Abstract
Within agroecological monitoring, an essential role is played by the biological monitoring, because surveillance of living organisms provides precious information regarding the vitality of agroecosystems and quality of environmental factors, essential for the quality of agricultural products and natural resources. The goal of earthworms' complex research is establishment of the high efficient agrocoenoses, ecologically balanced, stable, based on the rational usage of the nutritive substances of soil, vegetable rests, water, and finally the application of environment-friendly technologies. From this point of view, earthworms can be used within the agroecological monitoring, because they can be easily extracted from their environment without affecting the population assembly. Essential for earthworms' habitat is soil texture and soil humidity, physical-mechanical properties, organic debris, both quantitatively and qualitatively. The soil of the researched ecosystems was represented by calcic (carbonated) silt loamy chernozem. The limits of plasticity, resistance to penetration, and adherence of soil are influenced by humus content, fertilization type, and diversity of agrocoenoses. The forest strip and fallow farmland can contribute by providing with information the Database of background and agroecological (impact) monitoring. During the droughty seasons, earthworms were not found in soil, but a maximal number has been identified in forest strip (76 worms/m_2) at 0-30 cm depth, which represents a hiding habitat during the arid periods.

Key words: agroecosystem, chernozem, plasticity, adherence, penetration, earthworms, background monitoring