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Removal of heavy metals in cassava mill effluents by *Saccharomyces cerevisiae* isolated from palm wine

Sylvester Chibueze Izah, Sunday Etim Bassey and Elijah Ige Ohimain
Niger Delta University, Nigeria

Nigeria produces about 20% of global cassava output. Cassava processing in Nigeria is predominantly carried out by small holders that use rudimentary equipment for its processing into several products such as high quality cassava flour. The characteristics of the wastewater, also called cassava mill effluents, often exceed the limit for effluents discharge onto land and surface water as specified by Federal Environmental Protection Agency. Cassava mill effluents induce toxicological effects on the environment and its associated biota including humans, fisheries, flora and fauna. This study assessed the ability of *Saccharomyces cerevisiae* isolated from palm wine to remove heavy metals in cassava mill effluents. The *S. cerevisiae* was identified using conventional microbiological techniques based on their cultural, morphological and physiological/biochemical characteristics. *S. cerevisiae* was inoculated into the sterile effluent and incubated for 15 days. The samples were prepared and analyzed using flame atomic adsorption spectrophotometer. Results showed a decrease of 44.52%, 26.26%, 51.54%, 43.20%, 38.57% and 65.19% for copper, zinc, manganese, iron, chromium and nickel respectively. The findings of this study showed that *S. cerevisiae* is a potential organism for the remediation of heavy metals in cassava mill effluents.

Recent Publications

- 1.Seiyaboh E I, Izah S C (2017) Bacteriological assessment of a tidal creek receiving slaughterhouse wastes in Bayelsa state, Nigeria. *Journal of Advances in Biology and Biotechnology*; 14(1): 1-7.
- 2.Seiyabo, E I, Izah S C (2017) A Review of Impacts of Gas Flaring on Vegetation and Water Resources in the Niger Delta Region of Nigeria. *International Journal of Economy, Energy and Environment*; 2(4): 48-55.

Biography

Sylvester Chibueze Izah is currently pursuing PhD at Niger Delta University, Nigeria. He has completed his Master of Science degree in Applied Microbiology from Niger Delta University. He has over 100 publications in both international and national journals. His research interest focused on bioenergy and environmental biotechnology but currently his research is tending towards environmental/health risk assessment, toxicology, food microbiology and on the conversion of food processing waste water into useful products while minimizing the attendant environmental effects associated with such wastewater.

chivestizah@gmail.com

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