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AN OVERVIEW ON FUEL ETHANOL PRODUCTION FROM LIGNOCELLULOSIC BIOMASS

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ABSTRACT

The current progressive depletion of world's energetic resources based on non-renewable fuel and energy use is increasing day by day. Moreover, it is generally known that fossil fuel consumption is the main driver of global warming. The method to address these issues relies on the potential adoption technologies for alternate sources of energy. The review deals with fuel ethanol generation using plant-based lignocellulosic biomass as raw materials. In this article, the technologies for generating fuel ethanol with the major research possibilities for enhancing them are described. The complexity in the biomass processing is detected by the study of different steps involved in the conversion of lignocellulosic biomass into fermentable sugars. Further, the fermentation processes with its essential characteristics are described based on biomass conversion. Comparative index for various kinds of biomass for fuel ethanol generation is given. Finally, some closing comments on current research addressing the pre-treatment together with biological conversion of biomass into ethanol are given.

KEYWORDS: *Biofuel, Ethanol, Fermentation, Hydrolysis, Lignocellulosic biomass, Pre-treatment.*

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