

Abstract

The thesis provides a literature review, which mainly deals with the distinction of short-term and long-term effect of earthworms on the soil. The work describes the whole process of succession, succession on dump, the research part is carried out on land from dumps. The influence of plants on soil and the influence of soil on plants are described. As well as the effects of biota on soil and soil on biota. In particular, the effect of earthworms on the area and the distinction between short-term and long-term earthworm effects are described.

The research part deals with the distinction between short-term and long-term effects of earthworms on the soil and plant growth. Above all, a detailed analysis of the soil on which the pot experiment took place. Aboveground and underground biomass and growth of early and late successive plant species were examined, as well as soil pH, conductivity, microbial respiration, PLFA, ergosterol, determination of NO_3^- , P, carbon, nitrogen, sulfur and C: N ratio. Thanks to these analyzes, we can better distinguish our investigative issue.

The results of my work showed a significant effect of both the immediate presence of earthworms and long-term presence on plant growth and microbial activity. These interactions have been shown to have a complicated pattern during soil colonization by earthworms, due to the interaction between soil changes, nutrient release and nutrient immobilization in plant and microorganism biomass.

Key words: earthworms, short – term effect, long – term effect, soil analysis, dump