

Preface

Microorganisms, with a massive genetic pool and cosmopolitan distribution, have the enormous potential to contribute significantly in sustainable agriculture and environmental development. Microbes, the key living micro-biota of soil are playing a very crucial role in ecosystem and environmental viability, and agricultural health and productivity.

This book addresses the applications of microbial agents for boosting agricultural sustainability. This volume contains relevant topics contributed by the well-known leading authors from different universities and institutes. Satisfactory information about diverse groups of microbes (rhizobia, cyanobacteria, actinomycetes, methanotrophs, mycorrhiza, endophytes, etc.) for beneficial roles in agriculture and ecological services is discussed.

Plant growth promoting rhizobacteria, cyanobacteria, and mycorrhizae have been considered for their crucial role in stressed agricultural and environmental management. Therefore, selection of such efficient microbial strains with well defined plant growth promoting attributes for production of bio-fertilizer/bio-pesticide may provide economical and viable options to achieve safe and secure agricultural productivity. In addition, these microbial agents (bioinoculants) with better results can be selected to sustain agricultural productivity with fewer unfavourable ecological impacts.

The book *Agro-Environmental Sustainability: Managing Environmental Pollution (Volume II)* assesses current and future prospects of microbial world and plant-microbe interactions to enhance soil and environmental sustainability and discuss possible steps ahead. The book has articles related to: (1) Methanotrophs in remediation of various toxic compounds and mitigation of green house gases; (2) Plant-microbe interactions in remediation of metals contaminated soils; and (3) Rhizoremediation and Cyanoremediation as innovative tools for decontamination of agro- and aquatic ecosystems. Each chapter will cover a different component relevant to the above described areas.

We thank all authors for contributing valuable chapters to this volume. We are confident that this volume of the book will resolve the problems of all readers concerned with the endeavor of agriculture and environmental development.

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Agro-Environmental Sustainability

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