

# National Webinar

## Recent Trends in Algae and their Utility of Pharmaceuticals -2021; 27<sup>th</sup> July 2021

### Isolation and Bioprospecting of Indigenous *Scenedesmus* spp. from Dahanu, Maharashtra.

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**Abstract** Microalgae *Scenedesmus* spp is a good source of lipids, pigments and other significant metabolites. Thus, it can be explored as high value nutraceutical supplement and as potential feedstock for biofuel generation. The present study used a two-stage cultivation strategy, where the biomass production of indigenous strain *Scenedesmus* spp. obtained from Pond, Dahanu, Maharashtra was enhanced by bicarbonate supplementation, then exposed to Sulphate and Nitrogen limitation. Supplementation of 1g/L Sodium Bicarbonate to BBM yielded 0.92g/L dry biomass, significantly higher as compared to control (0.54g/L). Reduction of nitrogen to quarter of its normal concentration yielded maximum total carotenoid content up to 0.2g%, (control: 0.1g%) whereas sulphur limitation to half the concentration resulted in highest total carotenoid accumulation of 0.29g %. Lipid content was shown to be up to 56.5g% by limiting sulphur concentration to control (22 g%). Preliminary screening of the isolate did not show presence of alkaloids and no significant antimicrobial activity. The results of biomass enhancement and stress induction studies carried out on the isolate gives further scope of exploring it more.

**Keywords:** *Scenedesmus* spp., bicarbonate supplementation, stress studies, nutraceutical supplements.

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