MAKING BIOGAS FROM TOMATO WASTE BY USING BACTERIA AND FUNCTION ISOLATES FROM COW DUNG

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ABSTRACT

Organic waste that contributes the highest waste generation according to the national waste management information system in 2021 is 41.7 million tons/year. Organic waste that is often encountered is tomato waste. Tomato waste that is not processed efficiently will pollute the environment. One of the waste treatment methods is anaerobic decomposition using bacteria and fungi of cow dung as decomposers. The limitation of the problem in this study is that it only examines the manufacture of biogas from old red and rotten tomato waste by using bacterial and fungal isolates from cow dung, using a simple household scale digester. The purpose of this study was to determine the manufacture of biogas from tomato waste using bacterial and fungal isolates from cow dung. This type of research is descriptive with pre-experimental research methods and uses a one-shoot case study design. The variation used was the addition of 10 ml of bacterial isolate, 10 ml of fungal isolate, 10 ml of bacterial and fungal isolates on tomato waste that had been crushed and mixed with water in a ratio of 1: 1 for 21 days. With 3 treatments with 3 replications and 1 control

The results of this study showed that the treatment with the addition of bacterial isolates obtained the highest yield of 813 in the second week and the longest flame was 6.61 seconds in the second week, the highest treatment with the addition of fungal isolates was 700 ml in the second week and the longest flame was 2.64 seconds in the second week. the highest addition of bacterial and fungal isolates was 754 ml in the second week and the longest flame was 683 in the third week.

In this study it can be concluded that the volume of biogas increased in the first and second weeks, decreased in the third week. The largest volume of biogas obtained was in the treatment of adding bacterial isolates. In the measurement of the flame, it increased every week and the longest flame was obtained in the treatment of adding bacterial and fungal idols.

Keywords : Biogas, Tomato waste, isolate bacteria and fungi.