



SOUTHERN REGION FINE FIBER COTTON VARIETIES IN CONDITIONS OF BARREN SOILS QUALITY INDICATORS

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Received: 06 th December 2023	In the article data on the importance of soybean seedling thickness as a predecessor crop in increasing the quality indicators of thin-fiber cotton varieties in barren soil conditions are presented
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Today, expanding the cultivation of fine fiber cotton in the southern regions of the Republic, improving agro-care activities, introducing the achievements of science into production, determining the effect on predecessor and follower crops and soil fertility in rotation systems serve as an important factor in the implementation of the above-mentioned tasks. In this regard, many researches have been carried out by the scientists of the field.

Correct rotation of agricultural crops is one of the main conditions for high-culture farming, and its main task is to satisfy the population's needs for food products, and the second is to restore and increase soil fertility and ensure efficient use of land. It is recommended to plant soybeans as the main crop in maintaining and increasing soil fertility [1; 182-198 p].

Based on the reforms carried out in the field of agriculture in our republic, it is possible to use 5-6 field rotation systems for maintaining soil fertility and obtaining high yields from crops. It is advisable to alternate planting by years and fields, with the weight of crops not exceeding 40% of cotton and grain area, and the remaining vegetables, legumes, fodder and other crops not exceeding 20%. In this situation, the rule that must be followed is that crops belonging to the same family cannot be planted in the same field in succession. Then the degree of damage to plants by diseases and pests will not be significant [2-3; 7-14 p].

In the experimental field, soybean was planted with different 185, 222, 270, 370 and 555 thousand bushels/ha planting thickness and these options. In rates of N75P100K75 kg/ha and N100P120K100 kg/ha cotton was planted in the background of options treated with mineral fertilizers. In cotton, mineral fertilizers were set at the rate of N200P140K100 kg/ha in the general background, the rate of phosphorus and potash fertilizers was applied under the full plow, and nitrogen fertilizers were fed according to the generally accepted recommendations during the growing season, and soybean was fed with different seedling thickness and fertilization rates of cotton per bag of cotton.

Cotton treated with different rates of soybean fertilization and seedling thickness was compared with the control option treated with cotton after cotton.

When studying the data obtained in the experiment conducted in 2018 on cotton harvesting, changes in the weight of cotton per boll were observed under the influence of different planting thicknesses and fertilization rates of soybean in the soybean-cotton short-row rotation system.

According to the data obtained from the experiments, picking was carried out twice in the season, and before both pickings, the average weight of cotton per bush was calculated in grams. In the second year of the experiment in this regard, in the second year of the experiment, the weight of cotton in one skein was 3.0 g, 2.02 g in the 2nd harvest, and 2.51 g in two harvests.

The highest indicator in the 5th option, this indicator was 3.27 g on average in the first harvest, and 2.15 g in the second harvest, after the option in which the soybean was cultivated at the rate of N100P120K100 kg/ha and the seedling thickness was left at 370 thousand bushes/ha. It was observed to be 0.27 and 0.13 g higher than the control variant, respectively.

The effect of cotton on the weight of cotton in one bag was also positive in the options where soybean fertilization was applied at the rate of N100P120K100 kg/ha at a seedling thickness of 222 thousand and 270 thousand bushes/ha. According to the analysis of the received data, it was noted that after sowing 222 thousand bushels of soybeans per hectare, in the variant planted with thin fiber cotton, it was 0.18 g higher in the first harvest and 0.11 g in the second harvest. It should be recognized that the thickness of seedlings specified in this option is considered the option used in the shade under production conditions, and it was found that the increase of mineral fertilizers by N-25 kg, P-20 kg, K-25 kg per hectare had a positive effect on the care of thin fiber cotton, including the weight of cotton per bag.

The smallest indicator was observed in option 11, which was treated after the option of feeding soybeans at the rate of N75P100K75 kg/ha, leaving the seedling thickness at 555,000 bushels/ha, and the average weight of cotton in one bag was 2.82 g in the first harvest, and 2.01 g in the second harvest. organized the Against the background of this fertilizing, high results were recorded in options 9-10 where cotton was grown after options where soybean was planted on 270 and 370 thousand bushels per hectare, and these indicators were 3.05 g in the first harvest and 2.07 g in the second harvest in option 9. In option 10, these indicators are 3.07, respectively; It was equal to 2.11 g.

Table 1
Cotton weight per sack, 2018

There is no	Returns						Average		Average
	I		II		III		1st skin	My 2nd skin	
	1st skin	My 2nd skin	1st skin	My 2nd skin	1st skin	My 2nd skin			
1	3.03	2.13	2.90	1.98	3.08	1.95	3.00	2.02	2.51
2	3.25	2.22	3.06	2.02	3.16	2.03	3.16	2.09	2.62
3	3.28	2.18	3.08	2.11	3.17	2.04	3.18	2.11	2.64
4	3.33	2.09	3.13	2.08	3.28	2.14	3.25	2.10	2.68
5	3.37	2.28	3.21	2.10	3.23	2.08	3.27	2.15	2.71
6	2.97	2.23	2.84	2.04	2.84	1.97	2.88	2.08	2.48
7	2.92	2.13	2.86	1.94	2.89	1.92	2.89	2.00	2.44
8	2.97	2.11	3.00	1.98	3.06	2.05	3.01	2.05	2.53
9	3.01	2.1	3.09	2.01	3.05	2.09	3.05	2.07	2.56
10	3.03	2.16	3.10	2.05	3.09	2.11	3.07	2.11	2.59
11	2.87	2.01	2.81	2.01	2.79	2	2.82	2.01	2.42

It is known that the effectiveness of each applied agrotechnical measure is determined by productivity. In the researches, in the 2019 season, as well as determining the productivity indicators before each harvest, the average indicators for the harvests were analyzed by weighing the weight of cotton in a bag on a scale.

According to the information received in this regard, the agro-measures carried out during the season in cotton care, the previous crop, the thickness of seedlings and the norms of applied mineral fertilizers caused the weight of cotton in one bag to be different. In option 1 of the experiment, when cotton was planted instead of cotton as a control, the average weight of one bag of cotton was 2.63 g in harvest 2, and in option 2, the weight of one bag of cotton was 2.73 g. mineral fertilizers were observed in the version used at the rate of N100P120K100 kg/ha and made 2.91 grams, respectively. It was found to be 0.28 grams higher than the control variant.



Figure 1. The weight of cotton in one bag observed in the experiment, g

It was found that the weight of cotton in one bag was higher by 0.11-0.14 g compared to the control, in the options where mineral fertilizers were applied at the rate of N100P120K100 kg/ha, the soybean seedling thickness was 222.0 and 270 thousand bush/ha.

It was found that the weight of cotton in one boll was higher by 0.09 grams compared to the control in the options where soybean N75P100K75 kg/ha of mineral fertilizers were used, and in the option where cotton was maintained against the background of 370,000 bushel/ha seedling thickness. the weight of cotton in one sack of thin fiber cotton grown after that is 0.07; A decrease of 0.11 g was observed.

In conclusion, it can be noted that in the conditions of barren soils, it is acceptable to use the thin-fiber Kashkadarya-5 cotton variety with a high cotton weight of 2.91 g per boll, leaving soybeans at 370 thousand bushels per hectare of seedling thickness as a previous crop, and applying mineral fertilizers at the rate of N100P120K100 kg/ha.

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