

CHANGE OF SOIL VOLUME WEIGHT DEPENDING ON INJECTION PROCEDURES

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ABSTRACT

This paper presents data on the effect of different irrigation regimes on changes in soil bulk density.

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, agrophysical characteristics, i.e., limited field moisture capacity, water permeability, volume density, specific gravity, porosity, granularity, nutrient and salt composition, the location, growth and development of plant root branches. is considered dependent.

The ratio of the weight of a certain volume of pure dry soil stored naturally to this volume is called bulk mass of the soil and is expressed in units of g/cm^3 , t/m^3 . According to scientists, the optimal density unit for the gray soil region is $1.1\text{-}1.3 \text{ g/cm}^3$, the desert region is $1.1\text{-}1.4 \text{ g/cm}^3$, and the density for all three regions is $1.1\text{-}1.4 \text{ g/cm}^3$ the critical unit is found to be 1.5 g/cm^3 on average [2].

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/cm^3 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

In this case, at the beginning of the operation period, the average volume and mass index in the 0-30 cm soil layer was 1.29 g/cm³, in the 0-50 cm soil layer 1.31 g/cm³, and in the 0-100 cm soil layer 1.33 g/cm³ formed³. At the end of the period of operation, in the order of 65-65-65% watering, the volume mass index was 1.31 g/cm³ in the 0-30 cm soil layer, 1.33 g/cm³ in the 0-50 cm soil layer, 0- 1.34 g/cm³ in 100 cm soil layer³, and in the order of 70-75-65% irrigation with respect to the soil, the average volume and mass index is 1.33 g/cm³ in the 0-30 cm soil layer, and 1 in the 0-50 cm soil layer. 1.34 g/cm³, and 1.35 g/cm³ in the 0-100 cm soil layer

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, the pre- irrigation soil moisture in relation to ChDNS is 70-75-65%, in relation to the irrigation method, the volume mass index of the soil in the 0-30 cm soil layer is 0.02 g/cm³, 0-50 and 0- It is higher by 0.01 g/cm³ in 100 cm 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.