INVESTIGATIONS ON THE INFLUENCE OF FERTILIZATION AND MAIZE (*ZEA MAYS* L.) ROOT EXUDATES ON SOIL MICROFLORA

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Abstract

Researches were carried out on maize (*Zea mays* L.) field trials located in the south region of Moldavian plain (Ezareni Farm), studying the effects of mineral fertilization (N - 150 kg/ha, P and K - 75 kg/ha) and different compost (organic fertilizer) rates (10 t/ha, 20 t/ha and 30 t/ha). The objectives of this investigation were to isolate and quantify the existing microbial population in soil (Gram positive bacteria, Gram negative bacteria, micromycetes) establishing their participation ratio, th e main fungus genres which activate in soil and their activity level for each variant. Mineral fertilizer has caused a increasing in the number of microorganisms. The inhibitory effect of the organic fertilizer used was pronounced in case of compost application in dosage of 30 t/ha. This dosage caused a reduction in the number of microorganisms and microbial activity in soil. The results illustrate the influence of the fertilization on the dynamic of microorganisms population, on the relationship between the main groups (bacteria and fungi), and on the micromycetes spectrum determined in each variant of ou r experiment.

Key words: microbial activity, *Zea mays* L., fertilization