

The effect of light intensity on growth and hydrocarbon production in *Botryococcus braunii*

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Botryococcus braunii is a green colonial microalgae. *B. braunii* is well known about the production of hydrocarbon and it lives in fresh water. Hydrocarbons are economically important because it can be substitute the major fossil fuels such as coal, petroleum and natural gas as renewable bio-energy. Three kinds of algal race (A, B, or L) have been known in the nature rely on their composition which is decided by culture condition. Our work aim to show effect of light intensity on biomass, hydrocarbon production in *B. braunii* using a photobioreactor. It can be grown at the tested levels of culture condition. The growth and lipid content of *B. braunii* were compared at four irradiance for 4 weeks. The increase in yields of biomass and content changes found in the effect of irradiance and the their adaptability. The results of the present study indicate that the organism can optimize to light intensity for biomass and hydrocarbon production.