Effect of Nitrogen Sources on Growth Performance of Marine Microalgae *Nannochloropsis sp.*

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Nannochloropsis sp. is a marine micro alga immensely valuable for aquaculture and food industry as they are rich sources of essential fatty acids, pigments, amino acids and vitamins. Present study was conducted to identify the effect of nitrogen sources on their growth and nutrient content in the cells. For the study, F/2 culture media was used as media in control culture which contains $NaNO_3$ as the source of nitrogen. The F/2 culture media was prepared by using KNO_3 (9 g l^{-1}), CH_4N_2O (Urea) (27 g l^{-1}) and NH_4Cl (47.3 g l^{-1}) as the sources of nitrogen in the culture media. Algae cultures were prepared in triplicates for all treatments and cultivated under indoor condition, maintaining the 27 ºC of constant temperature and 25ppt of salinity with a continuous aeration. The results of ten days culture revealed that there was no significant difference for cell density with the time for all treatments (Two-way ANOVA: $p>0.05$). However, significant difference was found for chlorophyll-a nitrate and nitrite content which are produced by *Nannochloropsis sp*. ($p<0.05$). The significantly highest chlorophyll-a, nitrate and nitrite content were reported in the F/2 culture media with urea than that of other culture media treated with potassium nitrate and ammonium chloride. The Urea can be recommended as a more effective source of nitrogen for F/2 culture media to obtain high chlorophyll-a, nitrate and nitrite content for *Nannochloropsis* sp. culture. This study provides baseline information about the appropriate nitrogen sources which can elevate the higher productivity of *Nannochloropsis sp.*

Keywords: Nannochloropsis sp, Nitrogen sources, Nitrogen content, Cell density, Marine micro algae