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Mineralogical composition of solonetzic complex with unexpressed micro-relief in the northern part of the caspian lowland.

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Chestnut soils are an obligatory component of solonetz complexes in the northern part of the Caspian lowland, differ from solonetzes by the morphological properties of the horizons, although these soils are usually located at a distance of several meters.

For the chestnut soil we can see the following vegetation: forbs-fescue-feather association with spirea, sometimes with a thin moss cover. Above the solonetz dominates Kochia prostrata and Artemisia pauciflora with Myosúrus sp. and rare Poa sp. curtains.

The aim of the study is to identify the mineralogical composition of clay fraction (<1 μm) of chestnut soil and to compare it with the mineralogical composition of the solonetz in the area with unexpressed microrelief.

To separate soil fractions <1 μm samples were rubbed into a thick paste and sedimented. Oriented preparations of fractions were examined by XRD method.

The balance of the mineral phases of clay in soils and parent rocks is the same - mixed-layered minerals prevail over illite. An exception is only the upper horizons of the compared soils, in which the content of illite prevails over mixed-layer minerals. In this case, the thickness of the surface horizons differs more significantly (5 times) than the difference in the content of illite in the clay fraction of the solonetz in SEL (0-5 cm) horizon. This soils are also have certain features of similarity in the crystallochemical shape: the imperfection of the kaolinite structure and the superdispersed shape of the mixed-layer phase at the surface horizons, as well as the appearance of individual smectite and chlorite packets in the mixed-layer phase in the lower horizons (BC and C).

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