

## Special Issue

# Utilizing Gene Editing to Improve Plant Breeding

### Message from the Guest Editor

Gene-editing services, particularly utilizing CRISPR-Cas9 technology, have revolutionized crop breeding by enabling precise and efficient modifications to plant genomes. This Special Issue, “Utilizing Gene Editing to Improve Plant Breeding”, welcomes research papers and comprehensive reviews related to gene editing theories and applications in plant breeding. Topics of interest include: the following Theoretical Innovations: Development of novel gene editing tools (e.g., mini-Cas9, RNA-guided endonucleases) and delivery methods (e.g., viral vectors, nanoparticle-based systems). Computational approaches for genome design, including AI-driven predictive modeling and machine learning for editing efficiency optimization.

Crop-Specific Applications: Case studies on staple crops (e.g., rice, wheat, maize), horticultural species, and orphan crops, focusing on trait engineering (e.g., disease resistance, drought tolerance, biofortification).  
Disease Resistance Abiotic Stress Tolerance  
Nutritional Biofortification Synergistic Approaches  
Synthetic Biology AI-Driven Breeding Traditional Breeding

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### Guest Editor

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### Deadline for manuscript submissions

closed (20 May 2026)

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## Genes

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### Message from the Editor-in-Chief

*Genes* is central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fast-moving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised. Why not consider *Genes* for your next genetics paper?

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### Editor-in-Chief

Prof. Dr. Selvarangan Ponnazhagan  
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