

Bioelectrochemical enhancement of ethanol production from *Saccharum spontaneum* biomass native to Nepal

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Bioethanol can be used as an octane enhancer and alternative replacement to blend with petroleum fuels. Using an electrochemical cell for the production of bioethanol facilitates the enhancement in ethanol production exploiting the electrochemical redox reactions occurring inside the cell. The externally supplied voltage is used to drive the chemical reactions to generate the metabolite, i.e. ethanol. A microbial electrochemical cell was designed with porous carbon fiber coated with neutral red as cathode and platinum wire coated with fine platinum as an anode. *Saccharum spontaneum* biomass pretreated with hot water at 100°C for 2 hours followed by acid hydrolysis was neutralized and used for the production of ethanol by *Saccharomyces cerevisiae* in an electrochemical cell. Total supply of 4V was found to be best for maximum ethanol production in 300ml fermentation volume.

Biography: Jarina Joshi is on performing Ph.D. in Central department of Biotechnology, Tribhuvan University, Nepal. She has completed M.Tech in Biotechnology and M.Sc in Physical Chemistry. She is also the Lecturer in the same institute. She has published more than 16 papers in reputed journals. She is the presenter of this paper.

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