

## Electricity Production from Vermicompost Liquid Using Microbial Fuel Cell

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**Abstract :** Electricity production from vermicompost liquid was investigated in microbial fuel cells (MFCs). The aim of this study was to determine the performance of vermicompost liquid as a biocatalyst for electricity production by MFCs. Chemical and physical parameters of vermicompost liquid as total nitrogen, ammonia-nitrogen, nitrate, nitrite, total phosphorus, potassium, organic matter, C:N ratio, pH, and electrical conductivity in MFCs were studied. The performance of MFCs was operated in open circuit mode for 7 days. The maximum open circuit voltage (OCV) was 0.45 V. The maximum power density of  $5.29 \pm 0.75 \text{ W/m}^2$  corresponding to a current density of  $0.0242 \pm 0.0017 \text{ A/m}^2$  was achieved by the  $1000 \Omega$  on day 2. Vermicompost liquid has efficiency to generate electricity from organic waste.

**Keywords :** vermicompost liquid, microbial fuel cell, nutrient, electricity production

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