

INFLUENCE OF SOIL EROSION ON THE AGOCENOSIS HARVEST OF WINTER WHEAT

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The researches were carried out during 2023, in Gordinești town, Edineți district, on deep loamy-clay leached chernozems and of different degrees of erosion in the agrocenosis in winter wheat.

Leached chernozems are characterized by the deep leaching of carbonates outside the soil profile, the existence of illuviation processes, which morphologically is reflected in the increased subsidence of the Bw horizon and the formation of the finely prismatic and nut-like structure. The soil profile is differentiated into horizons: A (humus-cumulative), Bw (iluvial-cambic), which, usually, according to settlement, structure and color, is subdivided into sub-horizons Bw1, Bw2. Visible carbonates in the form of threads and concretions appear in the Ck horizon, and weak effervescence with HCL is observed in the lower part of the Bw2 horizon or BCK horizon.

The reaction of the soils in the upper horizons is neutral (pH – 7.1 – 7.2), and with the appearance of carbonates in the lower horizons, it becomes weakly alkaline (pH – 7.5 – 8.1).

The investigated profiles differ established according to the thickness of A in the non-eroded and slightly eroded soils and according to the thickness of the humiferous horizon (with a content of more than 1% humus) in all the investigated soils. It was established that the highly eroded soils have a thickness of the humiferous horizon 3.5 times less compared to the non-eroded leached chernozem and 2.2 times less compared to the moderately eroded leached chernozem. Excessively eroded soils are characterized by an arable layer formed from the former BC horizon (very poorly humified parent rock with a humus content of 0.5-1%)

From the results of the conducted research, there is a differentiation of production according to the degree of erosion is noted. Along with the increase in the degree of erosion, the tendency to decrease the harvest of winter wheat is observed, and the higher the degree of erosion, the lower the harvest.

The productivity of highly eroded soil is characterized by the following reduced indices compared to the productivity of non-eroded chernozem regarding winter wheat. Plant height 1.3 – 1.9 times, total biological yield – 2 -2.4 times and grain yield – 1.9 – 2.7 times lower.

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