BIOGAS PRODUCTION USING WASTE MILK FROM DAIRY FARM IN KUNINGAN, WEST JAVA

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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Dairy farm waste such as cow dung and waste milk are pollutants that can be mitigate by produce it into biogas that can be an eco-friendly, very efficient and also to reduce environmental pollution around dairy farm. The research objectives of this study were to analyze the best condition to produce biogas from waste milk and the influence of temperature and ratio of substrate and inoculum for digestion process. The research method is changed from laboratory research into literature review format. The results showed that biogas production with food waste and waste milk can use cow dung, chicken manure, swine waste water, sludge and horse manure as inoculum. The ratio of inoculum and substrate between 0 : 100 until 70 : 30. The most influential factors in producing methane in biogas production is ratio of inoculum to substrate and temperature. It is concluded that for biogas production using waste milk as substrate and cow dung as an inoculum, the best condition is in thermophilic condition (55 ˚C) with a ratio of cow dung and waste milk 70 : 30 for 30 days digestion process.

Keywords: Biogas, Cow dung, Waste milk, Temperature, Ratio.

DEDICATION

I dedicated my effort for my parents, my grandma, my big family, my special person, my beloved friends who always support me and love me forever

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I hope this thesis will be useful for reference especially to my SEE junior who need inspiration on sustainable energy and environment.

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