Special Issue

Advances in Gene Technology for Enhancing Cereal Crop Performance and Resilience

Message from the Guest Editors

Advances in gene technology are unlocking new possibilities for enhancing cereal crop performance and resilience, addressing critical challenges posed by climate change, pests, diseases, and global food security. This Special Issue highlights innovative research in genetic engineering, CRISPR-Cas systems, and other genome editing tools that improve crop traits. Besides traditional genetic approaches, we emphasize the emerging role of microbiome research in crop enhancement. Understanding and engineering plantassociated microbial communities can significantly boost crop health, nutrient uptake, and stress tolerance. By integrating host genetics with microbiome innovations, scientists are developing holistic strategies to create robust, high-yielding, and environmentally resilient cereal crops. Contributions that explore the synergy between plant genes and beneficial microbes or present new techniques in microbiome manipulation are highly encouraged. This Special Issue serves as a platform for interdisciplinary research, offering insights that connect molecular advancements with sustainable agricultural practices, ultimately shaping the future of resilient global food systems.

Guest Editors

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Editor-in-Chief

Prof. Dr. Leslie A. Weston

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