

Abstract

Synechocystis aquatilis SI-2 was grown outdoors in a 12.5 cm diam. tubular photobioreactor equipped with static mixers. The static mixers ensured that cells were efficiently circulated between the upper (illuminated) and lower (dark) sections of the tubes. The biomass productivity varied from 22 to 45 g m⁻² d⁻¹, with an average of 35 g m⁻² d⁻¹, etc which corresponded to average CO₂ fixation rate of about 57 g CO₂ m⁻² d⁻¹. The static mixers not only helped in improving the biomass productivities but also have a high potential to lower the photoinhibitory effect of light during the outdoor cultures of algae.

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