

## البحث الثالث

### Effect of Phosphorous Deficiency on Growth and Some Metabolic Activities in the Green Alga *Dunaliella parva*

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المجلة المنشور بها البحث

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#### ABSTRACT

*Dunaliella parva* cells were cultured under conditions of either phosphorous (P) deficiency or nutrient sufficiency. Under phosphorous deficiency the number of cells decreased by 48.1% while rate of growth decreased by 1.05% and generation time increased by 1.5 day compared to nutrient sufficient medium. The content of chlorophyll fractions,  $\beta$ -carotene, glycerol, total carbohydrates and proteins were also significantly reduced in response to phosphorus deficiency. The results cleared that activity of photosynthesis and respiration in cultures with phosphorous increased gradually till the 12th day then slightly decreased at the 16th day. Phosphorous deficiency resulted in 36.8% lower rate of respiration and 65.5% decline in rate of photosynthesis at the 16th day of culturing compared to control. The results cleared also that under phosphorous deficiency growth measured as cell count of *D. parva*, was the most sensitive parameter followed by photosynthesis then respiration.