Special Issue

Regeneration by Totipotency/Pluripotency in Forest Trees: From the Basis to Its Applications

Message from the Guest Editors

Forest trees can be regenerated through various methods, such as cutting, grafting, organogenesis, and somatic embryogenesis. Through regeneration, trees can achieve large-scale clonal propagation, long-term germplasm preservation, and genetic transformation or genome editing. Establishing regeneration systems, improving regeneration efficiency, and promoting their industrialization in forest trees are of great importance, with cellular totipotency and pluripotency being the molecular bases for plant regeneration. While detailed systematic studies on model plants like *Arabidopsis thaliana* have gradually unraveled the molecular mechanisms underlying plant regeneration, the fundamental mechanisms and principles underlying forest tree regeneration remain unclear. Therefore, this Special Issue aims to provide selected contributions on advances in the basis of tree regeneration and its biotechnological applications.

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