

LUMBRICIDES ROLE IN THE SOIL FORMATION

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Currently degradation of soils globally gained a catastrophic character and is one of the main dangers of global ecological crisis. One way to mitigate degradation and natural restoring soils fertility long time to arable land is their fallow. It is assumed that due to the interaction of the root system of plants and soil biota, the humification processes in the soil will increase and will be improved biological and physico-chemical properties of soils. Different soil types develop in close relationship both with the climatic conditions, geologic structure and anthropogenic context, as well as with microscopic organisms that inhabit and which by their biological activity shaping the evolution and characteristics. In the majority of terrestrial ecosystems soil contains the greatest diversity of organisms. Biological importance of earthworms (Lumbricidae) in soil was established at the end of the past century by Hensenom and Darwin. From ecological perspective, the terrestrial ecosystem has biocenosis composed of vegetation, fauna and microorganisms, the latter creating a living system extremely complex and with very strong interconnections. Soil quality, or "health" of soil is defined by "continued ability of soil to function as a living system in the ecosystem and conditions of use data, while retaining biological productivity, and maintaining of quality air and water of the environment, and maintaining plant, animals and humans health. Microorganisms play an important role in soil fertility as a result of their involvement in the development cycle nutritional elements, such as those of carbon and nitrogen, necessary for plant growth. The excavations carried out of earthworms lead to soil aeration and drainage in addition plant nutrients are released from crop residues that have passed through the intestines of earthworms.

Lumbricides represents 94% of the biomass in the soil fauna. Pedoclimatic each area is characterized by a certain structure of earthworms' species. The number of individuals from different regions varies very high in general from a few thousand up to several million per hectare. Lumbricides transported soil in the upper layers, rich in humus, in the lower horizons and with this, is transported and an impressive number of microorganisms or spores. In a normal soil on arable land, there may be between 100,000 and 1 million earthworms with a weight ranging between 100 and 1000 kg of within one hectare. Mega fauna soil activity is also important in processing the soil surface, opening galleries and through these influencing physico-chemical properties of the soil. The number of pores increases and the dry bulk density of soil decreases when you dig worms its way through the darkness of the earth. Therefore, activity of soil tillage performed by earthworms greatly increases the number of macropores (di-

iameter > 0.5 mm) and creates a network of channels and spaces in soil. This network can rise to 4000, 5000 km per hectare and tunnels can extend to a depth of 2 – 3 m. Tunnels act as 'highways' to the roots in the soil. In a few years, earthworms move tens of tons of soil per hectare up to the surface. Animal life is also very closely related to soil (place of living, resting, feeding, and reproduction).

The future depends largely on "state of health of the earth". Our obligation, of specialists in the research, education, of all workers in agriculture, but also the national economy, the government is primarily that of known soils, we know it well, to protect them from any degradation process, to prevent and combat all actions that lead to reduction or loss of fertility, actions which, unfortunately are taking place increasingly more, not only in the Republic of Moldova, but around the world. In conclusion, we can note that a good knowledge of all aspects of the soil is an essential factor and a working tool particularly useful for a farmer when he will decide what type of crops and fertility treatments that you will use to obtain desired crops.

"Respect the earth and the life in all its diversity".