



CHEMICAL POLLUTION OF SOILS OF UZBEKISTAN

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Annotation:

Prevention of chemical pollution of Uzbek soils and preservation for future generations.

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Today, the world community is involved in protecting, restoring and increasing the productivity of land resources around the world. Because land resources, which play a key role in ensuring the well-being of humankind, are becoming a common environmental problem on a regional or global scale. Therefore, it is the duty of every boy and girl to protect the soil. As a result of chemical pollution of the soil cover, a number of its properties change, in particular, chemical, physical, biological, biochemical, ecological and other properties. Changes in soil properties will of course depend on the type, nature, level and timing of pollution. As the properties of the soil change, so do the flora and fauna of the plant. Thus, the soil changes along with the life. When any chemical enters the soil, it first damages the biological world of the soil, in particular, the activity and quantity of microorganisms, the activity of enzymes. Microorganisms that live in soils that are conditionally considered clean soils, some are killed by chemicals that enter the soil, and some microorganisms weaken their activity. If the chemical composition of the contaminant is too harmful, the biological environment of the soil can be completely destroyed. After the biological world is damaged, the biochemical processes associated with them in the soil decrease, the chemical and other properties of the soil deteriorate. The following diagram shows the effect of chemical pollution on soil properties. One of the unique properties of soil is its natural self-healing properties. cleaning. That is, heavy metals, wastes, pesticides, oil and oil products, and radioactive substances that enter the soil are absorbed by various microorganisms when they enter the soil. For example, bacteria that break down oil and oil products, microorganisms that break down heavy metals and various minerals, and putrefactive and degrading microorganisms allow the soil to clean itself. The richer the biological world of the soil, the cleaner, more fertile and fertile the soil cover will be. All living things in the soil (microorganisms, plants and animals) make up its biomass. When we talk about the living world in the soil, we first think of the flora and microbiological world. As mentioned above, the living environment is initially damaged as a result of the appearance of chemicals on the soil cover in various forms and contents. Soil microorganisms (bacteria, actinomycetes, fungi, etc.), insects, vegetation, etc. are affected differently depending on the chemical properties of the contaminant. It turns out that a certain chemical that enters the soil cover affects several (complex) properties of it and leads to changes in other properties. In this case, the properties of the soil change through the following mechanisms: the process of decomposition of organic matter into humus is disrupted, and there are negative

changes in the group composition of humus; the microbiological world of the soil is severely damaged, and in some cases the main part is destroyed; the mobile form of nutrients (nitrogen, phosphorus and potassium) in the soil is sharply reduced; the activity of biologically active substances urease, polyphenol oxidase, catalase, invertase and other enzymes of the soil decreases; the respiratory activity of the soil slows down; as a result of changes in agrophysical properties the water and air regime of the soil is disturbed; changes in the circulation of materials due to changes in biochemical processes in the soil; Taking into account the above, it can be said that as a result of these factors, soil fertility decreases and the quantity and quality of crop yields are affected. One of the unique properties of soil is that it naturally cleans little by little. That is, heavy metals, wastes, pesticides, oil and petroleum products, radioactive substances that fall into the soil layers are absorbed by various microorganisms when they fall into the soil. For example, bacteria that decompose oil and oil products, microorganisms that decompose heavy metals and various minerals, putrefactive and degrading microorganisms allow you to clean the soil less. The richer the biological world of the soil, the cleaner, more fertile and fertile the soil cover will be. All living things (microorganisms, plants and animals) present in the soil make up its biomass. When we talk about the living world in the soil, we first think of its flora and microbiological world. Ocean biomass. Water is an important component of the biosphere and one of the most essential factors for the survival of living organisms. Most of the water is collected in the oceans, seas. Ocean and sea water contain mineral salts consisting of about 60 chemical elements. In the 100 m layer (top) of ocean waters, single-celled water horses grow. At the bottom of the ocean, there are many bacteria that convert organic matter into inorganic matter. When it comes to soil biomass, it can be said that the biomass created by the surface and underground parts of various plants and wildlife allows the soil to be supplied with organic matter for years to come. Soil biomass is accumulated in soil layers in different amounts and compositions according to different soil climatic conditions, soil properties and differences in human approach. The share of flora is large, with an average of 1.5-7 t / ha of leaves per year in forest, 2-6 t / ha per year due to terrestrial parts of plants, and 7-11 t / ha per year due to roots. According to NN Bazilevich, L. Rodin, NN Rozov, the total weight of biomass on our planet is 2.4230-1012 tons, of which 2.4200-1012 tons fall to land, 0.0030-1012 tons to oceans and other water bodies. The amount of photosynthetic plants on land is 2.4-1012 tons, animals 0.023-1012 tons, the total weight of soil microorganisms has not yet been determined. As a result of chemical pollution, soil fertility decreases and the quantity and quality of yields from agricultural crops are affected. The role of soil microorganisms is that a number of vital processes in the soil, nutrient depletion, biochemical processes, humus formation, respiration, etc. all take place in the presence of microorganisms.

The interaction of soil and living organisms is one of the main factors in the process of soil formation, the development of the biosphere and the evolution of life on our planet.

Soil microorganisms are a powerful "factory" that processes, decomposes, and radically alters the mineral fraction of organic waste that falls to the ground each year. If the remains of plants and other living organisms, which remain on the earth every year, were accumulated in large numbers, it would not be possible for life to continue without being left behind. At the same time, nutrients would be in the form of organic compounds that plants do not accept. Microorganisms break down the organic residues that remain in the soil each year, turning the substances they contain into plants that can be digested by plants.

From the data presented, it can be seen that the biomass of the ocean is a thousand times less than the biomass of the land, in other words, the ocean is a biological desert not in terms of biofertility but in terms of biogeochemistry. At the same time, the bulk of the 3 million species of living organisms on our planet live in the soil. It is estimated that there are more than 500,000 species of plants and 1.5 million species of animals on Earth.

The impact of chemical pollution on the quantitative and structural changes in soil biomass is increasing year by year. For example, if we take the vegetation around the Navoi Mining and Metallurgical Combine, the vegetation cover in the adjacent soil areas along the radius of the distance is 10-20%, and their annual biomass is also 30 km. is 5-6 times less than the biomass at a distance.

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