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### SOIL INVESTIGATION - THE PART OF ECOMEDICAL MONITORING

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## SOIL INVESTIGATION – THE PART OF ECOMEDICAL MONITORING

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The environment directly forms conditions for animal and human existence and activity. The health of human depends on many factors, and the environment pollution by harmful materials is one of main. The pollutes of antropogenic origin joins to complex of natural elements in the air, water and food and forms the element's structure of organisms. There are close connection between organisms structures and elemental composition of environment objects.

The ecomedical environment monitoring enables to realize reasons for some diseases. Methodical right and through composition analysis of ecomedical data and structure and dynamics of morbidity in concrete situation permits to ascertain contaminates and directs means how to reduce its damage. The pollution of soil would be like integral indicator of antropogenic pollution. Its indirectly characterize constant and lasting pollution of atmospheric air. Majority of chemical pollutes from atmospheric air with rain seetle and concentrate in soil, where its transform and detoksicate.

On the ground of ruch presumption we investigated soil from towns, settlements and villages in some Lithuanian districts. As object of study we took field soil, because it mostly act on countryman nourishments elemental structure. Ecohygienic state of soil was estimating by comparing with soil state in control station. The control stations were in places (mostly in villages) where antropogenic press was the least.

It has been ascertained that soil elemental structure in settlements of many districts not exceeded in settlements of many districts not exceeded BPC (the biggest possible concentracron). Only in some points, especially near higway the concentration of Zn and Cu exceeded BPC. Localities with potential polluters were more intensive pollute be heavy metalls to compare with control points. Far example the were found average 33,4mg/kg Zn in kitchen-garden soil of Joniškis town Vilnius street region at that time in control point only 15,4mg/kg (BPC - 23mg/kg). The concentration of Cu was 0,65 and 0,32 mg/kg respectively (BPC - 3,0mg/kg). There were almost doubly more Zn, Cu and Cr in kitchen-garden soil of Žagarė settlement then in soil of control area. Only in towns soil the concentration of Zn exceeded BPC in Naujoji Akmenė district. Analogical situation was noticed in Jonava and Širvintai districts. For investigations Širvintų district (without town) was divided in two areas: potential pollution conditioned Kėdainiai, Kaišiadorys and Vievis. The investigations showed, that soil in this areas have: Zn - 18,2; Pb - 0,27; Mn - 8,2; Cu - 0,16 and Cr - 0,20mg/kg, at that time in soil of control areas the concentrations of such elements where 9,6; 0,22; 6,8; 0,10; and 0,12mg/kg respectively.

Leave out of account that concentrations of pollutes in soil mostly did not exceed BPC, but its concentrations were reliably higher then in areas out points with potencial polluters. That confirm that ecogygienic investigations of kitchen-garden soil very quickly explain factors and scale of antropogenic pollution. Population which are adapting to low level of environment's pollution, could negatively react to pollution which don't exceed BPC. The biochemical structures of organism which maybe are even genetically adapte to act at certain concentration of heavy metalls could be disorder.