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Experimental Investigation of Sanitary Sewage and Treatment for Garden use

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Abstract : Water is the basic element of social and economic infrastructure and is essential for healthy society and sustainable development. Due to rapid increase in density of population, fast urbanization, and agriculture, use the demand of water is increasing day by day. As a result surface water and ground water is polluted and finally leads to scarcity of water. Waste water is an immense resource which could have significant application in regions of water scarcity. Therefore the sanitary or grey water is treated by adopting suitable methods. Our study deals with experimental investigation of sanitary waste water and treatment for garden use. Initially the parameters of wastewater was tested in the laboratory conditions. According to the values suitable water treatment method is adopted. The filter media used for this treatment method is the root of Eichhoria Crassipes. The sanitary wastewater is taken and the various parameters such as Ph, turbidity, chloride, sulphate, BOD, COD, Nitrate, Alkalinity, Total Suspended Solids were tested. The fine roots of the plant trap suspended solids, and present a suitable environment for the growth of microscopic organisms that feed off the organic materials present in the wastewater, transforming them into simple inorganic material. After the treatment various parameters were tested from the treated water. Both the parameter values were compared and results were given. After the startup Chemical Oxygen Demand (COD) removal efficiency of Eichhoria Crassipes was 42% and Biological Oxygen Demand (BOD) removal efficiency was 48%.The turbidity,Chloride, Sulphate,Nitrate content in the waste water has also removed to some extent properly.Therefore the condition of the Eichhoria Crassipes somehow seems to contribute to remove organic matter from the wastewater and the treated water can be used for garden use.

Keywords : Sanitary water, Eichhoria Crassipes, Testing parameters.

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