
Preface

This volume is divided into chapters which consider the primary issues and methodologies surrounding plant genomics research. Plant genomics is largely concerned with associating functional genes or gene mutations with phenotype. Therefore, chapters are included that cover the areas of gene discovery and functional analysis of genes. Further chapters focus on the primary tools and sub-disciplines of genetic mapping, mRNA, protein and metabolite profiling. Methods are included that explore gene functional analysis via transformation, mutation, protein function and gene expression. The volume includes chapters on data management which consider the expansion of plant genomics databases and bioinformatics analysis tools. The volume is concluded with chapters aimed at discussing the application and deployment of molecular plant breeding technology from the use of markers in breeding, development of genetically modified plants/crop species, analysis of existing populations for novel alleles and gene/trait associations and genome sequencing.