



## APPLICATION OF WATER-SAVING TECHNOLOGIES AND EFFICIENT METHODS OF THEIR RATIONAL USE IN AGRICULTURE

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**Annotation.** This article provides comparative information on the types of water-saving technologies. It also analyzes the work done on the automation and digitization of agricultural machinery using modern technologies and provides new solutions to their problems.

**Keywords:** Water-saving technologies, drip irrigation, innovative technologies, drip irrigation, productivity.

**Introduction.** In the country to date, in 2019, drip irrigation on 33.8 thousand hectares, sprinkler irrigation on 1.1 thousand hectares, pulsar irrigation on 2.2 thousand hectares, water-saving irrigation on a total of 36.6 thousand hectares technologies were introduced. In the cotton sector alone, 193 billion soums are spent on 12,000 hectares. Soum drip irrigation technology was used. In order to increase the demand for water resources, mitigate the negative effects of the expected water shortage, get high yields from crops and implement food programs, water should be used efficiently and rationally to raise the living standards of the country's population. period requires. In recent years, the country has been working to increase the quantity and improve the quality of crops from irrigated lands on the basis of efficient use of water resources. On December 12, 2019, a session of the International Press Club was held on the topic "A new era of water relations in Uzbekistan: savings, innovative technologies and analysis of important tasks." It includes ministries, committees and agencies responsible for the introduction of water-saving irrigation technologies, heads of commercial banks, deputy governors



for agriculture and water management, heads of agro-clusters and farms, water-saving. Specialists from technology design and construction contractors participated.

One of the important issues in Uzbekistan is the improvement of irrigation methods on irrigated lands and the creation of techniques and technologies for the efficient use of water resources. At the same time, it is important to promote the efficient use of water resources and resource-saving technologies. Problems. Water scarcity will become one of the most pressing problems in Central Asia in the next 10 years. The melting of glaciers in the region is accelerating. Not only irrigation, but also the shortage of drinking water is growing in Uzbekistan. There is no mechanism for water saving in agriculture. New technologies that provide savings require large sums of money and public attention. One farmer said this year's drought had been much harder for farmers: "There was no need to water the cotton. Time has passed. This year has been a difficult year for farmers. I think it has been a difficult year." "Many people can't implement the cotton plan. Drought will also affect drinking water. I've observed that in many places, groundwater can't be pumped from the depths. It's also a big problem for the population," he said. There are two different views among experts on the causes of the drought that has been observed in recent years. At first glance, the region is under the influence of global climate change. This is causing not only a severe drought in the region, but also severe environmental crises. It should be noted that various international reports have warned that drought and drought will lead to various conflicts in the region. Environmental crises are expected to become more pronounced in the 2020s. According to the second group, which analyzes the drought in the region, the estimates of water scarcity have been exaggerated, and in a hundred years the region has begun to enter a periodic phase of drought. Drought observed every 7-8 years indicates the onset of periodicity. As far as we know, the method of irrigating almost all crops is very common in Uzbekistan. When irrigating, 3/2 of the water is added



to groundwater. Solution and methods. The difference between drip irrigation and other irrigation methods is that this irrigation method controls soil moisture and the water supplied to create it. After conventional irrigation, if the soil moisture is too high in one part of the field, the soil will not be well moistened in another part due to poor drainage.

In drip irrigation, the water is distributed evenly across the field according to the needs of each crop at a given time. Thus, the crop areas of the field are uniformly moistened. Excess moisture in the soil is not allowed. Excessive soil moisture after irrigation will cause the crop to drown, while the interval between irrigations will cause the soil to dry out and leave the plant without water. In the next irrigation, the crop is flooded again, and then again without water, that is, under stress. As a result, the plant is forced to use its energy to cope with these stressful situations and cannot grow smoothly. In drip irrigation, the moisture content of the root layer of the crop is kept constant and the crop develops evenly. Irrigation does not have such opportunities. Drip irrigation creates a water-physical regime of soil that is optimal for the plant in the soil layer where the roots of the crop develop. As a result, due to optimal irrigation and nutrition, the yield in orchards and vineyards increases by 40-60%, and in annual crops such as cotton and vegetables by 80%. The ripening of 20 cotton crops is 10-15 days early and single. Studies have shown that these drip irrigation systems use several times less water than conventional drip irrigation. In particular, water used for irrigation in orchards and vineyards was used up to 60% less than usual, and up to 40% less for cotton. We can not achieve any positive results in terms of water savings during irrigation under the old system. In recent years, the country has been working effectively to raise the living standards of the population by increasing the quantity and improving the quality of crops from irrigated lands on the basis of efficient use of water resources. One of the most promising areas for the development and sustainability of agricultural production is the use of drip irrigation systems to irrigate these crops.



Drip irrigation is one of the most efficient methods of irrigation, which allows you to achieve a stable high yield with low water consumption in the absence of water resources. Due to the reduction of manual labor in the cultivation and irrigation of crops, as well as the high potential for automation of irrigation, drip irrigation is being used in more and more areas around the world. Xulosa qilib shuni aytishimiz mumkinki suv tejamkor texnologiyalar qishloq xo`jaligimizga yetarli darajada foyda keltiradi va suvni biz kutgan natijada tejab qolish imkonini beradi .Ayniqsa bu narsa suv resurslarning hozirgi kundagi yoqilib borayotgan boyliklar safiga is a pillar for not joining. At present, due to the rapid development of industry, the attitude to water resources is chaotic. At present, people's understanding of water use is slowly evolving, but the formation of the concept itself does not have a full effect on water conservation. The water crisis is the biggest problem of the present and the future.

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