Enhanced growth of micro alga *Botryococcus braunii* using adsorbants

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Abstract

Botryococcus braunii, unicellular photosynthetic micro alga, was grown with three types of adsorbents – mesoporous silica SBA-15, amine functionalized SBA-15 and natural clay kaolin, separately. Effect of these adsorbents on growth of B. braunii was measured in terms of specific growth rate (K). The local ambient conditions like temperature (i.e., 25-30 ºC), humidity (50-90%), natural sun light (0.4-0.8 mw/cm2), pH 6.8-7.0 and 2-4% CO2 are found to be suitable for the growth of the micro alga. The growth rate of algae was 4-times enhanced using mesoporous silica and 12-times enhanced using natural clay (kaolin) as CO2 adsorbents compared to adsorbent-free growth medium.

Key words: Adsorbents, Biofuel, Botryococcus braunii, Growth Rate, Kaolin, Micro alga