

Treatment of Textile Industry Effluents by *Amorphophallus paeonifolius* Crude Enzyme Extract †

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Abstract: Indian Population is involved in textile industries; it releases 3500 different dyes. These dyes directly or indirectly are discharged into the environment, which infects the groundwater posing a hazard to the health and socio-economic life of the people. Therefore, the treatment of textile effluents is essential. The present study deals with the extraction of crude enzyme extracts from *A. paeoniifolius* corm and treatment of textile industry effluents and red textile dye with the help of an extracted enzyme. Enzymes from plants have been reported to play an important role in textile wastewater treatment applications. The treatment of textile effluent and the red dye by *A. paeoniifolius* crude enzyme extract was found to help in reducing the various textile water parameters like pH, BOD, DO, TDS, turbidity, etc. After 24 hours of treatment by an enzyme on textile wastewater BOD decreased 82.4%, DO (35.1 %), TDS BY (17.80%), pH (32.70%), and turbidity by 12.24 % whereas BOD by 50 %, DO by 14.2% pH by 4.15 % and turbidity by 10% decreased of Red CE textile dye with the same duration of treatment. The crude enzyme extract of *A. paeoniifolius* may offer an economical alternative to replace or supplement the treatment processes for removing dyes from wastewater effluents.

Keywords: textile wastewater; *A. paeoniifolius*; crude enzyme; BOD; DO.

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Conflicts of Interest

The authors declare no conflict of interest.