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Altri autori (Persone)	KumarNitish
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Nota di contenuto	Chapter 1 Genetic Manipulation in medicinal plants for enhancement of secondary metabolites -- Chapter 2. RNA Interference (RNAi): A Genetic Tool to Manipulate Plant Secondary Metabolite Pathways -- Chapter 3. CRISPR/ Cas 9: Novel Techniques for Enhancing Bioactive Compound Production in Plants -- Chapter 4. Exploring endophytes for in vitro synthesis of secondary metabolites in medicinal and aromatic plants -- Chapter 5. Omics approaches to study the biosynthesis of secondary metabolites in Medicinal and Aromatic Plant -- Chapter 6. Phytochemical diversity and biological activity of basil (Ocimum L.) : Secondary metabolites produced in vitro -- Chapter 7. In silico screening – An effective option in exploring Plant metabolites as Biopharmaceutics -- Chapter 8 Extreme water-stress on metabolite and elemental accumulation in Plectranthus amboinicus, an aroma-

medicinal plant -- Chapter 9. New insights for the production of medicinal plant materials: Ex vitro and in vitro propagation -- Chapter 10. Conventional approaches toward production of secondary plant metabolites -- Chapter 11. Novel secondary metabolites in tea and their biological role in communicable and non communicable human diseases -- Chapter 12. Regulation of Photochemical properties of Hawthorn: a *Crataegus* species. -- Chapter 13. Hairy Root Cultures—A Versatile Tool of Secondary Metabolites Production -- Chapter 14. Herbosomes: An advanced delivery system for phytoconstituents -- Chapter 15. Medicinal flora of the trans Himalayan cold deserts of Ladakh, India -- Chapter 16. The medicinal potential and application of in vitro techniques in the improvement of *Galega officinalis*: An overview -- Chapter 17. Influence of biotic and abiotic elicitors on bioactive compounds production in medicinal plants.

Sommario/riassunto

This book provides a comprehensive introduction and review of state-of-the-art biotechnological tools in enhancement of bioactive compounds in medicinal and aromatic plants. Plant bioactive compounds are plant-based natural products that display a variety of pharmacological applications. These bioactive compounds are important as medicines, pigments, flavorings and drugs because most of the pharmaceutical industries are highly dependent on medicinal plants and their extraction. The book introduces a systematic overview of state-of-the-art biotechnological techniques such as Omics, Crisper /Cas9 and RNAi to enhance the plant bioactive contents as well as enlists various in vitro techniques, hairy root culture and transgenic technology to enhance plant bioactive contents using plant tissue culture approaches. The book also provides an overview of the role of induced mutation, biotic and abiotic stress to increase the bioactive contents in plants and discusses the significant role of endophytes to enhance the contents of plant bioactive compound. The book also opens discussions related to standard operating procedures using hydroponics system of cultivation for significant enhancement of bioactive compound(s) and much more. This book serves as an excellent reference book for the researchers working in the field of plant secondary metabolites and pharmaceutical industries at global level.
