



SYNTHETIC DYE DECOLORIZATION BY FUNGI

Aarti Yadav¹ and Sneh Goyal²

^{1,2} Department of Microbiology, CCS Haryana Agricultural University, Hisar

ABSTRACT

Dyes are versatile chemicals, which are consumed by a number of chemical industries like textile, printing, paper, food and cosmetics industries. The dyestuff usage has increased day by day because of the tremendous increase of industrialization and man's urge for color. Triphenylmethane dyes are synthetic aromatic water-soluble organic colorants used by a wide number of industries. The colored effluents lead to pollution of surface water deposits. Dyes may affect photosynthetic activity in water, because they reduce light penetration, cause deficiency of oxygen and deterioration of life conditions. The majority of dyes are highly toxic, mutagenic and are synthetic in origin with complex aromatic structure make them more resistant to biodegradation. Microorganisms with high potential for degradation of different pollutants use different metabolic pathways. It is well documented that the effectiveness of degradation depends on the dye structure, concentration, adaptation of microorganisms, their activity and biomass concentration. The present investigation is focused on the isolation and screening of fungal strains, which can efficiently decolorize the synthetic dye, malachite green. A total of ten (10) indigenous fungal strains were isolated from the effluents collected around the discharge site of textile industries. Out of 10 six fungal isolates expressed potential to decolorize malachite green dye in the range of 68.30 - 100%.

Key Words: Decolorization, Effluents, Fungal Strains, Malachite Green and Triphenylmethane Dyes.