Special Issue

The Transition from Seed to Seedling

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.

Guest Editors

Dr. Galina Smolikova

Department of Plant Physiology and Biochemistry, Saint Petersburg State University, 199034 St. Petersburg, Russia

Prof. Dr. Sergei Medvedev

Department of Plant Physiology and Biochemistry, Saint Petersburg State University, 199034 St. Petersburg, Russia

Deadline for manuscript submissions

closed (20 May 2022)

Plants

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 6.5
Indexed in PubMed

mdpi.com/si/83311

Plants
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
plants@mdpi.com

mdpi.com/journal/plants

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Message from the Editor-in-Chief

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.

Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

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