1. Record Nr.   UNINA9910595056503321

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   Titolo   Next-Generation Plant Breeding Approaches for Stress Resilience in Cereal Crops / / edited by Mallana Gowdra Mallikarjuna, S. Chandra Nayaka, Tanushri Kaul

   Pubbl/distr/stampa   Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2022

   ISBN   981-19-1445-1

   Edizione   [1st ed. 2022.]

   Descrizione fisica   1 online resource (507 pages)

   Collana   Biomedical and Life Sciences Series

   Disciplina   633.1043

   Soggetti   Agriculture
                        Stress (Physiology)
                        Plants
                        Plant biotechnology
                        Botany
                        Plant Stress Responses
                        Plant Biotechnology
                        Plant Science

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di contenuto   Chapter 1. Next Generation Breeding Approaches for Stress Resilience in Cereals: Current Status and Future Prospects -- Chapter 2. Genome Wide Association Mapping and Genomic Selection Approaches for Stress Resilience in Rice -- Chapter 3. Genome-wide association studies and genomic predictions for climate-change resilience in wheat -- Chapter 4. Genomic Selection for Enhanced Stress Tolerance in Maize -- Chapter 5. Genome-Wide Association Studies and Genomic Selection for Nutrient Use Efficiency in Cereals -- Chapter 6. Doubled Haploidy: An Accelerated Breeding Tool for Stress Resilience Breeding in Cereals -- Chapter 7. Rapid Generation Advancement and Fast-Track Breeding Approaches in Wheat Improvement -- Chapter 8. Integrating Advanced Molecular, Genomic and Speed Breeding Methods for Genetic Improvement of Stress Tolerance in Rice -- Chapter 9. CRISPR Genome Editing Brings Global Food Security into the First Lane: Enhancing Nutrition and Stress Resilience in Crops -- Chapter 10. Genome Editing

for Stress Tolerance in Cereals: Methods, Opportunities and Applications -- Chapter 11. Editing Plant Genome with CRISPR/Cas: A Sustainable Strategy for Disease Management -- Chapter 12. CRISPR/Cas for Improved Stress Tolerance in Rice -- Chapter 13. Harnessing CRISPR/Cas tools for installing virus resistance in cereals: An overview -- Chapter 14. Genomic and bioinformatic resources for next generation breeding approaches towards enhanced stress tolerance in cereals.

Sommario/riassunto	This edited book highlights the gravity and efficacy of next-generation breeding tools for the enhancement of stress-resilience in cereals, especially in the context of climate change, pests, diseases, and abiotic stresses. The content of the book helps in understanding the application of emerging genetic concepts and neoteric genomic approaches in cereal breeding. It collates all the latest information about enhancing the stress resilience in cereal crops for overcoming food security issues. Cereals have predominantly been used as a staple food since time immemorial and contribute more than 50% of the caloric requirement of the global population. However, in cereals, the yield losses due to various stresses are very high, considering the crop growth stage and stress sensitivity. Therefore, to feed and nourish the generations in the era of climate change, it is imperative to develop stress-resilient cereal cultivars. This book explores newly developed next-generation breeding tools, viz., genome-wide association studies, genomic prediction, genome editing, and accelerated generation advancement methodologies, which revealed promising outcomes by enhancing the stress resilience in cereals with yield potential. This book is useful for postgraduate students specializing in plant breeding, plant stress physiology, plant genomics, agriculture, and agronomy. It is of immense value to scientific community involved in teaching, research, and extension activities related to cereal cultivation.