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Proximate Composition, Chlorophyll a, and Carotenoid Content in *Dunaliella salina* (Dunal) Teod (Chlorophyceae: Dunaliellaceae) Cultured with Cost-Effective Seaweed Liquid Fertilizer Medium

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Abstract: Growth, proximate composition, chlorophyll a, and carotenoid content were estimated in static cultures of micro alga *Dunaliella salina* (Dunal) Teod (Chlorophyceae: Dunaliellaceae) to compare the quality and quantity of biomass produced with seaweed liquid fertilizer (SLF) against Walne's medium. Culture of micro algae was performed with controlled temperature of 27 ± 1 °C, salinity of 33, and an irradiance of $120 \pm 3 \mu \text{mol m}^{-2} \text{s}^{-1}$, and daily samples were taken to estimate the above-mentioned parameters. Mean cellular density from samples of both medium were similar and growth rates were 0.44 and 0.42 doubling per day, respectively. Maximum values of protein content 5.2 and 5.5 pg per cell were estimated on day 5 in Walne's medium and SLF, respectively. Carbohydrate and lipid content decreased during the first 4 days corresponding to the culture exponential growth. Higher carbohydrate content was found in both media during the first 2 days and thereafter reduced partially compared to their concentrations. Generally lipid contents in cultures with SLF were significantly higher ($P \leq 0.05$) compared to Walne's medium. Both pigments also increased exponentially and their concentration was same in both experiments. In conclusion, all the parameters tested were similar when using either media, and hence SLF can be used as an alternate media for micro algal culture.

Key Words: Seaweed liquid fertilizer, *Dunaliella salina*, Algal culture

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