MAKING BIOETANOL FROM PLANTAIN WEEVIL (MUSA PARADISIACAL) USING ENZYME HYDROLYSIS AND FERMENTATION

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Abstract

Fossil energy sources is still the main energy sources to meet the needs of various sectors of Indonesian society, especially for fuel oil (BBM). This encourages the emergence of the idea to replace fossil fuels with alternative renewable fuels. Bioethanol is one of the alternative fuels instead of fossil fuels, or is often used as an additive in motor vehicle fuel.

The process of making bioetanol is washed and cut up into smaller fragments, after that heats by an oven with temperature of 150 degree celcius ± 1 hour. At this stage of liquefaction adding HCl to pH 6-6.5 after adding the enzyme alpha-amylase. In the liquefaction stage heats up till boiled and add HCl until the pH to 4, after that add gluco-amylase. Adding nutrients NPK and urea as before entering the fermentation process. Then analyze the results of fermentation with Gas Chromatography.

Levels of mol is obtained in accordance variable fermentation time is respectively 1,3%; 2,3%; 4,1%; 4.3%

Keywords: Bioetanol, Enzym, Fermentation, plantain weevil