

Special Issue

Mechanisms Underlying Cereal Grain Quality Formation and Strategies for Genetic Improvement

Message from the Guest Editors

The quality of cereal grains is a critical determinant of their nutritional value, processing performance, and market acceptance. Over the decades, research into grain quality formation has evolved from descriptive analyses to the in-depth molecular and genetic dissection of underlying mechanisms. This Issue will feature cutting-edge studies on regulatory genes and networks controlling starch biosynthesis, protein body formation, lipid metabolism, and grain micronutrient homeostasis. It will also include insights into epigenetic regulation, hormone signaling, and interactions between grain development and environmental cues. Integrative approaches using CRISPR/Cas gene editing, multi-omics data integration, and high-throughput phenotyping are particularly encouraged. We invite original research articles, reviews, and perspectives that explore mechanistic insights, functional validation, or translational strategies to improve grain quality in major cereals such as rice, wheat, maize, barley, and sorghum. Studies on underutilized cereals with unique quality traits are also welcome.

Guest Editors

Prof. Dr. Chunming Liu

Key Laboratory of Plant Molecular Physiology, Institute of Botany,
Chinese Academy of Sciences, Beijing 100093, China

Prof. Dr. Yihua Wang

State Key Laboratory of Crop Genetics & Germplasm Enhancement
and Utilization, Nanjing Agricultural University, Nanjing 210095, China

Deadline for manuscript submissions

15 February 2026



Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



mdpi.com/si/250573

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

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





Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



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



About the Journal

Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, scholarly and scientific open access journal publishing peer-reviewed research papers, review articles, communications and short notes that reflect the breadth and interdisciplinarity of agriculture.

Editor-in-Chief

Prof. Dr. Les Copeland
Sydney Institute of Agriculture, School of Life and Environmental
Sciences, The University of Sydney, Sydney, NSW 2006, 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, RePEc, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Plant Science)