

Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

Contamination of Roadside Soil, Plants, and Air With Heavy Metals in Jordan, A Comparative Study

Qasem M. JARADAT, Kamal A. MOMANI
Chemistry Department, Mu'tah University
P.O.Box 7, Al-Karak JORDAN

 [Keywords](#)

 [Authors](#)



chem@tubitak.gov.tr

[Scientific Journals
Home Page](#)

Abstract: Copper, lead, cadmium, and zinc levels were analyzed by atomic absorption spectrophotometry in surface soil, plants, and air samples taken from both sides of the major highway connecting Amman with the southern parts of Jordan. Elevated levels of the studied elements were found in both soil and plants on the east side and on the west side of the road compared with the background values. The higher levels of heavy metals east of the road were due to the westerly prevailing wind at the sampling sites. The contamination decreased exponentially with distance from the edge of the road and dropped to the background level at about 60 m. In soil samples, the average concentrations, 1.5 m east of the highway, were 29.7, 0.75, 188.8 and 121.7 μ g/g for Cu, Cd, Pb, and Zn, respectively. The levels of these elements in plants 3 m east of the highway were 31.3, 7.3, and 98.7 μ g/g for Cu, Pb, and Zn, respectively, whereas for air they were 0.40, 0.94, and 0.26 μ g/m³. The values of the heavy metals