

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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VRNJAČKA BANJA • SERBIA

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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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MAIN YIELD COMPONENTS OF SOYBEAN FULL SEEBs DECREASE UNDER DROUGHT STRESSMirjana Srebric, Vesna Peric*Maize Research Institute "Zemun Polje", Belgrade, Serbia*msrebric@mrizp.rs

Full sib belongs to recurrent selection methods, where lines developed from same cross combination (sister lines) are crossed, aimed to accumulate genes determined desired characteristics, grain yield and its components. Soybean grain yield and its components are quantitative traits, their expression is strongly influenced by environmental conditions. Progenies of two full sibs made by crossing three chosen soybean sister lines were grown on two locations during two seasons (2011 as near optimal growing season and 2012 as unfavorable growing season with two drought periods). Grain yield per plant and the most important yield components values decreased in less favorable season. The most expressed decrease was found in the number of pod and number of grain per plant, and the smallest with plant height and 1000 grain mass. In spite of the tested material relatedness, significantly different reaction on drought stress were observed, both between progenies of the two sister combinations and within each of them with grain yield reduction of 18-43% and 5-36%, pods number per plant reduction of 19-51% and 2-33% and grain number per plant reduction of 14-38% and 9-30%. Two progenies showed the smallest reduction in grain yield as well as the number of pod and number of grain per plant, indicating their greater tolerance in conditions of abiotic stress compared with other tested full sib progenies. These progenies can be used for developing soybean lines with higher tolerance to drought stress.

SOYBEAN, FULL SEEB, DROUGHT STRESS

06 – 48 Poster

THE BREEDING INFLUENCE ON THE PHENOLOGY OF SOUTHERN PANNONIAN SIX-ROWED WINTER BARLEYMilan Miroslavljević, Vojislava Momčilović, Verica Takač, Sanja Mikić, Ljiljana Brbaklić, Vladimir Aćin*Institute of Field and Vegetable Crops, Novi Sad, Serbia*milan.miroslavljevic@ifvcns.ns.ac.rs

In order to decrease negative impact of the climate changes on grain yield production, adjustment of crop phenology with changing climate should represent important breeding objective. As result of breeding activities and changes in agro-ecological conditions, phenology of different cereal crops has been notably changed in past century. However, information about changes in duration of developmental phases of winter barley under conditions of southern Pannonian Plain are scarce.

Therefore, we evaluated changes in developmental pattern in historical set of 15 six-rowed winter barley cultivars from four breeding periods, released in past 50 years. The study was conducted during two growing seasons at the experimental field of the Institute of Field and Vegetable Crops, Novi Sad, Serbia.

Results from our study showed that duration of studied developmental phases varied across growing seasons and cultivars. Year of cultivar release were negatively related with duration of tillering period ($r = -0.83$), emergence-anthesis ($r = -0.75$) and total crop cycle ($r = -0.69$). On the other hand, modern cultivars had prolonged duration of stem elongation phase compared to the older ones. Shortening of time to anthesis was the result of decrease in duration of tillering phase, since duration of stem elongation period was prolonged. There was absence of relationship between duration of grain filling period and year of cultivar release.

Considering that duration of studied traits is closely related with grain yield determination, further fine changes in partitioning of main pre- and post-anthesis phases should represent an important goal for further grain yield increase in six-rowed winter barley.

ANTHESIS, DEVELOPMENT; GENETIC GAIN, *HORDEUM VULGARE*