OPTIMISATION OF CONDITIONS FOR GLUCOSE SYRUP PRODUCTION FROM BANANA (*MUSA PARADISIACA* L.) PULP USING RESPONSE SURFACE METHODOLOGY.

ABSTRACT

A central composite design was applied to assess some basic factors that affect profoundly the production of dextrose equivalent from banana pulp. Optimal conditions for the conversion of starch banana pulp to glucose were found to be a banana pulp concentration of 8.5%, reaction time of 90 min, and a-amylase concentration of 0.04% for liquefaction and reaction time of 24 h with a glucoamylase concentration of 0.05% for saccharification. Only 16 and 12 experiments, respectively, were needed to assess these conditions. The adequacy of model was highly satisfactory, because the coefficients of determination (R2) were 0.93 and 0.91, respectively. The glucose syrup (GS) obtained was slightly yellowish with a hint of brown and slightly sweet. The syrup had a protein of 0.63% and an ash content of 0.60%, with a pH of 4.8. The characteristics of the GS produced met all the recommended standards, except for that of colour.

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