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Optimization and extraction of fatty acid content in the *Scenedesmus spp.*,

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Abstract:

Due to lack of natural fossils fuels entire world is facing energy crisis. As a solution for the above issue, for effective production of Biodiesel the fatty acid was optimized. The Fatty acid concentration of algal species (*Scenedesmus spp.*) was improved using two stresses like nitrogen stress and light stress with variation in initial inoculums concentration. For all the current studies BG 11 media optimized as growth medium. The nitrogen stress was given with varied NaNO_3 (15 g/ 200 ml) concentration from 0 to 1ml of the medium. In which result shows that 0.3 ml and 0.4 ml concentration have 0.007g/ 1g of Biomass and. 0.005g/ 1g of Biomass of fatty acid Content. The light stress was given with three different light source (sun light, dim light (less than 1000 lux) and artificial light (greater than 1500 lux)) along with variation in initial inoculums Concentration. The results confirmed that the Natural light with 50 : 50 (Media: Inoculum) was best for effective production of lipid with 0.008g/ 1g of Biomass. Then the fatty acid content is extracted by Methanol : Chloroform Method (Folch *et al.*, 2000). This fatty acid content will increased further by optimizing the parameter using RSM (Response Surface Method) in future.

