO<sub>4</sub> +25% FYM (F<sub>2</sub>), 50% N<sub>2</sub>SO<sub>4</sub>+50% FYM (F<sub>3</sub>), 25% N<sub>2</sub>SO<sub>4</sub>+75% FYM (F<sub>4</sub>) and 100% FYM (F<sub>5</sub>) were combined with three levels of irrigation water 100%, 66% and 33% of ETc. The obtained results revealed that, the treatment of 66% ETc combined with 50% mineral nitrogen fertilizer + 50% FYM gave the highest oil yield of the two cultivars.

Free acidity and peroxide value gradually decreased by increasing the ratio of organic fertilizer in all fertilization treatments. While the UV absorbance values of K232 don't significantly affected by irrigation and fertilization treatments, the values of K270 increased by increasing the amount of ETc and FYM.

Keywords: Olive Oil, Irrigation Water and N- Fertilization treatments.