

عنوان مقاله:

Characterizes of heavy metals in arable and greenhouse soils in Jiroft, one of the most productive agricultural systems.

محل انتشار:

سومین کنفرانس برنامه ریزی و مدیریت محیط زیست (سال: 1392)

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خلاصه مقاله:

This study characterizes and compares Cr, Ni, Pb, Cu, Zn and Cd (HMs) contents and the main edaphic parameters in arable soils (AS) with greenhouse soils (GS) from southern areas of the Kerman province, in Jiroft, one of the most productive agricultural systems in Iran. We explored 32 GS and 27 AS, representing local and regional scales of variation in this important Jiroft area. The hazardousness of HMs was particularly relevant in GS where agricultural practices, which centre on maximising production, end up with products that finally enter the human food chain directly. Despite their similar edaphic characteristics, the main differences between AS and GS were nutrients and HM contents such as P, K, Cd, Pb and Zn, suggesting the widespread use of agrochemicals in greenhouse farming. Cd concentration in GS tripled that in AS. Here, we conclude that despite anthropogenic HM input, the association patterns of these elements were similar on the two spatial variability scales. Cd, Pb and Zn contents, and partly those of Cu, were related with agricultural practices. On the short spatial scale, grouping these HMs gave very high contents in GS. The associations found with Cr and Ni suggest a lithogenic influence combined with a paedogenic effect on spatial maps; this natural origin input becomes more marked on the long spatial scale represented by AS, where the main Cr and Ni contents were found in the vicinity of Mountain areas not influenced by human activities.

کلمات کلیدی:

Heavy metals, Greenhouse soils, Arable top soils, Spatial variation, Multivariate geostatistics

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