

## 西安城市路边土壤重金属来源与潜在风险

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Sources and potential risk of heavy metals in roadside soils of Xi'an City.

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**摘要** 应用X-Ray荧光光谱仪对西安城市路边土壤重金属含量进行测定, 运用相关分析、主成分分析和聚类分析探讨了路边土壤的重金属来源, 并利用潜在生态风险指数法评价了其生态风险. 结果表明: 西安城市路边土壤中Co、Cr、Cu、Mn、Ni、Pb和Zn的平均含量均高于陕西土壤背景值. 路边土壤中As、Mn和Ni主要来自于自然源和交通源, Cu、Pb和Zn主要来自交通源, Co和Cr主要来源于工业源. 潜在生态风险评价结果显示, 西安城市路边土壤中重金属元素属于中等污染程度, 具有中等潜在生态风险.

**关键词:** [路边土壤](#) [重金属污染](#) [潜在生态风险指数](#) [多元统计分析](#) [西安市](#)

**Abstract:** Based on the X-Ray fluorescence spectroscopic measurement of heavy metals concentration in roadside soil samples from Xi'an City, and by the methods of principal component analysis, cluster analysis, and correlation analysis, this paper approached the possible sources of heavy metals in the roadside soils of the City. In the meantime, potential ecological risk index was used to assess the ecological risk of the heavy metals. In the roadside soils, the mean concentrations of Co, Cr, Cu, Mn, Ni, Pb, and Zn were higher than those of the Shaanxi soil background values. The As, Mn and Ni in roadside soils mainly came from natural source and transportation source, the Cu, Pb, and Zn mainly came from transportation source, and the Co and Cr mainly came from industry source. These heavy metals in the roadside soils belonged to medium pollution, and had medium potential ecological risk.

**Key words:** [roadside soil](#) [heavy metals pollution](#) [potential ecological risk index](#) [multivariate statistical analysis](#) [Xi'an City](#)

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. Sources and potential risk of heavy metals in roadside soils of Xi'an City.[J]. Chinese Journal of Applied Ecology, 2011, 22(07): 1810-1816.

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