

Special Issue

Advancements in Crop Production: Understanding Physio-Biochemical Mechanisms and Postharvest Processes for Sustainable Management of Plant Genetic Resources

Message from the Guest Editors

Crop production physiology explores how plant growth, development, and yield are regulated by internal processes—such as photosynthesis, respiration, and nutrient uptake—and external environmental factors. It aims to enhance agricultural sustainability by improving productivity, stress tolerance, and water-use efficiency. Postharvest physiology and biochemistry focus on metabolic processes including respiration, ethylene production, ripening, moisture loss, and tissue softening, which determine quality, shelf life, and senescence. Understanding these mechanisms helps reduce postharvest losses, improve nutritional value, and support eco-friendly storage technologies. Sustainable management of plant genetic resources (PGRs) integrates in situ and ex situ strategies to preserve biodiversity, prevent genetic erosion, and strengthen climate resilience and food security. In this Special Issue (Second Edition), authors around the world are called to bring their advancements and cutting-edge manuscripts dealing with crop physio-biochemical and postharvest processes for the sustainable management of plant genetic resources (PGRs).

Guest Editors

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Deadline for manuscript submissions

20 September 2026



Horticulturae

an Open Access Journal
by MDPI

Impact Factor 3.4
CiteScore 6.1



mdpi.com/si/272738

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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

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