

BOOK OF ABSTRACTS



CONGRESS

OF THE SERBIAN GENETIC SOCIETY

2019 | October
13–17

VRNJAČKA BANJA • SERBIA





Publisher
Serbian Genetic Society,
Belgrade, Serbia
www.dgsgenetika.org.rs

Editors
Branka Vasiljević
Aleksandra Patenković
Nađa Nikolić

Printing
Serbian Genetic Society,
Belgrade, Serbia

Number of copies printed
300

Design
Ivan Strahinić
Ana Kričko

ISBN
978-86-87109-15-5

BOOK OF ABSTRACTS

Abstracts of the 6th CONGRESS OF THE SERBIAN GENETIC SOCIETY



2019 | October
2019

VRNJAČKA BANJA • SERBIA

SCIENTIFIC COMMITTEE

Branka Vasiljevic (Serbia) - CHAIR

Jelena Knežević Vukcevic (Serbia)	Ninoslav Djelic (Serbia)
Mihajla Djan (Serbia)	Ksenija Taski-Ajdukovic (Serbia)
Marija Savic Veselinovic (Serbia)	Jelica Gvozdanovic-Varga (Serbia)
Andjelkovic Violeta (Serbia)	Olivera Miljanovic (Montenegro)
Marina Stamenkovic-Radak (Serbia)	Vladan Popovic (Serbia)
Ander Matheu (Spain)	Dejan Sokolovic (Serbia)
Dragana Miladinovic (Serbia)	Milomirka Madic (Serbia)
Branka Vukovic Gacic (Serbia)	George Patrinos (Greece)
Snezana Mladenovic Drinic (Serbia)	Milena Stevanovic (Serbia)
Ana Cvejic (United Kingdom)	Sonja Pavlovic (Serbia)
Milorad Kojic (Serbia)	Dragica Radojkovic (Serbia)
Slavisa Stankovic (Serbia)	Jelena Milasin (Serbia)
Jelena Blagojevic (Serbia)	Vittorio Venturi (Italy)
Domagoj Simic (Croatia)	Ivana Kavacan (Serbia)
Milan Mataruga (Bosnia and Herzegovina)	Ivana Novakovic (Serbia)
Michael Lisby (Denmark)	Bojana Zegura (Slovenia)
Jelena Srdic (Serbia)	Metka Filipič (Slovenia)
Ana Marjanovic Jeromela (Serbia)	Jose Perez-Martin (Spain)
Ivana Strahinic (Serbia)	Thomas Flatt (Switzerland)
Dusica Vujaklija (Croatia)	Vladimir Trifonov (Russia)

ORGANIZING COMMITTEE

Milena Jankovic – CHAIR

Mirjana Novkovic	Radovan Milicevic
Sanja Cirkovic	Nadja Nikolic
Ivana Aleksic	Ivica Dimkic
Vesna Kandic	Tanja Beric
Milan Stevanovic	Stoimir Kolarevic
Dusica Jovicic	Biljana Nikolic
Petar Canak	Jelena Aleksic
Aleksandra Patenkovic	Milica Keckarevic-Markovic
Milomir Stefanovic	

WELCOME TO VI CONGRESS OF THE SERBIAN GENETIC SOCIETY!

Dear colleagues,

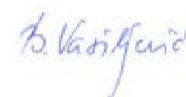
Welcome to the 6th Congress of the Serbian Genetic Society. The Serbian Genetic Society (SGS) has been founded in 1968 and the first Congress organized by the SGS was held in 1994 in Vrnjacka Banja. Since then, the Congress of Serbian Genetic Society is held every five years. Over the past years, the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

06 – 31 Poster

YEAR RELATED INTERACTIONS FOR SEED YIELD AND OIL CONTENT IN RAPESEED AGRONOMIC MANAGEMENT TRIALS INTERPRETED USING CLIMATIC VARIABLES

Ana Marjanović Jeromela¹, Zorić Miroslav¹, Mirjana Jankulovska²,
Sreten Terzić¹, Dragana Miladinović¹, Ankica Kondić Špika¹, Nevena Nagl¹

¹ Institute of Field and Vegetable Crops, Serbia

² Cyril and Methodius University, Skopje, Northern Macedonia

ana.jeromela@ifvcns.ns.ac.rs

Interaction in agronomic trials seriously complicates the identification and recommendation of the highest yielding cultivars for specific environmental conditions. As the part of the study aimed to investigate the influence of climatic variables through the rapeseed development stages, the objective of the presented study was to identify the most important climatic variables in cultivar × year interactions for seed yield and oil content of four commercial rapeseed cultivars. The cultivars were grown during the four cropping seasons in two independent trials: the first one investigated the effect of five nitrogen rates, and the second effect of three sowing dates. Throughout rapeseed developmental stages, thirty climatic variables were derived from the original meteorological records and used for data interpretation. Experimental data were processed by mixed model analysis and individual factorial regression model. All interactions had highly significant impact on seed yield and oil content in both trials, except of year × cultivar interaction in sowing date trial. Individual factorial regression model identified that the considerable number of climatic variables had impact on these interactions. In conclusion, the results of this study showed that more complex factorial regression models are needed to be constructed in order to give us a more robust interpretation of data.

VARIABILITY, SOWING DATE, NITROGEN DOSAGE, CLIMATIC FACTORS, *BRASSICA NAPUS*

06 – 32 Poster

CHANGES IN CAROTENOIDS AND TOCOPHEROL CONTENT IN MAIZE GRAIN IN POPULATION, INBRED LINES, AND THEIR CROSSES

Violeta Andjelkovic, Jelena Mesarovic, Snezana Mladenovic Drinic

Maize Research Institute "Zemun Polje", Belgrade, Serbia

violeta@mrizp.rs

Maize grain is with the highest content of bioavailable micronutrients within cereals, which makes this crop the most appropriate for biofortification. Since genetic variability for this trait is high, genotypes with enhanced grain content could be used for commercial hybrids improvement. The maize kernel contains two fat-soluble vitamins: provitamin A carotenoids and vitamin E (tocopherols). This work was performed to estimate differences in tocopherol and carotenoid content in F1, F2, F3, BC1 and BC2 crosses of orange grain landrace and five commercial inbred lines, by high-performance liquid chromatography (HPLC). Significant variations were obtained: α , γ and δ tocopherol were higher in all crosses of population and inbred L1, as well as compared to line L1 (16.47 $\mu\text{g/g}$ DW, 23.26 $\mu\text{g/g}$ DW and 0.94 $\mu\text{g/g}$ DW, respectively) and population (16.02 $\mu\text{g/g}$ DW, 31.7 $\mu\text{g/g}$ DW and 0.42 $\mu\text{g/g}$ DW, respectively) per se. Crosses of population and inbred lines L3 and L5 showed higher grain content in tocopherol γ and tocopherol δ . Content of tocopherol γ in crosses of line L3 were within range of 65.03 $\mu\text{g/g}$ DW in F1 cross to 60.34 $\mu\text{g/g}$ DW in BC2 cross, and for L5 content vary from 67.77 $\mu\text{g/g}$ DW in F1 cross to 51.48 $\mu\text{g/g}$ DW in BC2 cross. Considering carotenoids content, lutein+zeaxanthin were higher in all crosses between population and inbred lines L3 and L4, and higher than population (36.53 $\mu\text{g/g}$ DW) and lines (17.75 $\mu\text{g/g}$ DW and 24.87 $\mu\text{g/g}$ DW for L3 and L4, respectively) per se. The highest contents of β -carotene, (lower than in population-14.15 $\mu\text{g/g}$ DW), were detected in populations' crosses with inbred line L2 and were in range from 13,38 $\mu\text{g/g}$ DW in F1 cross to 10,52 $\mu\text{g/g}$ DW in BC2 cross. Tested population and inbred L3 could be recommended for further use in breeding programs for improvement of grain nutritive value.

GRAIN, MAIZE, MICRONUTRIENTS, BIOFORTIFICATION