ABSTRACT

Phytoremediation is emerging as a potential cost effective solution for the remediation of the contaminated soils.

Pot experiments were conducted during the growing seasons of years 2005-2007 in Gemmeiza Agriculture Res. Station., Gharbia governorate to investigate the efficiency of some selected plant species (*Brassica juncea, Linum usitatissimum, Hibiscus cannabinus and Corchorus olitorius* plants) to absorb some elements i.e Fe, Mn, Zn,Cd, Ni and Pb from the contaminated soil from El-Gabal Al-Asfar and Abu Rawash farms. The investigated plant parameters were, growth criteria, photosynthetic pigments, mineral and heavy metals content.

Investigated plants (*B.juncea, L. usitatissimum, H.cannabinus and C.olitorius*) were grown in soil irrigated with sewage water to evaluate their ability to accumulate high concentration of the tested heavy metals.

Hordum vulgare (barley) plants were cultivated as an indicator to evaluate the efficiency of the phytoremediation.

The results indicate varied efficiencies of the four plant species to absorb Fe, Mn, Zn, Cd, Ni and Pb from
the contaminated soils as hyperaccumulators. The highest heavy metals uptake was attained by *B. juncea* and *Hibiscus cannabinus* plants.

This study recommended the use of *B. juncea* and *H. cannabinus* plants in phytoextraction purpose, because they have high biomass, high tolerance of heavy metals and high translocation factor for heavy metals.

Keywords:

- Heavy metals
- Phytoextraction
- Phytoremediation
- Heavy metals hyperaccumulators

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