Abstract
Aquasorb 3005 is a hydrophilic polymer (copolymer of acrylamide and potassium acrylate) that, when incorporated into a soil, improve water conservation through increasing of water retains capacity, reducing of infiltration rate and cumulative evaporation. This anionic polyacrylamide polymer works in absorbtion-release water cycles and has the property of absorbing up to 500 times their weight in distilled water. Researches were carried out on soybean (*Glycine max* Merr.) field trials located in the south region of Moldavian plain (Ezareni Farm), studying the effects of polymer quantity ha^{-1}, polymer administration moment and soil tillage systems on soil population. In this study we aimed to evaluate the influence of the hydrophilic polymer (Aquasorb) on existing microbial population in soil (Gram positive bacteria, Gram negative bacteria, micromycetes) establishing their participation ratio, the main fungus genres which activate in soil and their activity level for each variant. The results illustrate the influence of Aquasorb and soil tillage systems on the dinamic of microorganisms population, on the relationship between the main groups (bacteria and fungi), and on the micromycetes spectrum determined in each variant of our experiment.

Key words: Aquasorb, soil population, soil tillage system, soybean (*Glycine max* Merr.)