

HEAVY METAL ANALYSIS BY MOSS SPECIES IN THE BLACK SEA REGION OF TURKEY

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ABSTRACT

The heavy metal analysis of mosses in the Black Sea region of Turkey was determined using atomic absorption spectrometry method. The procedure was also validated by analysis of standard reference material (IAEA-336 Lichen). A qualitative analysis showed that the samples contained chromium, manganese, cobalt, nickel, copper, zinc, and lead. While the mean concentration values of Cr, Mn, Co, Ni, Cu, Zn, and Pb in the moss samples collected from city centers are 60.6, 820, 12.2, 18.8, 293, 181 and 39.8 mg.kg⁻¹, the mean concentration values in the moss samples collected from the city intervals are 43.8, 761, 11.0, 15.6, 242, 170 and 38.4 mg.kg⁻¹, respectively. Since this study was a heavy metal analysis along the highway, evaluation of these elements with their potential hazards for ecology and human was briefly discussed. A strong relationship was observed between Pb concentration and the traffic density.

KEYWORDS: Moss; heavy metal analysis; atomic absorption spectrometry; Black Sea region

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