

11. Study on Methane Fermentation Characteristics of Sewage Sludge in Sub-critical Water Treatment

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In today's social condition, in which construction of recycling society is demanded, sewage sludge is also demanded to be converted into resources and energy. Also from viewpoints of reducing costs for treating sewage and coping with insufficient final disposal sites, the amount of sewage sludge to be finally disposed of should also be reduced. With such a background, methane fermentation, which produces energy from sewage sludge by gas power generation, is attracting attention as a method for producing recyclable energy.

However, compared to wastes of food, sewage sludge is relatively difficult to decompose, takes long time to produce methane, and requires large facilities. In this study, the characteristics of methane fermentation of sewage sludge in sub-critical water treatment were investigated by conducting a laboratory-scale experiment. The economy of using the sub-critical water treatment method was also estimated.

Key words : sewage sludge, methane fermentation, sub-critical water, recycling