

**Title:** A Comparative Study on Glucose Production from Sorghum Bicolor and Manihot Esculenta Species in Nigeria.

**Author(s):** Ayoola, A.A., Adeeyo, O.A., Efevbokhan, V.C., Ajileye, O.

**Outlet:** International Journal of Science and Technology, Vol. 2(6), June 2012, Pp. 353-357.

**Date of Publication:** 2012

**Abstract:** The two-step enzymatic hydrolysis of *Manihot esculenta* and *Sorghum bicolor* using  $\alpha$ -amylase and amyloglucosidase were studied. The starch substrate were gelatinized at 80oC and then liquefied with the amylase enzyme at a temperature of 90oC. The samples are then cooled to 60oC and saccharified with amyloglucosidase. The effects of temperature and pH on saccharification process were considered. Results indicated that the optimum temperature for the conversion of starch to fermentable sugar (glucose) was at 60oC and the amount of glucose produced after 4 hours in sorghum was greater than that obtained when cassava was used. It was therefore concluded that optimum conditions for the production of glucose from both Manihot esculenta and Sorghum bicolor for bioethanol production are obtained at pH of 4 and saccharification temperature of 60°C, with Sorghum bicolor giving higher yield.