

Special Issue

Breakthrough and Innovation of Mutants in Genetic Improvement of Crop Varieties

Message from the Guest Editors

The Special Issue explores the role of induced mutations in advancing crop breeding and genetic improvement. Mutation breeding, which began in the 1930s with breakthroughs by Hermann Muller and Lewis Stadler, led to the development of crops with higher yields, disease resistance, and stress tolerance. Advances in molecular genetics, such as DNA markers and marker-assisted selection (MAS), further improved mutation breeding in the late 20th century. This Issue highlights recent advancements and challenges in mutation breeding, focusing on mutant-based innovations for agriculture. It addresses critical topics like sustainability, food security, and climate change, integrating traditional and modern approaches. Key topics include classical mutagenesis, CRISPR editing, MAS, genomic selection, and bioinformatics. The Issue showcases innovations like CRISPR-Cas9 for precise genetic modifications, enabling stress-resilient, high-yield crops. We seek papers on molecular mechanisms, DNA markers, stress-resistant crops, historical reviews, and ethical considerations, encouraging submissions from fields like genetics, biotechnology, and plant breeding.

Guest Editors

Prof. Dr. Nasya Tomlekova
Agricultural Academy, Maritsa Vegetable Crops Research Institute,
4003 Plovdiv, Bulgaria

Prof. Dr. Jerzy Henryk Czembor
Plant Breeding and Acclimatization Institute—National Research
Institute, Radzików, 05-870 Błonie, Poland

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Agronomy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agronomy@mdpi.com

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Editor-in-Chief

Prof. Dr. Leslie A. Weston

Gulbali Centre for Agriculture, Water and Environment Research,
Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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