
Preface

The extinction of plant species is progressively taking place due to their being trapped in the vicious circle of ever-increasing industrialization, deforestation, global warming, climate change, and also unscrupulous human activities. The situation warrants acceleration of efforts to develop methods for their germplasm preservation. In this context, the importance of *in vitro* morphogenesis cannot be overemphasized, as the interplay of morphogenic factors, which can precisely be managed *in vitro* – grown plant system cannot be done *ex vitro*. Furthermore, its application for germplasm preservation becomes imperative, particularly in case of hybrids which must be propagated vegetatively, where seeds are not produced, the plant is systemically infected, or the plant material is very limited. The application of micropropagation techniques has witnessed major advances and numerous benefits over the last few decades and is the only aspect of biotechnology that has been convincingly documented with regard to its feasibility for mass-scale propagation commercially.

Molecular biology and biotechnology have now become an integral part of tissue culture research. The tremendous impact generated by genetic engineering and consequently the generation of transgenics has helped in the manipulation of plant genomes at will. There is indeed rapid development in this area with commendable success in India. It has, therefore, become increasingly difficult to author a book on the subject. Hence, this edited volume would hopefully prove informative to readers. The book provides a source material to researchers intending to initiate work in these areas.

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