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Nota di contenuto	Chapter 1. Understanding the mechanism of host-pathogen interaction in rice through genomics approaches -- Chapter 2. Genetic engineering and Genome editing strategies to enhance resistance of rice plants to diseases: a review of progress and future prospects -- Chapter 3: Transgenic rice live against bacterial blight -- Chapter 4. Genetic Engineering of Cultivated Rice for Viral Resistance -- Chapter 5. Genomics and genetic engineering for polyamine-mediated tolerance of rice against pathogen infection -- Chapter 6. Genomics and genetic engineering of rice for resistance to different insect pests -- Chapter 7.

Genetic engineering of rice for resistance to insect pests -- Chapter 8. Increasing rice grain yield under biotic stresses: mutagenesis -- Chapter 9. Temporal and spatial dynamics of microbial communities in a genetically modified rice ecosystem -- Chapter 10. Genetic Engineering for Developing Herbicide Resistance in Rice Crops -- Chapter 11. An insight into the factors regulating flowering in rice: From genetics to epigenetics -- Chapter 12. Breeding and Bioengineering of male sterility in rice -- Chapter 13. Male sterility system for hybrid rice breeding and seed production -- Chapter 14. Advancement in tracking down nitrogen use efficiency in rice: Molecular breeding and genomics insight -- Chapter 15. Improving Water use Efficiency and Nitrogen use Efficiency in Rice through Breeding and Genomics Approaches -- Chapter 16. Rice breeding and genomics approaches for improving water and nitrogen use efficiency -- Chapter 17. Aromatic rice: biochemical and molecular basis of aroma production and stress response -- Chapter 18. Genomics and genetic engineering of rice elucidating cross-talk between stress signaling and nutrition enhancement via regulation of antioxidant, osmolyte and metabolite levels -- Chapter 19. Genetically modified rice stacked with antioxidants for nutrient enhancement and stress tolerance -- Chapter 20. Breeding and QTL mapping for -oryzanol and nutrition content in rice -- Chapter 21. Genetic Enhancement of Nutritional Traits in Rice Grains through Marker Assisted Selection and Quantitative Trait Loci -- Chapter 22. Breeding approaches to generate biofortified rice for nutritional enhancement.-Chapter 23. Ameliorating nutritional, protein and vitamin content on rice seed through classic mating and advanced genetic technology -- Chapter 24: Genetic engineering of rice to fortify micronutrients -- Chapter 25. Golden Rice: genetic engineering, promises, present status and future prospects -- Chapter 26. Biofortification of rice with iron and zinc: progress and prospects -- Chapter 27. Biofortification of iron, zinc and selenium in rice for better quality -- Chapter 28. Micronutrient biofortification in rice for better quality -- Chapter 29. Rice Genetic Engineering for Increased Amino Acid and Vitamin Contents -- Chapter 30. Biofortification of iron, selenium and zinc in rice for quality improvement -- Chapter 31. Quantitative trait loci for rice grain quality improvement -- Chapter 32. Improvement of rice quality via biofortification of selenium, iron and zinc and its starring role in human health -- Chapter 33. Improvement of rice quality via biofortification of micronutrients -- Chapter 34. Involvement of policy makers, public acceptance and commercialization of nutritionally enhanced and genetically modified rice.-.

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### Sommario/riassunto

This book focuses on the conventional breeding approach, and on the latest high-throughput genomics tools and genetic engineering / biotechnological interventions used to improve rice quality. It is the first book to exclusively focus on rice as a major food crop and the application of genomics and genetic engineering approaches to achieve enhanced rice quality in terms of tolerance to various abiotic stresses, resistance to biotic stresses, herbicide resistance, nutritional value, photosynthetic performance, nitrogen use efficiency, and grain yield. The range of topics is quite broad and exhaustive, making the book an essential reference guide for researchers and scientists around the globe who are working in the field of rice genomics and biotechnology. In addition, it provides a road map for rice quality improvement that plant breeders and agriculturists can actively consult to achieve better crop production.

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