Special Issue

Recent Advances in CRISPR-Based Genome Editing in Crops

Message from the Guest Editors

CRISPR-based genome editing has emerged as a transformative technology in plant biology, offering unprecedented precision, efficiency, and versatility in modifying crop genomes. Since its initial adaptation in plants, CRISPR has rapidly evolved from simple gene knockouts to sophisticated applications such as base editing, prime editing, gene regulation (CRISPRa/i), and epigenome modification. This Special Issue aims to showcase cutting-edge research and technological breakthroughs that shape the next generation of crop genetic engineering. We welcome original research articles, reviews, perspectives, and short communications that report novel CRISPR tools, delivery methods, multiplex genome editing, gene function studies, trait development, and regulatory or biosafety considerations. This Special Issue seeks to provide a platform for researchers to share progress, challenges, and future directions in crop genome engineering. We particularly encourage interdisciplinary studies that integrate omics, synthetic biology, and systems biology approaches to unlock the full potential of CRISPR in agriculture.

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