

Special Issue

Hydrogen-Based Strategies in Plant Science: From Molecular Mechanisms to Agricultural Applications

Message from the Guest Editors

Hydrogen gas has emerged as a potential gasotransmitter, influencing plant development and enabling plants to cope with various stresses, as well as improving their use in the food industry and packaging. Harnessing hydrogen's bioactive roles can influence crop growth and development, aid in agro-food technologies, and enhance plants' environmental resilience. Significant functional challenges persist, however, in areas such as hydrogen metabolism, modulating endogenous hydrogen levels (chemical donor or genetic manipulation), and transitions from model systems to crops. This *Plants* Special Issue aims to illuminate hydrogen's biosynthesis, physiological roles, and ecological interactions, encompassing molecular discoveries and agricultural innovations for sustainable plant–environment synergies.

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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, and 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.

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