PEDAGOG RESPUBLIKA ILMIY JURNALI

7 – TOM 1 – SON / 2024 - YIL / 15 - YANVAR SCIENTISTS WHO CONTRIBUTED TO SOIL PHYSICS

Marufjonov Javahirbek Student of Fergana State University Sayramov Fayzullo Student of Fergana State University

Abstract: In this article, you can get information about the scientists who contributed to the science of soil science and the soil physics part of soil science.

Key words: soil, scientist, physics, size, soil physics, fertility, granularity, viscosity, physical size

In the development of agrophysics, German scientists V. Schumacher (1864) and YE. The creative activity of Volnin (1878-1898) occupies an important place. In his book "Physics" (1864), Schumacher details the total physical properties of soils.

V.V. Dokuchayev, A.A. Izmailsky, P.A. KostichevYU G.N. Vysosky, P.V. Otosky, N.M. Sibirsev, A.G. Doyarenko, A.F. Lebedev, N.A. Kachinsky and others created an excellent program in the field of studying the agrophysical properties of the soil. Based on this program, taking into account that the soil is a natural rock, it is shown that all agrophysical properties should be studied in the genetic layers without their natural state being disturbed.

The 30s of the 20th century were an important period in the development of soil agrophysics in our country. In 1932 in Leningrad, academician A.F. On the initiative of Ioffe, a special institute of agrophysics was established. In 1943, the department of soil physics and land reclamation was opened at Moscow State University, now all soil science institutes in our Union have soil physics departments and special laboratories.

The above-mentioned special institutes and laboratories are currently conducting important scientific research in the field of soil physics, contributing to the development of necessary measures in the field of improving soil reclamation conditions and increasing their productivity.

In Central Asia, especially in Uzbekistan, the study of soil physical properties has taken an important place in solving the problems of increasing crop productivity in irrigated agriculture.

Since 1934, S.N. Under Rizhov's leadership, the physical properties and regimes of soils that have been irrigated since ancient times and are susceptible to irrigation have been studied. First, the mechanical and microaggregate composition, specific and volumetric mass, porosity, soil water forms and regimes, soil air, its thermal properties, and several other physical indicators of desert soils, as well as their irrigation were thoroughly investigated. In this field, S.N. Rizhov, V.B. Hussak, A.F. Ustinovich, S.P.

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Matuseyevich, P.N. Besedin, M.U. Umarov, I.N. The service of Feliciant and others is great.

All the irrigated soils of Central Asia, especially Uzbekistan, tend to form clods after rain and irrigation water, as they contain little water-resistant structural particles. G.I. in the development of measures to reduce the formation of sludge, reduce its negative effects and fight against it. Pavlov, G.M. Meyerson, P.P. Yazikova, S.N. Rizhov, A. I. Kaspirov, G.I. Weilert, N.K. Balyabo, S.P. Suchkov, V.V. Valiyev, M.U. The service of Umarov and others is great.

Management measures of water properties and regimes in increasing the productivity of desert and desert soils B.V. Gorbunov, A.A. Rode, A.F. Bolshakov, S.N. Rizhov, M.U. It was reflected in the works of Umarov, H. Abduvahidov, I. Turopov, S. Mamaniyozov and others.

Due to the fact that the movement of water and mineral salts dissolved in alluvial soils with a complex mechanical structure belongs to a specific law, such soils are divided into special hydromodule groups.

Agriculture in Central Asia, including Uzbekistan, has an ancient history. That is why in most oases (Bukhara, Karakol, Khorezm, etc.) the morphological structures of the soils, their agrochemical, agrophysical, meliorational properties and properties are completely different from the soils of the fields that are not occupied by crops. In this field, M. Orlov, S.N. Rizhov, N.R. Minashina, N.V. Kimberg, M.A. The works conducted by Pankov and others are of great scientific and practical importance.

Since the 50s and 60s of our century, a great step has been taken in the field of studying the morphology and mineralogical composition of the main soil types in Central Asia, especially in Uzbekistan. N.N. Aslanov, M.P. Aranboyev, H. Tursunov, M. Tashkoziyev, D. Ismatov and others have done great work in the field of studying secondary minerals that are widespread in the main soil types and their particles. As a result, it was possible to shed light on the specific aspects of soil formation in extremely dry climates.

So, great work has been done in the field of studying the physical properties and characteristics of soils in Uzbekistan. The obtained information is directly used in the development of measures aimed at increasing the productivity of long-irrigated, irrigation-prone soils. In the implementation of long-term measures of land reclamation, the physical indicators of the soil are taken into account in the first place. The main requirement is to create a cultured, fertile, soil environment with optimal water, food, air, and heat conditions. The role of the subject of soil physics in the implementation of this high task is extremely large.

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