



Evaluating the decolorization potential of genetically constructed *Pleurotus ostreatus* strains by protoplast fusion

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Abstract: Response of some *Pleurotus ostreatus* mutants to eleven metal ions with different concentrations were tested. Results showed that fusant (F6) was the most efficient one for dye removal followed by F4. All selected mutants and fusants exhibit enzyme activity and specific activity higher than the wild type strain. Positive relationship between laccase specific activity and decolorization capacity of some textile dyes was observed. SDS-PAGE analysis of water soluble proteins revealed 18 bands with different molecular weights ranged from 14 to 180 KDa. Nine bands were common in all samples while the other were varied among the isolated samples. The non-parental new bands observed in fusants indicating that there was an occurrence of interaction between the two parental genomes. When a real textile wastewater sample was treated using some selected mutants and fusants, maximum decolorization was recorded from 2 to 5 days and afterward little change was recorded.

Key Words : Protoplast fusion, textile dyes, decolorization, laccase, SDS-PAGE.

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