

# THE SIGNIFICANCE OF STUDYING THE MORPHOBIOLOGICAL CHARACTERISTICS OF DIFFERENT DEGREES OF SALINIZED SOILS OF THE KASHKADARYA OASIS

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**Annotation** The article presents the factors that affect the microbiological activity of the soils of Kashkadarya region with varying degrees of salinity and the achievements made as a result of their study. A brief description of the study of the biological activity of soils and the results of the research is given.

**Key words:** biological activity, variability, sulfur, copper compounds, humus content, minerals, primary parent rock, microorganisms

**Introduction** About a hundred years ago, deep scientific study of the soil began, which made it possible to determine its essence. Although this definition has changed several times over time, the words of V.V. Dokuchaev, the founder of scientific soil science, about soil have not lost their meaning to this day. The scientist considered the soil to be a unique living body of nature, which is as unique as plants, animals or minerals. According to him, the type of soil depends on the type of material from which it was formed, climate, vegetation, topography, age, and human activities that change the soil [1].

**Fertility** The main feature that distinguishes soil from other geological products is its fertility, that is, its ability to meet the nutrient needs of plants. Bedrock may contain many of the mineral compounds needed by plants, but it is not yet soil. It is formed only by the complex effect of chemical, biological and physical properties of the soil. Another important feature of the soil - reproduction - is the sum of all biological and non-biological processes that ensure the annual renewal of the stock of substances

necessary for the growth and development of plants. In natural conditions, non-terrestrial plants do not exist without soil[2].

**Research object and methods:** Researches are pale gray soils distributed in Akmal Ikramov Massif, Karshi District, Kashkadarya Region. Agrochemical properties of the studied soil, the level of supply of humus, phosphorus and potassium was studied.

In the field, chamber works, the Institute of Soil Science and Agrochemical Research, Kashkadarya region, the amount of humus - by the method of I.V. Tyurin, mobile nitrogen (NO<sub>3</sub>) - by the method of Grandval-Lyaju, gross nitrogen, phosphorus, potassium in one sample I.M. Maltseva, L.P. Gritsenko's method, mobile phosphorus and potassium were determined in 1% ammonium carbonate by Protasov's method. Phosphorus is very important for living organisms, but its beneficial forms are very rare in the soil. Phosphorus in the soil is mainly found in living organisms, dead plant organs, humus, mineral content of soils, soil solution. Compounds of phosphorus that are easily assimilated by plants are few in the soil, and most of phosphorus is formed from the decomposition of dead plant organs.

The main soils distributed in Uzbekistan contain enough potassium, and plants absorb it in the form of potassium ions. In plants, potassium creates an opportunity for colloid formation and keeps cells in a stable state. When there is a lack of potassium, the plants wither, and when there is too much, the osmotic pressure of the cell sap increases. Potassium has a positive effect on the synthesis and accumulation of a number of vitamins in plants. Potassium increases the osmotic pressure of cell sap, due to which the cold resistance of plants increases. For this reason, the amount of potassium in the soil is very important [4].

Object and subject: The massif named after A. Ikramov, Karshi district, is light gray soil, the subject is the amount of humus and nutrients in the soil.

methods: Chemical analysis of soil according to generally accepted methods Ye.V. Based on the manuals of Arinushkina (1970) and UzPITI (1963, 1977), humus composition - I.V. In the Tyurin scheme, mobile phosphorus and exchangeable potassium were determined by the Machigin-Protasov method using V. Sayfutdinova's manual [5].

Result: The soils of the massif named after A. Ikromov, Karshi district, were mainly composed of pale gray soils. The results of the analysis are presented in the table below.

**The result of the work progress:** In agrochemical analysis, the amount of gross and mobile nutrients in irrigated light gray soils has different indicators across the layers. The amount of humus, which is the main indicator of soil fertility, is not very high in irrigated light gray soils [3]. According to chemical analysis data, humus content in the upper layers of the given soil samples is 1.514-1.681 percent, and these soils form a group of soils sufficiently supplied with humus according to the current classification

**Conculution.** According to the amount of mobile phosphorus, the upper layers of the studied soil samples are in the range of 25.5-27.5 mg/kg, and these soil samples belong to the group of soils with a low level of mobile phosphorus. According to the amount of exchangeable potassium, the soils fluctuate in the range of 133-220 mg/kg.

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