

Special Issue

Phytohormone-Related Response of Crops to Biotic and Abiotic Stresses

Message from the Guest Editors

Plants as sessile organisms are also constantly exposed to biotic factors, such as pathogens, herbivores, and other competing species. Their exposure to numerous unfavorable factors requires the development of specific defense mechanisms. The stress response may be local and occur at the site of factor perception, or systemic, when the stressed tissue transmits information to other organs, leading to increased immunity. The main coordinators of all stress-related mechanisms are phytohormones, which can be transported over long distances, acting as signaling molecules. It is well known that stress disrupts hormonal homeostasis. Under unfavorable conditions, many phytohormones, e.g., abscisic acid, jasmonates, and ethylene, are accumulated. They cause metabolic and morphogenetic changes to minimize the negative effects, allowing to adapt to adverse conditions and maintaining the plant's vitality at the same time. This is why it is so important to understand the regulation of stress responses by phytohormones, which helps to modulate the activity of these compounds to enhance tolerance of different species.

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