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| Altri autori (Persone) | ChenZ. Jeffrey<br>BirchlerJames A <1950-> (James Arthur) |
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| Nota di contenuto | Cover; Title Page; Copyright; Contributors; Preface; Section I: Genomics of Hybrids; Chapter 1: Yeast Hybrids and Polyploids as Models in Evolutionary Studies; Introduction; Experimental Advantages of Budding Yeasts; Yeast Hybrids; Yeast Polyploids; Paleopolyploidy and Duplicated Genes Retention; Ploidy and Evolution-Theory and Experiments; Genomic Response to Polyploidy and Hybridity; Yeast Hybrids as a Tool for Studying Genomic Regulation; Conclusions; Acknowledgments; References<br>Chapter 2: Transcriptome Profiling of Drosophila Interspecific Hybrids: Insights into Mechanisms of Regulatory Divergence and Hybrid DysfunctionIntroduction; Gene Expression; Drosophila Hybrids as a Model to Study Transcriptome Divergence; Outlook; References;<br>Chapter 3: cis- and trans-Regulation in Drosophila Interspecific Hybrids; Introduction; Distinguishing between cis- and trans-Regulatory Changes Using eQTL, GWAS, and ASE; Methods Used to Quantify ASE; Studies of cis- and trans-Regulation in Interspecific Hybrids of Drosophila; Insights into Regulatory Evolution<br>cis- and trans-Regulatory Evolution in Drosophila: A Look |

AheadReferences; Chapter 4: Gene Expression and Heterosis in Maize Hybrids; Introduction; Gene Expression in Maize Hybrids-Transcript Abundance Relative to Inbred Parents; Allele-Specific Gene Regulation in the Maize Hybrid; Modes of Gene Regulation in the Hybrid; Genetic and Structural Diversities That Contribute to Regulatory Variation; Understanding Heterosis-Various Models; Perspectives; Acknowledgments; References; Chapter 5: Integrating "Omics" Data and Expression QTL to Understand Maize Heterosis; Introduction
Experimental Design and eQTL AnalysiseQTL and the Mechanisms Underlying Gene Regulation; Building Networks and Integrating "omics" to Understand How Variants, in Particular eQTL, Can Result in Phenotypic Variation; Conclusion and Future Prospects; Acknowledgments; References; Chapter 6: Genomics and Heterosis in Hexaploid Wheat; Introduction; Genetic Dissection of Wheat Heterosis; Transcriptome and Proteome Analysis between Wheat Hybrids and Parents; Some Differentially Expressed Patterns are Correlated with Wheat Heterosis
Function Analysis of Differentially Expressed Genes between Wheat Hybrids and Their Parental LinesPossible Regulatory Mechanism Contributing to Differential Gene Expression in Wheat; Physiological Basis of Heterosis for Grain Yield in Wheat; Concluding Remarks; Acknowledgments; References; Chapter 7: Progress of Genomics and Heterosis Studies in Hybrid Rice; Introduction; Progress in the Study of Rice Genomics; Heterosis and Transcriptomics in Hybrid Rice; Epigenetic Modification and Heterosis in Hybrid Rice; Molecular Mechanism behind Heterosis; Perspectives; Acknowledgments; References
Chapter 8: Heterosis: The Case for Single-Gene Overdominance

Sommario/riassunto

Polyploidy plays an important role in biological diversity, trait improvement, and plant species survival. Understanding the evolutionary phenomenon of polyploidy is a key challenge for plant and crop scientists. This book is made up of contributions from leading researchers in the field from around the world, providing a truly global review of the subject. Providing broad-ranging coverage, and up-to-date information from some of the world's leading researchers, this book is an invaluable resource for geneticists, plant and crop scientists, and evolutionary biologists.