Lead Contamination of Topsoil and Vegetation in the Vicinity of a Battery Factory in Nigeria

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Abstract

Levels of Pb, Zn, Cu, Cr, Ni and Cd were determined in topsoil and vegetation in the vicinity of a factory manufacturing lead-batteries in Ibadan, Nigeria. The samples were collected along five transects in different directions, and varying distances up to 1000 m from the factory. Soil lead levels were found to be elevated around the factory, with average levels of about 2000 mg kg$^{-1}$ close to the fence that declined gradually to about 50 mg kg$^{-1}$ some 750 m away. Soil-lead level around a primary school located about 500 m from the factory was as high as 1450 mg kg$^{-1}$. Lead levels were equally elevated in the vegetation, though average levels in vegetation were slightly lower than in the soil. Cadmium concentrations in soil and vegetation, though low, were more positively correlated with lead levels than any of the other metals are with lead.