

CHANGE OF SOIL VOLUME WEIGHT DEPENDING ON IRRIGATION REGIMES

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Annotation

The paper presents materials related to impact of different irrigation scheduling Fc on bulk density of soil.

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One of the reasons for studying the volume mass of the soil, which is considered one of the most important agrophysical indicators in research, is to find out the effect of the applied irrigation methods on the volume mass of the soil and to make conclusions about whether it is positive or negative, and to recommend the production of options that achieve a positive indicator.

One of the main factors determining soil productivity is its macro-microaggregate composition and agrophysical properties, i.e. limited field moisture capacity (ChDNS), water permeability, bulk density, specific gravity, porosity, granularity, nutrient and salt content, location of plant root networks, growth and development. is considered dependent.

The ratio of the weight of a certain volume of pure dry soil stored naturally to this volume is called the volume mass of the soil and is expressed in units of g/cm³, t/m³.

According to the scientists, the soil bulk density is 1.1-1.3 g/cm³ for the gray soil region, 1.1-1.4 g/cm³ for the desert region, and the critical density unit for all three regions is it was determined to be equal to 1.5 g/cm³ on average [2].

The research conducted during 2016-2018 was carried out in the conditions of medium sandy loam, light gray soils of the "Bektepa Mersaj" farm, Kyziriq district, Surkhandarya region, located at a depth of 1.5-2.0 m. In this case, the volume and mass index of the soil was determined from 5 points of the experimental field at the beginning of the period of operation, and at the end of the period of operation, from 3 points depending on the irrigation procedures. All soil analyses, observations and measurements carried out in the research were carried out using the methodical guide "Methods of conducting field experiments" accepted at PSUEAITI [1].

Table 1 Changes in soil volume mass depending on pre-irrigation soil moisture relative to ChDNS, g/cm³ 2017

Soil layers, cm	At the beginning of the season, g/cm ³	At the end of the season, g/cm ³	
		65-65-65%	70-75-65%
0-10	1,29	1,30	1,31
10-20	1,29	1,30	1,33

20-30	1,30	1,32	1,34
30-40	1,30	1,33	1,34
40-50	1,33	1,36	1,37
50-60	1,35	1,35	1,36
60-70	1,37	1,38	1,38
70-80	1,36	1,36	1,37
80-90	1,36	1,37	1,38
90-100	1,33	1,35	1,36

At the beginning of the application period, the volume mass indicator is 1.29 g/cm³ in the average 0-30 cm soil layer, 1.31 g/cm³ in the 0-50 cm soil layer, and 1.33 g/cm³ in the 0-100 cm soil layer. did

At the end of the period of operation, the 65-65-65% irrigation method compared to ChDNS, the average volume mass indicator was 1.31 g/cm³ in the 0-30 cm soil layer, 1.33 g/cm³ in the 0-50 cm soil layer, 0-100 cm soil 1.34 g/cm³ in the soil layer, and in the 70-75-65% irrigation order compared to ChDNS, the volume and mass indicator is 1.33 g/cm³ in the average 0-30 cm soil layer, 1.34 g/cm³ in the 0-50 cm soil layer, was 1.35 g/cm³ in the 0-100 cm soil layer

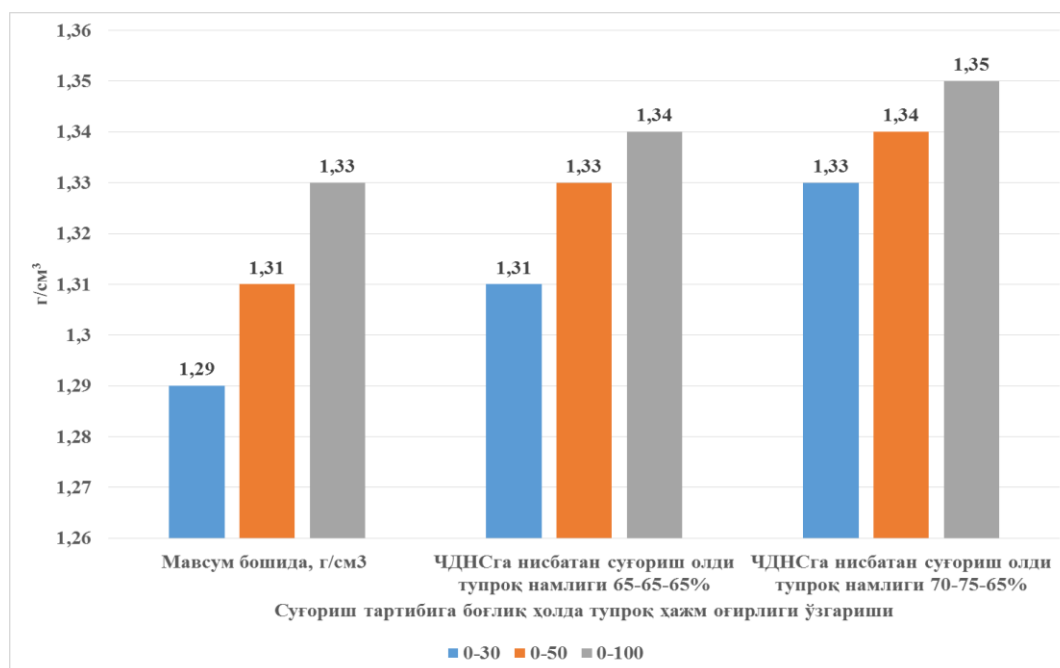


Figure 1. Changes in soil bulk mass as a function of irrigation regimes, 2017.

From the results of the research, it can be concluded that at the end of the operation period, compared to the beginning of the operation period, as a result of various agrotechnical measures, including fertilizing and irrigation, it was observed that the volume mass of the soil increased slightly.

In addition, in relation to ChDNS, soil moisture before irrigation in relation to 65-65-65% irrigation system, soil volume and mass index in 70-75-65% irrigation system is 0.02 g/cm³ in 0-30 cm soil layer, 0-50 and 0-100 cm is higher by 0.01 g/cm³ in soil layers, and this situation is explained by the large number of irrigations in the order of 70-75-65% irrigation compared to ChDNS.

List of used literature

1. Methods of conducting field experiments. UzPITI, Tashkent, 2007. -p. 1-140.
2. Avliyokulov A.E. "Prospects of our country's farming system". Monograph. - "NISHAN PUSHIR" publishing house. - Tashkent. 2015 -B. 25-30.