IMPROVING SOIL FERTILITY AND PRODUCTIVITY.

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Abstract: This article provides information about soil fertility, its chemical, physical, physico-chemical, biological properties, the requirements of plants for soil fertility in agriculture, and the work being done to increase soil fertility.

Key words: Soil, fertility, oasis soils, gray soils, cultivated plants.

The most important property of soil is its fertility. The types of soil fertility and their occurrence are known to you from the soil science course. It should be noted here that the process of formation of each soil is directly related to its genesis. So, during the development and evolution of the soil, its fertility level changes. Especially its change is faster under the influence of human activity. Our task is to turn these changes in the direction necessary for people, to find ways not only to preserve soil fertility, but also to repeatedly develop and increase it. One of the first soil science scientists was W.R. Williams, who created a scientifically based formula of soil fertility. He wrote: Soil fertility is its ability to provide its plants with the life factors of the earth to one degree or another..., It is the ability to provide the maximum amount of life factors of plants with the life factors of both equal and irreplaceable at the same time. This characteristic of the soil separates it from other rocks on the surface of the earth and allows it to be considered as a natural independent body. According to V.R.Williams' tariff, the concept of soil fertility should be understood as the ability of the soil to meet the requirements of plants in the required amount of water and nutrients, at the same time and to the maximum extent during the entire growing season.V.R. Williams believes that structured soil can respond to such conditions and associates the only way to maintain soil fertility with horse-field rotation. The burden of agricultural intensification on the soil does not reduce the importance of this goya, and on the contrary, increases it. Failure to take this situation into account in intensive farming regions of Central Asian countries, especially Uzbekistan, causes a decrease in soil fertility. In the concept of soil fertility in irrigated agriculture, it is necessary to add a number of other properties of the soil that ensure its growth and development, such as soil air, physico-chemical properties, and so on. These additives are introduced as a result of a thorough study of the soil requirements of cultivated plants. In addition, in agriculture, the demand of plants for the soil and its fertility increases even more. Soil

fertility is manifested through its chemical, physical, physicochemical, biological properties. It should be noted that the productivity of agricultural plants does not depend entirely on soil fertility. According to the research of some scientists (I.S. Shatilov, T.N. Kulavokskaya, etc.), a third of the yield of cultivated plants is related to climatic conditions, agrotechnical measures, as well as characteristics of cultivated varieties, etc. Among the factors determining soil fertility, bioecological factors play a significant role. Attention to these factors began to be paid only in subsequent scientific research. Due to the effect of high technical and chemical pressures on the soils of the gray oasis, the decrease in productivity of mineral deposits despite the sufficient irrigation water has been noticed. Strong changes have also occurred in the character of soil microbiological activity. The total number of nitrogen-fixing and other beneficial microorganisms decreased, on the contrary, the number of denitrifying, oligonitrophilic, actinomycete and disease-causing wilt fungi increased. Even the visible earthworms in the soil have decreased. This is a sign that the soil fauna has changed for the worse. Even in well-cultivated soils, their number is very small, probably due to the application of high levels of mineral salts and toxic substances.
In particular, earthworms are found in the soils of the Tashkent oasis, the gray oasis of the Samarkand region, especially in the meadow oasis, although they are a little less. strongly related to the characteristics of the environment of the region and the methods of its agricultural use. Gray soils and their companions meadow-grey, meadow and other soils are distributed in the subtropical zone rich in heat sources. This allows them to be widely used in agriculture. As we mentioned above, their general use is possible only as a result of artificial irrigation.

In short, the organized origin and distribution show that these soils are developing in the tin bioclimatic conditions. In addition to soil fertility, the productive capacity of soils is also related to a number of factors that are not related to soil quality. One of the most important of these factors is the agroclimatic factor. If the climatic conditions differ from the norm in one way or another, then the harvest of that year will not be at the norm level. In addition, the cultivated plant varieties are related to the status of beneficial and harmful organisms in the agrosystem.

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