


6/8

GLUCOMYLASE PRODUCTION BY SOLID-WASTE FERMENTATION USING
MAIZE FLOUR MANUFACTURING WASTE PRODUCTS AS SUBSTRATE

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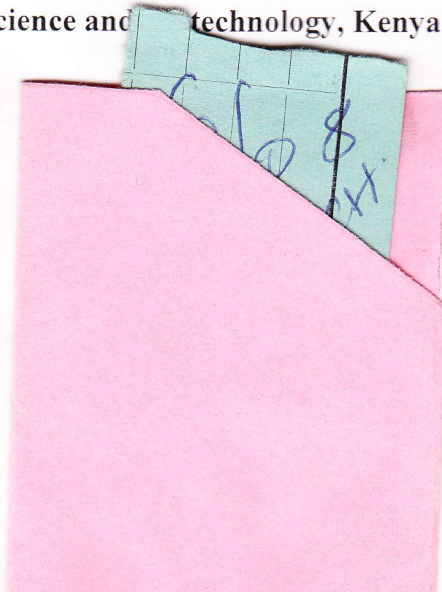
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ABSTRACT

Glucoamylase has been produced from paddy rice flakes along with wheat bran. Investigation of the possibilities of other options that are available for producing the enzyme from maize husks as the substrate was carried out other than wheat bran and rice processing waste.

Glucoamylase production has been investigated by solid-state fermentation of agro-industrial waste generated during the processing of maize (categorized as coarse, medium, fine waste) local soils isolate *Aspergillus Niger*. Highest enzyme production ever obtained was with coarse waste, medium waste, fine waste using 10^6 spores /ml as inoculums at $28 \pm 2^{\circ}\text{C}$, pH 5.0. A combination of coarse waste and medium waste (1:1) gave enzyme yield as to. Media supplementation with carbon source as sucrose in coarse medium and glucose in medium and fine waste increased enzyme production. Organic nitrogen supplementation showed a higher enzyme production compared to inorganic source. Optimum enzyme activity was observed at 55° , pH 5.

Key words: glucoamylase; *Aspergillus sp*; solid state fermentation (SSF); husk; starch content