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Nota di contenuto	Chapter 1. Introduction: Breeding Climate Resilient and Future Ready Oilseed Crops -- Chapter 2. Genomics, Pan-Genomics and Super Pan-Genomics of Major Oilseed Crops -- Chapter 3. Genetic Enhancement of Abiotic Stress Tolerance in Oilseeds through Contemporary Breeding Approaches -- Chapter 4. Breeding for Insect Pests Resistance in Oilseed Crops through Genomics Assisted Breeding -- Chapter 5. Breeding oil seed crops for resistance to fungal pathogens through genomics-assisted breeding -- Chapter 6. Genomic Approaches for Achieving Higher Nutrient Use Efficiency in Oilseeds -- Chapter 7. Application of Novel Breeding Methods to Achieve Rapid Genetic Gain in Oilseed Crops -- Chapter 8. Advances in Plant Phenotyping for Climate Resilient Oilseeds Breeding -- Chapter 9. Genome Editing: A Novel

Breeding Strategy for Enhanced Stress Tolerance and Quality in Oil Seed Crops -- Chapter 10. Breeding Climate-Resilient Groundnut in the Climate Change Era: Current Breeding Strategies and Prospects -- Chapter 11. Breeding climate resilient Rapeseed-Mustard in climate change era: Current breeding strategies and prospects -- Chapter 12. Breeding Climate Resilient Soybean in Climate Change Era: Current Breeding Strategies and Prospects -- Chapter 13. Breeding climate-resilient sunflowers in the climate change era: Current breeding strategies and prospects -- Chapter 14. Adaption of next-generation breeding tools in the improvement of minor oilseed crops: Status and prospects -- Chapter 15. Breeding for high oleate oilseed crops: Opportunities, constraints, and prospects -- Chapter 16. Global Status of Genetic, Genomic and Bioinformatics Resources for Genetic Enhancement of Oilseed Crops.

Sommario/riassunto

This edited book covers the application of modern genomics tools for developing climate-smart oilseed cultivars. The book's prime focus is on utilizing available oilseed genomic resources and application of next-generation genetics and breeding tools, viz. genome-wise association mapping, genomic selection, genome editing and accelerated breeding pipelines and their efficacy for rapid development and delivery of stress-resilient oilseeds cultivars. Oilseeds are crucial for human and animal nutrition and cater to diverse industrial applications. Besides oil content, the oilseed meal possesses proteins and a higher proportion of essential amino acids, which benefit human well-being. Additionally, the contribution of oilseeds towards renewable energy mitigates the risk of climate change by reducing carbon footprint. Hence, it is imperative to enhance oilseeds production from the current 178 to 282 million tons by 2050 to meet the demands of both the population and the environment. The current genomics era delivered various genomic resources in oilseed crops, which resulted in the discovery of genes for several agronomic and stress-resilience traits and resistance to pests and diseases. Further, the availability of next-generation plant breeding tools, such as genomic selection, genome editing, and speed breeding, are being implemented along with traditional and marked assisted selection. Thus, the book is framed to compile the importance and utility of next-generation breeding tools for enhancing stress resilience in oilseed crops in the climate change era. The book is exciting and valuable to national and international agricultural scientists, scholars and graduate students associated with oilseed crops improvement in specific and field crops in generic. The book also serves as reference in formulating various oilseed improvement programs for policymakers and research grant managers.