

EFFECT OF AGROTECHNICAL MEASURES ON THE PRODUCTIVITY OF COTTON VARIETIES "BUKHARA-102" AND "TERMIZ-202"

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ABSTRACT

In this article, information on the yield of medium fiber cotton Bukhara-102 and fine fiber cotton Termiz 202 in the soil and climatic conditions of the Surkhan-Sherabad oasis with different strength thicknesses, fertilizer rates, irrigation method, number and quantity, and yield is presented.

Keywords: Cotton, variety, irrigation, irrigation system, irrigation order, rate, duration, working water, order, soil moisture, seedling thickness, mineral fertilizer, productivity.

INTRODUCTION

Increasing the productivity of the agricultural lands of the Republic of Uzbekistan - to obtain a high yield from cotton and grain requires determining the water consumption of newly regionalized and promising varieties, developing the norms of optimal irrigation procedures. Each variety requires a specific watering procedure, suitable for soil-climatic conditions, and its correct determination creates optimal moisture, nutrient, air and thermal regimes of the soil and ensures normal development of the plant. Taking this into account, according to the results of the scientific research conducted by our scientists, the importance of the effect of water-nutrient (NPK) standards and irrigation procedure on obtaining high yield from cotton varieties was studied. Each new variety of cotton has different needs during its growth and development - soil types, groundwater table location, water and nutrient rates and plant thickness. In order to study these problems, a number of field experiments were conducted and studied by researchers.

Avliyokulov A.E. [1] according to the results of experiments, the highest cotton yield (35-38 t/ha) from thin-fiber cotton varieties 5904-I and T-7 in the barren soils of the Surkhan-Sherabad oasis is 6-7 times during the irrigation period, the irrigation system is 1-4-1 or 1-5-1 and seasonal water rates were obtained from options of 8237-9411 m³/ha. As a result of the research, it was considered effective to irrigate fine fiber cotton at the rate of 800-900 m³/ha before flowering, 190-1300 m³/ha during the flowering-harvest period, and 900 m³/ha during the ripening period.

Avliyokulov N.E. In the research conducted in [2] in the Surkhan-Sherabad desert, the Termiz-14 variety of cotton was planted 6-7 times in 1-3-2, 1-4-2 systems on irrigated barren and meadow-barren soils (1.5-2 m). irrigation, pre-water soil moisture should be in the order of 70-75-65% compared to ChDNS, irrigation standards should be 700-900 m³/ha before cotton flowering and 800-900 m³/ha during ripening, seasonal water amount should be 5400-6500 m³/ha found.

A.E. Avliyokulov et al. [3] Bukhara-102 cotton variety, the rooting level is deeper than 3.0 m; 2-3 m; In barren, barren-swampy, gray soils up to 2.0 m, irrigation should be carried out in the order of 65-65-60%, 70-70-60% in relation to ChDNS, in soils with a light mechanical

content, the rate of each water is 800-900 m³/ha, in average soils 900-1180 m³/ha, 1180-1300 m³/ha in heavy soils; according to seasonal irrigation standards: 7600; 6180; They believe that it is necessary to provide 2180-3400 m³/ha.

According to Kh. Zakirov [4], according to the results of the experiments conducted on the development of an optimal watering procedure for the fine fiber T-7 variety of cotton in the meadow-barren soils of the Surkhan-Sherabad oasis, the T-7 variety was irrigated in the order of 70-70-60% compared to ChDNS, and fertilizer standard NPK 220; 220; At 110 kg/ha, the growth, development and productivity of cotton was high.

Orolov S. [5] In relation to ChDNS, the star variety should be watered in the order of 70-70-60%, 650-700 m³/ha before flowering, 900-900 m³/ha during the flowering-harvest period, and 105,000.tup/ha seedlings yielded 36.2 tons/ha when left.

In our experiments conducted on the basis of the program approved by the scientific council of the institute, cotton varieties were studied.

Bukhara 102 variety. L-4380x7090 t was created at the Bukhara branch of the Cotton Research Institute of Uzbekistan (UzPITI) by means of selection and re-selection for many years from hybrid populations obtained from crossing Bukhara-6 varieties.

Authors: S.I. Maksudov and others.

Termiz 202. The cotton variety was created at the Surkhandarya branch of the Cotton Research Institute of Uzbekistan (Uz PITI) over many years from hybrid populations obtained by crossing 6608-V x Termiz -11 varieties.

Authors; Kh.D. Chorjeva, A.A. Yangiboev, M. Tojiev and others.

In the experimental field, pre-plowing water at the rate of 600-700 m³/ha was given every year at the end of September and the beginning of October, before plowing phosphorus and potassium fertilizers were applied respectively 70% of the annual rate; A percentage of 50% was given (Table 1).

Table 1. Types and distribution periods of mineral fertilizers, kg/ha (s.h.)

Application of fertilizers Deadlines	First standard. kg/ha			Second standard. kg/ha		
	N	P	K	N	P	K
	200	150	100	250	175	125
Annual rate		90	50	-	115	65
Before the plough	30	20	-	30	30	-
Along with planting	30	-	-	50	-	-
When 3-4 true leaves appear	70	-	50	80	-	60
In preparation	70	40		90	30	-

In order to determine the minimum soil moisture content of the crops grown in the experimental field, the following measures were performed before each watering. In particular, soil moisture was determined before irrigation in all options for each cotton variety. In this case, soil samples were taken from 0-70 cm depth before flowering and during ripening period, and from 0-100 cm depth during flowering and harvest period.

The results of the experiment showed that the moisture content of cotton field soil before irrigation varied from 59.6 to 71.8% compared to ChDNS, which raised a number of issues that needed to be solved. In particular, it is recommended to conduct laboratory and field experiments taking into account the soil type, groundwater level, settlement layer, as well as the biological characteristics of medium and fine fiber cotton varieties. (Table 2)

Based on the conducted field experiments in 2006-2008 (Bukhara 102) and 2009-2011 (Termiz 202) in optimal options at 70-75-60 percent humidity, seasonal irrigation standards are 54.5 cubic meters in three years, seedling thickness is 120.4-150.7 thousand bushes per ha, on September 1-5, the height of the main stem is 87.8-92.0 cm, the average yield is 37.9-39.7 tons/ha (Termiz 202).

Water consumption in Termiz 202 variety is 127.1 m³/ha, and in Bukhara 102 variety, soil moisture is optimal at 70-70-60%, seasonal irrigation norms are 5307 m³/ha, pre-harvest seedling thickness is 82.0-84.2 thousand on September 1-5, the main stem height is 90.0-98.2 cm, the average yield is 43.2-46.0 t/ha, the water consumption for 1 centner is 114.1-115.3 m³/ha did

In the barren, barren-meadow, hydromorphic soils of the southern Termiz group districts of the desert-desert region of the Surkhan-Sherabad oasis, the newly zoned Bukhara 102 and the promising Termiz 202 varieties growth, development, harvest-productivity, cotton fiber technological parameters, cotton weight per boll, according to harvests, seed moisture content, water and nutrition standards, irrigation order and seedling thickness were studied based on laboratory, field and production experiments. concluded as follows:

The mechanical composition of the irrigated barren, barren-meadow soils of the oasis where the experiments were conducted, light, medium, heavy-loam, sand, the texture of a one-meter layer is different. 1.36 g/cm³, specific gravity - 2.61-2.65 g/cm³, porosity - 48.5-50.4%, water permeability in six hours was 729 m³/ha to 801 m³/ha.

When Bukhara 102 and 65-75-60%, Termiz 202 were irrigated at acceptable pre-irrigation soil moisture 70-70-60%, the quality-technological parameters of cotton fiber increased - fiber yield, metric number, fiber break length, micron, seed moisture increased.

In the soils of the Sahara-desert region, the optimal seedling thickness of cotton varieties planted in the first half of April is 82.0-84.2 for Bukhara 102 varieties, and 120.4-130.7 thousand bushels/ha for Termiz-202 varieties, mineral fertilizers (NPK) norm: 250; 175; 125 kg/ha (s.h.), soil moisture before irrigation was 70-70-60% compared to ChDNS, average yield was 44.0 ts/ha. (Bukhara 102 variety) and Termiz 202 variety yielded 38.8 t/ha, ChDNS 65-65-60%.

The southern districts of Surkhandarya region are irrigated barren, barren-meadow, zahab level - 1.2-2.0 m. The following practical recommendations were made based on the data of the field production experiments conducted in the soils of

Light, medium, heavy, sand, gravel level 1.2-2.0 m. in irrigated barren, barren-meadow soils, zoned Bukhara 102, varieties of medium-fiber cotton 5-6 times in 1-3-1, 1-3-2 systems, 70-70-60% humidity, new promising varieties Termiz-202 6-7 times 1-4-1, 1-3-2, 1-4-2 system, 70-75-60% moisture relative to ChDNS should be provided.

In this case, the norm of cotton's operating water is -700-800 m³/ha before flowering in the 70-70-60% humidity system, 900-1360 m³/ha during flowering and 700-920 m³/ha during

ripening; In the 65-65-60% system, 780-850 m³/ha before flowering, 940-1480 m³/ha during flowering-harvest and 760-1100 m³/ha during the ripening period, respectively, seasonal irrigation rates are 5307-5415 m³/ha and 4970-5933 m³/ha, it should be watered at least 4-5 times during the flowering-harvest period in extreme years when the weather is very dry and hot.

The start date of Amal water was from May 29 to June 6, and its completion fell on August 21 and September 10.

The duration of each irrigation during the period of operation, according to the phases of cotton development; 20-24 hours before flowering, 29-46 hours during flowering-harvest collection and 23-40 hours during ripening (opening of pods), watering interval 18-22 (70-75-60%), 18-24 (70-70-60 %) days should be organized.

When cotton is planted in 90 cm wide rows (in the 90x15x1-2, 90x8x1 system), the length of the field (between the furrows) does not exceed 100-120 m, the water supplied to each field is -0.45-0.55 l/ in the upper 3/4 of the field sec., then it is 0.15-0.20 l/sec. reduced to 0.12-0.14 l/sec. it is necessary to reduce it to 1000 m, and to ensure stable flow of water in an alternating flow.

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Термиз 202, Бухоро 102 ғўза навларини кўчат қалинлиги, амал суви, мавсумий суғориш меъёрлари; НРК меъёр-нисбатларини ғўза ҳосилдорлигига таъсири

2-жадвал

Вариантлар	Ғўза навлари	Минерал ўғитлар, НРК кг/га (с.х)	Суғориш олди тупроқ намлиги, %.	Амал суви м ³ /га.	Масу- мий суғо- риш меъёр- лари, м ³ /га.	Терим олди кўчат қалин- лиги минг/га.	1-5 сентябр			Ҳосилдорлиги			
							Бош поясининг баландлиги, см.	Ҳосил тугунчалари, дона.	Бўлик кўсаклар, дона.	1- йил	2-йил	Ўртача икки йил ҳосилдорлиги, ц/га.	1 пентнерг а сарфланган сув микдори
1	Термиз 202	200, 140, 100	65-70-60	790-1180	4970	120.4-130.3	89.4	20.6	16.2	35.1	36.2	35.6	139.6
		250, 175, 125					92.0	22.1	16.8	37.4	38.4	37.9	132.1
2	Термиз 202	200, 140, 100	70-75-60	720-1080	5415	120.8-130.7	87.8	23.5	16.7	39.6	39.8	39.7	136.3
		250, 175, 125					88.7	22.6	17.5	42.3	43.0	42.6	127.1
E= 0.43 ц/га P= 1.56%													
3	Бухоро 102	150, 105, 75	65-65-60	788-1155	4933	82.0	90.0	14.5	10.2	37.2	42.4	39.7	124.2
		200, 140, 100					84.2	15.8	10.9	43.2	43.3	43.2	114.1
4	Бухоро 102	150, 105, 75	70-70-60	703-1082	5307	83.2	95.3	15.0	10.9	41.0	46.1	43.5	122.0
		200, 140, 100					83.5	16.2	11.2	45.4	46.6	46.0	115.3
E= 0.42 ц/га P= 1.55%													