Special Issue

The Transition from Seed to Seedling II

Message from the Guest Editors

Seed germination represents a critical stage in plants' life cycles. This process includes three important events –

tissue hydration, the activation of metabolic activity, and the mobilization of reserve nutrients. The resumption of metabolic activity begins with the reactivation of enzymatic systems to repair the damages that inevitably accumulate in DNA, RNA, and proteins. The crucial hormonal signal is a balance between abscisic acid and gibberellins, but other hormones such as auxins, brassinosteroids, ethylene, cytokinins, and jasmonates are also involved. A network of transcription factors known as the LAFL as well as DOG1 are the negative regulators of seed germination. They should also be repressed before seedling development. This repression is associated with chromatin remodeling by Polycomb complexes, as well as the PICKLE proteins. Epigenetic modifications, including the methylation of DNA cytosine, histone modifications, and the post-transcriptional downregulation of seed maturation genes with miRNA, need to be discussed.

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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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