

Salination – one of the most important factors of soil degradation (on the example of Kvemo Kartli)

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One of the preconditions for the development of our country is boosting the yield of agricultural crops. This is possible by the cultivation of low-productive lands not exploited to date and use of intense ameliorative-biological methods.

Salination has always been a problematic issue with the lands of Kvemo Kartli, as the soils common in the Region and parent rock naturally contain different easily soluble salts. However, intense salination was more or less promoted by incorrect anthropogenic activity, by incorrect irrigation amelioration by the local people in particular. Incorrect soil exploitation and excess irrigation has lead to the problem of secondary salination of soils.

It should be noted that the absolute majority of soils in the study region is arable. Even today, these land areas are not cultivated. The local people has not ploughed it for several years, but use it as pastures and hey meadows. This helps the soils to become virgin; the soil subsidence takes place, its porosity and humidity decreases, etc. Besides, the given areas are irrigated in an incorrect manner leading to the secondary soil salination in the final run.

As for the little moisture content of the soils, it results in the change of various parameters of soils.

As per the modern classification, the study soils are grey-brown meadow slightly or averagely solonetz soils. Depending on the content of easily soluble salts, these soils are solonchak. As for the type of salination, according to Bazilevich classification, the given soils are chloride-sulfate ones, while as for the degree of salination, according to the classification by Kovda, a 25-90 cm soil layer is slightly saliniated.

Besides, these soils need special land reclamation measures, i.e. so called wash-down cycles. The given soils contain sufficient amounts of natrium and manganese evidencing that they are averagely solonetz soils. In order to remedy this problem, gypsum-covering or improving the soil productivity by using an agrobiological method is necessary.

Key words: soil saliniaton, soil degradation, moisture content