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Occurrence of signs of fertility in arable land and fertility protection measures

Bukhara State University teacher ***N.N. Torayeva***
Bukhara State University teacher ***J. J. Jumayev***

Today, there are many cases of soil infertility in arable lands, pastures and homesteads. Scientific researches and studies conducted in agriculture show that the consequences of degradation by the population all over the world are the cause of the origin of many distressing situations. As a result of the active influence of man on the soil, changes in its properties, increase or decrease in productivity require more attention in the protection of land resources than before. At the same time, it is one of the urgent tasks to correctly assess the state of land reclamation and improve it. 52.8% of the total land fund of the Republic of Uzbekistan is unwashed and washed, 15.7% is washed to various degrees. Also, 22.2% of the total land area is non-saline land, and 46.3% is land with varying degrees of salinity. The work aimed at preventing the degradation of the fertile layer of agricultural lands has been in the constant focus of our state's attention. 52.8% of the total land fund of the Republic of Uzbekistan is unwashed and washed, 15.7% is washed to varying degrees. Also, 22.2% of the total land area is non-saline land, and 46.3% is land with varying degrees of salinity. According to some data, more than 50% of the cultivated areas of the world are subject to erosion, deflation and are prone to severe deflation, and such degradation processes continue. There is no clear concept of land degradation, because the top part of many lands has a layer of soil, so soil degradation at the same time is called land degradation. One of the specific types of soil degradation is soil contamination with toxic chemical and organic compounds, heavy metals, oil and oil products, and radioactive elements. There is no country in the world that has all kinds of mineral raw materials. As a result of the mining process of all kinds of minerals, the soil covers are affected by mechanical damage in different ways and degrees. In particular, the function of the thin, thin soil layer, which is rich in life elements for plants, is disturbed. During the extraction of any minerals, different depths are formed in the rocks and they mix with the soil cover, that is, the soil cover of the primary relief of the area comes under man-made influence. In addition, forestry is also experiencing some damage during these periods, so it is important to follow the rules of cutting in forestry and to establish proper management and reforestation in some areas. It should be done after 80-100 years. 97% of forest fires are caused by people. That is why it is appropriate to strengthen the campaign and information on fire prevention. Practical measures are taken for each factor that causes soil degradation. Mechanical soil degradation is caused by several factors such as wind erosion and deflation processes, irregular grazing of livestock, extraction of minerals, deforestation, and forest fires. To prevent wind erosion and deflation processes, it is highly effective to build fences around cultivated land. By desalination of alluvial and alluvial soils, the land used for agriculture can be expanded to a certain extent. Therefore, their use is of great importance in improving the fertility of these soils and developing agriculture. As mentioned above, the main reason for the poor agronomic properties of shogtob is the absorbed sodium cation. Therefore, the main measure to increase the productivity of fertile soils is to replace the absorbed sodium with calcium cations contained in gypsum or other calcium salts. Geoinformation technologies are used in land monitoring, determination and assessment of degradation processes, decoding of distension surveying data and creating a data bank using the landscape method, creating electronic versions of maps, determining the exact distribution limits of eroded and saline soils of different degrees, and more accurately studying the forms of the relief. in the study, the development history of the area and the features of the anthropogenic factor, the exposure of the slope, taking into account the soil-forming rocks, the correct understanding of the processes of soil formation and giving a generalized description of the reasons for the occurrence of degradation processes, taking into account the landscape-ecological conditions can be used. GAT

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A lot of scientific and practical work is being done to improve the soil fertility of our republic. Currently, more attention is focused on neutralizing saline soils, i.e. increasing its buffer capacity. We meet different types of soils in different regions of our republic. The formation of such diverse soils certainly depends on its (PH) environment and its changes. 1. strongly acidic 3. medium acidic 5. neutral. 2. strong alkaline 4. medium alkaline In our republic, in cultivated soil zones, chemical fertilizers and various other methods are used, which can give an alkaline environment in parts of the soil to an acidic environment. For example, carbonates (lime CaCO3) and ammonium bricks are widely used. We use lime as a building material, and we can grind the CaCO3 (residue) separated in this process and use it in powder form. This gives us a very high productivity. Normally, CaCO3 is considered as an insoluble precipitate. But when we put it in an acidic soil, CaCO3 reacts with [H+] and the following process occurs in the soil:

$$CaCO3 + [H+] = Ca+ + CO2$$

The gas released during this reaction (CO2) increases soil porosity and improves soil aeration. [Ca+] acts as a nutrient for the plant. As a result of these processes, excess salts are transferred to the lower layers (during irrigation). When using CaCO3, it is necessary to divide it into small aggregates as much as possible, because according to the laws of physics, the more large a whole body is crushed and divided into more pieces, the more its surface area increases and the faster and more fully it reacts, which is It means that the effect will be accelerated. I think that if we keep CaCO3 together with local fertilizers, it will give a better result. The reason for sprinkling mixed with local fertilizer is that when the local fertilizer falls on the soil, the process of decomposition by bacteria begins, and as a result, a certain amount of heat is released. As a result of this heat, the processes in the soil are accelerated and the soil buffer is stabilized and productivity can be improved.

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