

Special Issue

Development and Utilization of Maize Germplasm Resources

Message from the Guest Editors

Maize (*Zea mays* L.) is one of the world's most important staple crops, yet its productivity is increasingly threatened by environmental stresses and limited nutrient availability. To confront the challenges of climate change and advance toward agricultural production that is sustainable, it is essential to deepen our understanding of the genetic and molecular mechanisms underlying stress resilience and nutrient-use efficiency in maize. This Special Issue aims to gather high-quality research focused on the genetic basis of maize adaptation to abiotic stresses—specifically high temperature, drought, and salinity—as well as the efficiency of nitrogen (N), phosphorus (P), and potassium (K) uptake and utilization. We invite contributions that employ advanced genomic, transcriptomic, proteomic, and phenomic approaches to identify key genes, quantitative trait loci (QTLs), and superior allelic variants associated with these traits. Studies that bridge basic discovery with pre-breeding applications, including molecular design breeding and allele mining for crop improvement, are particularly encouraged.

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Deadline for manuscript submissions

31 October 2026



Agronomy

an Open Access Journal
by MDPI

Impact Factor 3.4
CiteScore 7.6



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