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THIN FIBER COTTON IN EXTREME CLIMATES THE EFFECT OF STEM THICKNESS AND PRUNING ON THE PRODUCTIVITY OF THE TERMIZ-202 VARIETY

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The productivity of cotton is directly related to the quality of many agro-technological measures in time.

Cotton cultivation technology should be suitable for soil and climate conditions for each agricultural region. In particular, it is necessary to create and apply technology suitable for specific soil and climate conditions, and to constantly improve it when planting each type of cotton. One of such activities is the management of cotton bush thickness, irrigation and nutrition regimes, which has great practical importance to study based on the characteristics of its variety, and from this point of view, the topic is also relevant.

The object of the research is the medium-salinity grassy barren soils under anthropogenic influence, which have been irrigated since ancient times, the

Termiz-202 variety, the thickness of the bush and the period of tillering.

In the experimental field, seeds of the Termiz-202 variety of cotton were planted in wide rows (90 cm wide).

Three different bush thicknesses (140, 160 and 180 thousand plants per hectare) and two pruning periods (July 10 and July 20) were studied in the experiment.

The subject of the study is to study the effect of different seedling thicknesses and tillering periods on the growth, development, productivity and quality of the cotton variety Termiz-202 in the extreme climatic conditions of Surkhandarya region.

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Research methods. Phenological observations, biometric measurements, analyzes and calculations in all conducted laboratory, field and production experiments were carried out based on the methods adopted at PSUEAITI.

The total amount of nitrogen and phosphorus of the experimental field was determined by the method of K.S. Ginzburg, Ye.I.Sheglova and S.V. Wilfius, the amount of mobile nitrogen was determined by the method of Granwald-Lyaju, phosphorus by the method of B.P.Machigin, and humus by the method of I.V. Tyurin.

The obtained results were analyzed by the method of B.A. Dospekhov. Analyzes of fiber and seed quality were performed in the laboratory of PSUEAITI Surkhandarya network.

The studied options of the experiment were 4 repetitions, and the delyankas were systematically placed in two tiers. The area of each delyanka is 360 sq.m. is (50 m x 7.2 m),

and the fourth row in the middle constitutes the area to be taken into account. 2 rows (defensive rows) from both sides are not counted.

Seeds of the Termiz-202 variety of cotton were planted in wide rows (90 cm) in the experimental field.

In the experiment, two different seedling thicknesses (140 and 160,000/ha) and three periods of pruning (20.07, 1.08 and 10.08) were studied. (See Table 1 for experimental setup).

Table 1

Experimental structure

Experience options	The specified number of plants is ha/thousands	The duration of the chirp
1	140 (st)	20.07
2	140	1.08
3		10.08
4	160	1.08
5		10.08

Planned mineral fertilizers (N200, P140 and K100) were distributed as needed: 70 percent of the annual norm of phosphorus fertilizers was applied before plowing, and the remaining 30 percent during the flowering stage of cotton; 50 percent of the annual rate of potash fertilizers is applied before autumn plowing, and the remaining 50 percent is applied during the cotton harvesting period; 20 kg of the annual norm of nitrogenous fertilizers was given at the time of planting seeds, and the rest was given in three periods, i.e., in the 3-4 leaf phase of the cotton buds, in the phases of budding and flowering (Table 2).

Table 2

Distribution of mineral fertilizers according to their application periods (in kg/ha)

Fertilizer type and rate / Terms of use	N	P_2O_5	K_2O
Annual rate of fertilizers	200	140	100
Before plowing	-	100	50
Along with planting	20	-	-
2-4 in the fruiting phase	40	-	-
In the grooming phase	70	-	50
In the flowering phase	70	40	-

In research, when we observed the growth and development of cotton varieties in each phase of the plant (on the 1st day of each month), the following data were obtained.

When analyzing the number of cinnabar formed in cotton in the experimental field, there was no significant difference between the variants. According to options, observations on June 1 ranged from 7.1 cm to 7.4 cm.

In the phenological observation carried out on July 1, the number of sympodial branches was 8.1 out of 8.8 sticks, and there was no significant difference between the options. On August 1, the number of 140,000 trees per hectare was 14.0-15.6 trees in the remaining options. The number of 160,000 bushes was 12.6-13.4 in the remaining varieties.

The number of pods on August 1 was 8.5-10.2 pieces in options with 140,000 bushels, and 8.2-9.1 in options with 160,000 bushels. It was observed that the number of cysts decreased by a certain amount with the increase in the thickness of the trunk.

During the phenological observation carried out on September 1, it was found that there were 13.4-17.6 pods in the variants with 140,000 bush numbers left. It was found that there are 12.1-13.7 pods in the variants with 160,000 bushels left. With a decrease in the nutrition area and nutrients in the soil, a decrease in the number of pods per plant was observed (Table 3).

According to the data obtained from the conducted field experiments, it was found out that the effect of external environmental factors on the cotton yield and its quantity is greater than the influence of nutrition regimes and seedling thickness.

In the experimental field, an average of 75% of the cotton yield was harvested in the first harvest. From the lowest productivity control option, 140,000 bushels per hectare were left, and 28.5 s/ha of cotton were harvested in the option that was pruned on July 20. The highest productivity in the experimental field was 140,000 bushels per hectare, and 34.1 s/ha of cotton was harvested from the option that was harvested on August 10.

140,000 bushes per hectare resulted in a yield of 28.5-34.1 s/ha. In the case of leaving 160 thousand bushes per hectare, it was 29.1-32.3 s/ha.

The effect of weeding on productivity was clearly demonstrated in the experimental field. Compared to the experiment, which was carried out on July 20, a higher harvest was obtained in the variant carried out on August 1, and even higher in the variant carried out on August 10.

In the experimental field, the highest cotton yield (34.1 s/ha) was observed in the version where the seeding thickness of cotton was 140 thousand pieces per hectare and weeding was carried out on August 10 (Table 4).

The decrease in the thickness of the above sprouts (to 140,000 pieces) and early cutting periods led to a decrease in productivity to 5.6 centners.

When the cotton weight of one bag was analyzed, it was observed that the weight of cotton in the bag decreased with the increase of bush thickness from 140,000 to 160,000 per hectare. When analyzing the weight of cotton obtained from one boll, 4.4-4.6 g of cotton was extracted in the option with 140 thousand bushels per hectare, and 3.6-3.7 g in the option with 160 thousand bushels per hectare.

Table 3

Measure the thickness of the bush impact on growth and development (average in 2022-2023)

Experience options	Planned bush thickness, thousand units/ha	Disconnect the growing point	Plant height, cm			Number of chinbar and sympodial branches, pcs			Number of cells, pcs		Opened from that, piece
						chinchilla	sympodial branches				
			1.VI	1.VII	1.VIII	1.VI	1.VII	1.VIII	1.VIII	1.IX	1.IX
1 (st)	140	20.07	33,4	67,2	86,9	7,1	8,3	14,0	8,5	13,4	2,2
2	140	1.08	33,9	68,2	84,6	7,1	8,1	14,2	9,3	15,8	1,6
3	140	10.08	34,6	68,5	90,5	7,4	8,8	15,6	10,2	17,6	2,1
4	160	1.08	33,2	68,8	81,1	7,2	8,4	12,6	8,2	12,1	2,5
5	160	10.08	33,9	68,2	80,2	7,1	8,2	13,4	9,1	13,7	2,1

The thickness of the bush and the length of the cotton harvest impact on productivity, on the basis of ha/s

Experience options	Disconnect the growing point	Planned bush thickness, thousand units/ha	Seedling thickness before harvest, ha/thousand	Productivity according to crops per s/ha			Productivity, s/ha
				15.09	27.09	13.10	
1	20.07	140	139,8	20,1	6,4	2,0	28,5
2	1.08	140	138,7	24,1	5,5	2,0	31,6
3	10.08	140	138,2	24,7	6,5	2,9	34,1
4	1.08	160	154,4	20,8	6,7	1,6	29,1
5	10.08	160	155,7	23,5	6,6	2,2	32,3

If we take into account that the Termiz-202 cotton variety belongs to the zero type, when the crop elements, i.e. complete bolls, are developed in the 16-20 joints of the cotton bush, weeding is carried out. it was found from experience that the yield and the quality of the crop will be higher.

The industrial varieties of the cotton handed over according to the harvests were determined, and the total amount of money received from the sale of cotton was calculated accordingly.

When determining the total costs, the costs per hectare of the farm, the amount of seeds spent according to the options were determined, and the costs of picking the harvested crop were also added and calculated.

In order to calculate the net profit of the options studied in the experiment, it was determined by subtracting (deducting) the amount of total costs from the total amount of funds received from the sale of crops grown in each option.

According to the experiment, the highest amount of net profit (4366794 soums) was obtained from the 3rd option, i.e. from the cottons that were cared for on August 10 in retail conditions with a stem thickness of 140,000 cottons per hectare.

The lowest yield and conditional net profit (3257000 soums) were observed in the control option, where 140 thousand cotton bushes were planted per hectare, and the weeding was carried out on July 20, and the level of profitability was also (29.6) showed a low indicator.

It was found that the conditional net profit also increases with the increase of the cutting period in both trunk thicknesses. It was proved that the highest yield rate (33.1) was obtained from the option where 140,000 bushels were left per hectare and pruning was carried out on August 10.