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Nota di contenuto	Chapter 1. Novel Approaches and Practices for Sustainable Agriculture -- Chapter 2. Biofortification of crops and vegetables to achieve food nutritional security -- Chapter 3. Carbon Sequestration and sustainable soil Management -- Chapter 4. Cultivation of New Crops Under Changing Climate -- Chapter 5. Role of Neglected Crops under Multi-Stress Conditions -- Chapter 6. Crop modelling under climate change -- Chapter 7. Climate Change and Crops: Adaptation and Strategies to Tackle Its Outcome -- Chapter 8. The Potential Effect of Climate Change in Agricultural Insect and Pests -- Chapter 9. Legumes Production under Changing Climate -- Chapter 10. Promoting the Adaptation of Climate-Smart Agriculture Practices among Farming Communities -- Chapter 11. Plant growth promoting rhizobacteria for mitigation of environmental stresses -- Chapter 12. Slow Release Nitrogen Fertilizer for Better Crop Yield: A tool of Food Security -- Chapter 13. Genome editing of biotic and abiotic stress resistant crops -- Chapter 14. Biotechnology and Digital Revolution for Climate Smart Crops -- Chapter 15. Climate Change and Changing Pests Scenario -- Chapter 16. Role of Nanoparticles in Improving Biofortification: An

Overview -- Chapter 17. Nanomaterials as nanofertilizers for climate-smart agriculture -- Chapter 18. Application of OMICs knowledge for developing climate resilient crops -- Chapter 19. Water Management Strategies for Climate-Smart Crop Production -- Chapter 20. Forward genetic approaches for gene identification controlling nutrition in staple crops -- Chapter 21. Genetically modified crops combating climate change and environmental protection -- Chapter 22. Rural Development and Role of Extension Workers for Climate Smart Agriculture -- Chapter 23. Climate Change and Technological Innovations: Regulatory Concerns -- Chapter 24. Legume production under the changing climate -- Chapter 25. Application of nanoparticles for sustainable crop production.

Sommario/riassunto

This contributed volume covers recent advancements in the development of climate-resilient agriculturally important crops by focusing on climate change, crop cultivation, crop breeding, and the application of novel biotechnological approaches in line with attaining second Sustainable Development Goal of zero hunger. Climate-smart agriculture is a concept aimed at transforming and reorienting agricultural production systems to ensure food security in the ever-evolving situation of climate change. Widespread alterations in rainfall and temperature patterns have threatened agricultural production and elevated the vulnerability of human dependency on agriculture for food, feed, and fiber. Additionally, global food demand is estimated to increase to feed the estimated global population of 9.7 billion by the year 2050. Climate change, food, and nutritional insecurity pose the greatest challenges for the farming community, researchers, the private sector, civil society, and policymakers to develop more sustainable solutions ensuring food security, plant adaptability, and the mitigation of adverse effects on sustainable food production systems. This book will cover three pillars defined by the Food and Agriculture Organization of the United Nations for climate-smart agriculture: sustainable increase in agricultural production, adaptation, and plant resilience under climate change, and mitigation of environmental degradation through intensive agricultural practices. Furthermore, the book also highlights technological innovations taking place across different disciplines of agriculture to cater to both biotic and abiotic factors in agronomically important crops. This book serves as a useful resource documenting all recent developments made to achieve sustainable crop production. It is an interesting read for master’s and doctoral-level students, academics, scientists, and researchers in the field of agronomy and agricultural biotechnology.