

BOOK OF ABSTRACTS



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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06 – 15 Poster

ASSESSMENT OF STABILITY OF SEED YIELD AND SEED OIL CONTENT IN CONFECTIONERY HYBRIDS USING AMMI ANALYSIS

Nada Hladni, Brankica Babec, Milan Jocković, Dragana Miladinović, Siniša Jocić, Vladimir Miklič, Ana Marjanović Jeromela

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High seed yield and low oil content are the most important criteria for the introduction of high protein confectionary hybrids into production. An important part of breeding programs is testing new hybrids and detection of hybrids distinguished by stability of tested traits under different agro-ecological conditions. To evaluate stability of NS confectionary sunflower hybrids under different environmental conditions, a trial was conducted using 10 confectionary sunflower hybrids developed at the Institute of Field and Vegetable Crops, Novi Sad. The trial was set up as a randomized block design with three repetitions, at the location of Rimski Šančevi in 2011, 2012, 2014, 2016, 2017, and 2018. The AMMI analysis was applied as one of the most important and widely used multivariational analyses for determining interaction between genotypes (hybrids) and environment (year). Comparing the environments, the highest average seed yield and seed oil content were obtained in 2011. Hybrid NS 2 had the highest average seed yield in all the examined years (4.21 tha⁻¹), while the lowest was obtained from hybrid NS 9 (3.31 tha⁻¹). The highest average seed oil content was obtained from hybrid NS 9 (41.85%) in all the examined years, whereas hybrid NS 7 had the lowest average seed oil content (30.50%). AMMI analysis showed that the genotypes NS 5 and NS 8 were the most stable when it comes to high seed yields, while genotype NS 2 had the most stable seed oil content in the analyzed period. These genotypes had the lowest values of interaction and are characterized by wide adaptability. Evaluation of NS confectionary hybrids using the AMMI analysis will be continued in order to assess the impact of genotypes, environment and their interaction on seed yield and seed oil content, and provide precise recommendations for growing sunflower hybrids in different regions and under different production systems.

AMMI BILOT, SEED YIELD, SEED OIL CONTENT, STABILITY, SUNFLOWER

06 – 16 Poster

ASSESSMENT OF HEMP SEED VIGOUR

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The seed vigour can be explained and described as the theoretical capacity of the seed which allows it to accomplish its substantial function under different environmental conditions. The key purpose of testing seed vigour as an underlying physiological seed characteristic is to establish more susceptible and precise seed quality parameters than a germination test. In seeds of oilseed species such as hemp seed (*Cannabis sativa*), the vigour can be a limiting factor due to the low chemical stability of the lipids compared to starch. The aim of this study was to evaluate the vigour of hemp seed and to make the difference between the tested hemp varieties in terms of vigour capacity. In addition to that, the aim was to identify and standardize the methods for assessing seed vigour and storability of hemp seed. The experimental materials include five varieties of hemp (Helena, Bacalmas, HuxUso, MonoicaxUso, Monoica) obtained from the Institute of Field and Vegetable Crops. The seed vigour evaluation was done using a laboratory germination test (LGT), cold test (CT) and different methods of accelerating aging test (AAT). Using the vigour tests, hemp seed was exposed to unfavorable low-temperature conditions (CT), and double stress conditions of high temperature and high relative humidity (41°C-72h, 43°C-72h, 43°C-48h) (AAT). The result found that hemp varieties, the combination of high temperatures and high relative humidity, and the interaction between them significantly affect hemp seed germination, while low temperatures do not show an impact on a significant reduction in germination. Different conditions of the accelerated aging test indicate that the decrease in the hemp seed vigour depends on both the applied temperature and the length of exposure to unfavorable conditions.

HEMP, SEED VIGOUR, VIGOUR TEST, ACCELERATED AGEING