

Preface

A better understanding of endophytic microorganisms may help to elucidate their functions and potential role in developing sustainable systems of crop production and their protection against abiotic and biotic stresses. Endophytes play a vital role in growth and health promotion of plant. Endophytic bacteria are of agrobiological interests because they create host–endophyte relationship having exciting prospects for newer biotechnological applications. Endophytes proved beneficial alternative for sustainable solutions for agrochemicals due to their role in biological control of pests and diseases. They reduce the burden of excess use of agrochemicals. On the other hand, endophytes are potential source of several secondary metabolites and several useful other metabolites such as alkaloids, enzymes, biosurfactants, bio-control agents, and plant growth promoters. It is imperative that these products have industrial applications in the field of biotechnology, pharmacy, and agriculture.

The ‘Endophytes: Vol. II Crop productivity and protection’ is an endeavor to review the current developments in the understanding of microbial endophytes and their potential applications in the enhancement of productivity and disease protection. This book contains various chapters presenting state of knowledge on involvement of endophytes in crop productivity and soil health because of beneficial for agricultural and forest ecosystem. Endophytes contribute in nonnative crops, volatile organic compound production, and a remarkable source of biologically active secondary metabolites and enzymes, as lignin degrading fungi, in bioremediation, phosphate solubilization, agricultural productivity, and plant disease control. The chapters describe the strategies for crop improvement and production of useful metabolites and aromatic compounds, enzymes, and other metabolites. These chapters are described with advance information on endophytes for productivity and protection in sustainable plant ecosystem.

We are sure the book will be useful to botanists, microbiologists, biotechnologists, molecular biologists, environmentalists, and those working for the protection

of plant species of agricultural and medicinal importance. I am thankful to the contributors of these books for their cooperation and patience in the compilation of this task. I am also thankful to Springer team, particularly Drs. R. Valeria and Takeesha for their constant support in the publication of this work.

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<http://www.springer.com/978-3-319-66543-6>

Endophytes: Crop Productivity and Protection
Volume 2

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2017, XI, 291 p. 70 illus., Hardcover

ISBN: 978-3-319-66543-6