

Title: Optimum Hydrolysis Conditions of Cassava Starch for Glucose Production

Author(s): A. Ayodeji Ayoola, A. Opeyemi Adeeyo, E. Vincent Efeovbokhan, D. Adeola Olasimbo

Outlet: International Journal of Advanced Research in IT and Engineering, Vol. 2(1), January 2013, Pp. 93-101.

Date of Publication: 2013

Abstract: Acid and enzymatic hydrolysis of cassava starch to glucose (fermentable sugar) were investigated and compared. And the effects of acid concentration, pH, temperature and time on the yield of glucose were studied. Experiments were carried out at a temperature range of $(60 - 100)^{\circ}\text{C}$ between 30 minutes and 4 hours. $(0.2 - 1.0)\text{M}$ strength of H_2SO_4 acid was used and pH values range of 4 – 7 was considered during enzymatic hydrolysis. The study revealed that maximum concentration of glucose was obtained at 100°C using 1.0M H_2SO_4 acid for 4 hours during acid hydrolysis. At pH of 4, temperature of 60°C and 4 hours of operation, highest concentration of glucose was obtained during enzymatic hydrolysis. Enzymatic hydrolysis produced higher yield of glucose when compared to that obtained from acid hydrolysis.