

**PEDOGENETIC FACTORS OF CHERNOZEMS IN THE REPUBLIC OF MOLDOVA
IN THE CONCEPTIONS OF
VASILY V. DOKUCHAEV AND NIKOLAI A. DIMO**

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Summary Chernozems represent the dominant genetic soil type in the Republic of Moldova and constitute one of the country's most important natural resources, supporting agroecosystem productivity and food security. Their genesis and evolution are determined by the complex interaction of pedogenetic factors defined within the genetic theory of soils developed by Vasily V. Dokuchaev, who is widely recognized as the founder of modern pedology. According to this concept, soil is a distinct natural body formed under the combined influence of climate, living organisms, parent material, relief, and time. These factors act simultaneously and determine the direction and intensity of pedogenetic processes.

This paper examines the role of the principal pedogenetic factors in the formation and evolution of Chernozems in the Republic of Moldova through the perspective of the genetic concept formulated by Dokuchaev and subsequently developed by Nikolai A. Dimo. The study is based on a critical analysis of classical and contemporary soil science literature, with particular emphasis on the interpretation of Chernozem-forming processes under the specific environmental conditions of Moldova.

The results demonstrate that the genesis of Chernozems is closely associated with the climatic conditions of the steppe and forest-steppe zones, characterized by a favorable thermal regime and a moderate water balance that promote the accumulation and preservation of organic matter within the soil profile. Natural grassland vegetation served as the primary source of organic residues, contributing to the development of a deep, humus-rich surface horizon. An essential role is played by the parent material, predominantly represented by carbonate loess-like deposits, which provide physical and chemical properties favorable for the development of the Chernozem profile. Relief influences the spatial distribution of soils and the intensity of erosion processes, while the factor of time enables the long-term operation of pedogenetic processes and the maturation of the soil profile. The contributions of Dimo complement the Dokuchaevian concept by highlighting the importance of biological processes and the activity of soil organisms in the development of soil fertility, as well as by providing a scientific basis for soil conservation and erosion-control measures.

The study confirms the continuing relevance of the concepts proposed by Dokuchaev and Dimo and highlights their importance for understanding the formation processes, properties, qualitative characteristics, fertility, systemic functioning, evolution, and anthropogenic transformations of Chernozems under agricultural use. Furthermore, these concepts remain highly relevant for the conservation and sustainable management of Chernozem soils under current land-use conditions in the Republic of Moldova.