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BOOK OF ABSTRACTS

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I1. Environmental Microbiology and Biotechnology

P32. Assessment of drying conditions of a yeast-based solution for application on textile industrial wastewater treatment plants

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The textile sector is a worldwide industry that produces high amounts of harmful effluents that are discharged to the environment. These dyed effluents are resistant to biodegradation and potentially damaging to the aquatic and other ecosystems [1]. Classic chemical treatment methods are very costly and generate large quantities of sludge that need to be treated [2]. Biological methods are generally considered more environmentally friendly and of major relevance [3]. Biological alternatives to aid the decolourisation of dyes in textile wastewaters need to be implemented.
A yeast-based solution for decolourisation of textile industrial wastewater is under evaluation. A yeast strain, isolated from a textile wastewater treatment plant, was selected for its dye decolourisation capacity and was dried by freeze-drying. Skimmed milk and maltodextrin were used as cell protectors and the dried product was stored at cold and room temperature over time. Viability of the yeast cells and its decolourisation ability was assessed. Results showed that dried yeast cells maintained their viability and its decolourisation capacity.

[1] Dellamatrice et al. (2017). Brazilian Journal of Microbiology. 48, 25-31
[2] Mahmoud, M.S. (2016). HBRC Journal. 12(1), 88-98.
[3] Ali, H. (2010). Water, Air, & Soil Pollution. 213(1-4), 251-273.

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