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**FERTILITY OF CHERNOZEMS IN THE REPUBLIC OF MOLDOVA AND THE NEED
FOR AGROECOLOGICAL SURVEILLANCE
IN CURRENT CONDITIONS OF AGRICULTURAL USE**

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Summary The current promotion of the development of agroecosystems, the competitiveness of agriculture as a priority economic branch, the maintenance of the specific quality of agricultural

products from chernozems type of soil, offered by agricultural producers to the markets, requires a more complex approach to research of agroecosystem components, currently involved in the agricultural sector. Currently, it is not possible to separately research only the soil, but the problem of agroecological research and evaluation arises, given that the current agricultural system includes not only the soil, but also biotic and abiotic factors, their changes under climatic conditions, droughts, lack of nutrients in the soil, lack of water, these being always the determining factors of production, and not just the natural fertility of the soil.

Currently, some modern agroecosystems of field crops, fruit and viticulture have been founded in Criuleni Agricultural Research and Extension Station of the Technical University of Moldova (ARES, Criuleni, TUM). The representative soils are Chernozems – typical and carbonate, loamy-clayey. Some elements of potential and effective natural fertility for the Chernozems in Criuleni Agricultural Research and Extension Station of the Technical University of Moldova are presented and discussed. The abiotic and climatic factors of the research area are highlighted, by applying current methods for characterizing the climatic situation, some conditions for the development of winter wheat, the limits of some potential fertility parameters of the soils of the research polygons, the content of nutritional elements - N, P, K, pH reaction and others, by various methods. The production of winter wheat, the quality of the grains (year 2025) was quantitatively and qualitatively analyzed for protein content, gluten, Zeleny index. The soil from 3 agroecosystems was examined for the content of heavy metals - Zn, Cu, Ni, Co, Cr, which fall within the allowed limits, values without ecological risks for agricultural production.

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