

Preliminary study on bioethanol production from starchy foodwastes by immobilized *saccharomyces cerevisiae*

ABSTRACT

Usually, fuels like ethanol and butanol were produced from crude oil and fossil fuels. However, due to increasing fuel demand and limited reserves of fossils, biofuels have caught much attention these days. Biofuels such as bioethanol can be produced from a variety of renewable feedstocks. Food wastes are a promising feedstock since utilization of these can reduce environmental pollution. Thus, in this study starchy food wastes of bread, rice and potatoes were used as a potential feedstock for the production of bioethanol. The *Saccharomyces cerevisiae* used in this research was at first immobilized in calcium alginate beads through entrapment technique. Later the effect of temperature on bioethanol efficiency was studied using these immobilized yeasts. It was found out that the highest fermentation efficiency of 1.24% was obtained at 30°C. However, more studies are required to optimize the whole process of fermentation of bioethanol from these starchy foodwastes.