Special Issue

Al-Powered Phenotyping of Horticultural Plants

Message from the Guest Editors

This Special Issue focuses on the applications of Alassisted phenotyping in horticulture, aiming to showcase cutting-edge research and developments that push the boundaries of traditional horticultural practices.

- Al-Driven Image Analysis and Pattern Recognition: Using machine learning and computer vision to analyze plant traits, detect diseases, and monitor growth patterns with high accuracy.
- Precision Agriculture: Implementing AI for sitespecific management, optimizing resource use, and minimizing environmental impacts through precision phenotyping.
- Genomic Selection and Breeding: Integrating AI with genomic data to predict desirable traits and accelerate the development of superior horticultural varieties.
- Stress Tolerance and Adaptation: Using Al to understand and improve plant responses to biotic and abiotic stresses, enhancing crop resilience.
- Robotics and Automation in Phenotyping: Exploring autonomous systems and robots for high-throughput phenotyping, reducing labor costs, and increasing data collection efficiency.
- Data Integration and Management: Developing Aldriven platforms to manage and analyze diverse phenotypic and environmental data sets.

Guest Editors

Dr. Xu 'Kevin' Wang

Dr. Shinsuke Agehara

Dr. Jing Zhang

Deadline for manuscript submissions

closed (31 October 2025)



Horticulturae

an Open Access Journal by MDPI

Impact Factor 3.0 CiteScore 5.1



mdpi.com/si/213098

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

mdpi.com/journal/ horticulturae





Horticulturae

an Open Access Journal by MDPI

Impact Factor 3.0 CiteScore 5.1



About the Journal

Message from the Editor-in-Chief

Horticultural plants and their products provide sustenance, health, and beauty. A confluence of factors is putting increasing pressure on horticultural production to evolve, and innovative research is addressing these challenges. *Horticulturae* provides a venue to communicate research results in a rapid manner with open access, allowing everyone the opportunity to stay abreast of leading research addressing horticulture. I invite you to consider publishing the results of your research in this high quality, peer-reviewed journal.

Editor-in-Chief

Prof. Dr. Luigi De Bellis

Department of Biological and Environmental Sciences and Technologies (DiSTeBA), Salento University, Lecce, Italy

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, FSTA, and other databases.

Journal Rank:

JCR - Q1 (Horticulture) / CiteScore - Q1 (Horticulture)

