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Nota di contenuto	Chapter 1_Introduction to concepts of Agri-informatics -- Chapter 2_Bioinformtics tools for genomics assisted breeding and population genetics -- Chapter 3_Role of computational biology in sustainable development of Agriculture -- Chapter 4_High Throughput Sequencing Technologies and Application In Crop Improvement -- Chapter 5_Systems biology approach for Simulation of omics data -- Chapter 6_Big data and its analyatics in Agriculture -- Chapter 7_Role of omics approaches in improving crop's nutritional value -- Chapter 8_Computational study of diseases and insect resistance to upgrade the production of plants.
Sommario/riassunto	This book illustrates the importance and significance of bioinformatics in the field of agriculture. It first introduces the basic concepts of bioinformatics, such as homologous sequence and gene function analyses, determination of protein structures, and discusses machine learning applications for an in-depth understanding of the desired genes and proteins based on commonly used bioinformatics software and tools, e.g. BLAST, molecular modelling, molecular-docking and simulations, protein-protein and domain-domain interactions. The

book also describes recent advances in the high-throughput analysis of whole genome and transcriptome using next-generation sequencing platforms, and functional proteome studies. It also examines the role of computational biology in understanding and improving the nutrient quality and yield of crops. Lastly, the book explores a comprehensive list of applications of bioinformatics to improve plant yield, biomass, and health, and the challenges involved.