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Bioprocessing strategies for Biobutanol Production From Agricultural Wastes

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Abstract. Interest in producing renewable biofuel such as biobutanol to replace demand on non-renewable petrol fuel showed an increasing trend in recent years. Many researchers are investigating numerous approaches in order to produce biobutanol at a low cost. Such efforts are by considering suitable feedstock materials and bioprocessing technologies. Renewable materials such as starch, lignocellulosic, and algal biomass are some of the common feedstocks utilized for biobutanol production, and each of them has their own advantages, yet possess several disadvantages that need improvement. Low sugar concentration generated from hydrolysis of biomass, inefficient microorganism and unsuitability of conventional batch fermentation have been noted as the main reasons for a low biobutanol yield and productivity. Therefore, several fermentation operations and integrated bioprocessing technologies have been developed to improve the biobutanol production efficiency. The challenges and the appropriateness of the technologies on different types of agricultural wastes are being presented in this talk.

Keywords: Biobutanol, Fermentation, Lignocellulosic biomass