



## APPLICATION OF THE DRIP IRRIGATION METHOD FOR THE CARE OF COTTON VARIETIES ANDIJAN-36

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### ABSTRACT

*The article gives an assessment of the water-saving method of drip irrigation when caring for cotton of the Andijan-36 variety, the growth of cotton and the technological indicators of cotton fiber. Field and laboratory experiments were carried out in 2018-2020 under the conditions of light gray, medium-heavy sandy loamy soils of the Andijan region.*

**Introduction.** Agricultural crops, especially cotton, depend on adequate supply of water at the right time and in the right amount to produce abundant and high-quality crops. In recent years, water shortages have been occurring in the world as a result of the disruption of the ecological balance under the influence of global warming. In these conditions, it is required to use every drop of water as effectively as possible. This demand is especially relevant for the sector-agriculture, which consumes the most water.

The decisions issued by the President during the last 3 years make it possible to develop, improve and widely introduce promising drip irrigation methods for the purpose of rational use of water and land resources in the agriculture of our country, to maintain and increase soil fertility in order to grow a high yield of crops.

In the implementation of these decrees and decisions, in order to rationally use water and land resources on the lands of peasant farms, to maintain and increase soil fertility in order to grow high yields from crops, to develop, improve and widely introduce water-saving drip irrigation methods to further improve farming culture, we Andijan To determine the improved water-saving drip irrigation technology that provides optimal irrigation procedures of the cotton variety Andijan-36 in the conditions of light-colored gray, medium-heavy sand according to the mechanical composition of the region, the level of seepage water is at a depth of 3.5-5.0 meters, and the growth, development and is to study the impact on productivity and develop scientific and practical recommendations for farmers and water management organizations.

**Experiment method.** The field experiment was conducted in the field of the farm "Fakhridin zamin invest" located in the village of Logumbek, Izboskan district, Andijan region during 2018-2020. The soil of the experimental field is light gray, medium heavy according to its mechanical composition, and the water table is at 3.5-5.0 meters.



**Table 1. Experience system**

No	Irrigation method	Planting scheme	Limited field moisture capacity (ChDNS), %	Deep cultivation of the soil
<b>Andijan-36</b>				
1	Furrow irrigation (control)	60-10x1	70-70-60	
2	Drip irrigation		70-70-60	
3	Drip irrigation		70-70-60	Loosening at a depth of 80 cm in front of the plow
4	Drip irrigation		70-75-60	
5	Drip irrigation		70-75-60	Loosening at a depth of 80 cm in front of the plow

Experience options are arranged in 4 returns on two levels. The option area is 100 m long and 4.8 m wide.  $100 \times 4.8 \text{ m} = 480 \text{ m}^2$  Plot area  $480 \text{ m}^2 \times 5 = 2400 \text{ m}^2$  Total area of the experimental field.  $2400 \text{ m}^2 \times 4 = 9600 \text{ m}^2$  or 0.96 ha. Each piece consists of 8 rows, 4 of which are calculation rows, and 2 rows on each side are protection rows.

**Experimental results.** Growth and development of a cotton variety using water-efficient drip irrigation. Counting from the day of cotton germination, cotton length, sympodial branches, comb and number of bolls were counted on July 1, August and September. Water-efficient drip irrigation had a positive effect on the air, water, heat and nutrient regimes of the soil and the growth of cotton.

Ѓўзанинг униб чиқиш ва бошланғич фазаларидаги ривожланиш муддати агроиклим шароитларига қарамасдан тажриба йилларида унчалик ўзгариш бўлгани йўқ. Тажриба йилларида иқлим шароити ўзгариб турсада, томчилатиб суғориш усулида суғориш ғўзани ўсув-амал даврига ижобий таъсир этди. Ѓўзанинг бўйи мавсум бошланишида ҳамма вариантларда бир хил бўлди (2-жадвал) The period of development of cotton in the germination and initial phases did not change much in the experimental years despite the agro-climatic conditions. Drip irrigation had a positive effect on cotton growth period despite the changes in climatic conditions during the experimental years. The length of cotton at the beginning of the season was the same in all options (Table 2).

It can be seen from the data that compared to the control option, which was irrigated by drip irrigation, i.e., deep softening before driving, in the 5th option, it was observed that the number of leaves increased by 0.5, the number of combs by 0.8, the number of branches by 0.8, and the number of pods by 4.5-5 in 50 plants.

**Table 2**

**Effects of water-efficient drip irrigation on the growth and development of cotton varieties. (2019)**

№	Plant height, cm			Number of chin flaps, pcs.	Sean quantity, pcs.	Number of harvested kings, pcs.		Number of capsules, pcs.		Those who opened it, pcs.
	1.06	1.07	1.08			1.06	1.07	1.08	1.09	
1	12,3	56,3	82,0	3,6	7,0	5,6	13,8	6,5	9,4	5,4
2	11,8	57,5	84,4	3,7	7,8	6,8	14,2	9,1	13,8	6,9
3	12,5	57,8	89,1	3,6	7,6	6,6	14,8	9,0	13,7	6,9
4	13,2	57,9	86,9	3,6	8,4	6,4	14,9	8,9	13,4	6,7
5	13,1	57,6	83,7	3,5	7,8	6,7	14,6	9,5	14,4	7,1

On the first day of every month, phenological observations were made to study the growth and development of cotton. Phenological observations were carried out on 50 plants in each variant.

**Quality indicators of cotton fiber in water-saving drip irrigation technology.** The main task of cotton farming is to grow cotton fiber in the required amount and type and industrial varieties for the textile industry. If the raw cotton of the first grade is processed in September-October, i.e. within one to two months after harvesting (in June-July of the next year), the yield of fiber from the first grade will decrease by 30-31%, and from the second grade, the third and fourth grades will decrease to 9% (Akchurin Kotov 1985).

It is known that if the quality of cotton fiber is good in the world market, there will be many buyers for cotton fiber.

**Table 3. Effect of water-efficient drip irrigation technology on quality parameters of cotton fiber**

Options	Cotton variety	Irrigation technologies	Fiber output, %	Fiber length, mm	1000 seed weight (grams)	Microneur	Relative interruption, (gs/tex)
	Andijan-36	Furrow irrigation (control)	35,4	33,5	120	4,4	28,1
		Drip irrigation	36,7	33,5	134	4,5	29,3
		Drip irrigation	36,7	33,5	134	4,5	29,3
		Drip irrigation	36,7	33,5	133	4,5	28,2
		Drip irrigation	36,8	33,6	135	4,5	29,4

The quality indicators of cotton fiber were analyzed in the cotton industry of Andijan region, and according to the results of the analysis, the effect of the studied drip irrigation



technology on the quality indicators of cotton fiber of the cotton variety "Andijan-36" was determined. when cotton "Andijan-36" was softened, the yield of fiber was 36.8%, fiber length was 33.6 mm, weight of 1000 seeds was 133 grams, micronaire was 4.5, relative breaking was 29.4 gs/tex. in the control variant, it was determined that the fiber output decreased by 1.3%, the fiber length decreased by 0.2 mm, the weight of 1000 seeds decreased by 133 grams, the micronaire decreased by 0.1, and the relative breakage decreased by 1.1 gs/tex.

Based on the above, it can be concluded as follows:

- in the 5th drip-irrigated option, i.e. when deeply softened before driving, it was observed that in 50 plants, the number of leaves increased by 0.5, the number of branches by 0.8, the number of branches by 0.8, and the number of pods by 4.5-5.
- the quality indicators of cotton fiber were analyzed in the cotton industry of Andijan region, and according to the results of the analysis, the influence of the studied drip irrigation technology on the quality indicators of cotton fiber of the cotton variety "Andijan-36" was determined. cotton "Andijan-36" variety, fiber yield is 36.8%, fiber length is 33.6 mm, weight of 1000 seeds is 135 grams, micronaire is 4.5, relative breaking is 29.4 gs/tex, this indicator is irrigated control It was found that the fiber output decreased by 1.3%, the fiber length by 0.2 mm, the weight of 1000 seeds decreased by 120 grams, the micronaire decreased by 0.1, and the relative breakage decreased by 1.1 gs/tex. (Table 3)

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