SOIL TILLAGE METHODS AND ITS VOLUME INFLUENCE ON WEIGHT

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Abstract. Plowing the soil with a two-layer plow at a depth of 28-30 cm, compared to plowing with a simple plow, reduces soil moisture to 0.03 g/cm3 in the 0-30 cm layer, and to 0.02 g/cm3 in the 30-50 cm layer, which in turn reduces the growth of plants. has a positive effect on good growth and development.

Key words: soil, herbicides, cotton, grain, plows, weeds, seed.

M.V.Mukhamedjanov [88; p. 22-23] states that the top layer of the soil should be turned down during the main tillage. As a result, the porosity of the surface part of the earth increases, its agrophysical properties and nutritional regime are improved, while the seeds of weeds, various pests and disease spreaders are overturned from the surface of the soil to its deep lower layers. The structure of the lower layer is intact, the soil with good nutrients and water-physical properties is brought to the surface.

In our research (1:1 system) the effectiveness of soil cultivation methods was investigated in the cotton-grain rotation scheme, in which the cotton field was plowed in two different ways, i.e. plowing without overturning with a simple plow and plowing with overturning using a two-tier plow, creating two types of backgrounds.

In order to determine the volume weight and porosity of the agrophysical properties of the soil in the years of research, samples of the 0-30 and 30-50 cm layers of the soil were taken and analyzed by the envelope method from five points of the field.

The obtained results show that when the 0-30 cm layer of the soil was analyzed before the experiment, the volume weight was 1.34 g/cm3 on average, and the porosity was 48.3 percent, while these indicators were 1.42 g/cm3 in the 30-50 cm layer of the soil. g/cm3, and the porosity was found to be 45.4 percent, respectively.

Before planting seeds in the spring of 2022, the volume weight of the soil was determined in the section of the options.

According to the obtained data, in option 1 (control), in which the soil was plowed with a simple plow at a depth of 28-30 cm, the volume weight of the soil in the plowed (0-30 cm) layer was 1.25 g/cm^3, in the under-ploughed (30-50 cm) layer it was 1. ,36 g/cm3, this indicator was 1.24 g/cm^3 in the 0-30 cm layer and 1.24 g/cm^3 in the 30-50 cm layer of the 4th option (control) plowed with a two-layer plow at a depth of 28-30 cm .34 g/cm^3, compared to the version treated with a simple plow, it was observed that it decreased to 0.01 g/cm^3 in the 0-30 cm layer of the soil, and to 0.02 g/cm^3 in the 30-50 cm layer.

In option 2, in which the soil was plowed with a regular plow to a depth of 28-30 cm, and Dafosat herbicide was applied before plowing, the volume weight of the soil was 1.27 g/cm3 in the plowed layer (0-30 cm), and 1.27 g/cm3 in the under-ploughed layer (30-50 cm). showing 37 g/cm3, these indicators were plowed with a two-tiered plow at a depth of 28-30 cm, and in option 5, where Dafosat herbicide was applied under the plow, the volume weight of the soil was 1.23 g/cm3 in the 0-30 cm layer, and 1.23 g/cm3 in the 30-50 cm layer is equal to 1.35 g/cm3, and it was found that it decreased to 0.04 g/cm3 in the 0-30 cm layer of the soil, and to 0.02 g/cm3 in the 30-50 cm layer, compared to the option treated with a simple plug, in option 3 volume weight of the soil averaged 1.26 g/cm3 in the 0-30 cm layer, 1.37 g/cm3 in the 30-50 cm layer, 1.25 g/cm3 in the 0-30 cm layer when the 6th option was analyzed, 30- It was 1.35 g/cm3 in the 50 cm layer, and compared to the version plowed with a simple plow, it was noted that it decreased to 0.01 g/cm3 in the 0-30 cm layer and 0.02 g/cm3 in the 30-50 cm layer.

By the end of the cotton period, when the volume weight of the soil was determined in the section of options, it was observed that the agrotechnical measures carried out during the growing season significantly affected the physical properties of the soil.

For example, in option 1 (control), where the soil was plowed with a simple plow at a depth of 28-30 cm, the volume weight of the soil in the plowed (0-30 cm) layer was 1.33 g/cm3 on average, and in the under-ploughed (30-50 cm) layer it was 1. ,41 g/cm3 plowed at a depth of 28-30 cm with a two-layer plow

When the 4th option (control) was analyzed, it was 1.31 g/cm3 in the 0-30 cm layer, and 1.38 g/cm3 in the 30-50 cm layer. it was found that it decreased to 0.02 g/cm3 in the 30-50 cm layer, and to 0.07 g/cm3 in the 30-50 cm layer.

By plowing the soil with a regular plow to a depth of 28-30 cm, the volume weight of the soil in the 0-30 cm layer of option 2, where Dafosat herbicide was applied before plowing, was 1.34 g/cm3, and in the 30-50 cm layer it was 1.41 g/cm3, two plowing at a depth of 28-30 cm with a tiered plow, and Dafosat herbicide was applied under the plow, it was equal to 1.32 g/cm3 in the 0-30 cm layer, and 1.39 g/cm3 in the 30-50 cm layer, with a simple plow processing compared to the given option, up to 0.02 g/cm3 in the 0-30 cm layer of the soil, up to 0.02 g/cm3 in the 30-50 cm layer, and when analyzing option 3, where Stomp herbicide was used along with seeding, the volume in the 0-30 cm layer of the soil was weight is 1.33 g/cm3, 1.40 g/cm3 in the 30-50 cm layer, this indicator is 1.30 g/cm3 in the 0-30 cm layer in option 6, and 1.37 g in the 30-50 cm layer /cm3, it was observed that it decreased to 0.03 g/cm3 in the 0-30 cm layer of the soil and 0.03 g/cm3 in the 30-50 cm layer, compared to the variant treated with a simple plug.

So, as can be seen from the obtained results, it was determined that the methods of tillage have a significant effect on the volume weight of the soil.

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