

Hydrolysis of Banana Kepok (*Musa Paradisiaca* L) peel waste as Bioethanol Raw Material Using Hydrochloric Acid Catalyst

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ABSTRACT

The increasing demand for energy results in the availability of petroleum dwindling. One of the efforts to reduce the use of petroleum is by using bioethanol as an alternative energy fuel. The purpose of this study was to determine the best sugar content results from dry kepok banana peels and wet kepok banana peels as raw material for bioethanol. In this study, a completely randomized design (CRD) was used with 2 factors with 3 treatment levels each. The method used in the hydrolysis process of kepok banana peel waste used HCl solution concentrations (0.8M, 1M, and 1.5M) and autoclave heating time (10 minutes, 15 minutes, 20 minutes). If there is a difference in the average test, continue with the DMRT (Duncan's Multiple Range Test). The highest brix value content in dry kepok banana peel material was obtained at C3t1 (HCl concentration 1.5M and heating time 10 minutes) 10% brix, and wet kepok banana peel material the highest brix content was obtained C3t3 (HCl concentration 1.5M and length of time heating 20 minutes) 7.2% brix, and the dry skin material produces 18.486% reducing sugar while the wet kepok banana peel material produces 15.509% reducing sugar.

Key words : *Reducing sugar, Hydrolysis, Kepok banana peel*