

EFFECT OF PLANT THICKNESS AND APPLICATION OF CHEMICALS ON SOIL AGROPHYSICAL PROPERTIES

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Abstract: In this article, information on the effect of peanut seedling thickness and growth regulators on the agrophysical properties of the soil of the experimental field where peanut was planted is covered.

Key words: Peanut, growth regulators, porosity, bulk density of soil, planting pattern, planting dates, soil, topsoil.

Soil density is one of the important physical properties of soil, because soil density is important for plant growth. In the field experiments we conducted, it was observed that the volume weight of the soil was affected by the applied factors. Research is located in Andijan district, Andijan region “**Gold fiber cotton**” carried out on the farm. According to the studies, it was found that the volume weight of the soil was 1.27 g/cm³ in the 0-30 cm layer at the beginning of the operation period, and it was 1.33 g/cm³ in the 30-50 cm layer.

According to the data obtained from the field experiments, it was found that the volume weight of the soil was 1.331 g/cm³ in the 0-30 cm layer, and 1.382 g/cm³ in the 30-50 cm layer, in the variant planted in the 60x5-1 scheme, but no biological preparation was used. In option 2, where "Biogutten" preparation was used, the volume weight of the soil was 1,327-1,365 g/cm³, corresponding to the soil layers. It was found that when the planting scheme of peanuts was set as 90x(60x30)x5-1, the volume weight of the soil was better than that of peanuts planted in the scheme of 60x5-1.

Table 1

Bulk density of soil

№	Tillage	Seedling thickness, million bushels	Bulk density of soil	
			0-30 см	30-50 см
	At the beginning of the period of action		1,27	1,33
1	60x5-1	Control	1,331	1,382
2		Biogutten 1l/ga	1,327	1,365
3		Biogutten 2 l/ga	1,324	1,362
4		Biogutten 2 l/ga+ калий гуммат	1,321	1,360
5	90x(60x30)x5-1	Biogutten 1l/ga	1,318	1,354
6		Biogutten 2 l/ga	1,315	1,351
7		Biogutten 2 l/ga+ калий гуммат	1,312	1,343
8	90x(60x30)x10-1	Biogutten 1l/ga	1,310	1,341
9		Biogutten 2 l/ga	1,305	1,337
10		Biogutten 2 l/ga+ калий гуммат	1,302	1,335

The results of the observation show that the highest volume weight of the soil was observed in the control option, while the lowest one was in the option where the 90x(60x30)x10-1 scheme was planted and the biological preparation "Biogutten" was applied at the rate of 2 l/ha and an additional suspension was used. Because in these options, plant growth and root mass have a positive effect on the physical properties of the soil.

Effect of seedling thickness and biological preparations on soil porosity

The total volume of voids during soil formation is called soil porosity. The porosity of the soil depends on its specific mass and volume weight. Porosity also changes with their change (Tursunov L. 1988). The porosity of the soil is calculated as an inversely proportional indicator of its volume weight.

Taking this into account, the porosity, which is one of the important physical properties of the soil, was also studied in field experiments.

Table 2

Effect on soil porosity

№	Tillage	Seedling thickness, million bushels	Bulk density of soil	
			0-30 cm	30-50 cm
	At the beginning of the period of action		53,0	50,7
1	60x5-1	Control	50,7	48,8
2		Biogutten 1l/ga	50,9	49,4
3		Biogutten 2 l/ga	51,0	49,6
4		Biogutten 2 l/ga+	51,1	49,6
5	90x(60x30)x5-1	Biogutten 1l/ga	51,2	49,9
6		Biogutten 2 l/ga	51,3	50,0
7		Biogutten 2 l/ga+	51,4	50,3
8	90x(60x30)x10-1	Biogutten 1l/ga	51,5	50,3
9		Biogutten 2 l/ga	51,7	50,5
10		Biogutten 2 l/ga+	51,8	50,6

As a result of studies, it was observed that at the beginning of the operation period, the porosity of the soil was 53.0% in the 0-30 cm layer, and 50.7% in the 30-50 cm layer. It was found that the porosity of the soil was 50.7-48.8%, respectively, in the 1st option, which was taken as a control, no biological preparation was used, and peanuts were planted in a 60x5x1 scheme.

It was found that the porosity of the soil changed in a positive direction with the change of planting scheme and the use of biological preparations. It was observed that the soil porosity was 51.4% in the 0-30 cm layer and 50.3% in the 30-50 cm layer in the 7th option, where the planting scheme was 90x(60x30)x5-1 and the biological preparation "Biogutten" + clay gummat was used. According to the results of the analysis, the sowing scheme of the pea was 90x(60x30)x10-1, and in the 10th option, where the biological preparation "Biogutten" + bran gummat was used, the porosity of the soil was the highest

compared to other options, that is, according to it, 51.8- It was found to be 50.65.

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