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## Determination of effective parameters on growth rate and protein content of spirulina platensis under laboratory condition

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In order to provide optimum growth and protein content, *S. platensis* cells were grown in modified Zarrouk (1966) media culture at different salinity (30, 32 and 35ppt), temperature (20, 23, 26 and 28°C) and intensity (50, 75 and 90  $\mu\text{mol m}^{-2}\text{s}^{-1}$ ). The results of the present study clearly showed that the highest alga biomass and growth rate was obtained following culture under the 32 ppt salinity, 26°C temperature, and under a 13h light:11h dark photoperiod regime at a light intensity of 90  $\mu\text{mol m}^{-2}\text{s}^{-1}$  provided by cool white fluorescent tubes (figure 1). Maximum alga biomass and growth rate of *S. platensis* in a 5 liter Erlenmeyer flask for twelve days reached to 8  $\text{gr L}^{-1}$  and 0.28  $\text{day}^{-1}$ , respectively. However, the mean alga biomass of *S. platensis* in

temperature regimes 20, 23, 26 and 28°C (under salinity of 32 ppt, and 75  $\mu\text{mol m}^{-2}\text{s}^{-1}$  irradiance) were 4.72, 5.15, 7.69 and 7.03  $\text{gr L}^{-1}$ , respectively. The results clearly showed that *S. platensis* successfully cultivated under different physical condition and maximum protein content was produced in the 30 ppt salinity, 28°C temperature, and 75  $\mu\text{mol m}^{-2}\text{s}^{-1}$  irradiance. Based on the results from the present study, providing suitable media culture and physical condition can be considered as a promising method to *S. platensis* cultivation for achieving optimal biomass and protein production.

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