THE IMPORTANCE OF RIVER WATER IN THE FORMATION OF COMPACTED SOILS.

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Abstract. The article analyzes the formation and evolution of agro-irrigation layers of irrigated collimated soils under the influence of irrigated agriculture, changes in its physico-chemical properties on the example of soils formed in the cone spread of the Sokh River.

Keywords: irrigated soils, accumulation, clogging, float, layer thickness, irrigation water, chemical composition, turbidity level

In the transformation of irrigated compacted soils, the influence of rivers, which are the source of irrigation water, is great. Formation of agro-irrigation layers, mechanical composition and several other properties of irrigated soils depend on the quality and quantity of irrigation water effluents. The composition of sediments largely depends on the geological structure of the rivers and the flow rate.

In the formation of irrigated soils, the role of water bodies, be they rivers, lakes or other bodies of water, is irreplaceable. Therefore, the research results of water sources are relevant in researching irrigated soils. In the irrigated regions of the Fergana Valley, irrigated agriculture was created with the initial exploitation of the lands affected by the rivers by humans, which dates back to 3000-2000 BC.

A new type of irrigated compacted soil is formed, which differs in many properties of the existing soil, as a result of the arrival of various forms and sizes of various chemical compositions under the influence of irrigation water and spread and deposited on the surface of the earth. These soils are very different from other soils in terms of fertility, and over time they become oasis soils.

The change of agro-irrigation layers in the irrigated collimated lands of Fergana region, in which direction the evolution of this change is going, that is, whether it is positive or negative, the natural and human factor affecting the soil formation process, and the chemical composition of irrigation water in soil formation and the speed of the process of dependence on the level of turbidity and today's situation is characterized by the need for deep scientific analysis.

The anthropogenic factor affects the soil in different ways depending on its quality, one of which is the irrigation of cropland for the purpose of irrigated agriculture. This process is repeated for many years and affects the natural evolution of the soils in the oases, causing changes in the types and types of the irrigated soils, i.e. the formation of new types of oases soils, different from the existing natural soils in the oases.

According to the research conducted on the gray and desert soils of the irrigated valleys, the soil layers are not only moistened, but these irrigation waters completely moisten the soil and subsoil layers, wash some elements and substances and carry them to seepage

water. As a result, a unique process of soil formation occurs in such lands, and soils that differ sharply from the soils of other natural landscapes are formed.

As a result of the erosion process in the formed water basins and streams of the rivers of Uzbekistan, they cover the eroding particles and cause them to become turbid to a certain extent, and this is reflected in the irrigation systems and irrigated fields. As an example of this situation, we can cite the irrigated or mud-suppressed compacted soils formed in the cone spread of the Sokh River in Fergana region. The homogeneity of the agro-irrigation layers of the soils formed in the region, the differentiation coefficients of the soil profiles are very close to each other, the chemical composition of the soil and the level of turbidity in the river water during soil formation, its amount, chemical analyzes of the soil and the dependence on the speed of soil formation, the chemical composition of the water and the level of turbidity have been proven. Found

In the Fergana Valley, the cone spread of the Sokh River can be conventionally divided into three parts, i.e. upper, middle and lower, and this condition is used in practice. Each part of the cone spread has its own soil types. For example, in the upper part, a thick layer of compacted and non-saline gravel mixture of weak-medium thickness was formed. Starting from the 85-100 cm layer of these soils, stone-gravel alluvial-prolluvial deposits, i.e. parent rocks, lie. In the lower parts of the plain, old irrigated, newly developed meadow sedge soils and salt marshes with varying degrees of salinity were formed, and the soils are evolving under the influence of natural and anthropogenic factors. The salinity of the soils in the region is increasing from the south to the north, due to climate change, movement of groundwater, chemical composition, level of mineralization, etc.

The formation process of irrigated compacted soils fundamentally changes the composition of the soil layer, the soil-climatic conditions, and the natural soils themselves. Due to water erosion as a result of land formation and irrigation, in most cases, their parent rocks, illuvial-carbonate layers, two-faced pedogeochemical barriers are exposed. The washed layers are taken to another place and laid. If agro-technological measures are applied correctly in these irrigated eroded lands, such lands will be cultivated quickly and their productivity will increase.

In the middle and lower reaches of the river, more sedimentary rocks are deposited on the surface of the soil than in the upper reaches. Due to water erosion, it is washed away and moved from one place to another. Erosion is an important problem in soil science, and it is related to many environmental problems, such as water erosion, which transports soil and sedimentary rocks from one place to another.

Turbidity level of river water also changes during the year and seasons. By processing the data obtained in recent years, we can see that the turbidity of the waters of the Sokh River in the Fergana Valley is at a high level. (Table 1).

Also, according to research results and data analysis, rivers do not always flow turbidly, the turbidity or sedimentation of river waters is a seasonal process.

Table 1

Turbidity of Sokh river waters, g/m³ (Fergana hydrometeorological station, 2017-2019)

Tendayск	Months												Σ	average
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
Sokhriver														
2017 average	4,7	3,3	6,7	31,3	326	329	594	565	334	7,8	12,3	10	2224,1	185,3
2018 average	15,5	14	36	45	82	501	671	231	121	-	-	-	1716,5	143,0
2019 average	-	9	10	60	140	330	1800	820	33	1,6	26	2,7	3232,3	269,4
average	20,2	26,3	52,7	136,3	548	1160	3065	1616	488	9,4	38,3	12,7	7172,9	199,4

The amount of these residues will not fail to have an effect on the soil formation process. Summary. The irrigated compacted soils in the area were directly formed under the influence of irrigation with the waters of the Sokh River for many years, of course, other factors, in particular water and wind erosion, may have also affected it, but it is correct to say that the strong flow of these waters is the leading factor.

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