ABSTRACT

Liquid waste tofu as a byproduct of the industry tofu, is generally dumped directly into rivers without any special processing. Product innovation is aimed at treating wastewater out into biogas that makes environmentally friendly.

Making biogas includes four stages. Phase I is to prepare a set of biogas digesters (height 120 cm and a diameter of 60 cm) equipped with a stirrer and temperature control. Phase II is the mixing of liquid waste and cow manure out with weight ratio 1:1 and put it in the digester and then analyze the raw materials of analysis of COD, BOD, pH, and acetic acid. Phase III is a continuous fermentation process in the digester for 14 days in which the variables used on the day of surgery to-1 to-8 without using a stirrer and temperature control. Day operation of the 9th and 10th only using stirrer speed 140 rpm. Day operation of the 11th and 12th only use the thermostat to a constant fermentation conditions at 30 0C. Day operation of the 13th and 14th using the stirrer and temperature control with the same operating conditions.

From the experiments it can be concluded that the raw materials that contain BOD 1125 mg / liter, COD 1532 mg / liter, 3.92% acetic acid, and pH 6 obtained content of methane gas and biogas are the largest volume that is equal to 80.01% and 491,18 liters of fermentation day on the 13th and 14th with stirrer and temperature control.

Key word : Liquid waste tofu, cow manure, fermentation, biogas.