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and Races; 7.1.4.2 Male-Sterility Systems for Hybrid Sorghum Breeding; 7.1.5 General Rabi Breeding Concepts; 7.1.5.1 Parental Line Criteria; 7.1.5.2 Germplasm Base and Selection for Hybrid Parents; 7.1.5.3 Relationship of Mean Performance and Combining Ability and Heterosis; 7.1.5.4 Parental Diversity and Heterosis; 7.1.5.5 Breeding Hybrid Parents for Yield and Defensive Traits 7.1.6 Exploitation of Heterosis in Sorghum 7.1.6.1 Heterosis in Postrainy Season Grain Sorghum; 7.1.6.2 Extent of Heterosis for Agronomic, Physiological, and Biochemical Traits; 7.1.6.3 Combining Ability in Relation to Heterosis in Sorghum; 7.2 Breeding for Resistance to Abiotic Stresses; 7.2.1 Drought Resistance; 7.2.1.1 Drought-Tolerance Mechanisms; 7.2.1.2 Integrated Traits Assisting Crop Performance; 7.2.1.3 Agronomic Factors Influencing Plant Responses to Drought; 7.2.1.4 Biochemicals Contributing to Drought Tolerance; 7.2.1.5 Genetic Improvement Strategies; 7.2.1.5.1 Indirect Selection 7.2.1.5.2 Direct Selection 7.2.1.6 Trait Associations; 7.2.1.7 Genetics of Drought Tolerance; 7.2.1.8 Breeding Approaches for Drought Tolerance; 7.2.1.8.1 Leaf Senescence; 7.2.1.8.2 Stay-Green; 7.2.1.8.3 Sorghum Stay-Green; 7.2.1.8.4 Chlorophyll Content; 7.2.1.9 Difficulties Associated with Yield-Based Selection; 7.2.1.10 Conceptual Framework for a Physiological Genetic Approach; 7.2.1.11 Molecular Basis for Stay-Green; 7.2.2 Cold Tolerance; 7.2.2.1 Early-Season Cold Tolerance; 7.2.2.2 Midseason Cold Tolerance (Cold Tolerance at Anthesis) 7.2.2.3 Effect of Midseason Cold Stress on Pollen Production and Viability

Sommario/riassunto

Genetic Enhancement of Rabi Sorghum - Adapting the Indian Durras presents both the historical background and the recent research done in breeding this important world crop for more global production. Its chapters cover topics in origin and taxonomy, morphology and breeding behavior, genetics, and cytogenetics, also looking at production, nutrition, and alternate uses. The durra race is Ethiopian in origin and its introgression with wild forms permitted adaptation to drier conditions. These have migrated and adapted to the currently known crop that is cultivated in the winter season and com
