

SEWAGE SLUDGE MANAGEMENT IN TORUŃ (POLAND), A CASE STUDY

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ABSTRACT

Sewage sludge formed during sewage treatment constitutes a serious economic problem. Therefore, its neutralization and adaptation are necessary for legal and aesthetic reasons, as well as for practical ones. The composition of sewage sludge is heterogeneous and diverse. It is also different in different sewage treatment plants, as its content depends on the composition of wastewater to be treated (first of all on the amount of industrial effluents). Apart from biogenes (nitrogen, carbon, phosphorus, potassium, calcium and magnesium), micro- and macroelements, sewage sludge may contain also heavy metals, pesticides and other persistent organic pollutants (POPs), such as phenols, polyaromatic hydrocarbons (PAHs) or polychlorinated biphenyls (PCBs), pathogenic bacteria, parasites and their eggs. Therefore, sewage sludge makes up a material with a high fertilizer content. Consequently, it is understandable that these valuable qualities of sewage sludge should be used for practical purposes. There are various methods of sewage sludge processing. One of them is composting, where compost is obtained from a sewage sludge as a result of many procedures and processes.

In the present work sewage sludge management systems are described. A comparison of the methods most often used for utilization and characterization of sewage sludge are also presented. The special point of view was management sewage sludge in Wastewater Treatment Plant in Toruń (Poland). Each step of the process is presented in details from the give off activated sludge to the application of e.g. compost in reclamation site.