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Influence of Planting Systems and Feeding Regimes on Dry Mass Accumulation of Cotton

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Annotation: In order to increase the organic biomass in a bush, at least 15 t / ha of semi-rotted cattle manure before plowing, if possible plowed to 30 t / ha in autumn and then sowing in spring, retains the ability to absorb root activity longer, which has a positive effect on yield. reaches

I. INTRODUCTION

Organic farming requires a gradual increase in soil fertility, and manure, compost, various gels, and biological methods (green manure) are also important in creating granular particles. In cotton, as in all plants, the accumulated organic biomass is inextricably linked to the level of root nutrition, and the weight of the biological aggregate (organic mass) or dry plant mass occurs under the influence of a combination of environmental factors. The dry mass collected by a plant is inextricably linked to the conditions created by man in cultivated crops. These indicators include the amount and proportion of fertilizers, soil moisture, temperature and even 5-6 times or more increase in biomass of many organisms (Belousov, 1975; Yuldashev, Nazarov, 1976; Abdualimov 2006 and others). B.A. Rogolsky (1916) conducted experiments on cotton a century ago and found that growth and development were much slower in the early phases, about 2% of the weight in the mating phase, and 8% in the flowering phase. We determined the dry mass of the cotton plant in the phases of 2-3 true leaves, combing, flowering and ripening, the aim was to determine the proportion of growth (vegetative) and reproductive (fruit) organs in the total mass of the plant by determining the proportion of individual organs. (Table -1)

Table -1.
The method of sowing and the effect of organic fertilizers on the accumulation of dry mass in a bush of cotton (2014)

				Flowering				Fruiting			Cooking (25.08.)		
				Leaf:	Poya	Fruits	Total:	Leaf:	Poya:	Fruits	Cotton swab	Raw cotton	
1	Simple planting method (60x15-1)	0,88	3,9	6,3	6,4	4,4	17,1	13,3	16,2	64,2	11,0	30,1	83,6
2	Height 28-30 cm (60x15-1)	1,12	4,7	8,3	8,5	5,0	21,3	14,3	16,9	15,4	13,0	35,5	96,6
3	Height 28-30 cm (60x15-1)	1,20	4,8	9,6	8,7	6,7	24,0	15,6	17,6	65,6	14,9	37,2	98,8
4	Height 32-35 cm (60x15-1)	1,00	9,90	8,4	9,2	7,6	25,2	15,6	17,2	59,1	11,5	33,2	91,9
5	Planting on both sides of the stem, height 32–35 cm, 60x2x15–1	1,18	11,48	10,6	11,3	8,2	30,1	17,4	18,6	73,0	13,2	38,4	109,0

6	Planting on both sides of the stem, height 33-35 cm, 60x2x15-1	1,24	12,3	14,2	13,0	12,4	39,7	18,3	20,1	75,4	13,6	40,6	113,8
7	Planting the stalks on both sides, height 32-35 cm, 60x2x15-1 cm	1,25	10,20	10,1	10,2	10,1	30,7	17,4	18,1	59,8	12,6	35,6	99,8
8	Simple planting method (60x15-1)	1,30	12,11	11,3	11,4	11,3	34,1	19,1	20,4	74,3	13,5	39,4	113,8
9	Simple planting method (60x15-1)	1,35	13,21	13,4	10,9	13,4	38,7	20,0	21,2	76,3	14,2	41,3	117,5

It can be seen from the data that when the cotton produced 2-3 chin leaves, its dry mass ranged from 0.88 grams to 1.20 grams, which was more accumulated when planted in the bush. Even in the weeding phase, the difference between the plants in the variants was not significant, i.e., 1, 2, 3 variant plants planted on flat ground weighed 2.9-4.7-4.90 grams, with a maximum biomass of 30 t of manure and 6, 9 variants planted in rows 1 and 2. observed, the difference between them was 10-14 grams.

According to Table 2, the rapid growth of the root structure of the plant led to an increase in its dry mass. It has been proved that the minimum amount of soil is 61-100 cm. In plants obtained for control of the total root mass (lower part of the seed leaf) was collected 16.44-19.76-24.34 grams of planted cotton root 8.22-12.31-12.20 g or 20.66-28-46-31.21 g mass as a variety. (Table 3)

At a height of 35 cm, the cotton stalks in 7,8,9 variants weighed 10.22-15.25-18.30 g, and in these variants the root weight was 26.94-34.15-38.72 g. This indicator showed that it is 1.5-1.8 times more than 1,2,3 variants. The same pattern was repeated in the 2017 experiment.

Thus, the result of morphological and physiological changes in the roots was also noted in the accumulation of dry biomass of the roots. Doubling the amount of organic fertilizer resulted in almost doubling the root mass of cotton buds planted on the ridges. The rapid growth of vigorously grown and developed lateral roots leads to the conclusion that the planting of organic fertilizers and sprouts is a measure of the rapid growth of the aboveground organs, which leads to the proliferation of fruit organs.

Table -2.

Influence of sowing method and amount of organic fertilizer on dry mass of cotton root dug by trench method, g (2016)

№	Options	Soil layers, cm			total
		0-30	30-60	60-100	
1	Simple planting method (60x15-1)	8,61	4,72	3,21	16,54
2	Height 28-30 cm (60x15-1)	10,22	5,60	5,40	21,22
3	Height 28-30 cm (60x15-1)	12,00	6,71	5,61	24,32
4	Height 32-35 cm (60x15-1)	9,25	6,44	6,66	22,35
5	Planting on both sides of the stem, height 32–35 cm, 60x2x15–1	12,00	8,40	7,90	28,30
6	Planting on both sides of the stem, height 33-35 cm, 60x2x15-1	15,30	11,24	9,71	36,25

7	Planting the stalks on both sides, height 32-35 cm, 60x2x15-1 cm	10,31	8,90	8,00	27,21
8	Simple planting method (60x15-1)	17,20	9,22	10,21	36,63
9	Simple planting method (60x15-1)	19,44	10,11	11,20	40,75

Table -3.

Influence of sowing method and amount of organic fertilizer on dry mass of cotton root dug by trench method (2016)

№	Options	Soil layers, cm			total
		0-30	30-60	60-100	
1	Simple planting method (60x15-1)	8,56	4,66	3,20	16,44
2	Height 28-30 cm (60x15-1)	9,25	5,30	5,21	19,76
3	Height 28-30 cm (60x15-1)	12,00	6,68	5,66	24,34
4	Height 32-35 cm (60x15-1)	8,22	6,24	6,20	20,66
5	Planting on both sides of the stem, height 32–35 cm, 60x2x15–1	12,31	8,44	7,71	28,46
6	Planting on both sides of the stem, height 33-35 cm, 60x2x15-1	12,20	10,40	8,61	31,21
7	Planting the stalks on both sides, height 32-35 cm, 60x2x15-1 cm	10,22	8,72	8,00	26,94
8	Simple planting method (60x15-1)	15,25	9,24	9,66	34,15
9	Simple planting method (60x15-1)	18,30	10,22	10,20	38,72

Based on the scientific evidence, it can be concluded that when cotton is planted on cotton, both in terms of quantity and nutrient uptake, it grows optimally in the early stages, increasing the dry biomass and producing a rich cotton crop..

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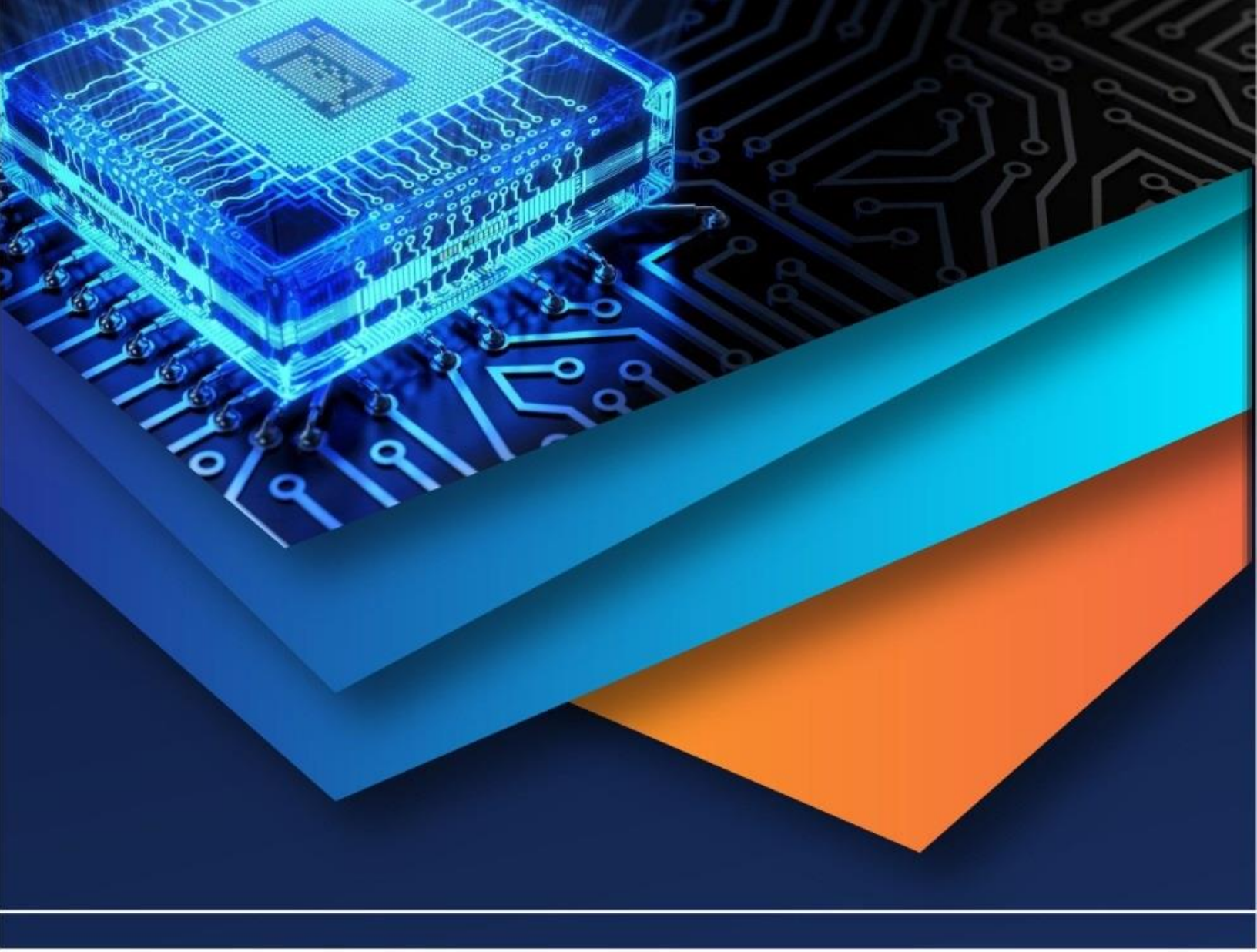

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