

Book Review

Graft Compatibility and Plant Growth Through Electric Control by Prof. Ashok Kumar Mishra, Department of Physics, Amity University, Uttar Pradesh, Lucknow Campus, U.P., India and Prof. S.N. Tiwari, Department of Physics, DDU Gorakhpur University, Gorakhpur, U.P., India Published by LAP Lambert Academic Publishing GmbH & Co. KG, Heinrich Block, Saarbrucken, Germany. ISBN: 978-3-659-11107-5. Publication Year: 2012. Binding: Paper Back, Price Rs. 1270.00.



The researches and recent technological developments have been exposed by interdisciplinary research and has opened the area of many disciplines. The present book embodies the results of some of the interdisciplinary investigations jointly carried out by Dr. Ashok Kumar Mishra, Professor, Department of Physics, Amity University Uttar Pradesh, Lucknow Campus-India and Dr. Sugriva Nath Tiwari, Professor, Department of Physics, D.D.U. Gorakhpur University, Gorakhpur-India during the past ten years. This book elaborates on electric control of graft compatibility and its subsequent growth and presents the outcomes of experimental studies of the impact of weak electric currents on graft compatibility and morphological growth. The present book includes the conceptualization of a model of an electronic biosensor capable to detect the graft compatibility at early stage which would proved to be a novel and user friendly technique for enhancing the economical development in the area of horticulture and forestry production. The book has meticulously designed to cater the needs of the researchers engaged in the area of Biophysics, Bioelectronics and Bioelectromagnetism for developing a viable agro-technology.

The book contains six chapters. The first chapter deals with the discussions of the available methods used to detect the compatibility of the graft union and outline the steps for developing a biosensor which could detect the compatibility of the graft union at early stage. The second chapter focuses on the pattern of electrical resistance across the graft junction of Rose auto graft on different days after grafting. In the third chapter, mathematical model of pattern of the drop of the electrical resistance of the graft union has been developed using simulation with the help of MATLAB and associated software. The fourth chapter describes the augmentation of graft success rate due to the application of weak external electric current across graft union and the electric means for amplifying the compatibility of the graft union as well as for rectifying the incompatibility of the graft union. Therefore, this study will have the significant importance in the Horticulture where the commercialization of the grafting play important role. The fifth chapter discusses the effect of weak external electric current on the germination rate of seed and subsequent plant growth along with its analysis at molecular level by studying the protein and DNA profiling. The sixth chapter describes the model of the proposed biosensor to be used for compatibility detection. The block diagram of the model of the proposed biosensor has also been depicted in this chapter.

The quality of paper, printing and figures are excellent. In my opinion the book will be provide a platform to scholars and academicians to further and improve their academic and research activities.

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