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Titolo	In vitro Plant Breeding towards Novel Agronomic Traits : Biotic and Abiotic Stress Tolerance / / edited by Manoj Kumar, Annamalai Muthusamy, Vivek Kumar, Neera Bhalla-Sarin
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ISBN	981-329-824-3
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (280 pages)
Disciplina	631.52
Soggetti	Plant breeding Plant genetics Plant ecology Plant anatomy Plant development Plant physiology Plant Breeding/Biotechnology Plant Genetics and Genomics Plant Ecology Plant Anatomy/Development Plant Physiology Millorament selectiu de plantes Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Withania somnifera (L.) Dunal – An Overview of Bioactive Molecules, Medicinal Properties and Enhancement of Bioactive Molecules Through Breeding Strategies -- Somatic Embryogenesis and Plant Regeneration in Gloriosa superba L: An Endangered Medicinal Plant -- Micropropagation of Enicostemma littorale Blume -- Role of Silver Nitrate and Silver Nanoparticles on Tissue Culture Medium and Enhanced the Plant Growth and Development -- Exploring the Phytoremediation Potential of Calotropis gigantea l. using a Combined FTIR and Principal Component Analysis -- Role of Plant-Microbe

interaction in Phytoremediation -- Microbiome: Effect on Plant System, Current Application and Future Aspect -- Health Implications of a Plant Beneficial and Probiotic Lactobacillus casei in Foods Containing the Isoflavone, Daidzein -- Microbial Diversity and their Role in Plant and Soil Health under Stress Conditions -- Role of miRNAs in Plant-microbe Interaction -- An Update on Metabolic Engineering of Secondary Metabolic Pathwaysto Confer Abiotic Stress Tolerance in Plants -- VAM Assisted Adaptive Response And Tolerance Mechanism of Plants Under Heavy Metal Stress – Prospects For Bioremediation -- Environmental and Human Exposure to Antimicrobial Agent Triclosan: A Review -- A Simple Procedure for Isolation, Culture of Protoplast and Plant Regeneration.

Sommario/riassunto

This book presents a comprehensive overview of plant stresses caused by salt, drought, extreme temperatures, oxygen and toxic compounds, which are responsible for huge losses in crop yields. It discusses the latest research on the impact of salinity and global environment changes, and examines the advances in the identification and characterization of the mechanisms that allow plants to tolerate biotic and abiotic stresses. Further it presents our current understanding of metabolic fluxes and the various transporters that collectively open the possibility of applying in vitro technology and genetic engineering to improve stress tolerance. Exploring advanced methods that augment traditional plant tissue culture and breeding techniques toward the development of new crop varieties that can tolerate biotic and abiotic stresses to achieve sustainable food production, this book is a valuable resource for plant scientists and researchers.