

## عنوان مقاله:

Plants Role in Reducing Heavy Metals from Polluted Soil Leachate

## محل انتشار:

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## خلاصه مقاله:

**Aims** In the past few decades, more attention has been paid to clean up soils polluted with heavy metals by plants. A serious problem in this way is the amount of heavy metal uptake by plants. This study was conducted to evaluate the effectiveness of 3 local plants of Mazandaran province, Iran, in reducing and controlling the soil's heavy metals. **Instrument & Methods** The removal amount of three heavy metals (lead, zinc and cadmium) by native plants (maize, velvetleaf and wild amaranth) was investigated in alkaline (pH=8) and acidic (pH=5) soils and also using three substances such as EDTA, ammonium citrate and phosphate. The concentrations of these metals in leachate were measured by using atomic absorption spectrometry method. **Findings** Lead, cadmium and zinc levels in leachate in treatments with plants were less than unplanted ones. The concentrations of these metals in the produced leachate of treatments with acidic soils were higher than those with alkaline soils. In the treatments of soil polluted with additives, treatments containing ammonium phosphate and EDTA had the lowest and highest concentrations of heavy metals, respectively. Concentrations of these metals in treatments without plants were higher than those with plants. **Conclusion** Increasing of soil pH is effective on stabilization of heavy metals in soil. Ammonium phosphate plays an important role in stabilizing and EDTA and ammonium citrate increase the mobility of lead, zinc and cadmium in soil and groundwater

## کلمات کلیدی:

Metals, Heavy; Soil; Plants; Water Pollutants, Chemical

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