ASSESSMENT OF SOME HEAVY METALS IN SOILS, DRINKING WATER, MEDICINAL PLANTS AND THEIR LIQUID EXTRACTS

Diana Diaconu1*, Victor Nastase1, Mara Mihaela Nănu2, Ovidiu Nechifor3, Elena Nechifor1

1University of Medicine and Pharmacy “Gr.T.Popă”, 11 University Street, 700145, Iași, România
2Liceal College of Arts “Marin Sorescu”, 2 Tabaci Street, 200642, Craiova, România
3“Ion Ionescu de la Brad” University of Agricultural Sciences and Veterinary Medicine Iași, 3 Aleea Sadoveanu, 700490, Iași, România

Abstract

Pollution with toxic metals is a serious concern, because once these elements enter in the soil they can be present for a long time, with the potential contamination of drinking water sources. Certain metals in soil may be taken up by plants which are subsequently harvested for human consumption. Our objective was to study the presence of heavy metals in soils, groundwater sources, some medicinal plants from areas of the water sources and in its watery extracts. All of the samples, after digestion, were analyzed by flame atomic spectrophotometer. The content of heavy metals was in the permissible levels for uncontaminated soils and in the drinking water samples. Trace element of the studied medicinal plants showed wide variability on average 10-30% of microelements passed in dry raw materials to the infusions conclusions. The mean concentrations of Cd and Pb in some plants exceeded the limits recommended for medicinal plants.

Key words: heavy metals, medicinal plants, soil, water

* Author to whom all correspondence should be addressed: e-mail: rodiaconu@yahoo.com, Phone: 0232 257970; 0746 857093