Special Issue

Meiosis in Plant Interspecific Hybrids and Polyploids

Message from the Guest Editors

Polyploidy is pervasive and represents a major mechanism of speciation in plants. According to their genome composition, polyploids have been classified into two types: autopolyploids and allopolyploids. The polyploid condition implies that each chromosome has two or more potential partners to undergo synapsis and recombination during meiosis. Meiotic programs of polyploid species are often in the focus of research trying to understand how these organisms overcome the chromosome competitive behavior in order to produce balanced gametes. Two main reasons underpin the study of meiosis in interspecific hybrids. One is to shed light on the mechanisms underlying chromosome duplication to form allopolyploids, the other is that hybridization can be used to transfer genes controlling useful agronomical traits from wild species to crops. This Special Issue will cover research works concerning the origin of polyploid species, the adaptive modification of their meiotic behavior to ensure balanced chromosome segregations, and the use of induced homoeologous recombination in interspecific gene transfer with implications in breeding related programs.

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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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