Special Issue

Silicon and Its Physiological Role in Plant Growth and Development

Message from the Guest Editor

We are pleased to invite you to contribute to a Special Issue of Plants entitled 'Silicon and its Physiological Role in Plant Growth and Development'. This Special Issue seeks to delve into the physiological and metabolic mechanisms underlying silicon's (Si) influence on plant growth, development, and resilience. We encourage submissions addressing, but not limited to, the following topics: Physiological effects of silicon on plant growth and nutrient uptake;
Silicon-driven metabolic pathways, including antioxidant activity and secondary metabolite production;
Silicon's role in enhancing photosynthetic efficiency and energy utilization;
Molecular signaling and transcriptional changes associated with silicon;
Interactions between silicon and other nutrients at the physiological level;
Innovations in methodologies to study silicon's role in plant physiology.
This Special Issue welcomes original research articles and comprehensive reviews and perspectives that focus on uncovering silicon's physiological functions and metabolic impacts. We aim to foster a deeper understanding of Si's role in plant development and its application in sustainable agriculture.

Guest Editor

Dr. Jonas Pereira de Souza Junior
Citrus Research and Education Center, University of Florida, Lake Alfred, FL 33850, USA

Deadline for manuscript submissions

31 May 2026

Plants

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/224656

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

mdpi.com/journal/plants

Plants

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed

mdpi.com/journal/plants

About the Journal

Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

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), PubMed, PMC, PubAg, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Plant Sciences) / CiteScore - Q1 (Ecology, Evolution, Behavior and Systematics)