Microbes and Microbial Technology: Agricultural and Environmental Applications

Microbes and Microbial Technology: Agricultural and Environmental Applications is a comprehensive guide that explores the role of microbes in various aspects of agriculture and the environment. The book covers a wide range of topics, from the fundamentals of microbial ecology to the applications of microbial technology in sustainable agriculture and environmental management.

The book begins by introducing the concept of microbial ecology and its importance in understanding the contribution of the biosphere in global warming and the response of the natural environment to climate change. It then delves into the various aspects of microbial technology, including the use of beneficial microorganisms in agriculture and forestry, the role of microbes in the generation of alternative energy sources, and the use of microbial technology in restoration and remediation of degraded ecosystems.

The book also discusses the use of microbial technology in the production of food, feed, and biofuel, with a focus on sustainable agriculture and environmental management. It covers the use of endophytic microorganisms in agriculture, providing insights on the biotechnological applications associated with long-term crop production. Chapters deal with the molecular biology, microbiology, and biotechnology of plant diseases, and the role of microbes in the generation of renewable energy.

Recent developments in our understanding of the role of microbes in the environment are also discussed, with a focus on the use of molecular genetics, systems, and synthetic biology to understand the complex interactions between microbes and their environment. The book also explores the potential of microbial technology in the production of food, feed, and biofuel, with a focus on sustainable agriculture and environmental management.

Overall, this book is an essential resource for researchers interested in microbiology, agricultural sciences, and biotechnology. It is an invaluable guide for students, researchers, and professionals in the field of microbial technology and its applications in sustainable agriculture and environmental management.
Microbial communities and their functions play a crucial role in the sustainability of ecosystem. The direct and indirect role of microbes that include bacteria, fungi, actinomycetes, viruses, mycoplasma, and protozoans are very much important in development of modern human society for food, drugs, textiles, agriculture, and environment. Furthermore, microorganisms and their enzyme system are responsible for the degradation of various organic matters. Microbes for Sustainable Development and Bioremediation is an effort to compile and present a great volume of authentic, high-quality, socially-viable, practical and implementable research and technological work on microbial implications. It encompasses plant and microbial biotechnology, nanotechnology and genetic engineering with specialized collection of cutting-edge knowledge.

Biotechnology for Sustainable Agriculture: Emerging Approaches and Strategies is an outstanding collection of several research that integrates basic and advanced concepts of agricultural biotechnology with future development prospects. Using biotechnological tools to enhance sustainability, bioenergy, and genetic engineering. Focuses on plant biotechnology and crop improvement to increase crop yield and resilience (the impact of climate change on agriculture). Robotics and biotechnology.

Microbial Resource Technologies for Sustainable Development: Joginder Singh 2019-12-02 Microbial Resource Technologies for Sustainable Development identifies molecular tools/omics approaches for enhancing plant growth promoting microorganisms Discusses plant growth promoting Microbial communities and their functions play a crucial role in the sustainability of ecosystem. The direct and indirect role of microbes that include bacteria, fungi, actinomycetes, viruses, mycoplasma, and protozoans are very much important in development of modern human society for food, drugs, textiles, agriculture, and environment. Furthermore, microorganisms and their enzyme system are responsible for the degradation of various organic matters. Microbes for Sustainable Development and Bioremediation is an effort to compile and present a great volume of authentic, high-quality, socially-viable, practical and implementable research and technological work on microbial implications. It encompasses plant and microbial biotechnology, nanotechnology and genetic engineering with specialized collection of cutting-edge knowledge.

Biotechnology for Sustainable Agriculture: Emerging Approaches and Strategies is an outstanding collection of several research that integrates basic and advanced concepts of agricultural biotechnology with future development prospects. Using biotechnological tools to enhance sustainability, bioenergy, and genetic engineering. Focuses on plant biotechnology and crop improvement to increase crop yield and resilience (the impact of climate change on agriculture). Robotics and biotechnology.