POSSIBILITIES OF WATER PURIFICATION USING THE RHIZOFILTRATION METHOD

Key words: heavy metals, phytofiltration, phytoremediation, vascular plants, water pollution

Summary

Pesticides, surfactants, petroleum hydrocarbons, phenols, chlorinated derivatives of biphenyls and heavy metals such as lead (Pb), copper (Cu), chromium (Cr), cadmium (Cd), mercury (Hg) and zinc (Zn) are ranked among the most common anthropogenic environmental pollutions. Contaminated water can be subjected to purification using mechanical, chemical or biological methods. Phytofiltration is classified as one of phytoremediation technologies, in which plants are used to remediate contaminated water through absorption, concentration, and precipitation of pollutants. Presently, only very few plant species are known to be suitable for rhizofiltration technology. Such species can efficiently remove toxic metals from a solution, thanks to rapidly growing root systems. The selection of suitable plant material is still considered a difficult step, especially when purification of groundwater contaminated with a mixture of compounds is concerned. The advantages of rhizofiltration are described in this article, especially in relation to water reservoirs contaminated with heavy metals, and the vascular plant species used in this technology are reviewed.