

Special Issue

Molecular Genetics and Functional Genomics for the Breeding of Cereal Crops

Message from the Guest Editors

With the development of genome sequencing and gene-editing technologies, the genetic improvement of cereal crops has been greatly accelerated in the past ten years. Especially, efficient genetic transformation systems have been established in maize, indica rice and wheat by using plant-regeneration-related genes (WUS2, BBM and GRF-GIF) or modifying culture and selection regimes (PureWheat). Model genotypes of rice and millet with dwarfing plant heights, short growth periods, and high transformation efficiency have been created for genetic study. Many important germplasms or mutants have been developed, and many genes of interest have been dissected for functional regulation in cereal crops by applying transgenic and CRISPR/Cas9 techniques. Additionally, more convenient molecular markers have been designed and employed in the breeding of cereal crops. On the whole, optimal progress has been achieved in cereal crops regarding molecular genetics, functional genomics, transformation, gene editing, and marker-assisted selective breeding. It is necessary to organize a Special Issue to report some novel results and opinions related to the aspects aforementioned in cereal crops.

Guest Editors

Prof. Dr. Xingguo Ye

Institute of Crop Sciences, Chinese Academy of Agricultural Sciences, Beijing 100081, China

Dr. Ke Wang

Institute of Crop Sciences, Chinese Academy of Agricultural Sciences, Beijing 100081, China

Deadline for manuscript submissions

closed (30 June 2023)



Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



mdpi.com/si/98325

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), GEOBASE, PubAg, AGRIS, RePEc, and other databases.

Journal Rank:

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