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Application of dried macrofungi for the removal of synthetic dyes from aqueous environment

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Abstract : Synthetic dyes are made of carcinogenic and mutagenic compounds and used in textile, paper and printing industries. Reactive Black 5 (RB5) and Remazol Brilliant Blue R (RBBR) are known to cause asthma and allergic dermatitis. Thus dye decolorization from industrial wastewaters is of utmost importance. Conventional methods *viz.* adsorption, flocculation, coagulation, oxidation, and reverse osmosis are usually inefficient, expensive, of limited applicability which are difficult to dispose off. In the present study, the potentiality of dead macrofungi *Pleurotus platypus* (oyster mushroom) and *Agaricus bisporus* (button mushroom) for dye removal was investigated. The effect of different parameters *viz.* pH, temperature, biosorbent dosage and initial dye concentration on dye removal was investigated. Application of dried macrofungi as adsorbents can be an effective method for the removal of Reactive Black 5 (RB5) and Remazol Brilliant Blue R (RBBR) from dye bearing wastewater.

Keywords: Decolorization; Reactive Black 5; Remazol Brilliant Blue R; *Pleurotus platypus*; *Agaricus bisporus*.

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