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INDICATORS OF GROWTH AND DEVELOPMENT OF THE BUKHARA-102 COTTON VARIETY AT VARIOUS ROW SPACING

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Annotation: *The article examines the effect of the thickness of seedlings and the rate of mineral fertilizers on the growth and productivity of the Bukhara-102 variety when caring for cotton in rows 76 cm long in conditions of typical gray-earth soils of the Samarkand region. In it, the width of the row of 60 and 90 cm was taken as a control parameter. The yield indicators of the Bukhara-102 variety are high, and an additional cotton yield of up to 1.5-0.8 c/ha is achieved.*

Introduction: *In Uzbekistan, cotton growing is the main branch of agriculture, and the economic development of the country is directly related to this industry. The importance of cotton in the national economy is undeniable.*

It is considered necessary to carry out the processing of row spacing in the agricultural machinery of the pit in accordance with soil and climatic conditions. The results of research conducted today in the field of cotton growing in our republic show that the introduction of various types of materials in accordance with the width and norms of mineral fertilizers and the depth of their action is one of the important factors in increasing cotton yields.

The degree of study of the subject: the observations made show that D.Akhmedova, M.Nazarov, Z.Valiev [47; 14-15-b] Lar notes that one of the most important elements of the cotton harvest is considered to be, and the appearance of the harvest is associated with the release of branches, its growth and development. That is why the abundant and early formation of is important in cotton growing practice.

Q.Mirzadzhanov, G.Satipov [72; 32-35-b] In his research at the experimental station "Pakhtaorol", Syrdarya and Jizzakh regions, it was proved that as a result of maintaining the height of the cotton within 60 and 90 cm, the cotton yield can be in the range of 90 cm -38.7 kg/ha, in in the range of 60 cm - 41.8 c/ha, in the range.

S.Bahramova [48; 34-36-b] Based on studies of the Andijan region in light gray soils, he noted that the cotton yield is 28.2 c/ha with simple care, with a planting system of 90x10-1, 90x15-1-2 and 60x30-1-2 cm, in a planting system of 90x15-1-2 cm, in a planting system of 90x15-1-2 cm, in a planting system of planting 90x15-1-2 cm, in the case of bedding, it was found that the cotton yield was 37.6 c/ha.

From the information provided, it turns out that various factors influence the change in the growth and development of cotton. In the studies, the growth and development of grown

cotton was observed depending on the fertilizer rate and the thickness of seedlings in different row spacing in conditions of typical gray soils.

The purpose of the study: in order to study the effect of the optimal rate of mineral fertilizers and the thickness of seedlings on the growth, development and productivity of various series, scientific studies were conducted on the breeding of the Bukhara-102 cotton variety in conditions of typical gray-earth soils of the Samarkand region at a depth of 60 cm, rows 90 cm and 76 cm.

Research methods: the research work "Methods of conducting field experiments" (Uzpiti, Tashkent, 2007) [1] was carried out on the basis of a methodological manual. The experimental system of research work consisted of 10 variants, in 4 repetitions the variants were systematically placed in one tier. The width of the cotton aisles is 60 cm and 90 cm. The norm of mineral fertilizers is $N_{200}P_{140}K_{100}$ kg/ha, the norm of mineral fertilizers is $N_{180}P_{126}K_{90}$, $N_{200}P_{140}K_{100}$, $N_{220}P_{154}K_{110}$ kg/ha with a thickness of seedlings in all variants of 80-90 and 110-120 thousand pcs/ha of plants left (Table-1).

Table-1

Experience system

№	Experience options	seedling thickness, and pcs/ha	mineral fertilizer rates		
			N	P	K
1	**60 cm (control)**	80-90	200	140	100
2	**90 cm (control)**		200	140	100
3	**76 cm**		180	126	90
4			200	140	100
5			220	154	110
6	**60 cm (control)**	110-120	200	140	100
7	**90 cm (control)**		200	140	100
8	**76 cm**		180	126	90
9			200	140	100
10			220	154	110

Research results: in our scientific study conducted in 2021, in our observations of the growth and development indicators of the Bukhara-102 cotton variety, with a row spacing width of 60 cm, the annual rate of mineral fertilizers is $N_{200}P_{140}K_{100}$ kg/ha, when the theoretical thickness of seedlings is 80-90 thousand pieces/ha, the number of (1.06.(1.08), plant height (1.08) 86.7 cm, number of harvest branches (1.08) 12.3 pieces, number of flowers (1.07) 6.8 pieces, number of knots (1.08) 1.1 pieces, number of holes (1.09) 10.8 pieces, number of open holes of which (1.09) was 2.3 pieces, phenologically detected in our observations. The annual rate of mineral fertilizers for cotton content with a row spacing width of 90 cm is set at the level of $N_{200}P_{140}K_{100}$ kg/ha, when the theoretical thickness of seedlings is left at the level of 80-90 thousand pcs/ha, number of roots (1.06.) 4.3 pcs, plant height (1.08) 87.2 cm, number of collected branches (1.08) 12.6 pieces, number of flowers (1.07) 1.3 pieces, number of knots (1.08) 1.9 pieces, number of burrows (1.09) 11.4 pieces, of which the number of open holes (1.09) was 2.6 pieces (Table-2).

But it is also worth noting that among the rows with a width of 76 cm, the theoretical thickness of seedlings during care was 80-90 thousand pcs/ha, the annual rate of mineral

fertilizers was introduced in the amount of $N_{180}P_{126}K_{90}$ kg/ha control in option 3 (1-2 var.) in relation to the variants, the number of rosehips - up to 0.1-0.2 pieces, plant height -up to 1.1-1.6 cm, yield branches - up to 0.8-1.1 pieces, the number of peonies - up to 0.8-0.9 pieces, the number of flowers - up to 0.2 pieces, the number, when caring for cotton row spacing 76 cm was it is proved that even with the

Table-2

Among the varietal range, the effect of caring for the Bukhara-102 cotton variety on the growth and development of the plant

№	Row width, cm	Theoretical seedling thickness, thousand/ pieces	Annual fertilizer standards, kg / ha	Chin leaf number, pieces	Cotton height, sm			sympodial branches pieces		Number of flowers, pieces	Knot number, pieces	Number of boxes, pieces		From this opened, pieces
				01.06	01.06	01.07	01.08	01.07	01.08	1.07	1.08	01.08	01.09	1.09
1	60 cm (control)	80-90	$N_{200}P_{140}K_{100}$	4,2	16,4	46,1	86,7	6,5	12,3	1,1	1,7	7,7	10,8	2,3
2	90 cm (control)		$N_{200}P_{140}K_{100}$	4,3	16,5	46,4	87,2	6,5	12,6	1,3	1,9	7,9	11,4	2,6
3	76 cm		$N_{180}P_{126}K_{90}$	4,4	17,0	44,7	88,3	7,6	13,4	1,3	2,0	8,0	11,9	4,0
4			$N_{200}P_{140}K_{100}$	4,5	17,1	46,9	87,9	7,0	13,5	1,4	2,1	8,2	11,8	3,9
5			$N_{220}P_{154}K_{110}$	4,7	17,4	47,5	88,1	7,4	13,9	1,6	2,2	8,1	12,6	3,8
6	60 cm (control)	110-120	$N_{200}P_{140}K_{100}$	4,2	17,2	47,2	87,1	6,6	12,5	1,2	1,9	7,1	10,3	2,6
7	90 cm (control)		$N_{200}P_{140}K_{100}$	4,3	17,4	47,3	87,6	6,8	12,9	1,3	2,0	7,4	10,7	2,9
8	76 cm		$N_{180}P_{126}K_{90}$	4,3	16,4	47,1	87,9	6,7	12,7	1,5	2,3	7,8	11,9	3,8
9			$N_{200}P_{140}K_{100}$	4,6	17,5	48,7	88,5	8,5	13,6	1,5	2,3	8,3	12,6	3,6
10			$N_{220}P_{154}K_{110}$	4,7	17,8	49,9	88,0	8,9	13,8	1,6	2,4	8,1	12,4	3,4

introduction of a small amount of mineral fertilizers, it is possible to obtain a high yield compared to the control options.

In our observations, it was found that the formation of varies depending on the amount of fertilizing cotton with mineral fertilizers, the better the cotton is supplied with nutrients, the more peonies are formed in cotton.

From our scientific research, it can be noted that such indicators as the growth, development and formation of elements of cotton culture are used in the annual rate of mineral fertilizers when growing in a row 76 cm wide in the amount of $N_{220}P_{154}K_{110}$ kg/ha, the theoretical thickness of seedlings is determined by 110-120 thousand pcs./ha, and with an amount of up to 0.9 pcs. the amount of it reaches 1.7-2.1 pcs. on the date of 1.09, from this it was achieved that the number of open boxes was higher by 0.8-0.5 units on the date of 1.09 (Table-3).

Table-3

The influence of cotton on the yield of cotton varieties Bukhara-102 in different latitudinal series, c/ha (2020-2022)

№	Variants	Years			Average	control 60 compared to	control 90 compared to
	Row width, cm	2020	2021	2022			
1	60 cm (control)	35,0	39,0	38,2	37,4		
2	90 cm (control)	35,7	39,7	39,5	38,3		
3	76 cm	35,9	40,5	39,7	38,7	1,3	0,4
4		38,2	42,0	40,3	40,2	2,8	1,9
5		37,0	40,8	39,6	39,1	1,7	0,8
6	60 cm (control)	35,6	40,9	39,9	38,8		

7	90 cm (control)	37,0	41,2	40,5	39,6		
8	76 cm	37,6	41,4	41,0	40,0	1,2	0,4
9		39,9	43,9	41,8	41,9	3,1	2,3
10		38,5	42,5	42,0	41,0	2,2	1,4

In our experiments, it was noticed that the content of cotton of the Bukhara-102 variety with a row spacing of 60 cm, 90 cm and 76 cm depends on the optimal thickness of seedlings and the need for mineral fertilizers, the growth of cotton, the formation of elements of development and harvest, increasing yield indicators in optimal variants.

When caring for cotton with 76 cm row spacing, the annual rate of mineral fertilizers was $N_{180}P_{126}K_{90}$ kg/ha, while the theoretical thickness of seedlings averaged 40.5 c/ha with repetitions in variant 3, which was left at 80-90 thousand pcs/ha, with the same row width and the rate of application of mineral fertilizers, only in variant 8 s.

Conditions for growing a high yield of cotton from cotton with row spacing of 76 cm, an annual rate of mineral fertilizers in the amount of $N_{200}P_{140}K_{100}$ kg/ha was introduced, as a result of which the thickness of seedlings was 110-120 thousand pieces/ha.

Conclusion: the theoretical thickness of seedlings during care among a row of cotton with a width of 76 cm was 110-120 thousand pcs/ha, the annual rate of mineral fertilizers was introduced in the amount of $N_{180}P_{126}K_{90}$ kg/ha, control in option 8 (6-7 var.) compared with the variants, the number of roots is up to 0.1 pcs, the height of the plant is up to 0.8 cm, the yield of branches is up to 0.2 pieces, the number of peonies is up to 0.3 pieces, the number of flowers is up to 0.4 pieces, the number of knotweed (1.09) - up to 1.6 pieces, it is proved that when caring for cotton with a row spacing of 76 cm, it is possible to get a high yield compared to the control variants even with the introduction of a small amount of mineral fertilizers, while at high standards there is practically no big difference compared to the fertilized variants.

The optimal thickness of seedlings when caring for the Bukhara-102 variety from a range of 76 cm is 80-90 thousand pcs/ha, with the annual rate of mineral fertilizers in these thicknesses of seedlings is set in the amount of $N_{180}P_{126}K_{90}$ kg/ha, the control yield of cotton was determined to be increased by 1.5-0.8 c/ha compared with variants 1-2 and when determining the theoretical thickness of seedlings reaches 110-120 thousand pieces.

LIST OF USED LITERATURE:

1. Ахмедова Д., Назаров М., Валиев З. Турли экологик омилларнинг ғўза ўсиб ривожланишига таъсири // AGRO ILM. 2013. № 2(26). 14-15-б.

2. Дала тажрибаларини ўтказиш услублари. ЎзПИТИ, Тошкент, 2007 й. 1-24-б.

3. Бахрамов С. «Қайси усул афзал?» //Ўзбекистон қишлоқ хўжалиги – Тошкент. IV-2. 2002, 34-36–б.

4. Мирзажонов Қ.М., Сатипов Т.М. Влияние способов внесения минеральных удобрений на рост, развитие и урожайность хлопчатника на почвах, не подверженных эрозии // Деҳқончилик тизимида зироатлардан мўл ҳосил

етиштиришнинг манба ва сув тежовчи технологиялари мавзусидаги халқаро илмий-амалий конференция маърузалари тўплами. –Тошкент. 2010. 32-35-б.