

USE OF THE METHOD OF BIOTESTING OF ECOLOGICAL CONDITION IN THE URBAN ENVIRONMENT

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Methodological approaches biotesting environment is especially important in modern urban planning. The novelty of this problem caused by acute exacerbation of urban pollution and the impact of anthropogenic factors. The anthropogenic pressure on urban soils in the form of heavy metals, pesticides degrade them. Physico - chemical analysis of soil is quite specific and is not always able to determine whether they are contaminated. Biological method based on biotesting is quite simple, effective and does not require large economic costs.

The ecological condition of the metropolis, Novosibirsk and suburban settlements may be analyzed using a comprehensive approach in the study of the physical-geographical, geochemical, and biological methods. The latter is associated with such direction as industrial botany. The development of this branch of botany has become particularly important and necessary in the beginning of the XXI century, when increased anthropogenic influence on the ecological state of soils in the towns and villages in almost all regions of Russia, including Western Siberia. Fitoestrogeni (biotesting with higher plants) is a biological method of control and allows to give a favourable eco-Toxicological assessment of soils according to the total action of the toxicants present in the soil [1, 2]. However, the lack of rating scales toxicity of urban soils in the methods phytoestrogen hampers the monitoring studies.

Based on the method of measurement of seed germination and root length of seedlings of higher plants to determine the toxicity of anthropogenic contaminated soils developed by the Institution of the Russian Academy of Sciences Saint-Petersburg scientific center for ecological safety RAS, proposed by the authors [3]. This method allows to diagnose the levels of toxicity of polluted urban soils according to the results of the General condition of the plants on the scale: I - highly dangerous toxic II - dangerous toxic III - moderately toxic, IV - low-toxic, V - practically non-toxic. Determined the toxicity of soil samples selected in anthropogenic contaminated areas, Novosibirsk and Berdsk. Used in the work 11 pilot sites for different versions, presented in table 1. As a control sample used soil samples not subjected to anthropogenic impact, selected in a clean place (pilot Central Siberian Botanical garden, situated in the Priobskoye forest-steppe district agro-climatic province, near p. Kirovo aside from the main highway roads). As a test object in the lab and in an urban environment using *Tagétes hybridus*, grade Orange perfection. The rate of seeding on soil parallel detection (Petri dish) - 20 pieces, in three replications, respectively in each case. The results of the analysis were conducted according to the methods on the 5th day of the sprout stage of the coleoptile. Pascuali the number of germinated seeds in each Cup and measured the length of the main root. However, in terms of the urban environment according to different versions were made crops in the ground *Tagétes hybridus*, respectively, at each trial site, with a seeding rate of 100 pcs. of seeds in three replications.

Keywords: biotesting, *Tagétes hybridus*, growth and development, urban environment, toxicity soil, Novosibirsk.

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