

عنوان مقاله:

Effects of Heavy Metals Pollution in Soil and Plant

محل انتشار:

همایش ملی شیمی پاک (سال: 1393)

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خلاصه مقاله:

The term 'heavy metal' is often used to cover a diverse range of elements, which constitute an important class of pollutants. With the industrial development, the production and emission of heavy metals have increased. Some metals, e.g. Mn, Cu, Zn, Mo and Ni, are essential or beneficial micronutrients for microorganisms, plants, and animals, but at high concentrations all these metals have strong toxic effects and pose an environmental threat. Heavy metals have received the attention of researchers all over the world, mainly due to their harmful effects on plants, especially those on vegetative and generative parts of the plants. The presence of heavy metals in different foods constitutes serious health hazards, depending on their relative levels. For example, cadmium and mercury injure the kidney and cause symptoms of chronic toxicity, including impaired kidney function, poor reproductive capacity, hypertension, tumors and hepatic dysfunction. Lead causes renal failure and liver damage. Some other metals (e.g. chromium, zinc and copper) cause nephritis, anuria and extensive lesions in the kidney. Therefore, the problem of food contamination (including fish) by toxic metals is receiving global attention. Soil adjacent to the industrial area contains the highest concentration of heavy metals. Among heavy metals, lead and cadmium are not essential elements for plants and are generally of low availability in soils, investigated the cadmium and lead uptake grown in three different textured soils and found Cd and Pb concentration in plant parts were highly correlated with Cd and Pb application, respectively. Similarly, the essentiality of chromium for plants has not been demonstrated, whereas the importance of nickel has been documented by a few scientists. Zinc and iron are essential nutrients for plants. The heavy metals of most concern are cadmium and zinc, as these show great mobility in the soil environment.

کلمات کلیدی:

Pollution, Heavy metals, Industrial effluent and Agricultural soil, Plant

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