BOOK OF ABSTRACTS

6. CONGRESS
OF THE SERBIAN GENETIC SOCIETY

2019 | October 13–17

VRNJAČKA BANJA • SERBIA

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Abstracts of the 6th CONGRESS OF THE SERBIAN GENETIC SOCIETY

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WELCOME TO VI CONGRESS OF THE SERBIAN GENETIC SOCIETY!

Dear colleagues,

Welcome to the 6th Congress of the Serbian Genetic Society. The Serbian Genetic Society (SGS) has been founded in 1968 and the first Congress organized by the SGS was held in 1994 in Vrnjacka Banja. Since then, the Congress of Serbian Genetic Society is held every five years. Over the past years, the Congress has grown from a national to an international meeting.

The experience of the past meetings motivated our efforts to continue with this series with a clear tendency to strengthen the scientific connections among researchers from different European countries.

The Congress will focus on the most recent advances in genetics and on wide range of topics organized in 9 sessions and two workshops. Many of the presentations will be in lecture-like settings, but we hope that there will also be ample opportunities for informal interaction outside the scheduled sessions.

The successful organization of the Congress has required the talents, dedication and time of many members of the Scientific and Organizing committees and strong support from our sponsors. I hope that you will find the Congress both pleasant and valuable, and also enjoy the cultural and natural beauty of Vrnjacka Banja.

Yours sincerely,

Branka Vasiljevic
President of the Serbian Genetic Society

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09 – 07 Poster (Plant-microbe interaction)

GENOTYPIC VARIATION IN THE RESPONSE OF SWEET PEPPER ON SEED PRIMING WITH SELECTED *BACILLUS* AND *PSEUDOMONAS* STRAINS

Željka Nenadović [1], Dario Danojević [2], Živko Jovanović [1], Slaviša Stanković [1], Đorđe Fira [1], Svetlana Radović [1], Jelena Lozo [1]

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The worldwide increase in human population followed with industrialization led to environmental changes as a result of water, soil and air pollution. It is believed that one way to address this problem is to change the existing agricultural approaches and to use plant growth promoting bacteria (PGPB) instead of fertilizers and pesticides. The present investigation was aimed to evaluate the influence of PGPB on sweet pepper seed priming. Pepper seeds (*Capsicum annuum* L.) from six different genotype, 115 and 116 (peppers for spice), 261 (sivri type), 133, 258, and 274 (kapia type) were primed with 10-9 CFU/ml of *Bacillus safensis* (SS-2.7), *B. thuringiensis* (SS-29.2), *Pseudomonas putida* (4.3) and *P. protegens* CHA0 strains. Seeds were primed during one hour and after three weeks root and seedlings length, and the total mass of the pepper seedlings were analyzed. One and two-way analysis of variance (ANOVA) and Least Significant Difference test (LSD test) with a 0.05 probability level was used for statistical analysis. Generally, we could not see the difference between these parameters in seeds primed with water as control and any of the strain used (one-way ANOVA). However, there is a different response to the same strain and seeds from different genotype. Seed priming with the *B. thuringiensis* (SS-29.2) gave the highest total weight and shoot length for genotype 274, root length for genotype 116, and plant number for genotypes 133 and 274. Results obtained for the root length after treatment with selected strains grouped genotypes 115 and 116 in one group and 258 and 261 in another group. Genotype 133 had the porrest response after seed priming with selected strains, while genotype 274 showed the best response on seed priming with almost all strains.

GENOTYPIC VARIATION, PEPPER, PLANT GROWTH PROMOTING BACTERIA

09 - 08 Poster (Seed viability)

TESTING OF SEED VIABILITY USING DIFFERENT TESTS

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Tetrazolium test is a biochemical test that distinguishes viable from non-viable seeds based on breathing activity in the seed itself. The test finds application as a backup procedure for identifying a viable, but dormant, i.e. dormant seeds that failed to germinate during the germination test. The tetrazolium test is not an absolute test of the viability of the seed, and to make the conclusions valid, the results obtained by applying this test must be compared with the results of other germination tests for each plant species. This study included seed of two oil type and one confectionery sunflower hybrids, separated by size and weight into six fractions. Testing seed germination was carried out on four replicates of 100 seeds by applied Standard laboratory test and tetrazolium test. Obtained results were statistically analysed by applying analysis of variance. The results of the study show that in the case of oily-type hybrids, higher germination is obtained by using a tetrazolium test. Contrary to these results, in the confectionery hybrid, significant differences were observed that occurred between the seed fractions themselves. Germination in the tetrazolium test was the highest in the smallest fractions, while in the case of large it was lower by about 20%, which resulted in germination was lower in this test, on average. From these results it can be concluded that the genotype itself had a significant influence on the test property, and that it is necessary to know the characteristics of each genotype, especially when it comes to seed of lower quality.

SUNFLOWER, SEED, GERMINATION, TESTS