

**GLUCOSE PRODUCTION FROM RAW STARCH IN CORN FLOUR**

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Optimum ratio of glucoamylase to  $\alpha$ -amylase for synergistic hydrolysis of starch in corn flour was 1.8 AGU/1.0 KNU. Hydrolysis of starch in dry milled corn was most efficient compared with that of wet milled corn steeped in water or NaOH. With increase in hydrolysis of starch in corn flour, release of proteins, reducing sugars and colour into the hydrolysate increased with a decrease in residual matter and filtration rate of the hydrolysate. Addition of  $\beta$ -glucosases and proteases did not improve the filtration rate of corn flour hydrolysate. However a change in pH of the corn flour hydrolysate from pH 5.0 to 4.5 increased its filtration rate. Addition of activated charcoal to corn flour hydrolysate at pH 4.5 further increased the filtration rate. Addition of charcoal had also removed the colour and proteins present in the hydrolysate without altering the sugar content. When 1.6 kg and 4 kg of corn flour suspensions were synergistically hydrolysed by  $\alpha$ -amylase and glucoamylase and purified, glucose yields were 76% and 50.2% respectively. Glucose yields were calculated based on the total starch content in corn flour.

(AGU- AmyloGlucosidase Unit; KNU-Kilo Novo Unit).