Analysis of the sorption complex in sandy soils fertilized with differently dried sewage sludge

Ewa Stanczyk-Mazanek*, Longina Stepniak, Marlena Piatek

Institute of Environmental Engineering, Częstochowa University of Technology, Brzeźnicka 60a, Częstochowa 42-200, Poland
Tel. +48 34 3250917; email: stanczyk@is.pcz.czest.pl

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ABSTRACT

Sewage sludge is an important problem in sludge management. One of the options in sewage sludge management is using them as fertilizers provided that the provisions stipulated by the Ordinance of the Minister of the Environment are met. The aim of this study was to measure the changes in the properties of sorption complex in sandy soils fertilized with sewage sludge and manure. The sewage sludge after natural (drying beds) and solar drying was added to the sandy soil. Cattle manure was used for comparative purposes. The following doses of organic fertilizers were used: 0, 10, 20, 30 and 40 mg ha\(^{-1}\) calculated per experimental pot that contained up to 10 kg of sandy soil. Over the period of 12 months of the experiment, the changes in hydrolytic acidity and active acidity were analysed in the fertilized foundations. After analysing the obtained results, one can conclude that the use of sewage sludge and manure significantly impacted on the properties of sorption complex. The study confirmed that the use of sewage sludge had an essential effect on the phenomenon of acidification of soils which was observed during the determination of the hydrolytic acidity.

Keywords: Soil; Sewage sludge; Cattle manure; Sorption complex; Humic substances