

Lab Scale COD Reduction by Bioremediation Using Hydroponics System [†]

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Abstract: According to a survey released on world water day, 80% of the world's wastewater is discharged directly to the water bodies without any treatment. In some least developed countries, these numbers can go up to 90-95%. The main reason behind this scenario is the lack of infrastructure & technical expertise in wastewater management in many parts of the world. Another problem is that to establish a fully working wastewater treatment plant, it needs a large surface area & also it requires high cost. As we know, there are lots of parameters to measure the pollution level of wastewater. One of the essential parameters is Chemical Oxygen Demand (COD), about which the following study relates. In this experiment, we have used Water Hyacinth (*E. crassipes*) for bioremediation of wastewater to reduce COD value. With the continuous flow method, we noted down the COD level continuously during the experiment. After examining the data at a particular time interval, we observed a continuous reduction in COD value. In this present work, we got proximate results and a promising environment-friendly approach to reducing the impurity of wastewater. Besides the low cost & lower requirement of the area, this method is also environment friendly and based on the green chemistry principle.

Keywords: COD reduction, wastewater; bioremediation process; green technology; cost-effective.

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Conflicts of Interest

The authors declare no conflict of interest.