

O 16. MICROBIAL CENOSIS DEVELOPMENT IN THE SOIL OF CULTIVATED CROPS

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ABSTRACT: Soil is a dynamic, living, and integral part of the land ecosystem. Depending on the presence of plant growth on it, it can be divided into two types, namely rhizosphere and non-rhizosphere soil. We have conducted a study aimed at identifying the differences between rhizosphere and bulk soil in the cultivation of some cultivated plants under organic farming conditions. Soil samples for the study were taken from a depth of 0-20 cm, before sowing cultivated crops (soybeans, wheat, corn, sunflower, buckwheat) and 45 days after germination. The number of microorganisms was counted by the generally accepted method of tenfold dilutions with sowing them on appropriate nutrient media. We have found that the number of microorganisms of the main taxonomic groups (micromycetes, non-spore bacteria, actinomycetes, cellulolytic bacteria) after 45 days of cultivation of the above-mentioned plants did not change significantly in bulk soil, in contrast to rhizosphere soil. The results of this study showed that the rhizosphere soil of different cultivated plants is colonized by different species and populations of microorganisms compared to non-rhizosphere (bulk) soil. The cultivation of cultivated plants can positively affect the processes of humus formation, and the permanent cultivation of any crop significantly disrupts the stability of the microbial of the rhizosphere compared to the use of crop rotation.

Keywords: Rhizosphere Soil, Bulk Soil, Groups of Microorganisms, Cultivated Crops