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Nota di contenuto	Part I. General Topics -- 1. Introduction -- 2. Objectives, Activities and Centres of Origin -- 3. Plant Introduction -- Part II. Developmental Aspects -- 4. Mode of Reproduction and Breeding Systems in Plants -- 5. Incompatibility -- 6. Sterility -- 7. Biometrics and Informatics -- Part III. Breeding Methods -- 8. Selection -- 9. Backcross Method of Selection -- 10. Hybridization -- 11. Breeding Self-pollinated Crops -- 12. Breeding Cross-Pollinated Crops -- 13. Inbred Line Development -- 14. Population Improvement -- Part IV. Specialized Breeding -- 15. Heterosis -- 16. Hybrids and Synthetic Cultivars -- 17. Induced Mutations and Polyploidy Breeding -- 18. Distant Hybridization -- 19. Quality Breeding -- 20. Ideotype Breeding and Multi-trait Selection -- 21. Host Plant Resistance Breeding -- 22. Breeding for Stress Adaptation -- 23. Genotype-By-Environment Interactions -- Part V. Plant Biotechnology -- 24. Tissue Culture -- 25. Genetic Engineering

-- 26. Molecular Breeding -- 27. Genomics in Plant Breeding -- Part VI Intellectual Property Management -- 28. Intellectual Property Management.

Sommario/riassunto

This book offers a detailed overview of both conventional and modern approaches to plant breeding. In 25 chapters, it explores various aspects of conventional and modern means of plant breeding, including: history, objective, activities, centres of origin, plant introduction, reproduction, incompatibility, sterility, biometrics, selection, hybridization, methods of breeding both self- and cross-pollinated crops, heterosis, synthetic varieties, induced mutations and polyploidy, distant hybridization, quality breeding, ideotype breeding, resistance breeding, breeding for stress resistance, G x E interactions, tissue culture, genetic engineering, molecular breeding, genomics, gene action and varietal release. The book’s content addresses the needs of students worldwide. Modern methods like molecular breeding and genomics are dealt with extensively so as to provide a firm foundation and equip readers to read further advanced books. Each chapter discusses the respective subject as comprehensively as possible, and includes a section on further reading at the end. Info-boxes highlight the latest advances, and care has been taken to include nearly all topics required under the curricula of MS programs. As such, the book provides a much-needed reference guide for MS students around the globe.