Special Issue

New Insights into the Molecular Mechanisms of Plant Defense Against Abiotic Stress

Message from the Guest Editor

Abiotic stresses such as drought, salinity, extreme temperatures, and heavy metal toxicity severely impact plant growth and crop productivity. Therefore, uthe molecular mechanisms underlying plant defense responses is crucial for the development of stress-resistant crops. Recent research has uncovered novel insights into stress perception, signal transduction, and adaptive responses, revealing the roles of reactive oxygen species (ROS) signaling, phytohormone crosstalk, epigenetic regulation, and post-translational modifications. Advances in omics technologies (genomics, transcriptomics, and proteomics) and CRISPR-based genome editing have further elucidated key stress-responsive genes and regulatory networks. This Special Issue aims to explore the molecular active protection mechanisms that plants employ to cope with abiotic stress (e.g., drought, salinity, extreme temperatures, heavy metals, etc.). Scientists and academics from all over the world are welcome to share original research, review articles, and short communications in the field of plant defense mechanisms.

Guest Editor

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Deadline for manuscript submissions

closed (30 September 2025)

Agriculture

an Open Access Journal by MDPI

Impact Factor 3.6
CiteScore 6.3

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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

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