CONSIDERATIONS REGARDING THE TEXTURAL HETEROGENEITY OF SOILS ON THE STRAIGHT SLOPE OF THE VALEA URSULUI STREAM RECLAIMED BY ANTI-EROSION WORKS, IAȘI COUNTY

Sorin CĂPȘUNĂ1[1], Mariana RUSU[1], Feodor FILIPOV[1], Denis ȚOPA[1], Gerard JITĂREANU[1]

e-mail: sorin.capsuna@iuls.ro

Abstract

The present study investigates the textural heterogeneity of soils on the rehabilitated agricultural terraces of the Valea Ursului stream slope, part of the Ezareni farm in Miroslava commune, Iași County, Romania.

The study area, located within the geomorphological framework of the Iași Ridge, is characterized by a complex slope system influenced by the contact between the Central Moldavian Plateau and the Jijia-Bahlui Plain. Dominant soil types include cambic chernozem, calcaric chernozem, colluvial chernozem, clinogleic chernozem, and eroded or anthropogenically altered soils (eroded and exposed anthrosols).

Soil samples were collected from five representative profiles, each analyzed up to a depth of 100–150 cm, encompassing all pedogenetic horizons. Laboratory analyses revealed that slope terracing and anti-erosion interventions altered soil texture, particularly in the arable layer and underlying horizons. These textural changes have critical implications for soil physical properties, including tillage resistance, porosity, water and air permeability, and water retention capacity.

The findings highlight the importance of monitoring textural dynamics in reclaimed agricultural terraces to ensure sustainable land management. This study provides valuable insights for optimizing soil conservation strategies in similar erosion-prone landscapes, contributing to the long-term stability and productivity of agro-ecosystems in northeastern Romania.

Key words: soil texture dynamics, chernozem degradation, slope complex, terracing effects