

# BOOK OF ABSTRACTS



CONGRESS

OF THE SERBIAN GENETIC SOCIETY

2019 | October  
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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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**INSTRUMENTAL AND SENSORY PROPERTIES OF BREAD.  
DIFFERENCES BETWEEN DURUM AND BREAD WHEAT GENOTYPES**

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Wheat is one of the most important cereal crops worldwide in terms of production and utilization. Currently, about 95% of the wheat grown worldwide is hexaploid bread wheat, with most of the remaining 5% being tetraploid durum wheat. In order to determine effects of the genotype on instrumental and sensory properties of bread, two bread and two durum wheat genotypes cultivated in two growing seasons were used. Bread loaf volumes and specific volumes were determined by VolScan profiler and results showed that the loaf volume ranged from 186.90 ml to 327.50 ml and 160.10 ml to 228.10 ml in bread and durum wheat bread samples, respectively. Comparison of bread volume from bread and durum wheat genotypes revealed that the bread volume of durum wheat genotypes with the best performance was significantly lower than that of bread wheat genotypes. Bread samples made from bread and durum wheat genotypes with the smallest specific volume were distinguished by the highest bread crumb firmness and chewiness. The firmness, chewiness, cohesiveness, resilience and springiness of bread crumb were instrumentally recorded on a texture analyzer TA.XT plus. The smallest crumb firmness had a bread made from genotype ZP Zemunska rosa (395.6 g) grown in the rainy season, while the bread made of the same genotype cultivated during the dry season had 5.4-fold firmer bread crumb. Bread samples made from bread wheat genotype ZP 87/I (213.3g) and durum wheat genotype DSP/01 (211.3g) had a smallest chewiness. Results of the sensory evaluation revealed that the sensory properties shape, crumb pore uniformity and structure, did vary greatly among the investigated bread samples made from bread wheat and durum wheat genotypes. It can be concluded that investigated bread and durum genotypes have quite different physical and sensory characteristics which could allow various possibilities of their use.

BREAD WHEAT, DURUM WHEAT, INSTRUMENTAL PROPERTIES, SENSORY PROPERTIES

**OIL CROPS FOR 21<sup>ST</sup> CENTURY – NEW TOOLS FOR TACKLING CHANGING ENVIRONMENT**

Dragana Miladinović, Ana Marjanović Jeromela, Siniša Jocić, Aleksandra Radanović,  
Sandra Cvejić, Nada Hladni, Sreten Terzić, Jelena Ovuka, Milan Jocković, Boško Dedić,  
Dragana Rajković, Sonja Gvozdenac, Velimir Radić, Igor Balalić, Nenad Dušanić,  
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Creation of new oil crop varieties using classical breeding methods is a long-term process, sometimes not efficient enough to meet demands of changing environment and market demands of 21st century. The development and introduction into breeding programs of new techniques, such as phenotyping, genomic selection and genome editing, opened the way for more efficient introduction of desired traits into commercial varieties. Although all these new techniques have their shortcomings and demand some time for optimization and validation on the given crop/system, it is expected that in the future they will facilitate the identification of target genes and markers for complex traits, as well as adaptation of oil crops to permanent changes in the environment and the market. Researchers from Institute of Field and Vegetable Crops (IFVCNS) have already started to work on creation of oil crops for 21st century and the introduction of new techniques of genotyping and phenotyping for more efficient data collection to identify quantitative properties and explain the genetic basis of agronomically important traits. An overview of the projects and research activities of IFVCNS related to introduction of new breeding techniques and their application in IFVCNS oil crops breeding programs is presented in this paper.

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OIL CROPS, PLANT BREEDING, NEW BREEDING TECHNIQUES, PHENOTYPING