

### Effect of various elements on cell growth and biomass production by marine microalgae in photobioreactor

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The rate of depletion of fossil fuels and the effect of greenhouse gas emissions on global climate change are creating much interest in biodiesel.

In recent years, microalgae have been issued much more as the factory of biodiesel production due to its several potential advantages ; high yield of neutral lipid/oil as 20-50%, high growth rate, viability in extremely arid condition, doing major roles in wastewater treatment, removers of carbon dioxide, producers of valued chemicals and much higher biomass production(100,00kg) in a suitable vessel compared to that of terrestrial plants in the same area.

This study confirmed to effect of three light intensity level ( $1500\pm 500$  lux ,  $3500\pm 500$ lux ,  $5500\pm 500$ lux) and under condition three temperature level ( $20-30^{\circ}\text{C}$ ) and compared flask culture with photobioreactor. The microalgae concentration was determined daily by optical density measurements at 680nm by a UV-vis spectrophotometer and dry cell mass(DCW) was determined per 6days centrifuged and drying at  $60^{\circ}\text{C}$  for 24hr and lipid contents in algae are analyzed by gas chromatography.