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Assisted Breeding for Fusarium Head Blight Resistance in Wheat; Introduction
Genomics-Assisted Breeding for FHB ResistanceMAS for the Major FHB Resistance Gene Fhb1; MAS for QTL Other than Fhb1 and MAS for Multiple QTL; MAS for FHB Resistance QTL Available in European Winter Wheat; MAS for Improving FHB Resistance in Tetraploid Wheat; Conclusions and Summary; References; Chapter 5 Virus Resistance in Barley; Introduction; Important Viral Pathogens of Barley; Barley Yellow Mosaic Virus/ Barley Mild Mosaic Virus; Barley Yellow Dwarf Virus / Cereal Yellow Dwarf Virus; Breeding for Virus Resistance -Some Case History; Sources and Genetics of Resistance
Molecular Markers for Virus ResistanceIsolation of Virus Resistance Genesin Barley; Genomics-Based Breeding for Virus Resistance in Barley; Genomic Tools; Use of Genomic Resources in Marker Saturation; Allele Mining and Future Prospects; References; Chapter 6 Molecular Breeding for Striga Resistance in Sorghum; Introduction; Development of Bioassays and Dissecting Striga Resistance Mechanisms; Understanding Host-Parasite Biology: Exploring Pathway Stages as Entry Points for Breeding Resistance to Striga
Striga Diversity, Racial Differentiation, and its Implications on Striga Resistance BreedingQTL Analysis and Marker-Assisted Selection for Improving Striga Resistance; Recent Development in Marker-Assisted Backcrossing for Development of Striga Resistance Products; Advances in Genomics and Applications for Striga Resistance Research; Managing Striga in Sorghum: Current Technologies and Strategies; Conclusion; Acknowledgment; References; Chapter 7 Nematode Resistance in Soybean; Introduction; Overview of Nematode Problemsin Soybean Production; Soybean Cyst Nematode; Root-Knot Nematode Reniform Nematode

Sommario/riassunto

Genomic Applications for Crop Breeding: Biotic Stress is the first of two volumes looking at the latest advances in genomic applications to crop breeding. This volume focuses on genomic-assisted advances for improving economically important crops against biotic stressors, such as viruses, fungi, nematodes, and bacteria. Looking at key advances in crops such as rice, barley, wheat, and potato amongst others, Genomic Applications for Crop Breeding: Biotic Stress will be an essential reference for crop scientists, geneticists, breeders, in