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Book Review

Applications of Plant Biotechnology: *In vitro* propagation, plant transformation and secondary metabolite production, edited by Ashwani Kumar and Sudhir Sopory, published by I K International Publishing House Pvt. Ltd, New Delhi, India, pp 607, 2010 [ISBN 978-93-80026-93-0]

This book deals with the classical and current topics in plant tissue culture, transformation and methods employed therein for utilization in agriculture. The book has been divided into three sections with a chapter on the historical perspectives and applications. This chapter is suitably subdivided into different units describing in detail series of events right from the introduction of this concept till recent development in the areas of plant transformation and organogenesis. The contents have been painstakingly collected and put together. The first section deals with *in vitro* plant regeneration and consists of 7 chapters. These chapters are exclusively devoted to rice, maize, eucalyptus, pepper and pine, thus covering a broad range of plants and hence quite useful to researchers working across diverse crop species. Each of the chapters is a success story and the text is quite expansive and in detail. The chapters also contain description of various protocols and data including pictures from the author's own work in that area. The last chapter in this section deals with the culture conditions induced morphological and physiological changes and the importance of such changes in understanding and creating robust transplantation protocols. The second section deals with transgenic plants and their application. It consists of 13 chapters and includes topics such as development of transgenic crops with and without selectable markers and their utility in agriculture, metabolic engineering and molecular farming. There is also a chapter each on bioinformatics and its role in crop improvement and intellectual property rights and related issues. There is an exclusive chapter for transgenics against abiotic stress and the contents are very impressively depicted in tabular format indicating the crops/ genes used for transformation or genome wide expression profiling at transcript and proteome level along with references. The third section is on secondary metabolites, which highlight the utility of exploiting medicinal plants using modern biology tools. The chapters are arranged and described in a manner so as to introduce students to this topic and also update researchers working in this area on developments so far along with the commercial aspects.

The layout of topics is designed well and carries the message of biotechnology across a wide section of readership. There is continuity in narration and figures are provided wherever needed. The book is a good collection of references and would provide a wealth of information. It makes for an easy reading and provides a multidisciplinary view of plant tissue culture and covers related topics. Overall, the book is intended to introduce an important area to the beginners and professionals alike. Even though it is highly priced, it is recommended for students, teachers and researchers working in agriculture, forestry, and biotechnology of medicinal plants.

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