

Special Issue

Crop Genetic Mechanisms and Breeding Improvement

Message from the Guest Editors

The exploration of crop genetics and breeding holds the potential to revolutionize agricultural practices by creating improved crop varieties that exhibit higher yields, better nutritional profiles, and enhanced tolerance to environmental challenges. Identifying specific genetic determinants of stress adaptation and precisely introducing them into elite varieties is an effective new paradigm. The combination of contemporary genomics and genetic techniques, along with advancements in accurate phenotyping and breeding methods, is anticipated to enhance the understanding of the genes and metabolic pathways responsible for conferring abiotic stress resistance in crops. This special issue gathers cutting-edge research on deciphering the intricate genetic pathways and mechanisms underlying crop traits, which are crucial for sustainable food production in the face of global challenges such as climate change and growing populations. Contributions to this issue shed light on the interplay between crop genomes, diverse omics technologies, and advanced breeding methodologies to develop crops that thrive in changing environmental conditions.

Guest Editors

Dr. Hua Zhong

Population Sciences in the Pacific Program, University of Hawai'i at Mānoa, Honolulu, HI 96813, USA

Dr. Weilong Kong

Shenzhen Branch, Guangdong Laboratory for Lingnan Modern Agriculture, Genome Analysis Laboratory of the Ministry of Agriculture, Agricultural Genomics Institute at Shenzhen, Chinese Academy of Agricultural Sciences, Shenzhen 518120, China

Deadline for manuscript submissions

closed (20 March 2025)



Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



mdpi.com/si/183036

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

[mdpi.com/journal/
plants](https://mdpi.com/journal/plants)





Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



[mdpi.com/journal/
plants](https://mdpi.com/journal/plants)



About the Journal

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, 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.

Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB
R3T 2N2, Canada

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), PubMed, PMC, PubAg, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Plant Sciences) / CiteScore - Q1 (Ecology, Evolution, Behavior and Systematics)