

# Effect of different nitrogen concentrations on the biomass and biochemical constituents of *Spirulina platensis* [Geitler]

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Nitrogen is one of the primary requirements of growth media for any cell. Absence of nitrogen or starvation condition is considered as stress by the organisms. Increasing the nitrogen concentration upto 0.04 M significantly increased the biomass, protein, phycocyanin and lipid content of *Spirulina*, while total carotenoids and  $\beta$ -carotene content were reduced compared to control. In contrast, the biomass, protein, phycocyanin and lipid content were reduced in the control indicating that nitrogen requirement for synthesis of aminoacids, which make up protein and other cellular components such as phycocyanin. The accumulation of carotenoids under nitrogen starvation may be due to production of a large amount of acetyl-CoA, which serves as a precursor for synthesis of carotenoids.

**Key words :** *Spirulina platensis*, Nitrogen, Biomass, Pigment, Lipids

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