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Relationship of Seed Sowing Methods and Feeding Regimen With the Development of Cotton Root

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Annotation: According to the obtained 3-year data, changes in planting methods and feeding regime of the "Sultan" variety lead to rapid growth of the root system, early growth of the main root and different levels of (orderly) roots, better absorption activity, 35-38 cm of biomass. Allows to increase by 1.5-1.8 times.

I. INTRODUCTION

Taking into account the lack of articles on scientific research on the root system of cotton in recent years, we conducted a series of stationary field experiments on light sandy-gray soils of Fergana region, one row and two rows of 60x15-1 and 60x15-15. In the fields planted in the 1 system, we carried out 4 repetitions. Each variant is 100 meters long, planted in 8 rows, the table consists of 9 variants, the experiments were conducted on the farm "Navbahor" Tashlak district in 2014-2017.

Karimov A., who studied the cotton plant on the roots. (1977), Nazarov M., Axmedova D. (2019), Muhammadjonov M., Sulaymonov S. (1978) and others have studied the effects of factors such as irrigation systems, feeding norms, and cultivation depth by organizing different soil fertility. However, little is known about placing cotton on flat ground, in one or two rows on a ridge, and before plowing to 15 and 30 tons.

The rapid development of cotton root growth and development continued from the initial phase to the later phases, especially during the mowing and flowering periods, when the main root and its adjoining roots continued to grow both downstream and laterally in the budding variants. In variants 1,2,3, growth in these faa continued, but this figure was slower due to 2 times cultivation.

The obtained data show that when planting the root on a virtually undamaged bud, we consider the phase of root pruning, analyzing the data in Table 1, the plant height is 25.2-29.0 cm in 1-3 variants, 27.6-36.3 in 4-6 variants. cm, in 7-9 variants it was 30.0-36.6 cm, while in the variants the length of the main root was 29.4 cm to 70.2 cm, and in the plants grown in the bush more than 1.5-2 times the soil. grew. This means that both the cotton root and the main stem grew actively when planted in the rhizome, as rapid root development was observed in the initial phase.

Table.1
Influence of planting methods and amount of organic fertilizers on cotton root growth (weeding phase) (2015).

№	Options	Plant height, cm	The length of the roots is cm			
			The main root	I order roots	II order roots	III order roots
1	Simple planting method (60x15-1)	25,2	29,4	49-2,3	1045,6	1086,0
2	Simple planting method (60x15-1)	25,3	36,2	55-6,4	1195,4	1141,6
3	Simple planting method (60x15-1)	29,0	43,2	59-0,6	1029,4	2016,4
4	Height 28-30 cm (60x15-1)	27,6	40,2	51-3,2	1090,3	1714,3

5	Height 28-30 cm (60x15-1)	31,8	47,4	69-6,4	1114,2	1700,2
6	Height 32-35 cm (60x15-1)	36,3	51,6	74-2,6	1126,3	1846,3
7	Planting on both sides of the stem, height 32–35 cm, 60x2x15–1	30,0	62,3	71-3,4	1244,1	1401,3
8	Planting on both sides of the stem, height 33-35 cm, 60x2x15-1	32,0	70,2	73-6,3	1386,4	1110,6
9	Planting the stalks on both sides, height 32-35 cm, 60x2x15-1 cm	35,6	70,0	76-4,6	1396,3	1203,3

From the main root is usually the first 2nd and other order roots, of which small roots, ending in root sheaths, produce a large number of roots, the total length of which was between 3500-4000 cm. Growing from the main root, the number of 2-3rd roots increased compared to the length of the primary roots, as the small roots are thinly white in turn, but they are penetrated by soil particles, especially in the fertilized variants, they penetrate into the organic residue in this layer. showed that he had gone. It can be concluded from the data that the cotton developed a strong root system during the mowing phase or during the period when it still bears 18-12 pieces of fruit, especially when fertilized and fertilized with NPK-200: 140: 100 kg / ha. formed in the lower layers or occurred in the lower layer of 12–18 cm relative to the control.

In the experiments, the most favorable conditions for strong root development were created in both variants. It was observed that most of the roots were evenly distributed in 30-75 cm of the layer and the driving layer. It should be noted that the roots of the controlled plant became significantly thinner, shorter, weakly spread to the sides (mowing phase), loosening between the branches led to their pruning, resulting in delayed recovery or very short but numerous roots grew, they could not be measured.

It was found that during the period of mass flowering of cotton, the head stem of the plant was almost equal to the stem, for example, in options 1, 2, 3 the height of the stem reached 69.6-81.0 cm, and the main root reached 80.3-89.3 cm, when planted in rows these values increased by 74.0-89.2 cm and 93.4-102.3 cm in the 4-5-6 variant, and 83.6-100.0 cm and 92.6-102.1 cm were found when grown next to the two-row buds.

As the deep excavated roots were washed into the lower layer and the root structure was drawn, they formed a large number of roots when they reached this phase, with maximum accumulation in the lower 0-50 cm layers, especially in options 6 and 9 given 30 tons of manure and NRK In these data, the worst results occurred in variant plants planted on flat ground, when the amount of mineral fertilizers was only 200x140x100 kg / ha, the length of the main roots reached 80.3-93.4-92.6 cm in these variants. that is, its length at the place of sowing was more than 13.5-12.3 cm, but the total length of the lateral roots and other orderly roots growing from them increased significantly, which means that the sowing of seeds on the ridge created more favorable conditions for the development of all underground organs.

In the flowering phase, along with roots of order I, II, III, we see the formation of their successors, i.e., laterally formed veins, we found that they develop more rapidly than a plant planted on flat ground. For example, in variant 1 we see that such roots are 856.3 cm, and in plants 4, 7 with buds 1086.2-1294.0 cm, or 30-50% more, such a pattern occurs when sowing a wide range of seeds Yuldashev S., Nazarov M. (1976), Mukhamadjanov M., Sulaymonov S (1978) noted in the monographs, that is, the roots of cotton planted in a wide row relative to a narrow row proved to be strong, actively growing, covering a wide area of soil. This means that sowing cotton seeds is even more effective than sowing cotton in a wide row. (Table 2)

Table-2

Influence of planting methods and the amount of organic fertilizers on the growth of cotton roots (flowering phase 2016)

Options		Plant stem length cm	Илдизлар узунлиги, см					Total:
			Head root cm	The next order of search	The next order of search	The next order of search	The next order of search	
1	Simple planting method (60x15-1)	69.6	80.3	1050.2	1124.0	1056.4	856.3	4236,8
2	Height 28-30 cm (60x15-1)	74.8	89.3	1120.0	1244.0	1875.0	1044.6	5447,7
3	Height 28-30 cm (60x15-1)	81.0	88.4	1201.4	1332.4	1988.6	1284.2	5976
4	Height 32-35 cm (60x15-1)	74.0	93.4	1386.0	1421.2	1905.0	1086.2	5965,8
5	Planting on both sides of the stem, height 32–35 cm, 60x2x15–1	83.6	99.0	1516.0	1534.0	1500.0	1784.0	6516,6
6	Planting on both sides of the stem, height 33-35 cm, 60x2x15-1	89.2	102.3	1644.0	1740.0	2100.0	2020.4	7695,9
7	Planting the stalks on both sides, height 32-35 cm, 60x2x15-1 cm	83.8	92.6	1534.3	1629.0	1844.0	1994.0	7177,7
8	Simple planting method (60x15-1)	92.4	97.7	1700.0	1633.0	1091.0	1731.3	6345,4
9	Simple planting method (60x15-1)	100.0	102.1	1800.0	1543.2	1896.0	2013.6	7454,9

A single variety of cotton had a unique root system when fertilized at 15 and 30 t / ha, even when planted in the ground and on flat ground, the morphological appearance and development of roots were once again confirmed by the data in Table 2, ie 5-6 pods In early August, the height of the main stem in all variants was at the level of the contribution of the variety, increased to 88.4–115.1 cm, and the length of the main roots changed to 92.6–131.3 cm. In conclusion, sowing cotton is one of the least labor-intensive methods, saving water and allowing early harvesting.

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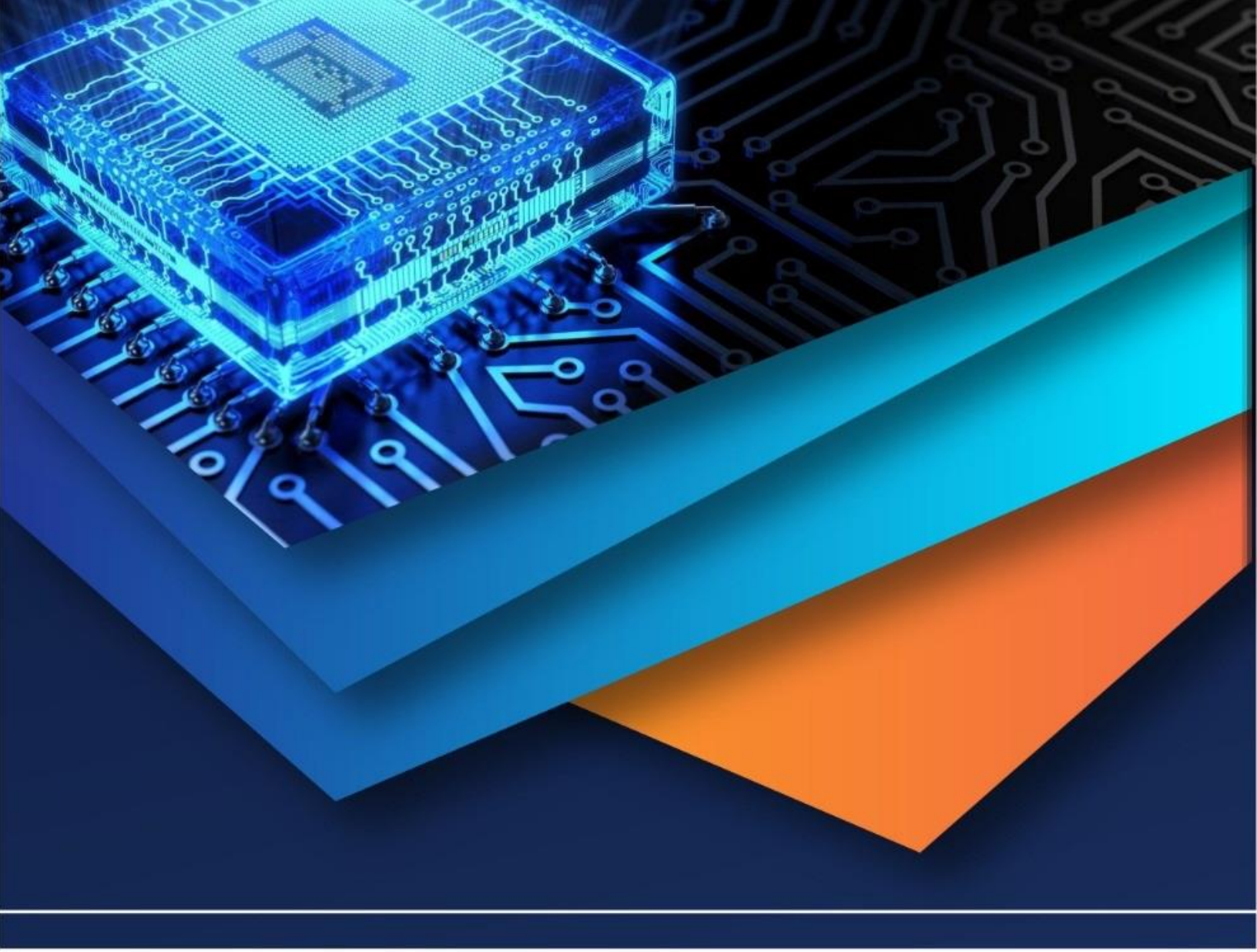

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