

Lead in The Soil-Plant System Following Aged Contamination from Ceramic Wastes

Authors : F. Pedron, M. Grifoni, G. Petruzzelli, M. Barbaferi, I. Rosellini, B. Pezzarossa

Abstract : Lead contamination of agricultural land mainly vegetated with perennial ryegrass (*Lolium perenne*) has been investigated. The metal derived from the discharge of sludge from a ceramic industry in the past had used lead paints. The results showed very high values of lead concentration in many soil samples. In order to assess the lead soil contamination, a sequential extraction with H_2O , KNO_3 , EDTA was performed, and the chemical forms of lead in the soil were evaluated. More than 70% of lead was in a potentially bioavailable form. Analysis of *Lolium perenne* showed elevated lead concentration. A Freundlich-like model was used to describe the transferability of the metal from the soil to the plant.

Keywords : bioavailability, Freundlich-like equation, sequential extraction, soil lead contamination

Conference Title : ICEBESE 2018 : International Conference on Environmental, Biological, Ecological Sciences and Engineering

Conference Location : Paris, France

Conference Dates : April 19-20, 2018