CIÊNCIA E TÉCNICA VITIVINÍCOLA

Call for papers

TOPICAL ISSUE

Viticulture in the Era of Climate Change: Grapevine responses and adaptation to abiotic and biotic stresses

Submission deadline – 1st of March 2027

Guest editors:

Marisa Maia, Instituto Nacional de Investigação Agrária e Veterinária, Portugal

Ricardo Egipto, Instituto Nacional de Investigação Agrária e Veterinária, Portugal

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Background

Climate change is profoundly reshaping global viticulture. Increasing abiotic (e.g., increasing frequency of heatwaves and droughts, altered precipitation patterns, salinity stress and elevated atmospheric CO_2) as well as biotic stresses (with recurrent diseases outbreaks) are currently affecting grapevine physiology. These factors have direct consequences on vineyard productivity and grape composition across most winegrowing regions, causing major economic losses worldwide. At the same time, intensified abiotic/biotic stresses increase vineyard management costs, production risks, and pressure on limited natural resources, threatening the long-term economic and environmental sustainability of winegrowing systems. In response to these challenges, the scientific community is focused on understanding grapevine responses, acclimation mechanisms, and adaptive strategies to both stress under current and future climate scenarios.

Aims and Scope

This Topical Issue aims to bring together cutting-edge research on vineyard and grapevine responses and adaptation to abiotic/biotic stresses in the context of climate change. We seek contributions that integrate physiological, agronomic, molecular, analytical, environmental, and socio-economic perspectives, addressing both short-term mitigation and long-term adaptation strategies.

We welcome manuscripts addressing, but not limited to, the following topics*:

- Improvement of grapevine growth, quality enhancement and yield;
- Innovative vineyard management strategies, resource efficiency and sustainable approaches;
- Cultivar-specific, rootstock suitability and responses under evolving climates;
- Physiological, biochemical and molecular responses of grapevine to abiotic and/or biotic stresses;
- New extraction/analysis protocols tailored to grapevine tissues;
- Advances in analytical methods to detect, profile and quantify biomolecules in grapevine tissues;
- Genotypes x Environment interactions – climate resilient and adaptation strategies;
- Innovative data processing, statistical analysis and bioinformatic tools.

*These topics are intended to be illustrative and submissions exploring other relevant aspects involving viticulture are highly encouraged.

Submissions

Original Research Articles and Reviews are welcome in this Topical Issue. All relevant papers will be carefully considered and peer-reviewed by a distinguished team of international experts. Authors should submit their manuscripts according to the instructions for authors detailed at https://www.ctv-jve-journal.org/author-information/instructions-for-authors. **All articles are free of charge**.

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Marisa Maia, Instituto Nacional de Investigação Agrária e Veterinária, Portugal
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Guest Editor Biographies

Marisa Maia

is an Assistant Researcher in Viticultural Genetic Resources and Breeding at *National Institute for Agrarian and Veterinary Research* (INIAV, I.P.), *Polo de Inovação de Dois Portos/Estação Vitivinícola Nacional*. She has a Master and a PhD degree in Biochemistry from the Faculty of Sciences of the University of Lisbon, and performed a Post-Doctorate at *Le Laboratoire de Chimie et Physique – Approche Multi-échelles des Milieux Complexes* in France. Her research focuses on the characterization and understanding of the metabolic mechanisms behind grapevine varieties susceptibility/tolerance towards pathogens in order to identify metabolic biomarkers that can be used in grapevine breeding programs.
She has disseminated her work with the scientific community through the publication of 25 scientific documents, including original research articles, reviews, book chapters and proceedings, the presentation of her work in more than 40 national and international scientific events and being involved in the organization of 10. Up to date, Marisa Maia has participated in 12 National/International Research Projects. ORCID: 0000-0003-3202-0797

Ricardo Egipto

is an Assistant Researcher at *National Institute for Agrarian and Veterinary Research* (INIAV, I.P.), *Polo de Inovação de Dois Portos/Estação Vitivinícola Nacional*. He holds a Master degree in Agronomy and in Viticulture and Oenology from the University of Lisbon, and a PhD in Industrial and Environmental Science and Technology from the Universidad de Huelva. His research focuses on grapevine ecophysiology, particularly plant responses to abiotic stresses such as heat and water stress. He has participated in several national and international research projects in this field and is the author or co-author of more than 50 scientific publications, including peer reviewed articles, book chapters, and conference contributions. ORCID: 0000-0002-8186-6724