Record Nr. UNINA9910298417003321 Rice Genomics, Genetics and Breeding / / edited by Takuji Sasaki, **Titolo** Motovuki Ashikari Pubbl/distr/stampa Singapore:,: Springer Singapore:,: Imprint: Springer,, 2018 **ISBN** 981-10-7461-5 Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (558 pages): illustrations, tables Disciplina 633.18233 Soggetti Plant genetics Plant biochemistry Plant breeding Agriculture Plant Genetics and Genomics Plant Biochemistry Plant Breeding/Biotechnology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references at the end of each chapters and Nota di bibliografia index. Nota di contenuto 1Genome sequence of Oryza -- 2 Small RNAs in rice -molecular species and their functions -- 3 Composition and Structure of Centromere and Telomere -- 4 Rice Organelle Genomics, Approaches to Genetic Engineering and Breeding -- 5 Molecular regulation of meiotic fate decision and gametophyte specification in rice -- 6 Rice transcriptome dynamics under the natural field conditions -- 7 Contribution of rice mutants to plant hormone science: past to future -- 8 Rice plant architecture: molecular basis and application in breeding -- 9 Dwarfism for Molecular Biology and Breeding -- 10 Genetic control pathways of flowering in rice -- 11 Gene network of grain size and number in rice -- 12 Gene network of seed shattering and panicle structure -- 13 Molecular transport system of mineral

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Sommario/riassunto

This book presents the latest advances in rice genomics, genetics and breeding, with a special focus on their importance for rice biology and how they are breathing new life into traditional genetics. Rice is the main staple food for more than half of the world's population. Accordingly, sustainable rice production is a crucial issue, particularly in Asia and Africa, where the population continues to grow at an alarming rate. The book's respective chapters offer new and timely perspectives on the synergistic effects of genomics and genetics in novel rice breeding approaches, which can help address the urgent issue of providing enough food for a global population that is expected to reach 9 billion by 2050.