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# Perspectives on bio-butanol production from agricultural residue and optimization of microbial process

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Microbial production of acetone-butanol-ethanol from renewable biomass has attracted an increasing interest all around the world due to persistent fluctuations in oil prices, health and environmental issues including emission of green house gases, global warming and climate change. Both Nepal and China are agricultural countries and more than 85% population depends upon agriculture. A variety of economical substrates have been effectively applied in the microbial production of biobutanol, highlighting the commercial potential of biobutanol development. Production of butanol from agricultural residues such as corn has remarkable importance in the developing countries like Nepal and China. In addition, Butanol produced by microorganisms has similar characteristics to petroleum-based fuels, and can be used in existing vehicles. However, producing the butanol with economic yield requires the engineering of the microorganism's metabolism. Such engineering is not based on single specific feedstock or host microorganism. Data driven and synthetic biology approaches may be useful to optimize both the host and pathways to maximize butanol production. Besides successes on research field, challenges still need to be met to move butanol towards commercialization and to compete with existing fossil fuels. In this review, most favorable substrate and optimization of the microbial process of acetone-butanol-ethanol production using traditional clostridia strain(s) are discussed. This paper also considers how various feedstocks and products influence the choice and optimization of suitable host organisms for butanol production.

## Biography

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