PBE
PLANT BIOLOGY EUROPE 2023

MARSEILLE

Welcome to the 14th International Conference of the French Society of Plant Biology

FESPB
Federation of European Societies of Plant Biology

BIAM-UMR 7265
INSTITUT DE BIOSCIENCES & BIOTECHNOLOGIES D'AIX-MARSEILLE

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INTRODUCTION

The Organizing Committee, the Scientific Committee, the Federation of the European Societies of Plant Biology, the French Society of Plant Biology and the Biosciences and Biotechnology Institute of Aix-Marseille welcome you to Plant Biology Europe.

This international meeting covers a wide range of Plant Science topics across multiple disciplines and at different scales.

Among the many different themes that are being addressed during the meeting, a particular emphasis is placed on plants and climate changes, algal biology and bioenergy.

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We assessed the photosynthesis performance of young triticale plants pretreated with the herbicide Serrate® (Syngenta), and subjected to drought or flooding for 7 days and then for 4 days of recovery. The photosynthesis-related parameters in Serrate-treated plants did not show significant alterations except in leaf pigments during the recovery phase. Both drought and flooding caused a significant reduction in gas exchange parameters, Fv/Fm and Fv/F0 values and leaf pigments during the stress period, and the decrease was most pronounced due to drought. After restoring the normal irrigation, the photosynthesis and fluorescence parameters tended to increase which is indicating a recovery of plants. The comparative assessment of photosynthesis-related parameters demonstrated that triticale plants subjected to flooding are recovering better than plants subjected to drought stress
Acknowledgements: This work was supported by Grant КР-06-Н36/3-30.09.2020, Bulgarian National Science Fund.

0181-B
TRANSCRIPTOME ANALYSIS OF ATDSS1 MUTANTS IN RESPONSE TO OXIDATIVE STRESS

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DSS1 (deletion of split hand/split foot 1) is a highly conserved, eukaryotic, and multifunctional protein. DSS1 as a small intrinsically disordered protein binds to multiple proteins when it gains a final conformation. There are two highly homologous genes, DSS1(I) and DSS1(V) in the Arabidopsis genome. Our aim is to examine Atdss1 mutants through oxidative stress. We obtained separate stable lines of Arabidopsis containing mutations in DSS1s using CRISPR/Cas9 technology. After H2O2 treatment, mutant seedlings showed increased sensitivity to oxidative stress in comparison to WT plants. Transcriptome analysis showed that dss1(I)del25 and dss1(V)ins18 mutations caused 2762 and 2335 differentially expressed genes compared to WT under oxidative stress, respectively. We found that upregulated expression was in genes involved in homologue recombination and RNA transport in both dss1 lines. The most downregulated genes are classified into flavonoid biosynthesis and MAPK signaling pathway.

0182-C
DYNAMICS OF THE MEMBRANE PROTEOME OF ARABIDOPSIS THALIANA ROOTS IN RESPONSE TO URANIUM STRESS

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Uranium (U) is a non-essential and toxic metal to living plants. Yet, plants are able to take up U naturally present in the soil and accumulate uranyl ions preferentially in the root cell wall