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**ICEEM/03 – ENVIRONMENTAL ENGINEERING  
SECTION**

***Environmental Pollution and Monitoring***

**TEXTILE EFFLUENT AND DYES DECOLORIZATION  
BY LACCASE AND FUNGUS**

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**Abstract**

The aim of this work was to evaluate the decolorization of a textile effluent and of reactive dyes by the basidiomycete *Pleurotus pulmonarius* and by laccase. The fungus decolorized all dyes. The decolorization percent varied from 47% to 98%. The dyes did not inhibit the biomass growth and in all experiments, the COD reduction was verified. The fungus also decolorized the effluent. Evaluating the influence of the inoculum concentration and the medium agitation speed on the decolorization, the best result, around 62%, was obtained using 50rpm and 50% of inoculum concentration. For the experiments using laccase, the decolorization percent of the dyes blue-bf-r, turquoise blue, navy blue-ble, rbb-r, yellow-gle, black and grey was greater than 30%. For the dyes scarlet red, red-4b and yellow-3r, the decolorization results were below 20%. The effluent decolorization was about 35%. The fungus, as well as the enzyme, decolorized the textile effluent and dyes.

*Keywords:* dyes, *Pleurotus pulmonarius*, laccase, decolorization, textile effluent

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