ABSTRACT

Water sources all over the world are constantly being polluted through disposal of untreated human and animal wastes, agrochemicals and industrial effluents. Aquatic plants such as algae take up nutrients together with other pollutants for their growth. This study aimed at assessing nutrient removal efficiency of Spirogyra sp. and Oedogonium sp. in wastewater. The two algal species are aquatic flora commonly observed as pioneer photoautotrophs in both lotic and lentic water bodies. They were cultured in wastewater for a period of 90 days during which physico-chemical parameters of the wastewater were measured using multimeter electronic probe while nutrients, mainly Soluble reactive phosphorus (SRP), Total Phosphotus, Ammonium-nitrogen, Nitrates-nitrogen and Nitrite-nitrogen were analysed using standard methods at the beginning of the experiment and monthly after inoculation with a given weight of Spirogyra sp. and Oedogonium sp. Data collected was analyzed using Statistical Package for Social Sciences Software (SPSS) version 17.0 software. The results showed that the physico-chemical parameters of waste water treated with Spirogyra sp. and Oedogonium sp. varied significantly (F (df, N) =008641 $P<0.05$). Likewise, nutrient uptake by Spirogyra sp. and Oedogonium sp. varied significantly (F (df, N) = 1.175345 $P<0.05$). There was also a significant difference in the change in weight of Spirogyra sp. and Oedogonium sp. (F (df, N) =0.8023 $P<0.05$) between day 1 and day 90. Spirogyra sp. and Oedogonium sp. were effective in uptake of nutrients in waste water. There is need for further characterization of the isolated Spirogyra and Oedogonium sp.