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**Effect of agrochemicals on metal speciation and their associated health risk in soil and vegetable species****Makanjuola Olatunji Mojeed and Bada Babatunde Saheed**  
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There is increasing global concern over the adverse effects of inorganic fertilizer and pesticides application on agricultural soils. Therefore, this study investigated the effect of agrochemical treatment on metal speciation and associated health risks in soil and vegetables species. 24 soil samples and nine varieties of vegetable species were collected from farm settlement in Ikorodu, Lagos, Nigeria and sequentially extracted using standard method. Extracts were analyzed for heavy metals using atomic absorption spectrophotometer, while health risk was assessed using United States Environmental Protection Agency (USEPA). The result reveals the redistribution pattern of heavy metals among the soil mineral components after chemical treatment. A comparison of metal concentrations in soil and vegetable species with standard set by USEPA shows that Cd level in the soil ( $13.54 \pm 1.21$  mg/kg) and vegetables ( $0.83 \pm 0.05$  mg/kg) were above the critical permissible limit of 3.0 mg/kg and 0.2 mg/kg respectively. Based on soil pollution indices used for this study, it was deduced that the soil was practically not contaminated with all metals investigated in the soil except Cd which have very high Contamination Factor (CF), Contamination Degree (CD), Pollution Load Index (PLI) and geo-accumulation index (Igeo). The cancer risk of heavy metals in the soil ranged from  $1.02E-11$  to  $9.90E-10$  and  $6.70E-11$  to  $8.61E-09$  for children and adult while that of vegetable species ranges from  $6.03E-11$  to  $10.8E-10$  and  $3.70E-11$  to  $6.61E-09$  for children and adult respectively. The level of cancer risk falls below the threshold values ( $10^{-4}$ – $10^{-6}$ ) which US Environmental Protection Agency considered as unacceptable risk.

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