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## INFLUENCE OF POLLUTION LEVEL ON HEAVY METALS MOBILITY IN SOIL FROM NW ROMANIA

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### Abstract

To assess the influence of pollution degree on the heavy metals (Cu, Cd, Zn, Pb) mobility in soil, total metals content obtained by extraction in *aqua regia* and extractable contents in a buffered diethylenetriaminepentaacetic acid (DTPA) solution were measured using inductively coupled plasma optical emission spectrometry (ICP-OES) and inductively coupled plasma mass spectrometry (ICP-MS). Soil samples were collected from two areas from NW Romania with different pollution levels: a mining area (Baia Mare) and a rural area (Iclod). High pollution level with heavy metals was found in Baia Mare area, whereas contents of metals in Iclod did not exceed the alert limits established by Romanian legislation. The percentages of extractable metals were calculated, and correlations between soils pollution levels and heavy metals mobility were made. The results showed that despite the significant difference between the total metal content in soil from the two regions, estimated as the *aqua regia* extractable content, the percentages of DTPA extractable metals were comparable for Pb and Zn, while those for Cu and Cd were higher in the polluted region. However, significant correlation coefficients were found between total and mobilisable metals content in unpolluted site compared to the polluted site.

*Key words:* DTPA extraction, heavy metals mobility, soil pollution

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