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Carbon Di Oxide Sequestration by Freshwater Microalgae Isolated from River Noyyal, India and Its Biomass for Biofuel Production

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Abstract : In last few decades, global atmospheric concentrations of green house gases have been frequently increased because of carbon di oxide (CO2) emission from combustion of fossil fuels. This green house gas emission leads to global warming. In order to reduce green house gas emission, cultivation of microalgae has received attention due to their feasibility of CO2 sequestration. Microalgae can grow and multiply in short period because of their photosynthetic simple unicellular structures and can grow using water unsuitable for human consumption with nutrients that are available at low cost. In the present study, freshwater microalgae were isolated from Noyyal river in Coimbatore, Tamil Nadu, India. The isolated strains were screened for CO2 sequestration potential. The efficient isolate namely Klebsormidium sp was subjected to further study. Quantitative determination of CO2 sequestration potential of the isolate under study has been done. The biomass of the isolate thus obtained was subjected to triglyceride and fatty acid analysis to study the potential application of the isolate for biodiesel production.

Keywords : CO2 sequestration, freshwater microalgae, Klebsormidium sp, biodiesel
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