EFFECT OF DIGESTATE FROM BIOGAS PLANT
ON THE NUMBER OF SELECTED GROUPS OF SOIL MICROORGANISMS

Key words: biogas plant, digestate, fertilization, microorganisms, soil

Summary

Commonly used methods of organic waste processing create possibilities to obtain products that, due to the high content of nutrients, can be used for agriculture purposes as fertilizers. The process of waste methane fermentation, focused on the biogas production, generates additional residual biomass called digestate. The research confirm the positive effects of digestate on the yield of crops. Equally important is the impact of such treatments on the number of soil microorganisms.

The aim of the study was to analyze the changes in the number of selected groups of microorganisms in the soil enriched with different doses of digestate. The experiment was conducted 12 months. Microbiological analyzes included determination of the total number of microorganisms, number of fungi and actinomycetes, proteolytic, amylolytic and cellulolytic microorganisms. The results show a moderate impact on digestate fertilization on the analyzed groups of microorganisms – after a year of experiment the results showed no statistically significant effect of digestate on the total number of microorganisms and the number of fungi and amylolytic bacteria.