SULFUR POLLUTION OF SOILS LOCATED INTO THE INFLUENCE AREA OF COAL-FIRED POWER STATION ROVINARI

Claudia-Elena BĂLĂCEANU[1], M. DUMITRU[1], Anca-Rovena LĂCĂTUŞ U[1]
E-mail: balaceanu_claudia@yahoo.com
[1] Research and Development Institute for Soil Science, Agrochemistry and Environmental Protection Bucureş ti

Abstract The coal-fired power stations are particularly complex, important polluting agents. The chimneys for evacuation o f burning gases represent the high polluting sources on the environment, while the ash dumps – low sources. The Rovinari coal-fired power stations has an installed power of 1720 MW, including several energetic groups built in 1972-1979 period and it use as a fuel the lignite extracted by surface mining in the respective area. From the geomorphological viewpoint, this area belongs to the Câlnic-Câmpul Mare inter-hilly depression whose altitude, at the Rovinari, is 150 m. The soil forming factors causing the soil evolution have been the rock, parental material and relief, all of them determining the evolution of lithomorphic zonal soils. The soils in the analyzed area represented by the classes: luvisols, hydrisols, cambisols and protisols. The subject of this paper is dealing with the loading degree of soils in the territory affected by the emissions from the Rovinari coal-fired power station. In this, soil samples have been collected from 40 main soil profiles oriented to all the cardinal directions. These soil samples have been analyzed in order to know: pH, base saturation degree, humus, total nitrogen, mobile phosphorus and potassium and sulfur. Within the zone influenced by the Rovinari coal-fired power station, the main pollutants are sulfur dioxide, coal dust and the ash whi ch contains carbon as well as silicon dioxide, aluminium oxides, and alkaline and alkaline earth metals (Ca, Mg, K), pollution which affects the normal contents of soil, on the one hand, and the concentrations in plants and the human health, on the other hand.

Key words: pollution, soil, coal-fired power station