



















## CONCLUSION

In conclusion, by results of references analysis a mathematical model of three-stage biogas unit functioning was formulated, which includes the mathematical description of the following processes: process of organic substance transformation (each stage of methane fermentation model is chosen), substrate movement process at each stage (in bioreactors), CO<sub>2</sub> separation from the first stage and its sending to barbotage in the third fermentation stage, heat distribution in bioreactors. The research of methane fermentation regularities of cattle excrement in bioreactors by mathematical model method allowed determining the biogas output, methane concentration, substrate fermentation time and temperature at all stages of technological process of the modernized biogas unit.

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