



METALS CONCENTRATION IN SOILS ADJACENT TO WASTE DEPOSITS

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Abstract

The paper presents original results concerning concentrations of eight heavy metals in soils adjacent to two improperly built municipal waste deposits located in Eforie Sud and Techirghiol, Constanta County, Romania. Measurements have been done on surface and depth soils, during April-October 2006. The applied analytical technique for metal determination was flame atomic absorption spectrometry (FAAS). The mean measured values ranged as follows (in mg/kg dry weight): Cd: 0.09 – 0.15; Co: 7.92 - 9.27; Cr: 11.37 – 13.86; Cu: 16.91 – 20.92; Mn: 379 – 441; Ni: 20.58 – 28.95; Pb: 7.24 – 9.08 and Zn: 44.28– 49.93. Except nickel all other metals concentrations have been founded below the accepted limits by the Romanian regulations. As a general observation, in depth soil samples the concentrations were higher for Cr, Cu, Ni and Pb, or similar for Mn, Zn, than in surface samples. Cadmium and cobalt have different concentration evolution between depth and surface samples, in the studied locations.

Key words: heavy metals, soils, FAAS, waste deposits

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