Effect of Adding Support Material in the Digester on the Production of Bovine Rumen Biogas

Thesis Advisor: Yuli Hananto S.T.P., M.Si.

Muhammad Husein Nur'Alif

Study Program of Renewable Energy Engineering

Department of Engineering

ABSTRACT

The processing of cow rumen waste by adding material support in the digester to biogas is one of the efforts to reduce the amount of waste disposed of and efforts to develop renewable energy. This study aims to determine the effect of adding material support and production rate to digesters in producing biogas. The variations used in this study are variations in the digester, including a control digester (without the addition of support material), a bamboo digester, and a pumice stone digester. The time duration set for the processing process is 36 days. This processing process uses a digester with a volume of 10 L. The best variety of digesters is a bamboo digester with a production rate value of 2919.00 ml on day 36 and 5560.00 ml for biogas volume on day 36.

Keywords: Biogas, Bovine rumen waste, Support material, Production rate