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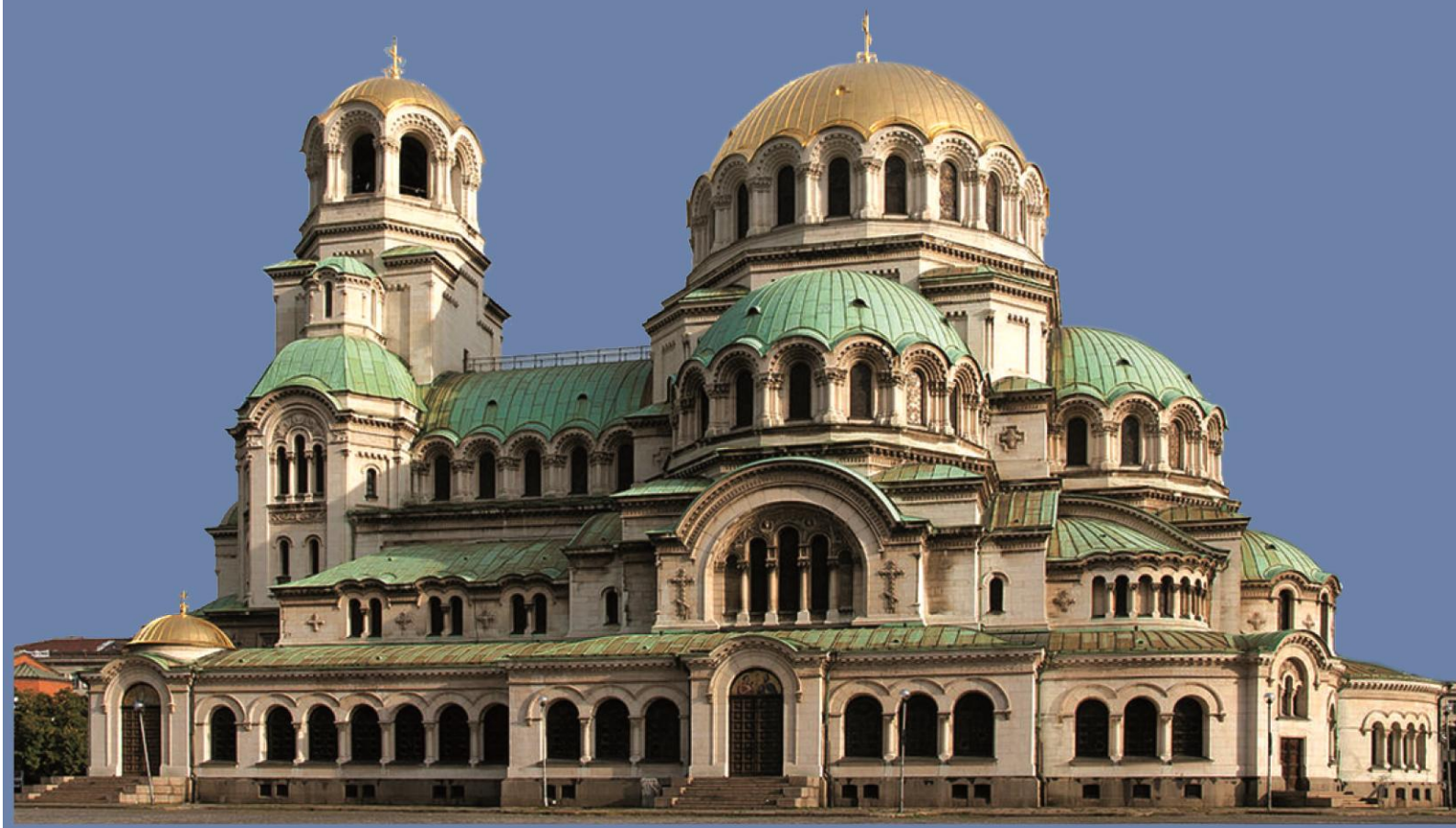

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ABSTRACTS

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IMPACT OF MICROBIOLOGICAL FERTILIZERS ON SOIL MICROBIOTA

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Introduction. Microbiological fertilizers has been identified as an alternative to chemical fertilzers to increase soil fertility and crop production in sustainable farming. Microbiological fertilizers as a substance which contains living microorganisms which, when applied to seed, plant surfaces or soil, colonizes the rhizosphere or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant.

Aim. Therefore this research is aimed at determining the impact of two type of microbial fertilizers (Bio-Vital I and Bio-Vital II) on soil microbiota, to test the possibility for its extensive use.

Materials and methods. Experiment was set on open field, on alluvium soil type, in the area of the village Jurumleri, Skopje. As research material was used carrot (*Daucus carota* L.), hybrid Maestro. The variants were set according to the type of microbiological fertilizer: Ø control - not applied microbiological fertilizer, variant 1- treatment with microbiological fertilizer Bio-Vital I, variant 2- treatment with microbiological fertilizer Bio-Vital II.
Microbiological fertilizer Bio-Vital I and Bio-Vital II consist according to producer several groups of azotobacter, nitrifying microorganisms and phosphor-soluble microorganisms (Bio-Vital I) and azotobacter, nitrifying microorganisms, phosphor-soluble microorganisms and iron (Bio-Vital II). They also contains natural vitamins, enzymes and biostimulants.

Results. According to the results it was determined that the application of microbiological fertilizers Bio-Vital I and II influenced obtaining statistically significant differences between the variants, in terms of the total number of bacteria and the number of examined physiological groups of microorganisms in the rhizosphere (amilolytic bacteria, azotobacter, nitrifying bacteria, denitrifying bacteria, actinomycetes, yeasts and molds).

Conclusions. Using of microbial fertilizers do not improve soil structure and ratio of nutrients in the short term, but in 3-5 years it may lead the soil to a natural balance. The advantage of such fertilizers is that they can be used in combination with other fertilizers because they allow better utilization of plant less available nutrients, added by fertilizers.

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Keywords. microbial fertilizers, physiological groups of microorganisms, Bio-Vital I, Bio-Vital II.