

Research Article

Study on the accumulation of Pb and Ni content in soil near the National Highways in Allahabad

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Summary

Study on the accumulation of Pb and Ni content in soil along the highways has been studied by the analysis of soil sample. This study aimed at understanding the contamination trends of heavy metals on soils due to vehicular emissions. The heavy metals (Pb and Ni) concentrations were determined for soil samples obtained along the roadside at 10m, 20m and 30m and 500m (control) with 0-15 cm and 15-30 cm soil depth from the two national highways viz., NH-2 and NH-96, which are the busiest in the district and soil sample were collected during 2011 and 2012. Heavy metals were determined with Perkin-Elmer 400 atomic absorption spectrophotometer (AAS). The concentration levels for Pb in soil sample were from 0.34 mgkg⁻¹ to 1.19 mgkg⁻¹ and Ni in soil was from 0.13 mgkg⁻¹ to 4.29 mgkg⁻¹. Higher content of heavy metal have been observed on soil samples in 10m distance and minimum observed in 30m distance. This study indicated that the heavy metal contents decreased with increasing distances from the highway. The concentration of the heavy metals suggests that vehicular and traffic activities are a major source of these metals in the roadside soil within the study area.

Key words : Heavy metals, National highway, Soil, Vehicular pollution

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