

Special Issue

Environmental and Genetic Factors in Field Crop Production and Improvement: Mechanisms and Regulation

Message from the Guest Editors

Crop production with improved quality and yield is generally affected by both genetic and environmental factors. Need-to germplasms have been largely produced via multiple approaches. Recently, gain-of-function and loss-of-function genetic materials have shown potential applications in modern crop breeding programs. In addition, genome editing for targeted traits and other methods with genetic information changes are available via toolkits to enhance crop production, improve yield, and achieve nutrient enrichment.

Therefore, it is essential to understand the mechanisms of how genetic information is precisely transduced at different field conditions and in various consequential development transitions. With dramatic changes in the globe's climate, how to increase plant tolerance in response to environmental stress is a key research area for the crop industry and for food security. However, the mechanism underlying these changes are still largely unknown. This Special Issue of *Plants* plans to decipher how both genetic and environmental factors contribute to crop improvement, showcasing perspectives on agronomy, ecophysiology, biochemistry, bioengineering, and crop biology.

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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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