Special Issue

Stress and Production of Secondary Metabolites

Message from the Guest Editors

The adaptation of the plant to stress circumstances entails physiological modifications and triggers molecular reactions, also known as defense mechanisms. These mechanisms permit the synthesis of substances or compounds called secondary metabolites, which are not associated with vital processes of the plant; however, they help the plant to survive. The stress variables of intensity, periodicity, and type, among others, influence the type of metabolite developed and how it affects growth, production, the immune system, the antioxidant system, etc. The various secondary metabolites that can be triggered in response to stress are phenols, flavonoids, carotenoids, esters, etc. These types of compounds are biosynthesized by both biotic and abiotic stresses, mainly when these types of stress involve the production of reactive oxygen species (ROS), inducing the neutralization of these species as a defense mechanism. On the other hand, secondary metabolites play a relevant role in the protection of plants against environmental stress and constant climatic changes, which cause an increase in the intensity of light or UV, nutrient deficits, drought, pathogens, and cold, among others.

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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.

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