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Abstract:

The aim of the present study was to evaluate the effects of varying concentrations of different nitrogen sources (individually or in combination) on the biochemical, transcriptomic and proteomic profiles of *Arthrospira* sp. PCC 8005 under batch and continuous modes. In batch mode, while ammonium showed a repressive effect on nitrate-assimilation pathway of the cyanobacteria; better growth and nutrient uptake rate were observed in presence of urea than nitrate. The inhibitory effect of ammonium was further confirmed by the continuous photobioreactor study wherein the nutrient feed was transiently replaced from nitrate to ammonium (28 mM turbiostat regime). The changes in lipid, exopolysaccharide,