Bacteria–Plant Interactions

Advanced Research and Future Trends

Edited by

Jesús Murillo

Laboratorio de Patología Vegetal
Departamento de Producción Agraria
Universidad Pública de Navarra
Pamplona
Spain

Boris A. Vinatzer

Department of Plant Pathology,
Physiology, and Weed Science
Virginia Tech
Blacksburg, VA
USA

Robert W. Jackson

School of Biological Sciences
University of Reading
Reading
UK

Dawn L. Arnold

Centre for Research in Biosciences
University of the West of England
Bristol
UK

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Preface

With the continuing increase in human population and major changes in climate, our relative food prosperity in the 1980s/1990s has reversed to expose a significant threat to global food security. Add to this the continual battle to control existing plant disease problems, emerging diseases and food contamination with human pathogens, and we realise there are still significant challenges ahead for producing adequate, safe food. However, we are witnessing major advances in technology and scientific exploration as we aim to cope with these issues. The aim of this book is to introduce the reader to advances in the field of bacteria–plant interactions, centred on plant pathogens, human pathogen contamination and potential control strategies. Fundamental to this is the need to build up model systems to help inform other studies – these are exemplified in the *Pseudomonas* and *Erwinia* chapters. Emerging experimental systems examining emerging or neglected diseases have been considered in the chapters on *Acidovorax* and Gram-positive bacterial pathogens. The recent outbreak of food poisoning in Europe was a timely reminder for the need to examine human pathogen colonisation of plants. Finally, with the loss of regulated chemicals, there is a clear need to innovate control methods – two chapters consider biocontrol approaches. Bacteria represent a good opportunity to find antimicrobials against fungi and oomycetes, while phage therapy offers a solution to bacterial infections.

Robert W. Jackson, Jesús Murillo, Boris A. Vinatzer and Dawn L. Arnold

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