

Preface

In recent years there has been considerable interest in studies involving plant growth-promoting bacteria (PGPB) and their interaction with plants. This interest is derived from the notion (hope) that these bacteria will eventually be used on a large scale in sustainable agricultural practice. In addition, the successful implementation of PGPB may enable them to partially, or even completely, replace the current excessive use of chemicals in agriculture. In fact, given the ever-increasing understanding of many of the fundamental biochemical and genetic mechanisms that are operative in plant–bacterial interactions, there is every reason to expect that we are on the verge of a new paradigm in agriculture where we are able to utilize this technology worldwide on a practical and large scale. Of course, for PGPB technology to continue to develop to realize its full potential, it is imperative that the fundamental research in this field continues unabated.

In the last 5–10 years, there have been a relatively large number of books dealing with various aspects of the interaction between plants and microorganisms. Nearly all of these books have been written by groups of specialists in this field and are intended for burgeoning practitioners. On the other hand, this book was written to serve as a textbook (guidebook) for a one-semester undergraduate or graduate course in Plant–Microbe Interactions. It is based on a course that has been offered at the University of Waterloo for the past number of years and attempts to present a broad, although admittedly biased, perspective of this area. The book assumes some basic knowledge of Microbiology, Plant Biology, Molecular Biology and Biochemistry. This notwithstanding, not everyone who uses this book will have had an extensive background in all of the above-mentioned disciplines. Therefore, this book is intentionally written in a jargon-free style in which as much

of the background as is necessary to understand the major concepts is provided. The book should therefore be useful to anyone who is interested in developing a relatively broad fundamental perspective on plant–microbe interactions.

Waterloo, ON, Canada

Bernard R. Glick

<http://www.springer.com/978-3-319-13920-3>

Beneficial Plant-Bacterial Interactions

Glick, B.R.

2015, XII, 243 p. 153 illus., 67 illus. in color., Hardcover

ISBN: 978-3-319-13920-3