

Book review

Phytopacteriology: Principles and Practice.
J. D. Janse. 2005. 360 pp. CABI Publishing,
Wallingford, Oxfordshire, UK. ISBN 1-84593-
025-8, £65.00 (US\$120.00)

Bacteria are important etiologic agents of plant disease. Bacterial plant diseases, however, are sometimes overshadowed by the more numerous diseases caused by fungi and viruses. Few books are solely devoted to phytopacteriology, the science of bacterial plant diseases. Now Dr. Janse has provided us with a comprehensive introductory textbook on the subject. The first six chapters, which comprise a little more than half the book, provide an introduction to the science, the nature of bacterial plant diseases and their control, and overviews of the principles and practice of disease diagnosis and pathogen detection. Each of the colourfully illustrated chapters consists of short paragraphs with highlighted key words, multi-coloured tables, and text boxes that summarize pertinent information. Where relevant, the chapters include both the more classical, basic information as well as the newer molecular science.

The introductory chapter starts with a brief history of bacteriology, describing what bacteria are and how they are classified. The chapter on diagnosis and detection covers methods ranging from isolation on nutrient media and conventional biochemical characterization of isolates, to serology including the use of monoclonal antibodies, to molecular methods such as dot blot and in situ hybridization with specific DNA probes and conventional and real-time PCR strategies. Each of the methods are described generically but are accompanied by schematic diagrams of the theory and photographs of results obtained with their application to specific instances. However, this book is not a laboratory manual that describes diagnostic, detection, or identification methods for individual plant pathogenic bacteria, but rather provides overviews of the theory and application of available methods. The chapter on symptomology describes some pathogenicity and viru-

lence factors utilized by phytopacteria and the nature of host responses to infection including the gene-for-gene relationship. This chapter contains many photographs illustrating the symptom type being described as well as line drawings and schematics that support conceptual descriptions of how symptoms develop at the cellular level. Following chapters on epidemiology, economic importance, and disease prevention and control are likewise colourfully illustrated with photographs, tables of data and itemized information, and schematics of various kinds.

The final chapter in the book consists of examples of bacterial diseases of cultivated and wild plants. Entries are by bacterial pathogen with a description of the disease it causes, the main hosts, pertinent points relating to the symptoms expressed and disease transmission mechanisms, geographical distribution, economic importance, and control. There are over 50 entries in all ranging from the well-known and well-studied bacteria such as *Agrobacterium tumefaciens* and *Ralstonia solanacearum* to much lesser known bacteria such as *Pseudomonas levistici*, causal agent of bacterial leaf spot of lovage (*Levisticum officinale*). The book ends with various annexed summary lists, references for cited literature and further reading, and comprehensive indices of host plants and key words.

The book is printed on high quality paper in a large page format (21 × 29.5 cm), and is handsomely bound in a hard cover. This book will undoubtedly be a real asset for students beginning studies of phytopacteriology and for technical staff in diagnostic laboratories. The text is generally easy to follow despite some occasional awkward wording and inconsistencies in level of detail provided. The colour scheme used to highlight text and delineate columns in tables appears to follow no particular pattern and although resulting in a very colourful book may be annoying to some. Photographs of disease symptoms and pictures of laboratory methods, many taken by the author himself, are by and large of excellent quality and

clearly illustrate salient points. Line drawings and schematics are also clear and of good quality. The book will serve as a good reference resource and is highly recommended for diagnostic laboratories that deal with bacterial plant diseases.

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