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Decolorization of AZO Dyes and Dye Industry Effluent by the Screening of Novel Wood Rot Fungi

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Abstract: The textile industries were producing a massive quantity of highly contaminated effluents. The emancipation of those effluents without a suitable treatment is an issue of severe concern due to their lethal impacts on receiving waters. The conventional technologies used for the wastewater treatment are inept or pricey in the treatment of textile effluents. The present research paper helps to identify new technologies to replace or to complement the accessible ones by the microbial decolorization of dye industry effluent by three wood-rot fungi.Three different wood rot fungi, *Daldeniaconcentrica, Lepiota sp.* And*Trametesserialis*were collected from the Western Ghats region of Tamil Nadu, India. The fungi were used to degrade the azo dyes such as orange G, methyl orange and congo red from aqueous solutions was determined by estimating the per cent of dye removal and the effect of dye concentration. The dye industry effluents were decolorized by ligninolytic fungi in batch mode and continuous flow mode. The results exhibit the colour removal by the basidiomycetes fungi were mainly due to adsorption of the dyes to the mycelial surface and due to metabolic breakdown. These results showed that *Lepiota sp.*was found to be the most effective fungus in decolourization of azo dyes especially orange G;*Daldeniaconcentrica* could be used for decolourization of methyl orange and *Trametesserialis* could be used for congo red for dye removal.*Trametesserialis*for batch mode and*Lepiotasp.*forcontinuous mode could be recommended.

Keywords:Azo dyes, Decolourization, *Daldeniaconcentrica, Lepiota sp., Trametesserialis.*

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