



# **BOOK** of **ABSTRACTS**

## **4<sup>th</sup> INTERNATIONAL CONFERENCE ON PLANT BIOLOGY (23<sup>rd</sup> SPPS Meeting)**



**6-8 OCTOBER 2022  
BELGRADE**

**Serbian Plant Physiology Society**

**Institute for Biological Research “Siniša Stanković”  
National Institute of Republic of Serbia, University of Belgrade**

**Faculty of Biology, University of Belgrade**

**BOOK OF ABSTRACTS**  
**4<sup>th</sup> International Conference**  
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## Evaluation of the effect of water deficit on proline content and lipid peroxidation in leaves of two tomato lines

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Water deficit can be a trigger of physiological and biochemical changes in leaves, that could be important for overall plant adaptive response and it can affect tomato yield and quality. This experiment was conducted to evaluate the effects of water deficit on proline content and lipid peroxidation in leaves of two tomato lines (M7 and R83). Our previous research has shown that there are differences in the biochemical characteristics of both lines during the reproductive phase. Accordingly, it is to be expected that there will be differences even in the early stages of plant development. Tomato plants were grown in a glasshouse and two water regimes were applied (optimal field capacity and water deficit - reduction of water for 70% compared to control), during three weeks after planting of seedlings. Our results showed that proline content and lipid peroxidation in the tomato leaves were fluctuated according to water content in the substrate, and it also depended on the genotype. The content of proline was significantly higher in the leaves of both tomato lines exposed to water stress. Similar to the content of proline, the lipid peroxidation was significantly higher in tomato leaves of the M7 line in contrast to the R83 line, where no significant differences were found. Also, water stress was a significant effect on plant height, number of leaves and shoot fresh weight of both tomato lines. Reduction of these parameters was much higher in the M7 line compared to the line R83.

**Keywords:** tomato, proline content, lipid peroxidation, optimal field capacity, water deficit

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