BOOK OF ABSTRACTS

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Book of Abstracts

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Grain yield and microbial abundance in the rhizosphere of soybean and bean: conventional and organic system growing

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For higher productivity heavy doses of fertilizers and other agrochemicals are applied. This has led to the emergence of a movement forward specified farming concept based on the traditional farming philosophy known as organic systems. These systems do not use synthetic chemicals and in the long run way be more sustainable than inorganic and conventional farming. The purpose of this study was to investigate microbial abundance in rhizosphere and yield of bean and soybean in conventional and organic system growing. The trial was set up on chernozem soil at the Bački Petrovac experiment field of the Institute of Field and Vegetable Crops**.** Soil samples of rhizosphere were collected under conventional management and organic management. Samples for microbiological analyses were taken at two dates (1st June and 18th July). Soil microbial abundance was significantly greater in organic farming growing compared with conventional. The total number of microorganisms, number of ammonifiers, azotobacter, actinomycetes and fungi was higher in rhizosphere in organic production of bean than in rhizosphere of bean in conventional production. Similar results were obtained in rhizosphere of soybean in organic production compared to the conventional. Beside the higher of examined groups of microorganisms in rhizosphere of soybean, the higher number of celulolytic actinomycetes was obtained, too. The number of nodules on root of soybean in organic production was three times higher than in conventional. Grain yield was higher in conventional production than in organic, while in organic production greater yield quality, protein and oil content, was obtained.

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