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Nota di contenuto	Preface -- 1. Cereal Genomics: Excitements, Challenges and Opportunities: Pushpendra K. Gupta, and Rajeev K. Varshney -- 2. Array-Based High-Throughput Dna Markers And Genotyping Platforms For Cereal Genetics And Genomics: Pushpendra K. Gupta, Sachin Rustgi, Reyazul R. Mir -- 3. Sequence based DNA markers and genotyping for cereal genomics and breeding: David Edwards, Pushpendra K. Gupta -- 4. Application of next-generation sequencing technologies for genetic diversity analysis in cereals: Seifollah Kiani, Alina Akhunova, Eduard Akhunov -- 5. Genome sequencing and comparative genomics in cereals: Xi-Yin Wang, Andrew H. Paterson -- 6. Transposons in cereals: shaping genomes and driving their evolution: Jan P. Buchmann, Beat Keller, Thomas Wicker -- 7. Functional Annotation of Plant Genomes: Vindhya Amarasinghe et al -- 8. Different Omics Approaches In Cereals And Their Possible Implications For Developing A System Biology Approach To Study The Mechanism Of Abiotic Stress Tolerance: Palakolanu Sudhakar Reddy, Nese Sreenivasulu -- 9. Functional Genomics of Seed Development in Cereals: Ming Li et al -- 10. Genomics of cereal-based functional foods: Nidhi Rawat, Barbara Laddomada, Bikram S. Gill -- 11. QTL Mapping: Methodology and Applications in Cereal Breeding: Pushpendra K. Gupta, Pawan L. Kulwal, Reyazul R. Mir -- 12. Molecular Genetic Basis of THE Domestication Syndrome in Cereals: Tao Sang,

Jiayang Li -- 13. High-throughput and precision phenotyping for cereal breeding programs: Boddupalli M. Prasanna -- 14. Marker-Assisted Selection in Cereals: Platforms, Strategies and Examples: Yunbi Xu et al -- Index. .

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Sommario/riassunto

During the last decades, major advances have been made in the field of cereal genomics. For instance, high-density genetic maps, physical maps, QTL maps and even draft genome sequence have become available for several cereal species. This has been facilitated by the development of next generation sequencing (NGS) technologies, so that, it is now possible to sequence genomes of hundreds or thousands of accessions of an individual cereal crop. Significant amounts of data generated using these latest NGS technologies created a demand for computational tools to analyse this massive data. These developments related to technology and the tools, along with their applications not only to plant and genome biology but also to breeding have been documented in this volume. The volume, entitled "Cereal Genomics II", therefore supplements the earlier edited volume "Cereal Genomics" published in 2004. The new volume has updated chapters, from the leading authorities in their fields, on molecular markers, next generation sequencing platform and their use for QTL analysis, domestication studies, functional genomics and molecular breeding. In addition, there are also chapters on computational genomics, whole genome sequencing and comparative genomics of cereals. The book should prove useful to students, teachers and young research workers as a ready reference to the latest information on cereal genomics. .

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