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

Dr. Christina Skodra

Laboratory of Pomology, School of Agriculture, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

Dr. Georgia Tanou

Faculty of Agriculture, Forestry and Natural Environment, School of Agriculture, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

Deadline for manuscript submissions

25 March 2026

Horticulturae

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 5.1

mdpi.com/si/232521

Horticulturae
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
horticulturae@mdpi.com

mdpi.com/journal/horticulturae

Horticulturae

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 5.1

mdpi.com/journal/horticulturae

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.

Editor-in-Chief

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

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubAg, AGRIS, FSTA, and other databases.

Journal Rank:

JCR - Q1 (Horticulture) / CiteScore - Q1 (Horticulture)

MDPI