

# Special Issue

## Shaping the Future of Horticultural Crops: Omics and Biotechnological Tools for Resilience to Abiotic Stress

### Message from the Guest Editors

Climate change events, that is, threaten horticultural crops (e.g., fruits, vegetables, etc.) by negatively affecting yield and fruit quality, leading to substantial economic losses. The integration of omics technologies and advanced biotechnological tools could provide a comprehensive understanding of the complex molecular mechanisms that regulate plants' responses to abiotic stress conditions, such as extreme temperatures (heat/cold), drought, salinity, and nutrient deficiencies. This Special Issue aims to include cutting-edge research on the bioinformatic integration of omics data (genomics, transcriptomics, proteomics, metabolomics, epigenetics, etc.) with novel functional approaches—including CRISPR-based genome editing, RNAi, and other biotechnological tools—to characterize the multi-level responses of horticultural crops to abiotic stress conditions, and to uncover the underlying molecular mechanisms involved in their adaptation processes. We invite original research articles, reviews, and perspectives focusing on the physiological and molecular profiles of horticultural crops under abiotic stress conditions.

### Guest Editors

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### Deadline for manuscript submissions

25 September 2025



# Horticulturae

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## About the Journal

### Message from the Editor-in-Chief

Horticultural plants and their products provide sustenance, health, and beauty. A confluence of factors is putting increasing pressure on horticultural production to evolve, and innovative research is addressing these challenges. *Horticulturae* provides a venue to communicate research results in a rapid manner with open access, allowing everyone the opportunity to stay abreast of leading research addressing horticulture. I invite you to consider publishing the results of your research in this high quality, peer-reviewed journal.

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### Editor-in-Chief

Prof. Dr. Luigi De Bellis  
Department of Biological and Environmental Sciences and  
Technologies (DiSTeBA), Salento University, Lecce, Italy

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