

# Studies on Dye Decolorization Potential of Edible Mushroom Mycelia

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**Abstract**—Studies on mycoremediation ability of edible mushrooms have opened new prospects for the development of biotechnological processes in treatment of industrial effluents. Industrial effluents are toxic and are characterised by high chemical oxygen demands (COD)/biological oxygen demands (BOD), heavy metals and intense colour. In this study edible mushroom was isolated from natural source and was maintained in vitro in mycelial form. Remazol Brilliant Blue R (RBBR), which is frequently used as starting material in the production of polymeric dyes, was used to test decolourization potential of natural isolates of oyster mushroom. Mushroom mycelium was grown in presence of RBBR at a concentration of 100µM and 200µM. It was found to decolorize more than 95% of dye within 5–6 days at low concentration, in contrast 90% of decolourization was reached in 10 days at high concentration (200µM). Mushroom mycelium was also tested for degradation of phenolic compounds present in waste water. The isolated strain was found to have significant decolourizing and degrading potential for phenolic dyes in industrial effluents.

**Keywords:** White rot fungi, mycoremediation, RBBR, waste water, oyster mushroom.