

**EFFECT OF CARBON AND NITROGEN SOURCE ON THE EXPRESSION OF LACCASE ENZYME PRODUCED BY *Trametes* sp. 44 AND ITS POTENTIAL FOR PROCESSES DEFENOLIZATION**

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**ABSTRACT**

*Laccase is a enzyme that contributes to degrade lignin<sup>1</sup>. The expression of the enzyme depends on several factors, among which may be mentioned the species of fungus, the growth conditions and nutrients among others. Moreover, the presence of isoenzymes depends on the source of carbon and nitrogen. We study the expression of the laccase produced by *Trametes* when was grown in Kirk medium<sup>2</sup> with four different carbon sources and five different nitrogen sources, we observed that the complex nitrogen source and sucrose produced the largest amount of laccase. We analyzed different ratios observed that the C/N ratio of 20 (sucrose/peptone) was which had the highest laccase enzyme activity. Zymograms of enzyme laccase indicated the presence of two isoenzymes in the media with complex nitrogen source and only one enzyme laccase in medium supplemented with carbohydrates. For delignification was used the C/N ratio of 20 in Kirk medium supplemented with gallic acid. The results indicated a defenolization to 95 %.*