

Special Issue

Novel Breeding Techniques to Improve Disease Resistance in Horticultural Crops

Message from the Guest Editors

Addressing plant diseases is crucial for sustaining global food production and ensuring food security for a growing population. Novel breeding techniques (NBTs) offer innovative ways to improve disease resistance in horticultural crops. Some of the key NBTs include genome editing, RNA interference (RNAi), marker-assisted Selection (MAS), transgenic approaches, genome-wide association studies (GWAS), mutagenesis techniques, synthetic biology, bioinformatics, and computational approaches to predict candidate genes associated with disease resistance. Furthermore, epigenetic engineering at the target sites involved in the disease resistance mechanism could be an emerging approach for crop improvement. By combining these novel breeding techniques, researchers and breeders can develop horticultural crops with enhanced disease resistance, leading to improved crop yields, reduced dependence on chemical pesticides, and more sustainable agricultural practices. This Special Issue focuses on recent advances in NBTs to improve disease resistance in horticultural crops, inviting all types of articles, such as research papers and methods, reviews, and opinions.

Guest Editors

Dr. Marina Laura

CREA, Research Centre for Vegetable and Ornamental Crops, Corso degli Inglesi 508, 18038 Sanremo, Italy

Dr. Sara Sestili

Council for Agricultural Research and Economics, Research Centre for Vegetable and Ornamental Crops (CREA-OF), Monsampolo del Tronto, Italy

Deadline for manuscript submissions

closed (5 April 2025)



Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



mdpi.com/si/191913

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

[mdpi.com/journal/
agriculture](https://mdpi.com/journal/agriculture)





Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



[mdpi.com/journal/
agriculture](https://mdpi.com/journal/agriculture)



About the Journal

Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, scholarly and scientific open access journal publishing peer-reviewed research papers, review articles, communications and short notes that reflect the breadth and interdisciplinarity of agriculture.

Editor-in-Chief

Prof. Dr. Les Copeland
Sydney Institute of Agriculture, School of Life and Environmental
Sciences, The University of Sydney, Sydney, NSW 2006, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubAg, AGRIS, RePEc, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Plant Science)