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 Al-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⊠ Al-Driven Breeding⊠ Traditional Breeding⊠

Guest Editor

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About the Journal

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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