Theme 7: Lakes, rivers, estuaries: water quality, biotic resources, sustainable management

T7_Poster_48

BIOREMEDIATION OF SYNTHETIC DYES TO PROTECT FLORA AND FAUNA

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Synthetic dyes are used by many industries like textiles and paper industries. The waste waters released contain dyes in a diluted form which affect the flora and fauna of the water and soil resources. A biological decolourization method was experimented using the Blue dye FNG, which was used in a concentration of 400µg/ml incorporated in Potato dextrose broth. A screening using several fungi of Ascomycetes- *Penicillium* and *Aspergillus niger* was done and inoculated in the medium under optimized conditions. The cultures were incubated in static and shaker cultures. The static culture showed growth in 2-3 days and there was biosorption in the Penicillium, where the fungus showed absorption of the dye from the medium. The laboratory exercise was further extended to study the colour intensity in the medium which was determined colorimetrically. The result was analysed that the Penicillium showed extensive declourization and the level of destaining was relatively low with Aspergillus. This model was highly significant in biosorption in fungus, a method of bioremediation.