



Impact of different methods of field crop stand establishment on development of soil biota in topsoil and subsoil

JAVŮREK M., VACH M., MIKANOVÁ Olga - Research Institute of Crop Production, Prague – Ruzyně, Czech Republic

Since 1995 the exact field experiment with crop rotation under conventional and protection soil tillage has been running at Prague-Ruzyně site, where soil microbial activity was tested in both variants of soil tillage. The soil samples were taken in autumn from three depth of soil. It was found as follows: in conventional tillage (CT) faster decrease of soil microorganisms biomass deeper into soil than in protection tillage (PT) variants; Cox values were higher in PT than in CT, especially in the middle taking horizon (0.1-0.3 m); the highest respiration activity was in PT variants where organic matter was incorporated into the soil or left as a mulch; nitrification and ammonification activity were higher in PT because it is connected with organic matter and microorganisms activity. The results show the positive influence of protection tillage, especially in variants where soil was supplied with organic matter, on the reviving of upper layer of topsoil by microorganisms. The results are based on the data from experimental cycle 2000-2004.