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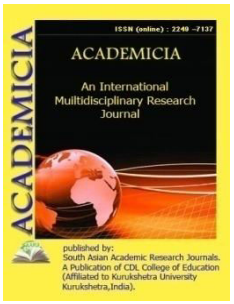

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PROCEDURES FOR COTTON IRRIGATION AND GROUNDWATER IRRIGATION

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ABSTRACT

In the context of Bukhara region, the issues of irrigation and groundwater resources in the Republic and the years of water scarcity, the proper use of these water sources, issues related to the irrigation of agricultural crops, including cotton, are studied in detail.

KEYWORDS: *Irrigation, Cotton, Climate, Soil Conditions, Growth And Development, Productivity.*

INTRODUCTION

The Decree of the President of the Republic of Uzbekistan dated February 7, 2017 "On the strategy of further development of the Republic of Uzbekistan" PF-4947 developed a strategy of action on five priority areas of development of the Republic of Uzbekistan for 2017-2021.The

action strategy includes modernization and accelerated development of agriculture, further improvement of reclamation of irrigated lands, development of a network of reclamation and irrigation facilities, introduction of intensive methods of agricultural production, especially modern water and water-saving agro-technologies, use of high-yield agricultural machinery such important issues. Given that water is a priority in the country, finding a solution to it will undoubtedly remain a key issue for industry professionals. Significant work is now being done in the field of agriculture on the basis of the deepening of reforms in agriculture, including the use of modern technologies and environmental standards in the use of land and water resources.

Purpose and objectives of the work

The depletion of water resources in water sources and the continued use of irrigation systems in irrigation systems are leading to excessive water wastage for irrigation. Water resources of the Amudarya and Syrdarya rivers are used rationally in Uzbekistan. But even the water from these water sources is not enough for agriculture. Therefore, the purpose of this work is to develop a technology for the alternating use of ditches and streams for irrigation of cotton.

The novelty of scientific work

In the context of Bukhara region, the issues of irrigation and groundwater resources in the Republic and the years of water scarcity, the proper use of these water sources, issues related to the irrigation of agricultural crops, including cotton, are studied and analyzed in detail. In years of water scarcity, measures have been developed for the proper use of these water sources.At the same time, in order to prevent re-salinization of soils in the use of mineralized water, the technology of using this water in addition to canal water will be developed. The effects of runoff and groundwater on cotton yields have been scientifically substantiated. The study of runoff and groundwater resources and their use in irrigation is of particular importance. There is now a need to find groundwater reserves that can be used to irrigate agricultural crops, including cotton.That is why agricultural workers have priority tasks, such as saving and efficient use of available water resources in irrigation.

In recent years, when the water shortage in the country is growing, the alternate use of running and groundwater in the irrigation of cotton is a requirement of today: Therefore, the following is a novelty of scientific research.

- determination of the allowable amount of irrigation of cotton from runoff and groundwater;

-growth and development of cotton when irrigated with running and groundwater;

- the process of harvesting cotton when irrigated with running and groundwater;

The growing demand for running water is leading to a growing demand for water in the country. At a time when there is a strong shortage of water, one of the important tasks in Uzbekistan is to find additional water resources. Therefore, in agriculture, the widespread use of local water resources, collector-drainage mineralized water, groundwater, waste and sewage is of great importance from the point of view of water management and reclamation.

Field experiments were conducted on the farm "Bahrom Ikhtiyor" Bukhara district of Bukhara region.

The field experiment was conducted in 4 repetitions in 3 variants. In the experimental field, the width of one delyanka was 3.6 m. (90x3 = 2.7m) The height of the delyanka is 50m. (50x2.7 = 135m) The total area is 180m2. If each variant is repeated 4 times, it will be 4x180 = 720 m2. The field experiment will be 3x720m2 = 2160 m2 when it is repeated 4 times in 3 variants.Now, in each case, if the two outer rows are removed to the protection zone, the actual calculation area of the experiment will be 1080 m2 or 10sotix 80 desiatina. Each delyanka was taken into a passageway of the drill, i.e. 4 rows. Experimental options were arranged in a single tier. In this study, cotton was irrigated in the following order:

In the first option, the cotton is irrigated only with clean running water. In all options, the cotton is irrigated 4 times. The calculated layer thickness is 70 cm during the growing season. marked as The norm of irrigation of cotton was 900-1000 m3 per hectare.

In the second variant, the cotton is irrigated with 1-stream clean water, 2-drain water and 3-irrigation clean-flow water, and finally 4-drain water; a total of 4 times watered in this variant as well.

In the third variant, cotton was irrigated 1,2,3 times from clean running water, 4 times from ditch water; in total, 4 times in this variant.

To determine soil moisture, samples were taken using a burr and thermostatically weighed twice in each cycle before each irrigation on a calculated layer (0-70 cm before flowering; 0-100 cm during flowering-budding; 0-70 cm at the time of ripening of buds) every 10 cm of soil layer determined by taking. Soil water permeability was determined by field method. For this purpose, 3 m 1 m long sections were selected on both sides. Both sides were closed with iron barriers inserted into the soil 10-12 cm. All edges were filled with water 7-8 cm thick and this level was maintained throughout the observation (3 hours).

Irrigation water consumption was measured in the experimental field using a Chipoletti (threshold width 0.25) water meter and the amount of water discharged into the drain was measured using a Thomsan (900-angle water meter) water meter.

The aggregate of the soil was determined by the method of NI Savvinov. Samples taken from 1.0-1.5 kg of soil were dried until dry and sieved in 10, 5, 3, 2, 0.5 and 0.25 mm sieves.

Soil temperature is measured three times a day at 900, 1500 and 1800 hours from the time of sowing the seeds in the field (control) planted on flat ground and the resulting buds until the seedlings are fully germinated. A thermometer was used to measure the temperature. The depths of the thermometers were studied at 5, 10, and 15 cm.

It is known from scientific research and work on determining the irrigation regime of cotton, that the determination of the irrigation regime is determined by such factors as climate, soil, hydrogeological and economic conditions of the study area, biological characteristics of plants. Irrigation of cotton is carried out according to the periods of growth and development, depending on its attitude to water. During these periods, an appropriate approach to the issue of plant irrigation is required.

The average daily water consumption of cotton also varies according to the stages of growth and development: 18–20 m3 / ha□sut during the mowing phase. If water is used, at the beginning of the flowering phase - 35–40, sloping flowering - 50–55, at the beginning of the harvesting phase

- 75–80, harvesting - 85–90, at the beginning of the opening of the pods - 45–50 and during the sloping opening - 25–30 m3 / ga□sut.water is consumed. The daily water consumption from the cotton field varies depending on the irrigation regime used.

In the period before the flowering phase of the plant, the plant forms up to 8-10 fruiting branches and root systems. Depending on how well the irrigation regime is set and maintained, irrigation should not lead to rapid growth of cotton, timely start of the flowering phase and almost complete preservation of crop nodes and pods in the lower layers of the plant bush.

CONCLUSION

The issues related to irrigation of agricultural crops, including cotton, have been studied and analyzed in detail during the years of runoff and groundwater reserves and water scarcity, the proper use of these water sources. Proper use of these sources during the years of water shortage has created opportunities to save up to 25-30% of canal water.

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