Special Issue

Advances in Gene Technology for Enhancing Cereal Crop Performance and Resilience

Message from the Guest Editors

Advances in gene technology are unlocking new possibilities for enhancing cereal crop performance and resilience, addressing critical challenges posed by climate change, pests, diseases, and global food security. This Special Issue highlights innovative research in genetic engineering, CRISPR-Cas systems, and other genome editing tools that improve crop traits. Besides traditional genetic approaches, we emphasize the emerging role of microbiome research in crop enhancement. Understanding and engineering plant-associated microbial communities can significantly boost crop health, nutrient uptake, and stress tolerance. By integrating host genetics with microbiome innovations, scientists are developing holistic strategies to create robust, high-yielding, and environmentally resilient cereal crops. Contributions that explore the synergy between plant genes and beneficial microbes or present new techniques in microbiome manipulation are highly encouraged. This Special Issue serves as a platform for interdisciplinary research, offering insights that connect molecular advancements with sustainable agricultural practices, ultimately shaping the future of resilient global food systems.

Guest Editors

Dr. Youngho Kwon

Department of Southern Area Crop Science, National Institute of Crop Science, RDA, Miryang 50424, Republic of Korea

Prof. Dr. Chengdao Li

Western Barley Genetics Alliance, Murdoch University, 90 South Street, Murdoch, WA 6150, Australia

Deadline for manuscript submissions

10 September 2025

Agronomy

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 6.7

mdpi.com/si/229310

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

mdpi.com/journal/agronomy

Agronomy

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 6.7

mdpi.com/journal/agronomy

MDPI

About the Journal

Message from the Editor-in-Chief

Agronomy draws together researchers from diverse areas of agricultural research with a common aim of enhancing agricultural productivity globally. The journal provides unlimited free access to all those interested in advancing agricultural science from both the research and general community. Papers are released immediately after acceptance through the internet. *Agronomy* is supported by our authors and their institutes through low article processing charges (APC) for accepted papers. We hope you will support the journal by becoming one of our authors.

Editor-in-Chief

Prof. Dr. Leslie A. Weston
Gulbali Centre for Agriculture, Water and Environment Research, Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Agronomy and Crop Science)