# Bioconversion of lignocellulosic waste from selected dumping sites in Dar es Salaam, Tanzania

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Article


## Abstract

The poor management of solid wastes in Tanzania urban centers is a chronic problem that has increasingly become a source of environmental pollution. Bioconversion offers a cheap and safe method of not only disposing these wastes, but also it has the potential to convert lignocellulosic wastes into usable forms such as reducing sugars that could be used as food. This paper reports a preliminary study on the physical characteristics, acid pretreatment, saccharification by cellulase from *Trichoderma reesei* and fermentation by *Saccharomyces cerevisiae* of the lignocellulosic component of the solid wastes collected from various dumping sites located in Kinondoni Municipality, Dar es Salaam city. The results showed that overall, the lignocellulosic component constitute about 50% of solid wastes dumped in the study areas. Maximum production of reducing sugars was obtained after 6 h of saccharification while highest concentrations of bioethanol were achieved after 48 h of fermentation. Microbial bioconversion of lignocellulose component yielded up to 21% bioethanol.



Keywords

bioconversionethanolglucoselignocellulosesolid wastes