



## **Heavy Metals Pollution of Alluvial Soil in the Copșa Mică Area**

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**Abstract:** The objective of our study was to determine the concentrations of heavy metals (Cd, Cr, Co, Cu, Mn, Ni, Pb, Zn and Fe) from soil samples, which have been previously treated with HNO<sub>3</sub> and concentrated HClO<sub>4</sub>. The study was performed on a series of 24 soil samples and one soil profile, collected from the alluvial soil in the Copșa Mică area. The concentrations of heavy metals were determined using Atomic Absorption Spectrometry. The pH was determined by using the potentiometric method in aqueous suspension, at a soil: water rate of 1:2.5 with the help of a combined electrode from glass-calomel. The sampling area is located approximately 4 km to the west of the main source of contamination. While determining the heavy metals from horizons 0-20 cm and 0-40 cm, we have also determined heavy metals content in a soil profile up to 210 cm depth. In the top soil (0-20 cm), the results obtained from the analysis of those 12 samples of soil show that average contents of Cd, Cr, Co, Cu, Mn, Ni, Pb, Zn surpass the admitted maximum limits from the legislation (Ordinance of Government 756/1997) by 12.8 times higher for Cd, 1.4 times for Cu, 16.4 times for Pb and 6.4 time for Zn.

**Keywords:** *heavy metals, soil profile, Copșa Mică, soil pollution*

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