

Special Issue

Metabolomics Research of Environmental Stress in Plants

Message from the Guest Editors

Plant metabolites play a crucial role in agricultural research. They provide the energy and building components required by plant cells. Conversely, secondary metabolites, such as flavonoids and alkaloids, have diverse functions, encompassing defense against biotic and abiotic stresses. Molecular interrogation allows scientists to decipher the metabolic pathways that coordinate essential functions in plants, including growth, development, and responses to environmental stimuli. The integration metabolomics with genomics and transcriptomics offers a comprehensive perspective of systems' biology, elucidating the interactions among genes, proteins, and metabolites. In agricultural research, scientists are currently directing their attention towards the intricate network of metabolites at the molecular level, uncovering their significance in the field of agricultural science. Naturally occurring metabolites are a valuable resource provided by nature, with great potential for enhancing crop yield, tolerance against biotic and abiotic stresses, boosting resistance to diseases, and promoting the development of sustainable agricultural methods.

Guest Editors

Dr. Manish Kumar Patel

Department of Postharvest Science of Fresh Produce, Agricultural Research Organization (ARO), Volcani Institute, Rishon LeZion 7505101, Israel

Dr. Sonika Pandey

Agricultural Research Organization, Volcani Center, Rishon LeZion, Israel

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MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
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Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
Marche, Via Ranieri 65, 60100 Ancona, Italy

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