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Potential Effect of Sugar Mill Waste Water as Substrate for Bio-Electricity Generation using Laboratory Scale Double Chamber Microbial Fuel Cell

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ABSTRACT
Bio-electrochemical system for power generation getting attention due to utilization of waste material. Based on that study was made to convert sugar industry waste water for bio-electricity generation using double chamber microbial fuel cell. Different organic load in form of substrate concentration and parametric effect were tested to optimize the best condition for electricity generation. From 100g/l to 300g/l with step size 100g/l, for aeration rate from 100-250ml/min with step size 50ml/min, and for as pH from 4.5 to 6.5 with step size 0.5pH. the maximum power generation were observed at pH 6, aeration rate 200ml/min and organic load 200g/l about 820mA. Regarding above results that found favorable condition on environment as well as waste reduction.

Key words Biotreatment, Electricity Generation, Sugar Mill Waste Water, MFC

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