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## *Pollution and Monitoring*

# STUDY OF COPPER AND CADMIUM ACCUMULATION BY BEAN

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### Abstract

Bioremediation of heavy metal contaminated soil is one of the major concerns of our days. Phytoextraction has been lately utilized as an alternative of *in situ* remediation technology for polluted soils but is generally perceived to be too slow. Even so, phytoextraction is an efficient long lasting, accessible and environmentally friendly technique. The aim of this paper was to evaluate the phytoextraction potential of bean (*Phaseolus vulgaris*) in stress conditions induced by heavy metal ions like Cu (II) and Cd (II). Germination tests and pot experiments were carried out. Plants were grown in plastic pots on sandy soils contaminated with the solution of different concentrations of Cu (II) and Cd (II) ions. Seed germination, seedling growth (roots and shoots), roots, stems and leaves length and wet biomass were determinate. Copper and cadmium contents were measured in dry tissue (roots, stems, leaves) by flame atomic absorption spectrometry. Accumulation level of copper and cadmium was higher in *Phaseolus vulgaris* roots than in shoots. It seems that a higher concentration of copper ions added at the starting of experiment block their access in roots, interfering with the transport process in steam tissues.

*Key words*: bioremediation, hyperaccumulator plant, heavy metals bioaccumulation

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