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| Descrizione fisica | 1 online resource (490 pages) : illustrations (black and white, and color) |
| Disciplina | 910.5 |
| Soggetti | Fungi - Biotechnology |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Part I. Plant Growth Promotion and Sustainability -- Chapter 1. Arbuscular mycorrhizal fungi: role as biofertilizers, technology development and economics -- Chapter 2. Role of ectomycorrhizal fungi in human welfare -- Chapter 3. Fungal ministrations in soil detoxification, building and health restoration -- Chapter 4. Emerging mucormycosis: problems and treatments -- Chapter 5. Microplastic pollution: sources, environmental hazards and mycoremediation as a sustainable solution -- Part II. Fungal metabolic Products -- Chapter 6. A bird's eye view of fungal peptides -- Chapter 7. Cultivation, bioactive metabolites and application of caterpillar mushroom Cordyceps militaris: Current status, issues and perspectives -- Chapter 8. Lactic acid production from fungal machineries and mechanism of PLA synthesis: Application of AI based technology for improved productivity -- Chapter 9. Discovery of bioactive metabolites from the genus Arthrinium -- Chapter Chapter 10. Wide range applications of fungal pigments in textile dyeing -- Part III. Fungi in Food Biotechnology -- Chapter Chapter 11. The potential of mushrooms in developing healthy food and biotech products -- Chapter 12. Fungal enzyme-based nutraceutical oligosaccharides -- Chapter 13. Applications of fungi for alternative protein -- Part IV. Fungal Enzymes and Other Biotech Products -- Chapter 14. Fungal enzymes in the production of biofuels -- Chapter 15. Fungal pectinases: Diversity and multifarious applications -- Chapter 16. Applicability of fungal xylanases in food |

biotechnology -- Chapter 17. Fungal therapeutic enzymes: Utility in the treatment of human ailments -- Chapter 18. Heterologous gene expression in *Pichia pastoris*: Success stories and commercial ventures -- Chapter 19. Agro-industrial residues: an ecofriendly and inexpensive substrate for fungi in the development of white biotechnology -- Chapter 20. Design strategies for mycelium-based composites -- Chapter 21. Development of building insulation material from fr fungal mycelium.

Sommario/riassunto

This book presents various biotechnological applications of the fungal systems in pharmaceuticals, nutraceuticals, textile industry, bioremediation, biofuel, and the production of biomolecules. It discusses the important role of fungal secondary metabolites in human welfare and nutrition. It explores fungi as the vital sources of novel substances with antidiabetic, antibiotic as well as prebiotic properties. The book further describes the natural and unique ability of fungi to biodegrade macro- and microplastics by using them as a source of carbon and energy. Notably, it presents the properties and applications of bioactive fungal polysaccharides and discusses the latest developments in utilizing these biopolymers in human nutrition. In addition, the book examines the production of biodegradable and sustainable natural colorants from fungal sources. This book is a valuable source for mycologists, biotechnologists, and microbiologists for understanding the important role of fungi in biotechnology.
