

1. Record Nr.	UNINA9910298312003321
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Titolo	Breeding and Biotechnology of Tea and its Wild Species [[electronic resource] /] / by Tapan Kumar Mondal
Pubbl/distr/stampa	New Delhi : , : Springer India : , : Imprint : Springer, , 2014
ISBN	81-322-1704-7
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (179 p.)
Disciplina	572.62
Soggetti	Botany Biotechnology Proteomics Plant genetics Plant Sciences Plant Genetics and Genomics
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.
Nota di contenuto	1. Introduction -- 2. Genetics and Breeding -- 3. Micropropagation -- 4. Somatic Embryogenesis and Alternative in vitro Techniques -- 5. Genetic Transformation -- 6. Molecular Marker -- 7. Stress Physiology -- 8. Functional Genomics. .
Sommario/riassunto	Tea is an important non-alcoholic beverage plant of the world. Cultivation of tea is very important as it earns revenue for the tea growing nations especially the developing countries such as India. Although conventional breeding is well-established and has contributed significantly for varietal improvement of this plant and other Camellia species with ornamental value, yet applications of biotechnology are required to intervene some of the issues where conventional breeding is restricted particularly for woody plants such as tea. It is note-worthy to mention that some amounts of biotechnology works in several facets of tea and its wild species have also been done. In the present book, a state-of-the-art on various aspects of breeding and biotechnology has been compiled in eight chapters. These are: (i) Origin and description of health benefits as well as morphological classification as first chapter, (ii) Breeding and

cytogenetics that comprise with various conventional approaches of varietal improvement of tea along with their genetic resources, (iii) Micropropagation which deals with in-depth study of clonal propagation, (iv) Somatic embryogenesis along with alternative techniques such as suspension culture, cry-preservation etc., (v) Molecular breeding that deals with application of various DNA-based markers, linkage map etc., (vi) Genetic transformation and associated factors, (vii) Stress physiology compiled with various works done in tea along with its wild relatives on abiotic as well as biotic stress, and (viii) Functional genomics that describe various works of molecular cloning and characterizations, differential gene expression, high-throughput sequencing, bioinformatics, etc. Importantly, the author has made exclusive tables in most of the chapters that include the summary of the works in particular topic. In a nutshell, the book compiles the work already been done, identifies the problems, analyzes the gaps on breeding and biotechnological works of tea as well as its wild species and discusses the future scope as conclusion. Every effort has been made to include all the published works till June 2013. The book will be a useful resource for post-graduate, doctoral as well post-doctoral students working on tea as well as other woody plants. This will also be useful for the scientists working in the areas of life sciences, genomics, biotechnology and molecular biology.
