

Effects of Sardoba Reservoir Flood on Irrigated Land

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Abstract: In this paper, the impact of the Sardoba Reservoir flood on field conditions in field experiments carried out as part of a project to select and cultivate irrigated lands to improve the eco-ameliorative condition of irrigated lands is described.

Keywords: Sardoba, reservoir, crop types, crop varieties, sand, stratum.

Introduction

Water leakage occurred on the walls of 6 picket dams of the Sardoba reservoir in Syrdarya region at 5:55 in the morning on 1st May 2020. Water entered the settlement of Kurgantepa in Sardoba district. According to preliminary data, the population of Kurgantepa, Dustlik, Yurtdoshmahallas was evacuated. The same day, Prime Minister Abdulla Aripov arrived at the scene. Evacuation measures have been organized in cooperation with the leadership of the Ministry of Emergency Situations, the Ministry of Internal Affairs, the National Guard and other relevant organizations. President Shavkat Mirziyoyev arrived at the scene to get acquainted with the work done to eliminate the consequences of the situation and organize evacuation measures. Meeting with the residents of the region, the head of our state expressed his condolences to the people of Sardoba, emphasizing the need to patiently overcome these difficult days and that the situation is under their personal control. A number of urgent measures have been taken to protect the population and the region from floods. The Ministry of Innovative Development has announced a practical project to improve the eco-ameliorative condition of agricultural lands. Field research was carried out within the framework of a practical project on the selection of crops and varieties suitable for the eco-ameliorative condition of irrigated lands created as a result of the flood "Sardoba", the development of cultivation technologies

Object of the research

Jasortali Oybek farm, located 1.5-2 km from the reservoir of Sardoba district of Syrdarya region, was conducted in the experimental fields of "Bekzafarlik Chorvadorlar" farm in "Bobur" SFU in Oq Oltin district.

The purpose of the study:

Evaluation of eco-ameliorative condition of irrigated lands damaged by floods of Sardoba reservoir, their short-term restoration, selection of crops suitable for the existing eco-ameliorative condition and development of cultivation technologies.

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Results

The flooding of the Sardoba Reservoir affected the surface of irrigated lands in different ways. The leaching of the topsoil started mainly from the burial site of the reservoir dam, where a large flow of water was the first blow in its path and was observed to be washed away depending on the sex (mechanical composition) of the soil.

The first blow of the flood washed away the lands of the farm and the Indarama cluster in Sardoba district (Experimental Area 1). When the 7-hectare area of this farm was surveyed 2 months after the flood (late June), the soil was washed to a depth of 0.7-1.2 cm and the next 12-30 cm of sandy, light and medium mechanical soils were washed more mechanically. , soils with gypsum layers were less washed.

In areas with relatively low water flow rates and low topography, it was found that the land was submerged in sand. The closed ditches in the irrigated areas and their observation wells are filled with mud sediments, and the reservoirs and banks of the reservoirs are eroded due to the high flow of sediments, and in some parts they are very shallow.

In Experimental Field 1, the washing of the soil to varying degrees, the formation of a thick (0.7-1.4) cm layer of sand in the low-lying areas, led to the complete destruction of the ancient civilized, fertile soil layer. As a result, in July-August 2020, these lands were leveled with the help of heavy reclamation equipment (graders, scrapers, etc.). (Plan 2 leveling the ground). In September, the land was cultivated with numbers and storms.

Experiment Area 2 was located on the floodplain, and Experiment Area 1 was located 8 km from the site and at a depth of 3-4 meters. The experiment area did not observe strongly washed out soils on the surface of the soil and abrupt changes in topography, but 20-30 cm thick highly compacted clay-mixed sediments were formed, old cultivated, fertile soils were left under the sediments. In July, the surface of the experiment was leveled and leveled with a long base leveling tool. The thickness of the sedimentary layer formed after leveling was 15-30 cm. In the first decade of October 2020, the soil was plowed to a depth of 30 cm and as a result of plowing, the soil sediments were partially mixed with the soil at a depth of 15-25 cm.

Experimental fields 3 the irrigated lands of the farm "BekZafarlik Chorvadorlar" in Babur district of Akaltin district were selected. The experimental site is located on a floodplain 15 km from Experimental Field 1 in Sardoba district. Flooded rocks were observed on the surface of the experimental site, and the topography was preserved. However, the surface of the old soil was covered with very fine-grained sediments 10-15 cm thick. In October 2020, plowing was carried out at a depth of 30 cm on this experimental site. As a result of plowing, 10-15 cm of muddy sediments were mixed with the soil in a 1: 1 ratio.

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