

1. Record Nr.	UNINA9910810787603321
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Titolo	Genetic enhancement of rabi sorghum : adapting the Indian Durras // P. Sanjana Reddy, J. V. Patil
Pubbl/distr/stampa	Amsterdam, [Netherlands] : , : Academic Press, , 2015 ©2015
Descrizione fisica	1 online resource (249 p.)
Disciplina	633.174233
Soggetti	Sorghum - Genetic engineering Sorghum products - India
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Front Cover; Genetic Enhancement of Rabi Sorghum - Adapting the Indian Durras; Copyright Page; Contents; Preface; 1 Introduction; 1.1 Production Statistics; 1.2 Environmental Factors Limiting Rabi Sorghum Productivity; 1.2.1 Climatic Factors; 1.2.2 Edaphic Factors; 1.3 Uses; 1.4 Nutritional Status; 1.5 Challenges for Genetic Enhancement; 1.6 Characteristics and Cultivars; References; 2 Taxonomy and Origin; 2.1 Taxonomy; 2.2 Origin; References; 3 Morphology and Breeding Behavior; 3.1 Morphology; 3.1.1 Root; 3.1.2 Leaf; 3.1.3 Stem; 3.1.4 Inflorescence; 3.1.5 Flowering 3.1.6 Pollination and Fertilization 3.1.7 Seed and Seed Development; 3.1.8 Growth Stages; 3.2 Breeding Behavior and Pollination Control; 3.2.1 Selfing; 3.2.2 Crossing; References; 4 Genetic Variability for Qualitative and Quantitative Traits; 4.1 Morphological/Phenotypic Level; 4.2 Biochemical Level; 4.3 DNA Level; References; 5 Genetics and Cytogenetics; 5.1 Genetics; 5.2 Cytogenetics; References; 6 History of Winter Sorghum Improvement in India; 6.1 The Origin of M 35-1; 6.1.1 Grain Quality; 6.1.2 Hybrids; 6.1.3 Hybrid Parents; References; 7 Breeding Methods for Winter Sorghum Improvement 7.1 Yield and Adaptation Breeding for Grain and Fodder Yield 7.1.1 Trait-Based Breeding Approaches; 7.1.2 Grain Quality Characteristics; 7.1.3 Physiological Traits; 7.1.4 Hybrids; 7.1.4.1 Alternate CMS Systems

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
