Distribution of Lead and Arsenic in Soils from Four Florida Cities. (S11-chirenje123447-Oral)

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Abstract:

Arsenic (As) and lead (Pb) contamination is of great concern due to their negative effects on human health. The soil cleanup target level (SCTL) for As in Florida (0.8 and 3.7 mg/kg for residential and commercial areas, respectively) lies within the range of background levels. The corresponding SCTLs for Pb (500 and 1000 mg/kg) are relatively higher, but concerns about Pb remain high in urban areas. The objective of this study was to determine As and Pb distribution in Florida urban areas. Soil samples were collected from three land use classes (residential, commercial and public land) in four cities, Daytona Beach, Ft Lauderdale, Gainesville and Miami, digested, and analyzed using EPA method 3051a. The mean soil Pb and As concentrations varied greatly in all four cities, with geometric mean (GM) Pb values of 20 and 100 mg/kg in Gainesville and Miami, respectively, and GM As concentrations ranging from 0.22 to 700 mg/kg in all four cities. In general, residential and commercial areas had higher As and Pb concentrations than public buildings and parks. These results can be used to provide a yardstick against which future changes in As and Pb concentrations can be measured.

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