



ABSTRACT

Fruit bengkoang is one kind of plant that can only be grown in areas with tropical climates and are not included in this type of seasonal fruit, due to the presence of fruit yam can be found throughout the year. Yam starch carbohydrate content is quite high, namely 84,02 % allowing it to be used as raw material for the manufacture of glucose by acid hydrolysis process.

The process of making this glucose through several stages. The first process is the manufacture of starch bengkoang by crushing the fruit that has been added to the water, deposited for 12 hours and then filtering and drying in an oven with a temperature of 60°C for 5 hours until a constant weight of dry starch. Yam starch dried fruit and then diluted with distilled water (12,5 grams of starch dissolved in 100 ml of distilled water) and hydrolyzed using an acid catalyst with 20 ml of HCl 2,5 N for 60 minutes with a stirring speed of 360 rpm at the boiling temperature of the solution (98°C). In the hydrolysis process, there are two variables that varied that the volume of HCl 2,5 N (10, 15, 20, 25, 30, & 35 ml) and the hydrolysis time (30, 40, 50, 60, 70, 80, & 90 minutes). The results of hydrolysis has cooled then neutralized using 5 N NaOH and analyzed the sugar content using the Nelson Somogyi.

From the research results yam starch hydrolysis to glucose that has been done, the optimal outcome for variations in the volume of 2,5 N HCl is in a volume of 20 ml with glucose levels of 92632.39 ppm. As for the variation of the time, the optimum results obtained at the time of hydrolysis for 60 minutes with a glucose level of 92943.92 ppm.

Keywords: *Fruit Bengkoang, Starch, Hydrolysis, Glucose*