



Book review

Plant Pathogen Detection and Disease Diagnosis

P. Narayanasamy; Marcel Dekker, New York, 2001, 518 pages, ISBN 0-8247-0591-2, £175.00

This is a second edition of the book, which was first published in 1997. The book is divided into 11 chapters of different lengths; some are extremely long while others no more than a few pages. Chapter 1 consists of a brief Introduction and Chapter 2 deals with the Characteristics of Pathogenic Microbes. However, characteristics of the Fungi (the largest causes of plant diseases) are not discussed in depth. That whole subject area would undoubtedly fill a book (or two) alone and deciding on a synthesis of the material available is obviously a difficult task but I feel the reader should be given some greater insight than is provided. Most mycologists would not agree with "the fungi are generally microscopic plants without chlorophyll and conductive tissues" on a number of counts! However, comprehensive basic methodologies on fixation, staining, media are given at the end of the chapter (in annexes) and this sets the scene for comprehensive coverage of methodologies throughout the book and as such, is a useful reference book. Chapter 3—Symptoms of Plant Disease also has several limitations. The classification of the fungi, bacteria, phytoplasmas and viruses would seem to be more appropriate in Chapter 2 and the underlying classification of the Fungi is outdated. Chapter 3 is also disadvantaged with a format that allows the taxonomy of Mycoplasmas (not tabulated) to be interspersed with a table (Table 3.1) on plant pathogenic bacteria. This is confusing for the reader. Also, several photographs in this chapter do not clearly show the symptom described because of poor contrast or the use of black and white; colour would have been much better but obviously would have made the book more costly. This is unfortunate since diagnosis of plant disease begins with the observation of clear symptoms. The majority of the chapter is concerned with the symptomology of plant viruses, which

although interesting, leaves symptomology of other groups rather neglected. Dissemination of Plant Pathogens (Chapter 4) again illustrates that the author is apparently more comfortable when discussing viruses than other pathogens; fungal pathogens receiving only a small amount of coverage as is also seen in Chapter 5 (Cross Protection). Table 4.9 has an error in the title. Chapter 6 (Chemodignostic methods) and Chapter 7 (Electron Microscopy) give a more balanced account across the pathogen groups and are useful reviews of the literature. Chapter 8 (Serodignostic Methods) and Chapter 9 (Nucleic Acid based Techniques) are good chapters with comprehensive reviews of technologies plus in detail step by step methods given in clear annexes but Chapter 10 (Detection of Double Stranded RNAs) reinforces the plant virus theme. Diagnosis and Monitoring of Plant Diseases (Final Chapter) draws some conclusions on the need for effective diagnosis and clearly, the molecular diagnostic methods (in some instances) have the advantage of speed although some diseases can be very quickly recognized by distinct symptomology.

In his preface, the author states that his primary objective is to encourage the application of techniques that are simple, cost effective and adaptable to the field conditions. Unfortunately, many of the molecular methods described (despite the production of kits) are not yet adaptable to the field conditions and the author is right to plead for the development of less expensive kits for working under field conditions.

The book does review many methodologies associated with diagnosis and detection but it is expensive and as such, is unlikely to be bought by individuals.

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