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Маккажўхорини сугоришда паррандачилик чиқинди сувларидан фойдаланиш <i>Артукметов З.А., Мустафаклов Д.М., Хайдаров С.</i>	1207
Олма теримдан кейинги илгор тажрибалар <i>Шарипов С.Я., Хакимова М.Б.</i>	1214
Bukhara oasis physical and chemical properties of irrigated soils of gijduvan district of bukhara region <i>Salimova H.H.</i>	1218
Республикамизда кишмишбоп узум навларини қуритишнинг маҳаллий усуллари <i>Ғаниев Ш.А., Хаитмуротов У.Э., Шарипов С.Я.</i>	1222
Исследование физического способа обработки груши озоном для длительного хранения <i>Эгамбердиев Н.Б., Ярматов А.Ш.</i>	1226

BUKHARA OASIS PHYSICAL AND CHEMICAL PROPERTIES OF IRRIGATED SOILS OF GIJDUVAN DISTRICT OF BUKHARA REGION

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Annotation

In this article the mechanical composition of soil humus. Mobile phosphorus and potassium, the amount of water-soluble salts, the degree and type of salinity of the soil, the depth and density of gypsum and gravel layers, the degree of compaction and the degree of leaching information about.

Key words: *Humus, morphological structure, irrigated soils, water-soluble salts, gypsum, compaction.*

Аннотация

Мазкур мақолада сугориладиган тупроқлар балл бонитетини аниқлашга зарур бўлган тупроқнинг механик таркиби, чиринди (гумус), ҳаракатчан фосфор ва калий, сувда эрувчи тузлар миқдорлари, тупроқнинг шўрланганлик даражаси ва типлари, гипс ва шагал қатламларининг жойлашиш чуқурлиги ва миқдорий кўрсаткичлари, ювилиш ва зичлашганлик даражалари ҳақида маълумотлар қайд этилган.

Калим сўзлар: *Гумус, морфологик тузилиш, сугориладиган тупроқлар, сувда эрувчи тузлар, гипс, зичлашиш.*

Development of all branches of agriculture is based only on the efficient use of land resources, soil cover.

Soil – is created by nature itself, at the same time, is its jewel, a miraculous integral part of it. The beauty of the environment is, on the one hand, all the nutrients that come from crops, and, on the other hand, the product of a healthy soil covers.

Gijduvan district is located in the north-east of the region, and from a geomorphological point of view, the district is located in the middle reaches of the Zarafshan River. The territory of the district consists of a variety of rocks deposited in different geological periods, and the high-mountain soil-forming parent rocks are composed of low (weak) proluvial and lyoss deposits. To the south-west and south-east of the plain of the district there are soft-rock proluvial deposits mixed with gravel-sand and soil, sometimes covered with alluvial ridges. In the main part of the district there are muddy, sandy and gravelly layers on the rocks and alluvial-proluvial deposits with stony and gravelly layer under the rocks. [3], [193,194].

According to research of U. Tojiev and others, In the newly irrigated desert-sandy soils of the Zarafshan river delta, the acceleration of humidification and aeration processes is increased under the influence of carbonates and projected effluents in the composition of irrigation water. Therefore, in the studied soils, the thickness of the tillage layer, the amount of humus increases. Under the influence of irrigation, the xerothermal water-salt mode of desert-sandy soils becomes the irrigated

washed-out mode. In some areas, the groundwater level approaches the surface (1-3 m) and the soils experience strong salinization as a result of the change of soils from the process of automorphic soil formation to the process of hydromorphic soil formation. In the genetic horizons of such soils, the amount of dry residue (0.942 - 1.15%) increases with the amount of chloride ion (0.019 - 0.177%) and the amount of sulfate ion (0.545 - 0.808%). Even the amount of gypsum in the driving layer increases to 0.289% [4], [77,78].

According to H. Artikova and others, it is noted that in order to increase the amount of humus in the plowed and plowed layers of 0-30 and 30-50 cm of the region's soils, it is necessary to sprinkle rotten fertilizer on the soil surface and after then may plow. [2, 189-190].

According to H.T. Artikova, R. Yunusov, from ancient times, irrigated soils have more humus than non-irrigated soils, but the humus horizon is much less elongated. It was noted that the state of such humus elongation is related to the thickness of the agroirrigation layers in them [1], [252].

Soils of irrigated lands of the district: subtropical desert zone, foothill plains consisting of alluvial and proluvial deposits of brown soils, distributed in the geomorphological zone and developed in different lithological, hydrogeological and soil-climatic conditions.

Due to the fact that the fog soils are distributed in the zone of meadow soils, mainly irrigated meadows are alluvial and semi-hydromorphic water mode - meadows, which are characterized by wind and water erosion and salinization, poorly supplied with humus and other nutrients, less provided with their mobile forms, the groundwater level is relatively deep, weakly mineralized, the soils are consist of mainly heavy, medium and light sandy mechanical composition.

The average amount of humus in the topsoil is 0.82-1.05%, the average amount of mobile phosphorus is 12.5-15.8 and the exchangeable potassium is 127-219 mg / kg. In these meadow alluvial soils there are group of soils like low humus reserves, amount of mobile phosphorus is low and moderate, according to exchangeable potassium indicator it is provided low and sometimes moderately.

According to the results of aqueous absorption, light gray soils consist of unsalted sediments. In weakly saline irrigated grassland soils, the total amount of water-soluble salts averages is 0.242-0.290%; in moderately saline soils is 0.524-0.590%. According to the salinity chemistry, it consists of sulfate, and in some cases chloride-sulfate salinity types.

Irrigated meadow soils in the area consist of heavy, medium and light sandy loam mechanical composition, the amount of physical mud fractions is 27.4-43.5%, humus in the plowed layer is 0.61-0.88% on average, low supply, mobile phosphorus average 10.0-15.8%, and the exchangeable potassium is 118-205 mg / kg, with low and moderately supplied soils. The irrigated grassland soils of the area are mostly weak and moderately saline.

Analysis of soil research data shows that irrigated meadow alluvial soils in the district area according to their relief and geomorphological-lithological structure is considered relatively complex territory, specific properties of these soils is lack of humus layer, its upper layer is subjected to various levels of washing processes under the influence of irrigating and atmospheric precipitation and in some areas, the upper horizons are washed away, and low-carbonate layers are located close to the surface. Poor in terms of mobile phosphorus and potassium, with the exception of some soil separations.

In the soil profile, gravelly, gley layers, groundwater averages at different depths in the farm area at an average of 2.5-3 m, in the middle part- at 1.5-2 m, and in areas with low meadow and bald-grass soils 2-3 m even 1 -1.5 m, forming a group of weakly mineralized waters. Gypsum layers

(gypsum layers) start from 50, 70, 100 cm at different depths, and in some soil separations from 120 cm.

The division of lands into agro-industrial groups is necessary, first of all, for the scientifically based conduct of agricultural production, the correct choice of agro-technical and reclamation measures. Therefore, the land plots requiring the same reclamation and agro-technical measures in the district were grouped into specific agro-industrial groups, and on this basis the farm irrigated lands were divided into 6 groups: good, above average, average, below average, worse, bad.

The first group (VIII-class) is considered to be good quality lands with a quality score of 71-80 points. The total area of soils of similar quality in the district is 2496.7 hectares.

The second group (VII-class) is above-average lands in terms of quality, with a quality score of 61-70. The total area of soils of similar quality in the district is 7997.5 hectares.

The third group (VI-class) is qualitatively average lands with a quality score of 51-60 points. The total area of soils of similar quality in the district is 5016.9 hectares.

The fourth group (V-class) is qualitatively below average lands, with a quality score of 41-50 points. The total area of this group of soils is 2911.8 hectares.

The fifth group (IV-class) is considered to be of poorer quality, with a quality score of 31-40. The total area of this category of quality land is 1916.3 hectares.

The sixth group (III-class) is considered to be of poor quality, with a quality score of 21-30. The total area of this group of soils is 181.2 hectares.

The area of irrigated lands explored in the district is 20.5, 20.4 hectares, and the average score of the district is estimated at 58 points.

In summary, the irrigated lands in the district are located in the zone of gray soils and, according to their natural conditions, belong to the continental climate zone. That is, summers are hot and dry, winters are cold, and the main atmospheric precipitation falls in winter and spring. Automorphic, semi-hydromorphic soils are widespread in the district. Irrigated soils have mainly light mechanical content, and in some cases also have moderate and heavy mechanical content. The reclamation condition of soils, its groundwater, is closely related to their mineralization. For this reason, the farm soil cover is characterized by different levels of salinity and different mineralization of groundwater depth [5], [101].

In order to protect the fertility of irrigated soils and increase crop yields in the dry years, in the dry years, to carry out wet irrigation in the spring, to do periodic leveling, efficient use of irrigation water, as well as to introduce crop rotation to increase soil fertility, and it is advisable to sow more plant trees.

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