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PRODUCTION AND APPLICATION OF LACCASE ENZYME IN PULP AND PAPER INDUSTRY

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ABSTRACT

Laccase is an enzyme that has potential ability of oxidation. There are diverse sources of laccase producing organism like fungi, plants and microorganism. The possibility of using crude laccase in the dechlorination of chlorine-based bleached kraft hard wood pulp was investigated. The present work comprises the laccase enzyme production by isolated ligninolytic fungal strain SL_2 and SL_4 and its industrial application. Experiment was conducted on bleaching of kraft hard wood pulp with laccase enzyme (122.33 IU/ml) produced by ligninolytic fungal strain SL_4 which shows brightness, whiteness and improvement along with CLO_2 reduction. The addition of laccase inducer Cuso4 in to the culture medium led to an increase dechlorination activity.

KEYWORDS: Kraft Pulp, Laccase, Dechlorination, Biobleaching