

Agrochemical Description of Colmatage Soils Formed in Isfayramsoy Cone Spread

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Abstract: The article presents the agrochemical description of colmatage pale gray soils formed in the Isfayramsoy cone spread, in which the total nitrogen is 0.015-0.11% in the case where humus is 1.20-1.31% in plowed layers

Key words: colmatage, humus, nitrogen, phosphorus, potassium, carbon, pedogen, element, fertilizer.

Introduction. In compacted soils, the amount of the so-called humus is about 2%, the rest consists of mineral substances and separately obtained elements, and partially other organic substances.

According to data, 1% organic carbon or almost 2% organic matter has the same effect on soil properties as 10% soil. Humus is the main part of the organic matter of most soils. The main element in humus is carbon. It should be noted that carbon contained in carbonates, humus and other organic matter in these soils can be called pedogenic carbon. In this regard, there is no doubt about the pedogenicity of carbon in organic matter [1-6].

But the fact that carbonates are pedogenic or lithogenic in the soil requires proof. When these indicators were calculated for the studied soils, it was found that the amount of pedogenic carbon in the compacted brown soils is 71.6-74.2%, and in the compacted gray soils it is 52.4-57.8%.

The change in soil formation is caused by the influence of organic substances on the soil itself, on the maternal gender. This is a biogeochemical process. It is now known that microorganisms play the main role in this process. The great role of microorganisms in the circulation of a group of elements, namely Fe, C, S, Ca, Si, P, etc. Glazovskaya M.A. and said by others.

Vinogradov A.P. in his teaching on biogeochemical provinces, he paid special attention to the relationship between the environment and living organisms and analyzed the provincial amounts of elements such as Al, Na, Ca, S, Cl. Chemical, biogeochemical processes directly and indirectly affect soil humus and nutrients. Soil organic matter, humus not only improves the condition of the soil structure and affects a number of properties, but also plays the role of carbon dioxide and nutrients for plants.

It should also not be forgotten that, according to the data collected so far, the amount of humus in the soil decreases in the first years of soil cultivation, then stabilizes quantitatively, and in the last stage, the amount slowly increases and the quality improves. This process also preserves its strength in compacted soils formed in Isfayramsoy cone spread [7-12]

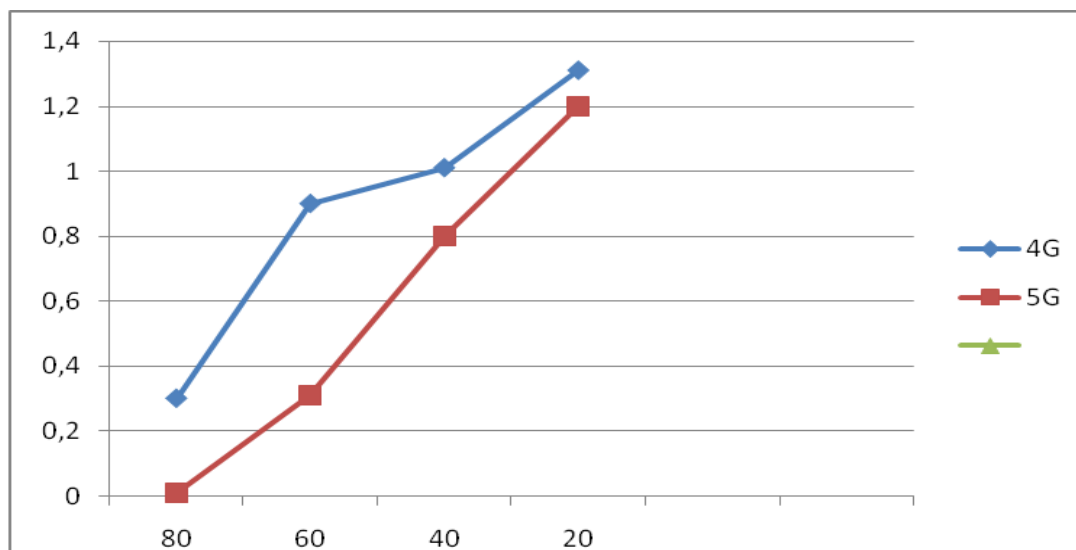


Figure 1. Humus in the profile of compacted soils formed in Isfayramsoy cone spread.

According to the given table and pictures, despite the fact that sections 4^s and 5^s are located in the southeast, in particular, there is a mutual affinity in humus and nitrogen of irrigated collimated light gray soils and irrigated collimated brown soils.

In other words, gross nitrogen is 0.11% when humus is 1.20-1.31% in plowed layers in compacted old irrigated compacted pale gray soils formed in Isfayramsoy cone.

It is not difficult to see humus, gross nitrogen values in relatively small numbers in the subsoil and subsequent layers [13-20].

Table 1.
Agrochemical properties of compacted soils

Section t/r, soils	Depth, cm	Humus, %	Gross, %			C:N	Active, mg/kg	
			N	P ₂ O ₅	K ₂ O		P ₂ O ₅	K ₂ O
Soils formed on stones and gravels in Isfayramsoy cone spread.								
4 ^s - Old watered light gray	0-22	1,31	0,110	0,210	2,0	7,7	18,30	310
	22-33	1,01	0,090	0,180	1,90	7,2	11,10	120
	33-56	0,90	0,075	0,180	1,90	6,3	-	-
	56-80	0,30	0,015	0,103	1,25	13,2	-	-
5 ^s - Freshly watered light gray	0-21	1,20	0,101	0,190	1,90	7,7	17,20	310
	21-36	0,80	0,073	0,160	1,80	7,6	10,30	110
	36-45	0,31	0,016	0,100	1,30	12,5	-	-

The degree of turbidity and chemical composition of irrigation water also play an important role in irrigated compacted soils. These indicators are 1.20-1.31% and 0.1-0.11% in plowed layers, compacted pale gray soils. The dynamics of the amount of humus can be seen in these soils.

These patterns hold even with small changes in total phosphorus and potassium. A sharp decrease in the amount of gross phosphorus and potassium in the lower layers is due to the fact that they, that is, all the soils involved in the study, have almost the same parent type, that is, they consist of alluvial-proluvial deposits, stones and gravels.

The ratio of carbon to nitrogen, i.e. C:N, is not very high in these soils. It is 5.8-8.4 in the soil layers, and 10.6-12.5 in the maternal layers [21-28].

Conclusion

In conclusion, as for mobile phosphorus and P_2O_5 and K_2O in the irrigated compacted soils formed in the Isfayramsoy cone spread, according to these indicators, the studied soils belong to the groups of undersupplied and weakly undersupplied. The amount of gross P and K and their mobile parts depends on the composition of the sludge product, the use of mineral fertilizers in agriculture, and their removal by plants.

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