

CONTENTS

Foreword to the Series: Genomics-Assisted Crop Improvement	vii
Foreword	xi
Preface	xiii
Color Plates	xv
1. Microsatellite and SNP Markers in Wheat Breeding <i>Martin W. Ganal and Marion S. Röder</i>	1
2. Molecular Markers and QTL Analysis for Grain Quality Improvement in Wheat <i>Domenico Laftandra, Maria Corinna Sanguineti, Marco Maccaferri and Enzo DeAmbrogio</i>	25
3. Molecular Approaches and Breeding Strategies for Drought Tolerance in Barley <i>Michael Baum, Maria Von Korff, Peiguo Guo, Berhane Lakew, Sripada M. Udupa, Haitham Sayed, Wafa Choumane, Stefania Grando and Salvatore Ceccarelli</i>	51
4. Molecular Markers for Gene Pyramiding and Disease Resistance Breeding in Barley <i>Wolfgang Friedt and Frank Ordon</i>	81
5. Cloning Genes and QTLs for Disease Resistance in Cereals <i>Beat Keller, Stéphane Bieri, Eligio Bossolini and Nabila Yahiaoui</i>	103
6. Maize Breeding and Genomics: An Historical Overview and Perspectives <i>Michael Lee</i>	129
7. Molecular Markers and Marker-Assisted Selection in Rice <i>David J. Mackill</i>	147
8. Application of Genomics for Molecular Breeding in Rice <i>Nagendra K. Singh and Trilochan Mohapatra</i>	169

9.	Marker-Assisted Selection in Sorghum <i>Gebisa Ejeta and Joseph E. Knoll</i>	187
10.	Molecular Genetics and Breeding of Grain Legume Crops for the Semi-Arid Tropics <i>Rajeev K. Varshney, David A. Hoisington, Hari D. Upadhyaya, Pooran M. Gaur, Shyam N. Nigam, Kulbhushan Saxena, Vincent Vadez, Niroj K. Sethy, Sabhyata Bhatia, Rupakula Aruna, M. V. Channabyre Gowda and Nagendra K. Singh</i>	207
11.	Genomics Approaches to Soybean Improvement <i>Tri D. Vuong, Xiaolei Wu, MD S. Pathan, Babu Valliyodan and Henry T. Nguyen</i>	243
12.	Application of Genomics to Forage Crop Breeding for Quality Traits <i>Thomas Lübberstedt</i>	281
13.	Molecular Mapping, Marker-Assisted Selection and Map-Based Cloning in Tomato <i>Majid R. Foolad</i>	307
14.	Genomics for Improvement of Rosaceae Temperate Tree Fruit <i>Pere Arús and Susan Gardiner</i>	357
15.	DNA Markers: Development and Application for Genetic Improvement of Coffee <i>Prasad S. Hendre and Ramesh K. Aggarwal</i>	399
16.	Genomics of Root Nodulation in Soybean <i>Kyujung Van, Moon Young Kim and Suk-Ha Lee</i>	435
17.	Genomics of Wheat Domestication <i>Carlo Pozzi and Francesco Salamini</i>	453
18.	Transcriptome Analysis of The Sugarcane Genome for Crop Improvement <i>Paulo Arruda and Thaís Rezende Silva</i>	483
	Appendix I – List of Contributors	495
	Appendix II – List of Reviewers	503
	Index	505