Sequential Extraction of Zn in Oxisols from Brazil. (S11-silveira122429-Poster)

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Abstract:

Sequential extraction procedures have been used to assess the mobility of metals in soils and sediments. Many different sequential schemes have been proposed to extract metals from specific fractions, but most of them are not suitable for tropical soils. Surface (0-0.2 m) and subsurface (B-2 horizon) samples were taken from two Brazilian soils: a heavy clayey-textured anionic Rhodic Acrudox (RA) and a medium-textured anionic Xanthic Acrudox (XA) in order to develop a method for sequential extraction of Zn in the following fractions: soluble/exchangeable, oxide surface, organic matter, Mn oxide, amorphous and crystalline Fe oxides, and residual. Zinc was found to be in insoluble forms and its distribution in the solid phase depended on soil attributes. For the RH soil, 93-95% of the total Zn was related to crystalline Fe oxides and the residual fraction. On the other hand, for XA, 96% of the total Zn was bound to Mn oxides and amorphous Fe oxides. For Oxisols, Fe and Mn oxides played significant roles in the immobilization of Zn.

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