



## Impact of Organic Fertilization and Water Requirements on Olive Fruit Productivity and Some Mineral concentration in sandy soil

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**Abstract :** An experiment was carried out in the experimental station of National Research Centre in El-Bostan area, Egypt, during the two successive seasons 2012 and 2013 to investigate the effect of partial replacement of mineral nitrogen fertilizers by organic fertilizer. Five different fertilization treatments were used (100% chemical fertilizer (F<sub>1</sub>), 75% chemical fertilizer+25% organic fertilizer(F<sub>2</sub>), 50% chemical fertilizer+50% organic fertilizer(F<sub>3</sub>),25% chemical fertilizer +75% organic fertilizer(F<sub>4</sub>)and100% organic fertilizer (F<sub>5</sub>) were combined with three different levels of water requirements (according to estimated crop evapotranspiration) 100%, 66% and 33% of ETconolive productivity and some macronutrients contents of fruits were investigated. The obtained results revealed that, application of 50% chemical N fertilizer + 50% organic fertilizer under all irrigation water levels gave the highest fruit yield compared with the other fertilization treatments. While, Fruits N, P concentration decreased by increasing organic fertilizer, potassium concentration increased. Raising the irrigation water levels causes an increase in fruits nitrogen, phosphorus, potassium and calcium concentration.

**Key words :** Olive cultivars, mineral and organic nitrogen fertilization, water requirements, fruits mineral contents.