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Titolo	Plant Tissue Culture: Propagation, Conservation and Crop Improvement // edited by Mohammad Anis, Naseem Ahmad
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Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XVII, 621 p. 79 illus., 66 illus. in color.)
Disciplina	631.52 660.6
Soggetti	Plant breeding Cell culture Biology—Technique Plant Breeding/Biotechnology Cell Culture Biological Techniques
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Section A: In vitro regeneration -- Plant Tissue Culture: A journey from Research to Commercialization -- Propagation strategies and clonal fidelity of small fruit crop germplasm -- Selection of Elites and in vitro Propagation of Selected High Value Himalayan Medicinal Herbs for Sustainable Utilization and Conservation -- In Vitro Approaches for Conservation and Sustainable Utilization of Podophyllum hexandrum and Picrorhiza kurroa- An overview on these Endangered Medicinal herbs of Western Himalaya -- Effect of plant growth regulators and additives on indirect organogenesis of Simarouba glauca DC -- Biotechnological Applications for Characterization, Mass Production and Improvement of a Non-conventional Tree legume [Parkia timoriana (DC.) Merr.] -- A to Z on banana micropropagation and field practices -- In vitro plant regeneration in dainty spur [Rhinacanthus nasutus (L.) Kurz.] by organogenesis -- Application of tissue culture for Laburnum anagyroides Medic. propagation -- Recent advances in Asteraceae tissue culture -- Section B: Tree Biotechnology -- Plant Tissue Culture Approach for Cloning and Conservation of Some Important RET

Medicinal Plants -- Biotechnological Approaches for the Improvement of "Eucalyptus" -- Biotechnology of Tropical Tree Crops -- Section C: Genetic Engineering -- In Vitro Regeneration of Salt Tolerant Plants -- Plant tissue culture – A tool for in vitro mutagenesis, large scale propagation and genetic transformation -- Genetic engineering for insect resistance in economically important vegetable crops -- RNA interference (RNAi) and its role in crop improvement - A Review -- In vitro Selection of Disease Resistant Plants -- Role of rol genes: Potential route to manipulate plants for Genetic improvement -- Section D: Crop Improvement -- Synthesis of Silver Nanoparticles from Particles from Plants and Their Applications -- Biotechnological Approaches for Improvement and Conservation of *Alnus glutinosa* (L.) Gaertner -- Isolated microspore culture and its applications in plant breeding and genetics -- Indirect Somatic Embryogenesis and Plant Regeneration from Mature Seed Embryos of *Bambusa arundinacea* (Retz.) Wild -- Section E: Plant Conservation -- Micropropagation Technology and Its Applications for Crop Improvement -- Improvement of Green Leafy Vegetables – The role of plant tissue culture and Biotechnology -- Non-zygotic Embryogenesis for Plant Development -- Somatic hybridization and microspore culture in Brassica improvement.

Sommario/riassunto

This book presents basic concepts, methodologies and applications of biotechnology for the conservation and propagation of aromatic, medicinal and other economic plants. It caters to the needs and challenges of researchers in plant biology, biotechnology, the medical sciences, pharmaceutical biotechnology and pharmacology areas by providing an accessible and cost-effective practical approach to micro-propagation and conservation strategies for plant species. It also includes illustrations describing a complete documentation of the results and research into particular plant species conducted by the authors over the past 5 years. Plant Biotechnology has been a subject of academic interest for a considerable time. In recent years, it has also become a useful tool in agriculture and medicine, as well as a popular area of biological research. Current economic growth is globally projected in a highly positive manner, but the challenges many countries face with regard to food, feed, malnutrition, infectious diseases, the newly identified life-style diseases, and energy shortages, all of which are worsened by an ever-deteriorating environment, continue to pull the growth digits back. The common thread that connects all of the above challenges is biotechnology, which could provide many answers. Molecular biology and biotechnology have now become an integral part of tissue culture research. The tremendous impact generated by genetic engineering and consequently of transgenics now allows us to manipulate plant genomes at will. There has indeed been a rapid development in this area with major successes in both developed and developing countries. The book introduces several new and exciting areas to researchers who are unfamiliar with plant biotechnology and also serves as a review of ongoing research and future directions for scholars. The book highlights numerous methods for in vitro propagation and utilization of techniques in raising transgenics to help readers reproduce the experiments discussed.
