



Plant Developmental Pathways: Haploid, Zygotic and Somatic Embryos

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Message from the Guest Editors

The concept of tissue culture, proposed over one hundred and twenty years ago by Haberlandt, was based on the phenomenon of totipotency and predicted the regeneration of whole plants from single cells in in vitro cultures. One of the most interesting types of cells are gametes, containing half the chromosomes found in somatic cells and heterogeneous populations of specialized cells developed from a single fertilized egg. Haploids are a potent and vital tool for basic research and breeding programs of crop and ornamental plant enhancement. As a result of doubling the number of haploids' chromosomes, we obtain completely homozygous and fertile plants. The current Special Issue will present an overview of major methods for producing haploid/doubled haploid embryos and plants, including androgenesis, gynogenesis, wide crossing, and in vitro cultures of male or female gametes. For plenty of species, somatic embryogenesis and doubled haploid techniques have been established, and detailed information regarding the commercial cultivars produced in that way is of great importance.





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Message from the Editor-in-Chief

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