

Special Issue

Role of Gene and Hormone Regulation in Adventitious Root Formation in Trees

Message from the Guest Editors

De novo root regeneration, a crucial step for clonal propagation of plant species by cuttings, is a complex genotype-dependent trait affected by several inner and outer cues, including the physiological status and age of the plant, phytohormone homeostasis, nutrient availability, carbohydrate dynamics, light conditions, biotic factors, etc. The recalcitrance to root regeneration of many trees is the main hurdle hindering the vegetative propagation of elite genotypes and forest industry development. In general terms, ethylene and jasmonic acid have an early positive role with auxin in the formation of adventitious roots, whereas gibberellins, abscisic acid, and cytokinins are expected to negatively influence the development of the new roots. With this Special Issue, our aim is to provide a platform for the communication of research related to the gene and phytohormone control of adventitious root formation in trees and woody species, allowing for a precise description of the molecular pathways involved in every phase of the process, which may pave the way for an optimized exploitation of the available resources.

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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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