

P86. METAL TOXICITY IN AGRICULTURE

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Soil is being polluted by heavy metal accumulation, exponential industrial areas, fertilizers used on agricultural lands, pesticides; and on the other hand sewage mud, coal combustion wastes, leaded gasoline and paint. Heavy metals are ranked among the most destructive soil pollutants. Lead (Pb), chrome (Cr), arsenic (As), zinc (Zn), cadmium (Cd), mercury (Hg) and nickel (Ni) often occur in contaminated soil which are among hazardous chemicals. One of these heavy metal ions; Cd is an important soil pollutant. Heavy metal accumulation in agricultural lands is closely related to soil characteristics. Especially pH of the soil, organic compound amount, cation transition capacity are the most important soil characteristics which effect heavy metal behaviours and convection to the plant in clay mineral type soil. Convection of heavy metals to animals and humans by agricultural production, and related to this accumulation concentration in environment, animals and humans are effected by physical, chemical and biological characteristics of soil. Heavy metals in the soil block physiological activities of plants, decrease productivities and cause their death. At the same time they cause decrement of crop quality and quantities. On the other hand residues on the crops cause economical loss by effecting exportation. Heavy metal pollution in the soil may be harmful for human and ecosystem by contacting polluted soil, food chain (soil –plant – human or soil–plant–animal–human), and polluted groundwater. Type of amount of heavy metal is effective in accumulation of heavy metals in human body. Toxic heavy metals cause biological activity disorders, consequently various diseases even plenty of cancer varieties.

Toxical effects of high degree heavy metals which are being used for different purposes in Turkey agricultural lands on soil, water, agricultural crops and human health will be discussed in this compilation.