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Nota di contenuto	1. Alien Gene Transfer in Crop Plants: An Introduction -- 2. Distant Hybridization: A Tool for Interspecific Manipulation of Chromosomes -- 3. Tissue culture and regeneration: a prerequisite for alien gene transfer -- 4. Methods and Role of Embryo Rescue Technique in Alien Gene Transfer -- 5. Horizontal Gene Transfer through Genetic Transformation -- 6. Distant Hybridization and Doubled Haploidy Breeding -- 7. Role of Molecular Markers -- 8. Molecular Cytogenetics for Identification of Alien Chromosomes and Chromosome Segments -- 9. Agronomically relevant traits transferred to major crop plants by alien introgressions -- 10. Gene flow and risk assessment in genetically modified crops -- 11. Bioinformatics approaches to deciphering alien gene transfer: a comprehensive analysis -- 12. Alien gene transfer: Challenges and Opportunities.
Sommario/riassunto	Transfer of alien genes into crop plants from wild and distant plant genetic resources has invoked tremendous interest of crop scientists globally and several traits including resistance to diseases and insect-pests, tolerance to drought, salinity, temperature extremities and other abiotic stresses as well as genes for several quality traits have been transferred through vertical and horizontal gene transfer. Alien gene transfer, lately aided by molecular markers, molecular cytogenetics,

genetic transformation and improved in vitro techniques has led to introgression of hundreds of genes of interest in crop species, thereby widening their genetic base and improving their genetic potential. While the gains through alien transfer are tremendous, these have also raised some doubts about the long-term economic and ecological impacts of such transfers in cultivated background. This book addresses all these issues and provides an insight into the methods, newer innovations, detection and achievements of alien gene transfer in crop plants. At the same time it also focuses on the issues of possible human and ecological impacts of alien gene transfers and describes the challenges and risks involved.
