American Journal of Biology and Natural Sciences
https://biojournals.us/index.php/AJBNS
ISSN: 2997-7185

Distribution and Structural Properties of Soils in the Boz Tuproq Region

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Received: 2024, 15, Dec
Accepted: 2025, 21, Jan
Published: 2025, 04, Feb

Annotation: This article briefly describes the various types of soils in the chernozem region of the Republic of Uzbekistan's land fund, their distribution by genetic groups, their percentage and hectare indicators in relation to the total land area of the republic, and the structural state of these soils (micro- and macro-aggregation) using examples of certain soil types from this region.

Keywords: land fund, gray soils, gray soils, loam, structure, micro, macro, aggregate, dispersion, coefficient, sea level, hectare.

Introduction. The Boz soil region occupies a few of the valleys and oases of Uzbekistan such as Fergana, Chirchiq-Angren, Mirzachul, Zarafshan, Kitab-Shahrisabz and Surkhan-Sherabad. The Boz soil region was formed by various factors in the upper terraces of rivers, Upland Plains, accumulative plains between mountains, which have been observed to differ from each other in their distinctive features. The fact that these soils are located at different elevations from sea level from a geographical point of view, in terms of northern latitude and Eastern distances, as well as in place of location in the mountain system, suggests the existence of these differences. [6; 307 P., 8; 250 P.].

For example, in the Kashkadarya region, the lower lower lower border of Boz soils passes 300-350 meters above sea level, in the Zarafshan Valley 350-400 meters, in the Surkhan-Sherabad Valley from an altitude of 460-500 meters, the upper border passes about 1000 meters in the Andijan region, and 1700 meters in the Surkhandarya Region [4; 212-b.].

And in the mirzachul Oasis it is also found at an altitude of 200 meters above sea level [6; 307-b., 8; 250 P.].

It can be seen here that the rich soils located in Surkhandarya region are located at the highest altitude above sea level. According to the Land Fund of the

Republic of Uzbekistan [2; 352 P.], soils in the Boz soils region account for 16.7 percent (7,472.8,000 ha) of the total land in the Republic by the distribution of soil genetic groups. The mountain range consists of 1.3% (578.5 thousand ha) hungry brown Meadow steppe soils, where irrigation is not carried out.

In the region of gray soils: Gray soils with dark tones – 2.7% (1,208.8 thousand ha), typical gray – 6.4% (2,880. 1 thousand ha), Gray – 4.9% with a light tone (2,191. 9 thousand ha), and gray-Meadow and Meadow-Gray soils-2.7% (1,192. 0 thousand ha). Accordingly, according to its distribution by irrigated area, dark – toned loamy soils – 0.6% (34.1 thousand ha), typical bovine – 13.7% (757.9 thousand ha), light-tinged bovine-8.1 (446.3 thousand ha), and bovine-Meadow and Meadow-bovine soils-20.3% (1 118.9 thousand ha).

These indicators are used in practice from 511.1 thousand hectares (9.3%) of typical rich soils in the Tashkent, Syrdarya, Jizzakh, Samarkand and Surkhandarya regions, occupying 1855.9 thousand hectares.

Of this, 428.8 thousand hectares are practically irrigated in the territory of the Zarafshan and Chirchiq-Angren valleys, while 41.9 thousand hectares are irrigated in the Surkhan-Sherabad Valley, and 40.4 thousand hectares in the mirzachul Oasis (on the territory of the Jizzakh region). As a result of periodic irrigation, the Chirchik-Angren Valley has no ochre soils, but on the contrary, even in their place today, soils belonging to the hydromorphic and semi-hydromorphic regime are fully formed and forming.

On the territory of the mirzachul Oasis, the area of hungry Gray soils is 14.4 hectares in the Jizzakh region, and only 2.8 thousand hectares in the Syrdarya region.

In relation to the valleys, the most area in the mirzachul Oasis (Syrdarya and Jizzakh region) is characterized by a wide distribution of irrigated peat-grassland and grassland-peat soils. The reason is that the bulk of the irrigated area, which consists of a low plain in this region, was fully absorbed and put into use by the middle of the 20th century.

The peat-Oasis soil type also includes irrigated peat, typical peat, ochre peat, grassland-peat, grassland-peat-peat-Oasis soils according to the classification of irrigated soils [3; 138-b.].

In areas where Boz-voha soils have developed, the groundwater level is deeper and does not seriously affect the process of soil formation.. In the lower part of this region, however, loamy Brown soils that exhibit weak alkalinity soils are included in the ham farming system. And in the Chirchiq-Angren Valley, Mountain-Gray soils are 428.4 thousand hectares.

L.Tursunov et al [7; p.123] according to the confession, the alternation of the amount of mechanical particles and carbonates in the Vertical cross section of the soil due to an increase in the duration of irrigation in irrigated peat soils, the amount of microagregates in genetic layers is subject to specific laws, that is, the humus-driven layer retains more water-resistant aggregates than in other subsoil, only in some cases

Very small amounts of the sum of real microaggregates recorded in the lower layers of the studied grassland-Oasis soils (100-150 CM) in the Northeast region-5.8 – 11.0%; in the Central Region (mirzachul Oasis)-7.2 – 14.5%; In Zarafshan-3.2-11.4%, and in the southern region it is recorded in the range of 2.8-8.6%, indicating that these soils have formed a fertile layer of agroirrigation deposits, consisting mainly of light to medium Sandy or mixed layer mechanical composition, from 0-50 CM to 0-100 CM, in some areas of khattoki.

These soils are mainly composed of particles up to 0.1-0.05 and 0.005-0.01 mm, that is, they are

considered microstructural, which usually represents good capillary porosity to the soil, high moisture capacity and nutrient mobility, providing a high amount of moisture, which determines the high productivity of these soils.

The microaggregate composition of the soils studied is in the range of 70 to 90%, of which 60-80% corresponds to the contribution of aggregates of 0.25-0.05 mm size. In the upper layer of these soils under the influence of Long-Term Irrigation, it is observed that the mechanical composition of the soil has changed for some time due to the increase in fine dust and il particles in places, as well as the reduction of sand particles in the soil plowing layer. With an increase in the periodicity of irrigation, it is obvious that water-resistant aggregates (>0.25 mm) have increased for some time in soils.

N.A.Kachinsky [1; 318 P.] the larger the number of KD (dispersion coefficient), the lower the amount of water-resistant aggregates in the soil, and vice versa. Accordingly, it reaches 30-45% in the steppe soils of Uzbekistan, and 75-90% in the tairli and Tair soils [5; 120 – b.].

According to general analysis, when viewed along a cross section of studied soils it was found that in the main cases "very good" (<15%), "good" (15-25%) and "satisfactory" (25-40%) belonged to the microstructure.

It is appropriate to comment on the presence of "unsatisfactory" (40-60%) and "very bad" (>60%) microstructure found in all regions grassland-Oasis and Central and southern regions chalk-grassland-Oasis soils as directly related to the lower Sandy and sandy layers (100-200 CM).

Examples of this are Meadow-Oasis soils with a minimum dispersion coefficient in the eviction layer in the Northeast region-8.0%; in the central region (mirzachul Oasis) – 11.4%; in Zarafshan – 16.7%, and in the southern region – 3.7%, and vice versa, the largest dispersion coefficient is mainly recorded in the sandy layers of these soils in the range of an average of 40-77%. In terms of the amount of aggregates that are agronomically valuable (structure diameter 0.25 mm to 10 mm), it was found that "very high" (>30%) structured soils were formed during the formation of agroirrigation layers of water-resistant macroaggregates in all studied peat, peat-Meadow-Oasis and Meadow-Oasis soils.

N.A.Kachinsky [1; 318 P.] the concentration of mercury 0.25 mm macroaggregates in soils whose classification has been studied has been observed around 40-75, and has been found to belong mainly to groups of" good "(40-60) and" high " (60-75) water-resistant aggregates.

Mirzachul Oasis (Syrdarya and Jizzakh regions) is observed the process of formation of aggregates that are agronomically valuable not only in the soils of typical peat, peat, irrigated grassland, peat-Meadow and Meadow, but also in the typical peat, lalmi typical peat and irrigated typical peat soils of the Kashkadarya region In this process, of course, it is obvious that both the lower layers of these studied and studied soils are processed by earthworms (earthworms, various insects). This is evidenced by the presence of traces and Ines of earthworms, as well as their excriments.

In addition, the role of modern techniques and technologies used in soils used for mastering and irrigation agriculture is shown to be large, the activity of zoofauna participation in the areas where the main agricultural crops are grown is evidenced by the fact that bioecologically pure soils are also being formed.

Conclusions

1) The Land Fund of the Republic of Uzbekistan accounts for 16.7% of the total land in the territory of the Republic according to the distribution of soils in the Boz soils region, their genetic groups. These circumstances encourage the protection of the soils of this region also on the basis of clearly scientifically based measures, increase productivity and convey them in an environmentally friendly state for future generations.

2) from the agrophysical point of view of soils, the micro - and macroagegativity properties of

soils in the Boz soils region are also important from the point of view of agricultural production. In this regard, according to the level of soil assessment by the amount of agronomically valuable aggregates, it is becoming clear that in all studied peat, peat and Meadow-Oasis soils in different regions of our country, in the process of formation of agroirrigation layers, "very high" (>30%) structured soils are formed.

3) due to natural and anthropogenic influences, in particular, depending on the conditions and periodicity of irrigation farming, not only the mirzachul Oasis (Syrdarya and Jizzakh regions) is constantly undergoing the process of formation of agronomically valuable aggregates in one or another quantitative indicators, both in the soils of typical chalk, peat, irrigated grassland, peat and Meadow, but also in the typical chalk soils irrigated- and it is clearly noticeable that the nature of macroagregativity changes in a positive way.

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