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IMPROVEMENT OF THE REPRODUCTION CYCLE OF HOUSEHOLD AND DEHKAN FARMS

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Abstract: The article discusses the issues of reducing soil fertility as a result of growing crops in the lands of household and dehqan farms, ways to prevent this process, ways to restore soil fertility. The land, when properly used, restores its productive properties. It is recommended to sow alfalfa widely used in the districts of the Surkhandarya region and on the lands of dehqan farms, which contributes to a significant enrichment of soils with humus and improve their structure to provide animal feed.

Keywords: productivity, appraisal, crop rate, humus, pole acrylic, cartogram, crust for-ming, meliorate, pesticide, soil, porosity.

Introduction.

When growing crops in the lands of dehqan and household plots, the decrease in soil fertility is an objective natural process, if the relevant scientifically based rules are not observed. The land, when properly used, restores its productive properties. It is recommended to sow alfalfa widely used in the districts of the Surkhandarya region and on the lands of dehqan farms, which contributes to a significant enrichment of soils with humus and improve their structure to provide animal feed.

This work is devoted to solving the following issues:

- development of organizational and economic foundations for improving the efficiency of land use of household and dehqan farms;
- establishment of the soil quality score for land plots of household and dehqan farms, since they were not determined;
- management of soil fertility in the land use of dehqan and household plots;
- determination of scientifically grounded rules for increasing soil fertility;

To establish the state of soil fertility of the lands of household and dehqan farms, materials of agrochemical cartograms compiled in 1991 to 2017 by the Surkhandarya zonal agrochemical laboratory were used.

The experiments carried out in the Surkhandarya agrochemical laboratory in 1991 to 2017 show that with the permanent sowing of the same plants, the humus content decreased to almost 1%. The alfalfa crops widely used in the districts of the Surkhandarya region and on the lands of household and dehqan farms contribute to

a significant enrichment of soils with humus and improve their structure to provide animal feed. An effective technique for increasing the fertility of poorly structured irrigated gray soils is the artificial structuring of their introduction of polymers - semi-acrylamide. In small doses (15-30 kg per 0.1 ha.), these preparations significantly improve the structure (by 15-20% of the previous level), contribute to the creation of a loose, well-permeable and breathable arable layer, reduce water loss through evaporation and eliminate crust formation. Plant yields with artificial soil structuring increase by 15 - 20%, and the growth and development of plants is accelerated.

1) The process of reducing soil fertility in the cultivation of agricultural crops and in the lands of dehkan and household plots is an objective natural process. The level of fertility is not something invariable, it changes dynamically in the production process due to its consumption by plants. Therefore, there is a need to manage the soil fertility of land plots of household plots and dehkan farms in the specific conditions of their use. A specialized classification of soils according to their productivity, built on the objective properties of the soils themselves, is their appraisal. That is, appraisal is a refined agronomic grouping of soils, where the consideration of quality in terms of natural fertility is expressed in points when comparing and refining them according to the average long-term yield of the main agricultural crops. This indicator in the irrigated soils of the Surkhandarya region averaged 68 points in 1991, and according to the results of repeated work in 1999, it decreased by 8 points and amounted to 60 points for irrigated lands, these indicators are mainly determined in general for agricultural land, since the soil bonite score was not determined for the land plots of dehkan and household plots Since today, the quality of soils of land plots of dehkan and household plots (household plots) in taxation and evaluation for their qualitative indicator is taken as a relatively nearby area of agricultural land of the above indicators, in fact, soil quality is much better in dehkan and household plots than in other territories and their bonitet score is somewhat higher. However? in the process of agricultural production, soil fertility decreases with regular use, if not observed, below the scientifically sound rules and related requirements.

2) Soil fertility is restored on the basis of a rational farming system, the introduction of soil protection technologies, and the preservation of humus. Land, when properly used, restores its productive properties. Reproduction of soil fertility in modern agriculture is carried out in two ways. The first involves the use of mineral fertilizers, ameliorants, pesticides, etc., the second - crop rotation, intermediate

crops, various methods of tillage and sowing methods, etc., these ways are aimed at achieving a single goal, although their mechanism of action is different .

The first mode of reproduction has the strongest impact on land productivity in dehkan farms. This impact is not able to compensate for the loss of soil fertility; its effect is based on the mobilization of the material resources of the soil and is short-term. As a result, this leads to a decrease in permanent sources of soil fertility, although it provides short-term success in increasing crop yields.

The natural basis for the reproduction of soil fertility as a manifestation of the universal law of conservation of matter and energy is ensured by the effective use of organic fertilizers, specialized crop rotations, modern resource-saving technologies for tillage, water reclamation, plant protection products).[3]. The highest effective soil fertility is characterized by soils that, along with a sufficient amount of moisture, have good aeration. And also, with proper use of soils, their fertility not only does not decrease, but also constantly increases.

The structure of the Surkhandarya district includes the southern subzone of the desert, the gray earth belt, the belt of brown (mainly slightly alkaline) soils of medium-altitude mountains and the high-mountain belt of light brown meadow-steppe soils. Gray soils occupy a special place in the system of soil zones. They are distributed in the form of a relatively narrow winding strip along the piedmont and sloping plains and go quite high on the slopes of the foothills and low mountains.

According to bioclimatic conditions, gray soils are located within two soil-climatic provinces: Central Kazakhstan and Central Asian, or Turan. In accordance with this, they are subdivided into northern sierozems, or Kazakhstani, and southern sierozems, or Turan. Those and others, entering the system of vertical zones, depending on the altitudinal position and the associated changes in climate and vegetation, are divided into subtypes: northern light and typical gray soils and southern light, typical and dark gray soils.

Gray soils of all subtypes, modified by prolonged exposure to irrigation, are distinguished under the name of irrigated gray soils. Light gray soils are poor in humus - up to 2.17% in the sod , a sharp decrease is observed downwards. The total reserves of humus in light gray soils range from 50 to 60 t/ha. Their poverty in humus is explained by the high biological activity of soils. The upper layer of light gray soils contains 0.1-0.8% nitrogen. The content of the most mobile hydrolysable nitrogen in gray soils reaches 70% of the total. The content of phosphorus in gray soils varies in a fairly wide range - from 0.1 to 0.24%. Conducted experiments in the Surkhandarya agrochemical laboratory in 1991 to 2001. Show that with permanent sowing of the same plants, the humus content decreased to almost 1%. The alfalfa

crops widely used in the districts of the Surkhandarya region and on the lands of dehkan farms contribute to a significant enrichment of soils with humus and improve their structure to provide animal feed. In addition, the introduction of manure on the lands of dehkan and household plots contributes to the enrichment of soils with humus. An effective method for increasing the fertility of poorly structured irrigated gray soils is the artificial structuring of their introduction of polymers - semi-acrylamide. In small doses (15-30 kg per 0.1 ha.), these preparations significantly improve the structure (by 15-20% of the previous level), contribute to the creation of a loose, well-permeable and breathable arable layer, reduce water loss through evaporation and eliminate crust formation. .

Plant yields with artificial soil structuring increase by 15–20%, and the growth and development of plants is accelerated. The introduction of organic fertilizers increases the biological activity of soils, in particular, the transition of weakly mobile phosphorus compounds into mobile, plant-accessible forms. In addition, alfalfa crops, improving soil structure, contribute to more economical use of water by plants and reduce its useless loss from the soil for evaporation. On structured soils rich in humus, the efficiency of fertilizers increases. This allows you to get a high yield increase on the lands of dehkan farms for every kilogram of expensive mineral fertilizers.

To obtain high yields of crops on old irrigated soils, it is necessary to apply, in addition to nitrogen and phosphorus fertilizers, potassium, which is confirmed by the available experimental data indicating the effectiveness of potassium fertilizers.

Enrichment of soils with organic matter by introducing manure improves the structure of soils, which favorably affects their water-air regime, sharply enhances the activity of microbes.

Soil cultivation has a great influence on soil improvement. With deep tillage, the soil improves along the entire profile, that is, the density (bulk density) decreases and the porosity increases.

Accounting for the quality of agricultural land is based on the production-genetic classification of land. Land quality records should be based on materials from large-scale soil, reclamation, geobotanical, and agrochemical land surveys.

The detail and accuracy of soil survey materials depend on the method of surveying the boundaries of soil differences and the scale of the soil plan. For soil surveys, previously drawn up plans are used. The accuracy of drawing the boundaries of soil differences largely depends on the completeness and accuracy of the planning basis on which these boundaries are drawn. The more accurate and detailed the geodetic base used for soil survey, the more accurate its materials.

Therefore, the basis of the survey should be based on plans that quite fully and accurately characterize the land use of dehkan farms.

The accuracy of soil survey materials depends on the number of main and verification sections per unit of the surveyed area. The number of soil profiles is established taking into account the scale of the soil survey and the specific conditions of land use. The number of soil cuts per unit of the surveyed area in the same terrain conditions depends on the scale of the plan. For example, under conditions of the fourth category of complexity, for every 1000 ha of the surveyed area, approximately 67 soil sections should be laid when surveying at a scale of 1: 10,000, or one soil section per 15 ha, and at a scale of 1: 2000 per 1 ha. there is one soil section .

Under more complex conditions, the number of soil cuts increases, while less complex ones decrease.

At present, topographic maps of 1:10,000 scale are also mainly used to conduct a qualitative assessment of agricultural land, rural settlements and lands of dehkan farms. And soil samples for determining the qualitative assessment of land in some cases will not even fall into the territories of individual fields of farms due to the fact that, according to existing standards, the laying of soil pits is provided for in this way. At the same time, he does not even have to talk about the lands of settlements and the territories of dehkan farms, he says. Since on the territory of the category of lands of settlements in the republic, work on the qualitative assessment of lands has not yet been carried out. When necessary (for example, when calculating the land tax rate), the calculations took into account the parameters of a qualitative assessment of land in nearby territories. Naturally, these indicators do not reflect the actual qualitative state of the lands, since the lands of dehkan farms, since they are inherited for life, more attention is paid to them, more funds are invested and more organic and mineral fertilizers are applied. Therefore, it is necessary to improve the methods of accounting and qualitative assessment of land. In order to carry out a qualitative accounting of the lands of settlements and lands of dehkan farms, it is necessary to develop new methodological manuals that would reflect the reliable state of lands in quantitative and qualitative terms.

“Accounting for land quality in the land cadastre system provides for the classification of not only soils, but also lands. In the natural sciences, soil is usually understood as the upper, loose layer of the earth's land, formed under the influence of various factors of soil formation.

The concept of land refers to certain areas of the territory, with a characteristic not only specific soil cover, but also all other conditions on which the method of using the land depends.

Based on the above, it is proposed to change the procedure for conducting a qualitative accounting of land. First of all, it is necessary to establish that in order to carry out work on the quantitative and qualitative accounting of the lands of rural settlements, the lands of household plots and dehkan farms (personal subsidiary farms of the population), the planning and cartographic basis of a scale of 1: 1000 or 1 : 2000. Taking into account the growth of the population, the creation of new families and new dehkan farms, there are constant changes in the composition of the land fund of settlements, so it is necessary to carry out work on the quantitative and qualitative accounting of land regularly, every 3-5 years. This will make it possible to more accurately assess the quality of soils, to correctly assess the economic activity of dehkan farms, which, in turn, will make it possible to reasonably establish reliable land tax rates.

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