Enhance Growth and Biochemical Composition of *Nannochloropsis oceanica*, Cultured under Nutrient Limitation, Using Commercial Agricultural Fertilizers

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Microalgae culture media should be economic, allow for high growth, satisfy the needs of microalgal cells and easy to prepare. In this study, we evaluate the effect of different media formula prepared from commercial agricultural fertilizers (CAGF), comparing to F/2 Guillard standard medium as a control medium, on growth (cell density, CD; dry weight, DW and specific growth rate, μ) and biochemical composition (lipid, protein, and carbohydrate) of *Nannochloropsis oceanica*. Comparing to N/P ratio (9.6) and actually quantity (12.36 g/l and 1.29 g/l, respectively) of F/2 standard medium, six N/P ratios (19.2, 9.6, 9.6, 4.8, 3.2 and 1.6) were prepared from Nitric Acid (N-Nt) or Ammonium Sulphate (N-Am), as a nitrogen source, with phosphoric acid (P), as a phosphorus source, for culturing media of *N. oceanica*. The results investigated that some CAGF media achieved significant ($P \leq 0.05$) growth and biochemical composition higher than F/2. Comparing to lipid percentage (30.70 %) of F/2, the lipid percentage of *N. oceanica* cultured on different CAGF media were ranging from 18.40% to 46.12%, depending on nutrient limitation, nitrogen source, N/P ratios and actually atom concentrations. Finally, the use of CAGF constitutes a viable alternative of F/2 medium to reduce the production costs *N. oceanica*, the commonly used in marine hatcheries and also other biotechnological applications.