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PRODUCTIVITY AND MORPHOGENETIC DESCRIPTION OF IRRIGATED SEMI-AUTOMORPH SOILS OF LIGHT SEROZEM SOIL ZONE

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ABSTRACT

The article provides information on non eroded and eroded irrigated serozem-meadow and meadow-serozem soils, which are illustrated by some examples of the Ak Altyn district, which is part of the flooded area of the Sardoba Reservoir in the Syrdarya region. Soil samples taken from these floodplains and floodplains were widely covered based on the results of analysis and field research, the amount of humus and nutrients, mechanical composition, carbonate and gypsum are analyzed, which determine soil fertility. It should also be noted that a detailed description of the morphological structure of genetic horizons is given. Irrigated serozem-meadow soils are moderately eroded by flooding and have a medium, light, heavy loamy and sandy mechanical composition, with physical clay particles of 31.8-42.1% and fine sand (7.9-51%), coarse dust (18.3-51.7%), il particles occur in the amount of 10.3 to 15.1%, of which fine sand and coarse dust particles predominate. In irrigated meadow-serozem soils, humus decreases along the cross-sectional profile, ie towards the parent rock, according to a certain pattern (0.118-0.278%). The mobile phosphorus is 297 mg/kg in the arable layer and the exchangeable potassium is 7.4 mg/kg. It was noted that these soils are very poorly supplied with humus and nutrients and in some cases moderately. Irrigated serozem-meadow soils are moderately eroded, with humus content in the arable layer ranging from 0.246%, mobile phosphorus from 79 to 136 mg/kg, exchangeable potassium from 0.6 to 2.2 mg/kg. In the semi-automorphic soils studied, the dry residue content ranged from 0.132% to 0.655% in both soils,

mainly belonging to the chloride-sulphate and sulphate salinity types, and they were dominated by sulfate (SO_4^-) ions (0.063 to 0.402%).

KEYWORDS: *Irrigated Serozem-Meadow Soil, Non Eroded, Eroded, Mechanical Content, Humus, Mobile Phosphorus, Exchangeable Potassium, Salinity, Dry Residue, Gypsum, Carbonate*

REFERENCES

1. Arinushkina E. V. Manual for chemical analysis of soil. Moscow, 1975. - 491 p.
2. Kuziev R., Abdurakhmanov N., Ismonov A. Omonov A. // Instructions for maintaining a land cadastre, conducting soil prospecting works and drawing up soil maps. Tashkent, 2013. - 52 p.
3. Methods of studying the agrophysical, agrochemical and microbiological properties of soils in cotton fields. O'zPITI. 1963
4. Soils of Syrdarya and Djizak regions. Tashkent, 2005. –pp. 6-42
5. Kuziev R., Sektimenko V. E., Ismonov A. J. // Atlas of soil cover of the Republic of Uzbekistan. Tashkent, 2010. - 48 p.
6. Land fund of the Republic of Uzbekistan. Tashkent, 2019. 202 p.
7. Kachinskiy N.A. Soil physics. P. Vysshaya Shkola, Moscow. 1965. – pp. 20-300
8. Abdurahmonov N.Yu., Sobitov O'T, Kuziev J.M., Khalilova N.J., Mansurov Sh.S., Sanakulov S., Jumaev Sh.Kh. Current state and properties of newly irrigated soils of the Hungry Steppe. / Land administration and valuation: new approaches and innovative solutions. Materials of the Russian-Uzbek scientific-practical conference dedicated to the 100th anniversary of the National University of Uzbekistan named after Mirzo Ulugbek, Moscow-Tashkent 2019. pp. 317-320.
9. Kuziev R.K., Sektimenko V.E. Soils of Uzbekistan. Tashkent: p. Extremum Press, 2009. 351 p.
10. Urazbaev I.U. Salt tolerance of vegetables and melons and bonitet coefficients. Uzbek biological journal № 4, 2016. - pp.63-67.
11. Toshko'zief M.M. Guidelines for the use of total humus and mobile humus in the soil as an indicator of its fertility. Tashkent, 2006