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## Foreword

Microbiology is an inherently valuable and an immensely broad-based discipline that offers an intimate view of a world that is invisible to the unaided eye. Although the microbes themselves are very small, the microbial world is quite large, almost all-pervasive, and diverse, and the capabilities of its members are immense. Apart from ethical values, microbial diversity is of enormous economic significance to the mankind. Microbes have always been the invisible villains that have caused enormous economic losses by spoiling food, infecting domesticated plants and animals, and causing a variety of ailments to humans. But microbes, as it turns out, are also the champions that work incessantly to remove wastes, improve the nutritional status of soil, enable the generation of a variety of fermented foods, and some of them are used as food. More recently, humans have deliberately domesticated a variety of microbes that are used as workhorses to achieve varied but highly specialized and extremely valuable ends, including production of an increasingly large number of drugs and food supplements.

Therefore, microbiology/mycology/plant pathology has been an active area of both basic and applied research. Apart from the specialized field of industrial microbiology that is dominated by the private sector, research activities in several other areas including agriculture and environment remain primarily in the public domain. The knowledge generated by research gets disseminated through education and finally trickles down to the farmers and other practitioners in these fields. This knowledge is often used for resolving various issues related to the environment and food security at the grassroots level of policy makers.

The present book, entitled “Microbial Diversity and Biotechnology in Food Security,” is a compilation of the contributions from leading workers in different areas of microbiology, and is the outcome of an International Conference—ICMPB-2012—organized by the Department of Botany, Banaras Hindu University, Varanasi. It is admirable that the book begins with the basic concept of the important fundamental themes and effortlessly moves to the advanced ideas of microbiology, including biotechnology relevant for a sustainable development and food security that is under challenge by the incessant growth of the human population worldwide.

The present book is organized into four sections—Endophytes and Mycorrhizae, Microbial Diversity and Plant Protection, Microbial Functions and Biotechnology, and Microbes and the Environment—which together contains 53 chapters contributed by acknowledged experts in the concerned field from various parts of the world. The chapters are designed to cover the general as well as specific aspects of microbes’ potential, and their exploitation for plant protection, environmental conservation, and biotechnology applications.

The book chapters contain numerous beautiful and revealing illustrations, and cover both traditional as well as recent developments in the field of microbiology, mycology, and plant pathology. Throughout the book, the approach has been of a critical evaluation, which is an integral part of the approach of science professionals. I am confident that this excellent effort will serve the needs of both researchers as well as the students of this fascinating field of enquiry.

It is a matter of delight that this useful collection of highly informative contributions from scientists of repute in their own fields has been given a final shape in a relatively short period of time, for which the editors deserve our appreciation.

B. D. Singh  
School of Biotechnology,  
Banaras Hindu University,  
Varanasi, India

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Kharwar, R.N.; Upadhyay, R.; Dubey, N.; Raghuwanshi, R. (Eds.)

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