Migration of Cu and Pb along the soil columns from e-waste contaminated soil

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Uncontrolled e-waste recycling activities can cause many environmental pollution problems in surrounding areas. Heavy metal pollution is one the key issues in these contaminated sites. In the present study, repacked soil columns with e-waste contaminated soils and unpolluted calcareous subsoils were used to investigate the migration of Cu, Pb, DOC, major cations and anions at various irrigation rates with synthetic rainwater and acid rain. The results demonstrated that the increased mobilization of DOC and lower pH increased the leachability of Cu and Pb in the e-waste contaminated soils. Dissolved Cu and Pb showed gradual increase along the profiles in the e-waste contaminated soil layers, and dropped to the background levels within 2 cm in the clean subsoil underneath. The concentrations of Cu, Pb, DOC, and other ions were generally increased with the increasing flow rates. This study showed the possible leaching and long term risk of metal contaminants at these e-waste contaminated sites

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