

## Special Issue

# Applications of Plant Tissue Culture for Crop Improvement and Biodiversity Conservation

### Message from the Guest Editors

The foundational principles of plant tissue culture trace back to the ground-breaking studies of Austrian botanist Gottlieb Haberlandt in 1902. However, significant advancements were made only in the mid-20th century, largely due to the development of essential techniques and discoveries such as the role of plant hormones, the demonstration of somatic embryogenesis, and the development of basal culture media. The *in vitro* culture of plant cells and tissues also serves as an ideal model system for studying complex biological processes. After more than a century of research, there is still strong interest in this area due to the critical role that robust *in vitro* plant regeneration protocols play in the application of advanced biotechnologies. This Special Issue explores the transformative role of plant tissue culture techniques in modern agriculture and biodiversity conservation, highlighting innovative applications of *in vitro* culture methods to enhance crop yield, quality, and resilience against biotic and abiotic stresses. It also covers fundamental studies using *in vitro* culture systems.

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### Guest Editors

Dr. Ranjith Pathirana

Dr. Francesco Carimi

Dr. Angela Carra

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### Deadline for manuscript submissions

closed (30 November 2025)



## Plants

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### Message from the Editor-in-Chief

*Plants* is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, and conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

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### Editor-in-Chief

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