Application of Pulsed Magnetic Field in improving the quality of algal biomass

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Abstract

Freshwater green alga, *Desmococcus olivaceous* was grown in photo bioreactors (10 L) with a facility to pump the culture through magnetic field. Solenoid coil system was set to a highly homogenous sinusoidal magnetic field of intensity 15mG for a period of 3hrs duration per day for 15days.The submersible pump providing the circulation was kept in operation for a period of 12hrs per day. The motor of the submersible pump contributed to a secondary source of magnetic field exposure (near field) having an intensity of approx. 600mG. Samples were drawn at regular intervals to assess the productivity and biomass quality. Division rate, dry weight, pigments and other biochemical parameters were analyzed. The biomass was also analyzed for its biofuel potential. Improvement of algal biomass by introducing magnetic treatment in large scale cultivation is discussed.