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activities mainly due to their production of complex and non-specifc enzymatic systems capable of degrading

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optimum condition. Another facultative anaerobic bacterial culture L-2 belonging to *Lactobacillus* showed similar decolorization of 31% for 12.5% (v/v) diluted digested spent wash in 7 days of incubation. Along with decolorization this bacterial culture also removed 56.2% COD [10]. Nakajima et al. [29] observed decolorization yield of 35.5% using bacterial strain MD-32 within 20 days of cultivation under both thermophilic and anaerobic conditions. e COD and color removal e ciency of anaerobic bacterial strains is lower than that of aerobic bacteria. Hence, it is important to isolate bacterial strains capable of degrading and decolorizing toxic chemical pollutants under anaerobic conditions.

F a ea e

In recent years, several fungal strains have been investigated for their ability to degrade and decolorize distillery wastewater. Table 2 presents some of the fungal cultures involved in bioremediation of distillery wastewater. One of the most studied fungi having high molasses wastewater bioremediation activity belongs to the genera of *Aspergillus*. Miranda et al. [30] studied color elimination from anaerobic-aerobically treated beet molasses spent wash using *Aspergillus niger*. e fungal culture showed COD and color removal yield of about 65 and 75%, respectively when supplemented with 10 g/L sucrose, 1.8 g/L NH_4NO_3, 1 g/L KH_2PO_4 and 0.5 g/L $MgSO_4 \cdot 7H_2O$ with an initial pH of 5. In the culture with the optimal nutrient concentration 83% of the total color removed was eliminated biologically and 17% by adsorption on the mycelium. Ohomomo et al. [31] used mycelia of a thermophilic strain *Aspergillus fumigatus* G-2-6 for batch and continuous decolorization of melanoidin solution. is strain decolorized about 75 and 70% of a molasses melanoidin solution under batch and continuous culture, respectively when the strain was cultivated on a glycerol-peptone medium at 45°C within 3 days. At the same time, about 51% of the chemical oxygen demand and 56% of the total organic carbon in the initial solution were removed. Later on they observed similar decolorization yield of 75% using autoclaved myc

enzymes and lack of an appropriate reactor system. us, application of the process to eld scale would need further research. Moreover, it is also found necessary to isolate, characterize and genetically improve microbes for better bioremediation yield [61-65].

Acknowledgements

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