

Volatile fatty acids analysis in anaerobic digestion of cattle manure

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Abstract. Methanization of biowaste under anaerobic conditions leads to the generation of biogas which, after purification, could be valorized for the production of biofuel, electricity and / or heat.

Energy recovery by anaerobic digestion of waste from an agricultural farm was studied. The anaerobic digestion of 7 kg of waste was carried out in a thermophilic reactor working in a wet way. The cumulative total amount is 127 l with an average methane content of 56%. The control of volatile fatty acid demonstrate the production and the consumption of different acids in the digestate. The concentration of acetic acid reach a very small value at the final step of the reaction.

Keywords: Volatile fatty acids, agricultural waste, anaerobic digestion, biogas, thermophilic digester.