

Mass production of blue green algae under artificially controlled condition

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ABSTRACT : Cyanobacteria are the largest and morphologically diverse group of prokaryotes which occur in almost all habitats on the Earth. They are the only nitrogen fixing organisms that have an oxygen evolving Photosynthetic system. Cyanobacteria are also used as a biofertilizer to improve soil quality, productivity and yield components of paddy. Producing mass culture of BGA for industrial purposes represents novel Biotechnology. Blue green algal biomass has been considered since long as an alternative source of protein that could supplement conventional food and feed production. Producing mass culture of BGA for industrial purposes represents novel Biotechnology. It is well known that it is extremely difficult if not impossible to get pure growth of desired alga in nature. During this investigation four local filamentous strains were selected for cultural studies these strains are *Aulosira fertilissima*, *Sytonema simplex*, *Cylindrospermum musicola* and *Nostoc commune*. As all the members of blue green algae studies in above mentioned experiments belong to heterocystous group. Experiment was set up in order to study the growth of the above BGA separately as well as association. The mixed culture was prepared taking two members of BGA in different possible combinations. Biomass cultured specimens has been expressed in dry weight in mg/l. Results indicate that the growth of all organisms follows an increasing trend with increase in time of incubation under *in vitro* culture. The maximum biomass founded in *Aulosira fertilissima* 48.7 mg/l and minimum 16 mg/l, *Nostoc commune* 20 mg/l, *Sytonema simplex* 18.5mg/l, respectively after 30 days growth. Present result on mix culture shown the maximum biomass weight founded in the combination of *Aulosira fertilissima* and *Nostoc commune* 64 mg /l after 30 days and minimum weight of biomass have been recorded in the combination of *Scytonema simplex* and *Nostoc commune*.

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