

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.

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