Bacteria pathogenic for plants are responsible for devastating losses in agriculture. The use of antibiotics to control such infections is restricted in many countries due to worries over the evolution and transmission of antibiotic resistance. The advent of genome sequencing has enabled a better understanding, at the molecular level, of the strategies and mechanisms of pathogenesis, evolution of resistance to plant defence mechanisms, and the conversion of non-pathogenic into pathogenic bacteria.

In this book, internationally acclaimed experts review the most important developments providing an invaluable, up-to-date summary of the molecular biology and genomics of plant pathogenic bacteria. The book opens with two chapters on bacterial evolution, diversity and taxonomy, topics that have been transformed by molecular biology and genomics analyses. The third chapter delves into the crucially understudied area of pathogen adaptation to the plant apoplast environment. The following seven chapters focus on specific plant pathogens: *Agrobacterium*, *Leifsonia*, *Pectobacterium*, *Pseudomonas*, *Ralstonia*, *Xanthomonas*, and *Xylella*. The next four chapters review specific, intensively studied areas of research in the plant pathogen field: microbe associated molecular patterns (MAMPs) and innate immunity; use of bacterial virulence factors to suppress plant defence; cyclic di-GMP signalling and the regulation of virulence; and plasmids and the spread of virulence. The final chapter covers the critical area of bioinformatics.

With contributions from some of the pioneering bacterial plant pathogen genome sequencers, this book is essential reading for every plant pathogen researcher, from the PhD student to the experienced scientist, as it provides a timely review of the current and most topical areas of research.

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