



**“SHIMOLIY MINTAQALARDA QISHLOQ XOJALIGINI
RIVOJLANTIRISHNING DOLZARB MASALALARI VA
ULARNING INNOVATSION ECHIMLARI”
mavzusidagi Respublika ilmiy-amaliy konferensiya**



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**THE EFFECT OF OPTIMIZING THE FODDER REGIME ON
COTTON YIELD**

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Annotatsiya. Ushbu maqolada g‘o‘za hosildorligiga ozuqa rejimini optimallashtirishning ta‘siri o‘rganildi. Tajribalar natijasida turli tup sonlari qoldirilib, unga mineral o‘g‘itlarning yillik me‘yori va unga qo‘shimcha biostimulyatorlar qo‘llanilganda g‘o‘zaning hosildorligiga ijobiy ta‘siri kuzatildi. Tadqiqotlar natijasida, har xil tup soni qoldirilganda g‘o‘zaning hosildorlik potentsiali yuqori bo‘lib, o‘simliklarning adaptiv xususiyatlari ortadi. Natijada, ozuqa rejimlarini optimallashtirish nafaqat o‘simliklarning optimal o‘sishi va rivojlanishini ta‘minlaydi, balki hosildorlikni barqaror oshirishda ham zarur agrotexnologik tadbir sifatida tavsiya etiladi.

Kalit so‘zlar. G‘o‘za, tup soni, oziq rejimi, ko‘sak, hosildorlik.

Аннотация. В данной статье исследовано влияние оптимизации питательного режима на урожайность хлопчатника. Результаты исследований показали, что при различной густоте стояния растений и применении годовой нормы минеральных удобрений в сочетании с дополнительными биостимуляторами наблюдается положительное влияние на продуктивность хлопчатника. При разной густоте посева повышается потенциал урожайности и усиливаются адаптивные свойства растений. Таким образом, оптимизация питательного режима обеспечивает не только оптимальный рост и развитие растений, но и является важным агротехнологическим мероприятием для стабильного повышения урожайности.

Ключевые слова. Хлопчатник, густота стояния растений, система питания растений, хлопковая коробочка, урожайность.

Abstract. In this study, the impact of optimizing the nutrient regime on cotton yield was investigated. The results showed that when different plant densities were maintained and the annual rate of mineral fertilizers along with additional biostimulants were applied, a positive effect on cotton productivity was observed. Under varying plant densities, the yield potential of cotton increased, and the adaptive characteristics of the plants were enhanced. Consequently, the optimization of the nutrient regime not only ensures the optimal growth and development of plants but also serves as an important agrotechnological measure for achieving stable yield improvement.

Key words. Cotton, number of seedlings, nutrient regime, cotton boll, yield.

Introduction The Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030 defines a number of measures for the development of agriculture in our country, primarily focusing on the widespread implementation of market relations in the sector, strengthening the legal framework for relations between producers, processors, and sellers of



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agricultural products, attracting investments to the sector, implementing a cluster system, introducing resource-saving technologies, providing modern equipment, and introducing agricultural scientific achievements into production.

In the conditions of the Republic of Karakalpakstan, due to the low content of macro and microelements in the soil, determining the root number of agricultural crops per hectare and thereby optimizing forage areas is one of the main tasks.

Sh. Abdualimov and T. Khudaykulov [2; In experiments conducted in the Tashkent region, the control variant yielded 37.5 c/ha, while the yield stimulant applied at 0.5 l/t to the seeds and 0.4-0.6 l/ha during the boll-flowering period yielded 41.4 c/ha, or 3.9 c/ha more yield compared to the control variant. When using the Fitovak stimulant as a standard at a rate of 200 ml/ha on seeds, at a rate of 200 ml/ha during the budding period, and at a rate of 400 ml/ha during the flowering period, the cotton yield was 39.6 c/ha, which is 2.1 c/ha higher compared to the control variant, and when using the harvest stimulant at different rates and periods (4-7 variants), the yield was 40.8-39.5 c/ha, which is 1.9-3.3 c/ha higher compared to the control variant.

Due to the increasing plant density, i.e., with a plant density of around 120-130, the yield of both varieties was 3.4-4.6 c/ha higher in proportion to the varieties compared to the untrimmed variant when pruning was carried out at 11-12 fruiting branches. In the 10th variant, with a plant density of 80-90 thousand/ha for the medium-fiber cotton variety "UzPITI-201," the cotton yield was 38.5; 34.2 and 33.2 c/ha per year, and the average yield over 3 years was 35.3 c/ha, and the share of the first harvest was 80.1%. From these indicators, it was determined that the average yield over 3 years was 1.5 c/ha less compared to the parallel (1st variant) variant of the "Andijan-35" variety, but the share of the first harvest was 1.5%. In this cotton variety, with an increase in plant density of 100-110 and 120-130 thousand/ha, the average cotton yield increased by 1.8 and 1.9 c/ha, and the share of the first harvest decreased by 2.9 and 5.8%. However, it was determined that these last two indicators were 1.8 and 2.2% higher than the Andijan-35 variety [4; [pp. 10-12].

Sh. Abdualimov and A. Soatov [1; It was noted that the application of humic stimulants in various soil and climatic conditions, such as Relikte 200-400 ml/t for cotton seeds and 200-400 ml/ha during the peak leaf stage, Gummi 20 1.0 l/t for cotton seeds and 0.5-1.0 l/ha during the peak-flowering stage, and Geogumat 1.0 l/t for cotton seeds and 1.6 l/ha during the peak leaf stage and peak stage, accelerated seedling emergence by 10.5-11.1%, improving plant growth and development, physiological processes, and increasing cotton yield by 4.8-6.3 c/ha.

Thus, in-depth study of the influence of various root numbers on cotton in the conditions of Karakalpakstan is relevant from a scientific and practical point of view.

Materials and methods Research work was carried out in 2022-2023 at the "Orazimbet ota" farm in the territory of the "Ok oltin" rural community of the Khojeyli district in the central territory of the Republic of Karakalpakstan. The experiment consists of 9 variants and 4 repetitions.

In research, "Methods of Conducting Experiments with Cotton" (Tashkent, 1983) [5; 246-b.] and "Methods of Conducting Field Experiments (Tashkent, 2007) " [3; 145-b.] methodological manuals.

Results According to our experimental data, the cotton yield in 2022 averaged 23.0-38.9 c/ha across the variants.



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In variants 1-3 with a cotton plant density of 100,000 plants, nitrogen application rates of 150, 200, and 250 centners/ha, and an additional biostimulant of 1 l/ha, the cotton yield was 23.0-27.5 centners/ha. In this case, with an increase in the number of cotton plants by 120 thousand, the yield was 24.0-28.0 c/ha.

When using 120 thousand cotton plants, 250 kg/ha of nitrogen, and 2, 4, and 6 l/ha of biostimulants (var. The cotton yield was 32.0-38.9 c/ha. Compared to the six variants where this biostimulant was applied at a rate of 1 l/ha, the yield was 4.0 to 10.9 centners higher.

Cotton yield, c/ha

Variant	Repetitions			Average	Difference ±
	I	II	III		
1	23,0	25,0	22,0	23,0	00
2	25,0	23,5	23,5	24,0	+1,0
3	29,5	27,0	26,0	27,5	+4,5
4	28,5	25,5	28,5	24,0	+1,0
5	29,0	28,5	27,0	25,0	+2,0
6	31,5	33,0	30,0	28,0	+5,0
7	31,0	34,0	31,0	32,0	+9,0
8	34,5	37,0	38,5	36,5	+13,5
9	40,0	39,0	40,1	38,9	+15,9

In the conditions of Karakalpakstan, for obtaining a high cotton yield, it is advisable to apply mineral fertilizers at a rate of N250 P175 K125 kg/ha and, additionally, biostimulants at a rate of 6 l/ha.

Conclusion and recommendation. The combined application of mineral fertilizer N250 P175 K125 kg/ha, 120 thousand cotton plants, and an additional biostimulant at a rate of 2, 4, and 6 l/ha ensured a cotton yield of 32.0-38.9 c/ha, which was 9.0-15.9 c/ha higher compared to the control variant.

I recommend that cotton-growing clusters and farmers maintain a cotton plant density of 120,000 plants and obtain a high yield when applying mineral fertilizer N250P175K125 kg/ha and an additional 6 l/ha of biostimulant per hectare.

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