Special Issue

Crop Genomics and Omics for Future Food Security

Message from the Guest Editors

Global food security faces significant challenges. Crop breeding and improvement are crucial means to ensure food security. Omics technologies including crop genomics, transcriptomics, metabolomics, proteomics, and epigenomics can support crop improvement at various levels, representing essential technical tools for securing future food supplies.This Special Issue focuses on the application of omics technologies in future food security, emphasizing their roles in enhancing crop yield, improving nutritional quality, reducing the accumulation of harmful substances like heavy metals in grains, and enhancing crop environmental adaptability. It encompasses the assessment of genetic resources through genome sequencing and the exploration of underexplored yet valuable germplasm, leveraging transcriptomics, epigenomics, proteomics, and metabolomics to understand the physiological and molecular basis of crop yield, quality formation, growth, development, and environmental adaptation, and employing GWAS techniques to identify key loci and genes that regulate specific traits, thereby providing a foundation for breeding improvements.

Guest Editors

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Deadline for manuscript submissions

30 June 2026

Agronomy

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 6.7

mdpi.com/si/217677

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