



## **Biodegradation of Pollutants from Winery wastewater by Using Fungi *Aspergillus fumigatus* and Bacterium *Bacillus subtilis***

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**Abstract:** *Aspergillus fumigatus* was used as fungal strain and *Bacillus subtilis* was used as bacterial species for the biodegradation of winery wastewater pollutants. The fungal strain and bacterial species was allowed to grow on PDA and NA slant. Loop full of both fungal and bacterial culture was inoculated and incubated at room temperature for 7 days. After the incubation the sample was filtered and analyzed for the chemical characteristics to verify the degradation capacity of both species, after treatment with *A. fumigatus* pH of pond wastewater was 0.043289, conductivity of winery wastewater was 0.030599 and for pond wastewater was 0.035449, total suspended solid of winery wastewater was 0.014915 and for pond wastewater was 0.001126, chemical oxygen demand of winery wastewater was 0.001408 and for pond wastewater was 0.000859 which are significant during crush and non crush season whereas after treatment with *B. subtilis*, pH of pond wastewater was 0.01176 which is significant, conductivity of winery wastewater was 0.002721 which is significant and for pond wastewater 0.409275 which is non significant, total suspended solid of winery wastewater was 0.04653 and for pond wastewater was 0.032612 which is significant and chemical oxygen demand of winery wastewater and pond wastewater was 0.938635 and 0.993687 respectively which is non significant during crush and non crush season. From the study we concluded that *A. fumigatus* is significant than *B. subtilis* for Cond and COD in winery wastewater.

**Key Words:** *Winery Wastewater, Crush and Non crush season, Biodegradation, Aspergillus fumigatus and Bacillus subtilis.*

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