

The Potential of *Commelina bengalensis*, *Amaranthus hybridus*, *Zea mays* for Phytoremediation of Heavy Metals from Contaminated Soils

Kimenyu, PN; Oyaro, N; Chacha, JS; Tsanuo, MK

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Abstract

Population in urban centres in Kenya is increasing rapidly due to rural urban migration in search of better paying jobs. This migration has resulted in unauthorized settlements in the various urban centres. The income per capital of these people is less than a dollar a day. The amount of money is inadequate for survival and this has resulted into cultivating on open grounds for food crops. Unfortunately, these slums have come up along rivers, which carry, wastewater from household and industries. This wastewater is rich in heavy metals and the inhabitants of these areas use this contaminated water for irrigating their crops. The food crops from such areas have very high levels of heavy metals. The present study has screened *Zea mays*, *Commelina bengalensis* and *Amaranthus hybridus* for their ability to bioaccumulate these metals from contaminated soils using atomic absorption spectrophotometer (AAS). The results obtained showed that the *C. bengalensis* has high potential for removal of Cu, Pb and Cd metals as compared to the *Zea mays* and *Amaranthus hybridus* even though, results showed that *C. bengalensis* has a low potential for the removal of Zn as compared to *Zea mays* and *Amaranthus hybridus*.

Keywords

Phytoremediation; *Zea mays*; *Commelina bengalensis*; *Amaranthus hybridus*; AAS; soil; phytoextraction; accumulation; zn; cd; pb