

CONTENTS

Preface	vii
Contributors	ix
PART 1: GENE TRANSFER TECHNIQUES	
1. <i>Agrobacterium</i> -mediated Plant Transformation: A Scientifically Intriguing Story with Significant Applications G. Gheysen, G. Angenon and M. Van Montagu	1
2. Direct Gene Transfer: Chemical, Electrical and Physical Methods P. Barcelo and P.A. Lazzeri	35
PART 2: TRANSGENIC APPROACHES TO GENE ISOLATION	
3. T-DNA Mediated Gene Tagging S. Choe and K.A. Feldmann	57
4. Identification of Plant Genes by Entrapment and Activation Tagging K. Lindsey, J.F. Topping and W. Wei	75
5. Heterologous Transposon Tagging A. Pereira	91
PART 3: MANIPULATION OF PLANT DEVELOPMENT, BIOCHEMISTRY AND PHYSIOLOGY	
6. Manipulation of Fruit Ripening by Genetic Modification D. Grierson	109
7. Manipulation of Nitrogen Metabolism C. Meyer and M. Caboche	125
8. Manipulation of Seed Storage Proteins P.R. Shewry	135
9. Manipulation of Seed Oil Production J. Ohlrogge and J. Browse	151
10. Impact of Forest Tree Biotechnology on the Pulp and Paper-making Processes in the 21st Century A. O'Connell, P. Bolwell and W. Schuch	175

11.	Transgenic Manipulation of Polyamine Metabolism <i>A. Kumar and S.C. Minocha</i>	187
12.	Transgenic Plants for the Production of Polyhydroxyalkanoates, a Family of Biodegradable Thermoplastics and Elastomers <i>Y. Poirier and C. Nawrath</i>	201
13.	Production of Recombinant Antibodies in Transgenic Plants <i>G.C. Whitelam and W. Cockburn</i>	219
14.	Manipulation of Temperature Stress Tolerance in Transgenic Plants <i>F. Schöffl, A. Hübel and J.H. Lee</i>	229
15.	Manipulation of Oxidative Stress Tolerance in Transgenic Plants <i>L. Slooten, M. Van Montagu and D. Inzé</i>	241
 PART 4: PREDICTABILITY OF TRANSGENE EXPRESSION		
16.	Stabilities and Instabilities in Transgene Expression <i>P. Meyer</i>	263
17.	Environmental Impact of Transgenic Plants <i>P.J. Dale and J.A. Irwin</i>	277
	Index	287