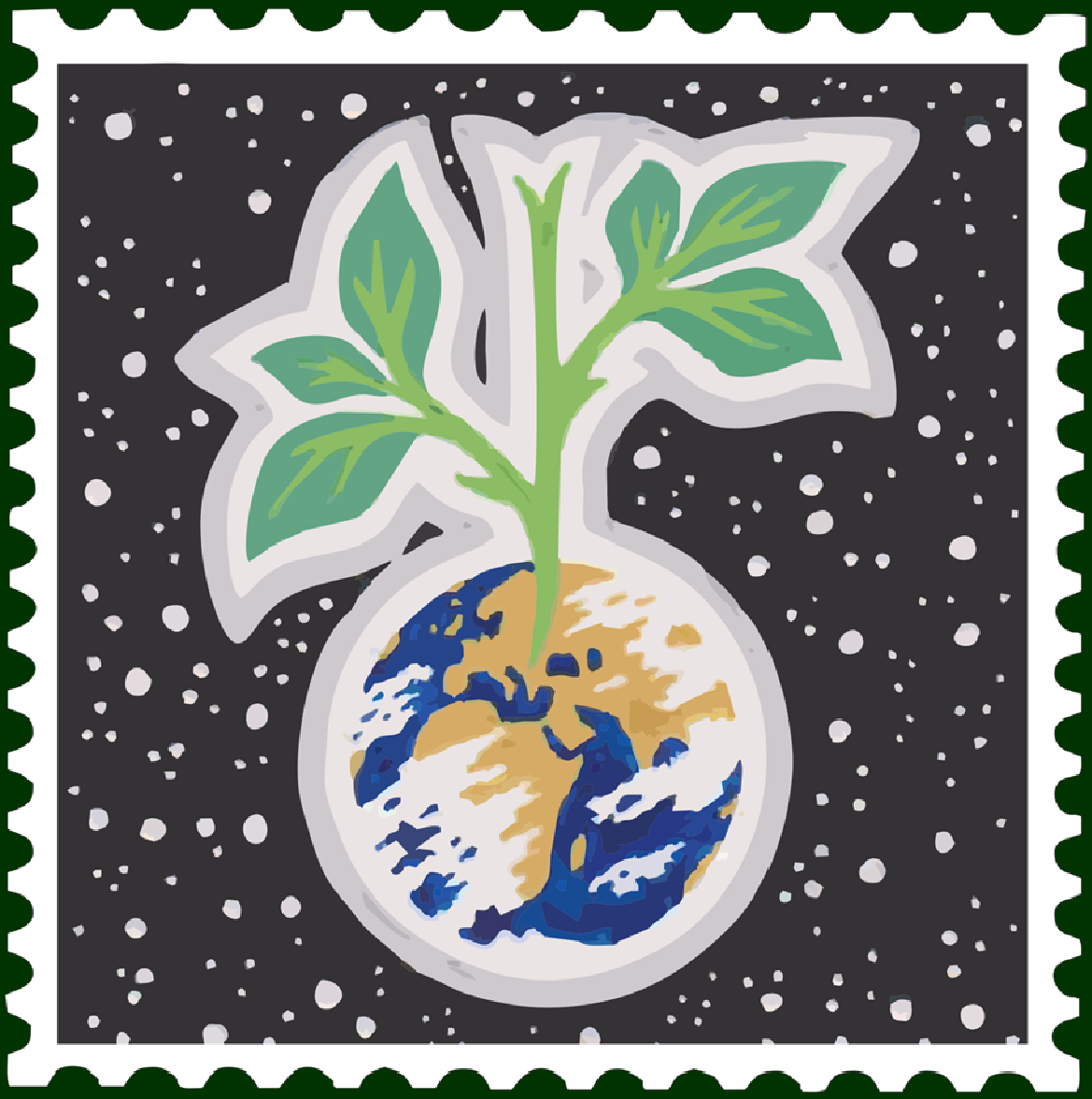

BOOK OF ABSTRACTS

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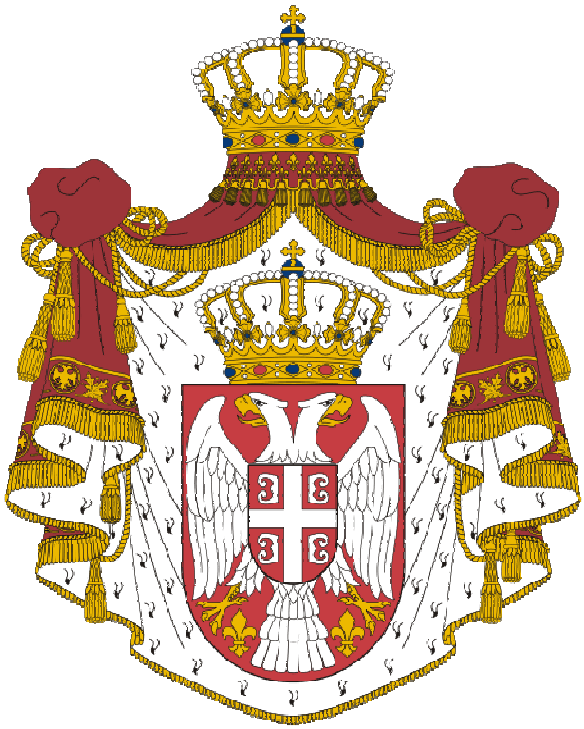

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Effect of soybean co-inoculation with *Bradyrhizobium japonicum* and *Azotobacter chroococcum* on yield and nitrogen fixation parameters

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Fixation of atmospheric nitrogen plays a significant role from the point of agricultural production. Therefore, the aim of this research was to determine the effects of soybean inoculation with two different nitrogen-fixing bacteria on yield and nitrogen fixation parameters. A two-year trial was set up on experimental field of Institute of Field and Vegetable Crops from Novi Sad on chernozem soil using a randomized block design with four replicates. The soybean cultivar Galina and three variants of inoculation were tested: 1. *Bradyrhizobium japonicum,* 2. *Bradyrhizobium japonicum* + *Azotobacter chroococcum* + humic acid, and 3. *Bradyrhizobium japonicum* + *Azotobacter chroococcum.* The effect of inoculation on yield, pod number, seed number and seed mass per plant was determined. The effectiveness of nitrogen fixation was determined based on the number and mass of nodules and nitrogen content in aboveground plant parts, roots, nodules and seeds. The average number and mass of nodules, nitrogen content and yield of soybean obtained in response to inoculation were higher compared to the control in both years of research. Inoculation had a positive effect on nodule number (35% increase), nodule mass (40% increase) and nitrogen content (34% increase - roots, 62% - aboveground parts, 27% - nodules, 31% - seeds). Significantly higher yield increase (16%) was registered in the case of co-inoculation with *Azotobacter chroococcum*, while the best effect on nitrogen content, nodules and yield parameters was achieved in the variant with *Bradyrhizobium japonicum*.

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