

## EFFECTS OF *Geotrichum candidum* AND *Phanerochaete chrysosporium* IN POLLUTED EFFLUENTS OF SUGAR-ALCOHOL INDUSTRY

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Effluents with high concentration of organic matter cause environmental concern. Therefore, the growth of *Geotrichum candidum* Link & Pers. and *Phanerochaete chrysosporium* Burds. were studied in samples of crude effluent of sugar-alcohol industry, supplemented (S) or not (NS) by nutrients, under aerated (A) and not aerated (NA) conditions. The laccase-activity of *G. candidum* was higher in the 3<sup>rd</sup> day of the S and NA-growth, with a reduction of that in the 5<sup>th</sup> day. *P. chrysosporium* showed a higher laccase-activity in the 7<sup>th</sup> day at this conditions. Both fungi were unable to remove color, turbidity, nitrates and nitrites of this medium. *G. candidum* was efficient to reduce phosphates under A (78.2%) and NA-growth (79.3%), but it didn't reduce the COD. *P. chrysosporium*, however, reduced the COD and phosphates under A (26.8 and 55.6 %, respectively) or NA-growth (29.6 and 61.7%), but it didn't do this to the total tanning bark. In the more diluted effluent (8X) with S, the conversions of COD and phenols by *P. chrysosporium* (65.7 and 59.7%, respectively) were higher than those done by *G. candidum* (57 and 50.3%) at the 7<sup>th</sup> day. All diluted samples were drastically discolored by the fungi, and the pH increased from 5.5 to 7.6-7.8. These microorganisms, therefore, are able to be used at the bioremediation of this effluent after the C:N:P ratio correction (100:1.6:1).

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