

ABSTRACT

In the development of renewable energy, biomass is one of the most potentially source to be developed, for example food waste. By using that source, it would produce some product of gas. It could be used and had highest heat of combustion, $142 \text{ GJ}\cdot\text{ton}^{-1}$. It is a clean energy because it only produces water vapor from combustion.

Using anaerobic fermentation metode, it didn't use addition of bacteria or enzyme. It had been heated to make degradation of complex compounds to be organic acids and gas more simple and suppressed methanogenic bacteria. Using anaerob digester with dimension of height 35 cm, diametres of reactor 10,5 cm, and total used-susbtrat 2 litres.

The result of this study tells that hydrogen yield reached out 47% on the second day. The pH value is 6,60 and it decreased until 4,80. The test were taken in Telkom University and Gas Chromatography Laboratorium of Chemical Engineering, ITB.

keywords : biohydrogen, hydrogen, fermentation, anaerobic digester