

PROBLEMS OF THE RENOVATION OF THE SALT-AFFECTED IN ARARAT PLAIN

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According to the FAO data, no less than 50% of the world's irrigated soils are affected by salinization. Soda colonetz-solonchaks soils are not infrequent in South Caucasus Region (Georgia, Armenia and Azerbaijan). Mountain topography makes Armenia short of agricultural lands accounting for only 46% of its territory comprising 18,3% of arable lands 26% of haylands and pastures and 1,7% of vineyards and orchards. About 2/3 of arable lands are situated on stony slopes and occur in small patches.

Salt accumulation and solonetz soil formation in the Ararat Plain are caused by a number of historically shaped natural, social economic and technological factors. Depending on the soil-hydrogeological conditions and the technological-economic potential of each country, the following specific methods for reclaiming soda-saline soils have been developed and applied, viz. agrotechnical, biological, phytotechnical, electrotechnical, chemical. The first two are employed mainly for the improvement of solonetz soils under dry farming conditions. The method of electric reclamation yet have not found practical employment and are still being investigated. Chemical reclamation is protected by the construction of a drainage-collector and irrigation system.

During the first stage of agricultural development of soil it is sufficient to decrease the salt concentration below the threshold of toxicity to plants and to accomplish further soil improvement on the background of crop cultivation. Depending on the salt content of soils, waterings are applied when moisture of soil equal 80% of the total moisture capacity. The most uniform freshening of soil is achieved by flooding irrigation of bands 5–6 m wide and 150–120 m long. The reclaimed soils of Ararat Plain are well supplied with mobile forms of phosphorus, potassium and trace elements.

Our experience shows that high economic efficiency of the of the development of solonchaks is ensured only by a complex reclamation. A solonchak gets reclaimed as a result of a frontal offensive involving a complete complex of hydrotechnical, chemical-reclamative, agrotechnical and biological measures. Only this approach guarantees effective reclamation of soils and high yields of the cultivated crops.

Keywords; solonchak, soil, drainage, solonetz, salinization