



The Impact of Irrigation-Induced Erosion on the Agrochemical Properties of Mountainous Brown Soil

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Abstract

Taking all these into account, it is important to increase the fertility of the soil from the erosion process in Ismayilli and to prevent the washing of fodder crops from perennial herbs. The cultivation of these plants in the mountainous regions protects the slopes from the terrible erosion process and provides the animals with a strong fodder. It is proved by the results of the research that restoration of fertility and ecological balance of erosion lands and the implementation of soil-agro-technical measures to increase productivity are of great importance. Due to the application of these measures, I, as a result of improving the water and physical properties of the affected land, prevent surface water flows. In addition, the results of the study have been proven by the fact that, for certain reason, erosion and erosion hazards are most likely to be taken over by the sowing of perennial herbs. Thus, perennial herbs, in particular, accumulate the nitrogen atmosphere of the legumes, enriches the soil with organic matter, accelerates the formation of water-resistant granular-topical structure and improves its water-physical properties, which in turn facilitates the rapid digestion of foodstuffs.

Keywords: Ecosystem; Erosion; slopes; Cross country; Soil characteristics; Mountain gray-brown soils; Degraded

Introduction

Preservation and effective use of natural resources and the environment in the Republic of Azerbaijan is one of the important components of the State's socio-economic policy. Multiple national programs adopted in this area cover a fairly wide range of land covering the urgent solution of disputes. It should be noted that for the purpose of preserving the rich flora and fauna of the country, the establishment and expansion of national parks and forests, cleaning of contaminated soils and water basins, modernization of hydro meteorological service, etc. is being used to address important environmental problems [1].

Elimination of ecological environment in the territory of the Republic, reduction of forests, meadows, useful land of agricultural destination, elimination in some places, violation of biological diversity of some plants and animals, etc. increasing the relevance and relevance of the ecosystem assessment as a whole. The soil cover has been formed as an important component of the biosphere and as a result of the influence of abiotic, biotic and anthropogenic factors forming the earth as a free nature. Soil ecosystems and their erosion are the main criteria that constitute the basis for biological activity, plant productivity cultivated on the soil, and the environmental assessment of the product obtained by evaluating soil and its forming factors in such interactions [2].

Degradation of soil and its ecological assessment, as well as one of the new areas of soil science, explain the ecological nature of the processes occurring in the soil and its causes, its dynamics and legitimacy on scientific grounds. In this regard, the land affected by the natural and anthropogenic impacts, as well as in all natural areas of the Republic, covers a wide range of areas in the Shamakhi region, which covers the southeastern slopes of the Greater Caucasus. The total area of the district is 215875.0 hectares, of which 127.5 thousand hectares (58.7%) are 55.8 thousand hectares (25.7%) of various degraded soils, 28.3 min hectares (13.0%) and 43.4 thousand hectares (20.0%) were subject to severe erosion [3].

The relief of the Shamakhi region is very complicated and erosion is widespread in the region as a result of anthropogenic pressure. Strongly affecting the occurrence of erosion, the sharp change in relief, the form

of slopes, the amount of falling rainfall, the intensity and duration, the economic activity of people and other factors.

Because of the ignorance of the soil on the slopes used under the plow, these areas have been completely deteriorated. The Shamakhi region's agricultural zone is mainly composed of low, medium, mountainous, and mountainous plains. The erosion process in the mountain farming zone has intensified and has spoiled large areas [4].

Material Analysis and Discussion

From our research, it is clear that the brown brown, brown-brown soils used intensively in agriculture in the middle and low mountainous areas of the region are more eroded.

The study was carried out in gray-brown soils and the effect of erosion on nutrients was investigated.

The damage caused by erosion to soil fertility can be traced to the morphological features of the soil cuts and the results of the analyzes carried out in the natural field [5].

Research Progress

Some soil-agrochemical characteristics of these soils have been studied to determine the effects of the erosion process on the fertility of the studied soils.

The analysis of the research materials suggests that the erosion process has resulted in anthropogenic factors and as a result of hydrothermic conditions, changes in nutrients in these soils and

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deterioration of some signs.

The mechanical composition of mountain gray-brown soils is heavy-gill and clay, profile carbonate. The majority of the clay and white clays on the lower layers of the middle layer of the soil profile and moderately eroded in the erosion are related to the illudial layer of these soils [6,7].

It has been established that the amount of physical clay on the upper layers of the gray-brown soils (0-13, 13-31 cm) not exposed to erosion is 54,48-59,60%, humus 3,13-3,34%, total nitrogen 0,13-0,16%, absorbed ammonia 64,35-76,70 mg / kg, water-soluble ammonia 15,21-17,70 mg / kg, nitrates 4,39-5,90 mg / kg total phosphorus 0,20 (Ca + Md) 34,% of total potassium 3,07-3,11%, exchanged potassium 344,19-359,49 mg / kg, carbonate 7,27-10,39% Varies between 41 -39,08 mq.ekv (100 g of land) [8].

Results

As a result, a lot of organic matter is accumulated in eroded soils and the activity of microorganisms rises. Organic remnants of microorganisms significantly improve soil fertility and make them useful by increasing the amount of volatile food in the soil. From the observations on the dynamics of the conservative forms of food in the degraded brown soils in the erosion, it is clear that the amount of poisonous nutrients was high in the early stages of fur and chimpanzee and gradually towards the end of the vegetation, during the harvesting period [9,10].

Conclusion

Thus, on the basis of the studies carried out, it can be concluded that in order to obtain a high and qualitative harvest of winter wheat grain and restore fertility of soils on gray-brown, long-irrigated soils to this zone, it is recommended that traditional farms (loosening 20-22

cm) and minimal tillage, also the use of fertilizers annually in the norm of manure is 10t / ha + N60P90K60 kg / ha. As a result, both cultivation of soil treatments and the rate of fertilizers are recommended, in addition, after 3 years the minimum treatment should be replaced by a traditional one.

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