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STUDY AND PREVENTION OF PROBLEMS OF CULTIVATED LAND AREAS

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ANATATSION

problems of the soil environment of arable land the creation and use of organic fertilizers in the fight against it, methods used in determining the degree of mineralization of arable land before mineralization in the soil haydov layer and neutralization of toxic chemicals.

Keywords: methods for determining the mineralization, mineralization of the soil, determination of zootsenosis, determination of the density of microorganisms, cultivation of crops on canvas.

In the structure of arable land, until the last times (1990), Cotton occupied an area of almost 75 percent. In not a single country in the world, the cotton monopoly had not risen to such a high level. This circumstance led to a weakening of the Earth, a decrease in soil fertility, a deterioration in its water-physical properties, an increase in the processes of soil degradation and weathering. As a result, the soil lost its positive properties and increased mineralization.

In this area, in accordance with the resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated June 18, 2019 No. 510 “on measures to improve the agrochemical system of soil analysis in agriculture, to increase soil fertility in arable land", it is advisable to carry out soil agrochemical field research work on irrigated agricultural land https://lex.uz/docs/4380635).

As the soil is mineralized, it is said that under the influence of various chemical compounds, it turns into rock again. On such soils, more and more living organisms (plants, animals and microorganisms) decrease. On such soils, it is now becoming more difficult to harvest from agricultural crops. For example, if watered, it will thin out, if not watered, it will harden, become dense, crack, air exchange will disappear, and the roots of the plant will be cut off and damaged. Crops here require a lot of water, as they are rapidly waterlogged compared to non-mineralized soils. From the hardening of the Earth, chopping, cultivating and basic processing of the earth, that is, with increasing soil hardening resistance when driving with deviations, lemix (plug) quickly eats and fails. This leads to a deterioration in the environmental situation in the soil haydov layer. But so far, no techniques and technologies have been developed that can clear the soil from such chemical toxic substances or lose its mineralization. On top of that, the situation is aggravated by the fact that most farmers do not have a high farming culture. To find a solution to this problem, we have learned how to use the following methods to determine to what extent the soil is mineralized. It is required to create methods that apply in determining the degree of mineralization of cultivated areas before the soil in the cultivated areas is mineralized in the haydov layer and neutralizes toxic chemicals.

Methods for determining the mineralization of the soil. With this in mind, it is recommended for the first time to apply several related methods below by testing them in experiments. The experiments are as follows:

1. To determine the degree of mineralization of the soil, it is studied by determining the type and density (that is, zootsenosis) of hummingbirds and other animals living in the volume of 1

m2 from the haydov layer of crop fields. In this case, if the soil is highly mineralized, the worm and other animals do not live at all. But as the soil mineralized decreases (that is, organic matter has increased in the soil), the type and density of animals in zootsenosis (animal community)increases. When determining the level of soil mineralization, the method of "studying soil zootsenosis" consists in the use of them as an indexer.

2. The next method for determining the level of soil mineralization is the method of "determining the density of microorganisms", which accumulate nitrogen living freely in the soil. This is done by identifying two types of nitrogen-accumulating bacteria. It is as follows:

a). Molecular nitrogen-absorbing (the presence of bacteria was first described in 1893 by the Russian scientist S.N.Vinogradsky identified and named it Clostridium pasteurianum (Clostridium rasteurianum) to determine Clostridium pasteurianum (Clostridium pasteurianum), adding 100 g of soil to 50 ml of water in which 1 g of glucose is dissolved and mixed until it becomes pasty clay. This mixture is placed in a Petri dish or chemical glass using a shovel and suspended with a lid, grinding the top, and then kept in a 30oC li hot thermostat for several weeks. Then open the lid of the Petri dish and try to smell the mixture. If an unpleasant smell comes from it, the oil in the mixture means that acid has formed. The clay foams due to the separation of gases (CO2, H2) in the process of oil acidification. The Clostridium is a rod-shaped bacillus that forms a spore, and at the stage of spore formation, its vegitative cell becomes like a speck. It excites the process of oil acidification under anaerobic conditions. We studied this method on soils with two different compositions, that is, for many years only organic fertilizer was applied and only mineral fertilizer was applied. As a result, very reliable evidence was obtained. That is, only in the soil where organic fertilizer was applied, the process of bijection was carried out strongly. But it can only be seen that in the soil where the mineral fertilizer was applied, on the contrary, the process of bijection was very weak.

b)to determine the molecular nitrogen-absorbing azotobacter chromococcum (Azotobacter chromococcum) (in 1901, the German scientist Beyerink colony identified a brown-colored bacterium), 2 g of glycerin is mixed into 100 g of soil. This mixture is poured over with 30 ml of water, from which a pasty clay is made. Put it in a Petri dish and water the top smoothly with a shovel.

Then the container is kept in a thermostat of 30oC for several weeks, closing the mouth. After that, it can be seen that white shiny colonies were formed on the clay sheet in the container, later these colonies turn brown. The azotobacter is aerobic, ball-shaped, it is one, two and three, and settles inside a slimy sheath (capsule). The capsule protects bacteria from adverse conditions. We also studied this method on soils with two different compositions, that is, for many years, only organic fertilizer was applied and only mineral fertilizer was applied. As a result, we also received reliable evidence in this experiment, that is, only when applying organic fertilizer, the brown colony of azotobacterin was clearly visible. Only in the soil where the mineral fertilizer was applied, these signs did not appear.

In the method of" determination of the density of microorganisms " one can learn to remove the soil from the entire layer at once or separately. Its advantage is that it is possible to determine if the soil is mineralized during the year.

3. Nowadays, various sources are used with the aim of enriching the soil environment with organic matter, but they cannot be placed directly in the soil. Unfortunately, waste from the

town hall is being disposed of and placed on the ground in the cultivated areas. In addition, liquid garbage coming out of the city is also being extracted from tin cans and applied as organic fertilizer, and we are witnessing that the dirty liquid flowing in the sewers in this system is also used for irrigation during the growing season of crops. But this-it has not yet been determined how harmful organic fertilizers are to the environment, soil, air, and, importantly, to living organisms.

We observed their effect on plants grown on canvas when studying sources that are being used as organic fertilizers. In doing so, it was studied that 750 g of soil and 250 g of organic fertilizer were applied to the canvas and mixed well, planting beans on one side and corn on the other, germinating and growing them.

Our experiments were carried out by the fact that on the 1st canvas, the city liquid garbage is manure from the clarifier; on the 2nd canvas, the manure from the city garbage dump; on the 3rd canvas, the mole manure; on the 4th canvas, the chicken manure; on the 5th canvas, when the soil itself was tried and the This method of "growing crops on canvas" serves as an indicator in the study of the composition of plants soil and organic fertilizers.

Continuing with these experiments, winter wheat was sown, and on Canvas 1, urban liquid garbage was obtained from a clarifier; on Canvas 2, manure from a city garbage dump; on canvas 3, mole manure; on canvas 4, chicken manure; on Canvas 5, when the soil itself was tried and tested, on Canvas 1, urban liquid garbage and on canvas 3, wheat germinated

This method of "growing crops on canvas" serves as an indicator in the study of the composition of plants soil and organic fertilizers. The methods that we recommend above are simple and convenient in the study of the composition of the soil, and crop fields are important in preventing problems of the soil environment, determining and combating the degree of mineralization of the soil environment, as well as in the use of organic fertilizers. In many countries, great importance is attached to biological deconstruction (this is also called the order of organic farming). Mineral fertilizers, toxic drugs are not used in it or are used in very small quantities. Its importance lies in the fact that the quality of cultivated rural farm products is dramatically improved, and the pollution of nature is reduced. Soil fertility increases.

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