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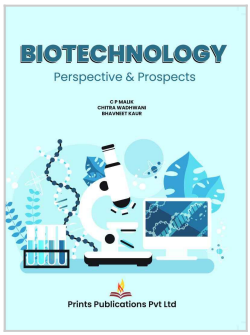

Biotechnology: Perspectives & Prospects

Author: C P Malik,Chitra Wadhwani,Bhavneet Kaur

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About the Author

C P Malik

CP Malik has 50 years of experience of Teaching and research in Genetics Molecular Biology, Molecular Plant Physiology and Plant Biotechnology in several Universities in India and abroad. He has published more then 400 research papers, several reviews and books in the above subject. Malik is receipient of several awards and is fellow of several Academic including Indian national Science Academy (FNA)

and Academy of Ag. Science (FNAAS). He is widely travelled and has visited several countries.

Chitra Wadhwani

Chitra Wadhwani is serving as lecturer in Biotechnology at SADTM, Jaipur. She has obtained advanced training in Plant Tissue Culture from CRAPTC, Hisar. She has published several papers and reviews articles in journals of repute.

Bhavneet Kaur

Bhavneet Kaur has 6 years experience of teaching and research in Biotechnology. She received her Ph.D. degree from GJ University, Hisar in Molecular Biology and is currently teaching at SADTM. She has published 20 research papers and several reviews articles on different aspects of Plant Biotechnology in national and international journal of repute.

Product Description

The present volume entitled "Biotechnology: Perspectives and Prospects" furnishes information on recent advances in Biotechnology. Written by leading international experts it offers the most comprehensive and up-to-date information on selected topics, most sought after by researchers and students at the graduate as well as postgraduate level. Each chapter discusses the current status. Jeff Schahczensiki and Katherine Adam (USA) give laudable description of transgenic crops in a new perspective. A substantial part of the chapter is devoted to statistical figures dealing with every aspect of transgenic crops. It also highlights the importance of transgenics and evaluates the risks and fears associated with their cultivation. The chapter concludes with a discussion on the regulatory aspects involved in commercializing their cultivation. Lining Tian (Canada) summarizes an overview of "Selectable Gene Excision from Transgenic Plants". An Indian-American Scientist, Keerti Rathore at the TAMU (USA) elucidates a significant breakthrough which has opened up the door for saving millions of lives by providing plentiful nutrition in the form of high protein in cotton seed. Rathore and co-workers have achieved the silencing of "gossypol" the toxic substance in cotton by employing RNA interference (RNAi) and a seed specific promoter. Resultantly, this toxic substance is expressed in the entire plant save the seed. The cotton seed with high protein content and devoid of gossypol is now fit for human consumption and may become an engineered savior of lives of millions of children who suffer from malnutrition. Chitra Wadhwani and CP Malik review basic information about the advancements achieved in "Gene Therapy". The applications of this technology in correcting dreadful diseases are indeed unbelievable. The chapter is student-savvy and clearly explains both basic and advanced concepts by diagrams suitably placed in the body of the text. "RNA interference: Small and silent biotechnological tool" is authored by Chitra Wadhwani, CP Malik and Bhavneet Kaur. RNAi has been aptly nicknamed and this chapter gives an extensive treatment pertinent to its varied aspects and applications. Martias Zurbriggen, Vanesa B.Tognetti, Estela M.Valle and Nestor Carrillo (Argentina) have presented protocol by employing Cyanobacterial flavodoxin in engineering Multiple Stress Tolerance. Bhavneet Kaur, CP Malik and Chitra Wadhwani have concisely expressed attainment of varied breakthroughts in different areas of biotechnology especially in the past one and a half year. The intent is to acquaint and enthuse young readers who will be future specialists of this subject as well as laymen, with the power of this amazing technology. William Laing and Sean Bulley (New Zealand) aim primarily at providing a comprehensible outline of specialized processes such as "Control of Vitamin C levels in Plants". Chitra Wadwani details description of every possible aspect of "Catharanthus roseus: Molecular Biology and Biotechnology." It is a beautiful connotation of the author's own research work as well as findings of contemporary workers on different realms pertaining to molecular biology studies in this plant. Chandan Agarwal summarizes pertinent information on "Mycobacterium", the causal agent of Tuberculosis and critically analyzes techniques available for sampling and screening of these clinical samples as well as the importance and implication of planning and surveillance to manage. The strength of this volume is lavishly used colored images, and extensive literature citation in each chapter. Certain to become the standard reference for biotechnologists, molecular biologists, breeders, applied biologists, the book is the definitive source for those who are keen to remain updated with the recent advances in biotechnology.