



Functional and environmental assessment of the urboecosystems designed in the biologically reclaimed landfill with industrial wastes (in Ryazan city)

Alexey Karyakin (1), Ivan Vasenev (2), and Svetlana Karyakina (3)

(1) Municipal Unitary Enterprise «Ecolozashchita», (2) Russian Timiryazev State Agrarian University, (3) Ryazan State Agrotechnological University

Regional environmental bodies' ability to understand, model and predict their soil cover environmental functions are especially important in case of landfill reclamation. The special attention has to be done to landfills with industrial wastes created earlier in frame of big city – comparatively closed to their residential areas. Dominated in Ryazan region sandy loam gray forest soils with not so high soil organic matter content and soil exchange capacity determine additional problems with landfill biological reclamation and continuous sustainable vegetation cover development. The modern environmental monitoring system has been developed in the big landfill with tanning industrial wastes from the biggest in Europe tannery to develop recommendation on the environmentally friendly reclamation technologies adapted to concrete landscape conditions and functional features of 2 m fresh soil-ground coating the landfill surface. More detailed monitoring system has to be developed to assess the regulatory environmental functions of the regenerated soil cover to minimize the reclaimed landfill' negative impacts on the urban ecosystem air, surface and ground water quality. Obtained result will be useful for similar landfills with tanning industrial wastes environmental impact assessment and smart design.