Special Issue

Physiological and Genetic Mechanisms of Abiotic Stress Tolerance in Crops

Message from the Guest Editors

Abiotic stress caused by either natural or human activities has become a great threat to sustainable agricultural production in the world, such as drought, salinity, high or low temperature, nutrient deficiency, and heavy metal stresses. It is a big challenge to produce enough crop food to feed the growing global population. Abiotic stresses seriously affect crop growth and development, eventually leading to yield loss. Under an abiotic stress condition, crops may suffer from osmotic and oxidative stress, photosynthetic and metabolic damage, nutrient imbalance, and ion toxicity. To deal with these stresses, crops have developed a series of tolerance mechanisms, including osmotic adjustment through compatible solutes in the cytoplasm, reactive oxygen species (ROS) scavenging systems through anti-oxidative enzymes, and nutrient homeostasis through membrane channels and transporters. However, progress in developing tolerant crops is significantly hampered by the complexity of the physiological and genetic mechanisms of abiotic stress tolerance.

Guest Editors

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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, 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

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