

## Characteristics of Soils and Crops' Uptake of Metals in Municipal Waste Dump Sites in Nigeria

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**ABSTRACT** In Nigeria, soils in municipal waste dump sites commonly serve as fertile ground for the cultivation of a variety of fruits and leafy vegetables and the soils are also used as 'compost' by farmers without regards for the probable health hazards the heavy metal contents of such soils may pose. It was this concern that informed the characterization of soils and crop plants in selected dump sites in Nigeria with particular reference to the heavy metal content, and the assessment of the potential of the crops to mine and deploy heavy metals to their edible portion. The result showed that soils in municipal waste dump sites are higher in heavy metals: Zn, 63.2-102.11; Co, 36.0-132.14; Cu, 36.5-72.99; Pb, 63.58-418.58 and Cd, 17.00-47.06 µg/g and that crops growing in the dump sites bio-accumulate considerably higher metal contents than those in normal agricultural soils. It was also observed that crops differ in their ability to up-take metals. Therefore to minimize heavy metal load of soils in dump sites, sorting of wastes at source, provision of an enabling statutory regulation on waste management, and the enforcement of the compliance of such statutory regulation to be the responsibility of a unit of the Health Department, in the Local Government Council, are suggested. Those wastes that pose greater health hazards should be properly land-filled to reduce environmental pollution and /or soil degradation.

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