

## Book review

**Plant Pathology.** by George N. Agrios, 4th edition. Academic Press, San Diego, 1997, pp. XVI + 635. ISBN 0-12-044564-6 (hard cover); \$ 59.95.

In 1970 a colleague and friend of mine sent to me what later proved to be the first edition (1969) of Agrios' Plant Pathology. At that time I had a position at an African University and depended largely on privately owned books. This pathology book was really a great gift. With a periodicity of nearly ten years Professor Agrios has updated and enlarged his book, so that the fourth edition was published February 1997. The first edition was a revolutionary textbook on plant pathology with its outstanding schematic drawings of many disease cycles. Further it treated not only plant diseases caused by fungi and bacteria, but also contained more extensive chapters on diseases caused by viruses and nematodes than normally provided in general plant pathology texts. Also, diseases caused by higher plants and environmental factors were shortly treated. Newer editions have steadily been improved, updated and enlarged along the basic outline of the first edition.

The fourth edition consists of two parts. Part one counts 9 chapters dealing with general aspects of plant pathology. After the introduction, 'Parasitism and disease development' (chapter 2) are treated, followed by attack by pathogens (chapter 3), their effect on the physiology of the host (chapter 4) and defense by the plant (chapter 5), genetic interactions (chapter 6), effects of environment (chapter 7), epidemiology (chapter 8), and finally disease control (chapter 9). The second part of the book is devoted to specific plant diseases, with first a chapter on 'Environmental factors that cause plant diseases'. Chapter 11, with more than 150 pages on diseases caused by fungi, is by far the longest one. It is followed by chapters on diseases caused by bacteria and mollicutes (12), parasitic higher plants (13), viruses (14), nematodes (15) and flagellate Protozoa (chapter 16). An extensive glossary and index complete this book.

The preface by the author briefly resumes the most important changes since the third edition, and it does so without any exaggeration. I will try to pinpoint some examples which impressed me.

The format of the book has changed; it is larger and heavier (nearly 2 kgs!) than ever, and it contains 16 colour pages in the centre. The majority of important updating is in the first part. The third edition e.g. had a 17th chapter 'Application of biotechnology in plant pathology', which has now been omitted, with integration of much new data in the relevant chapters, such as chapter 6, 'Genetics of plant disease'. Nearly 75% of the selected references – which are always given per chapter or section within a chapter – of chapter 6 are from 1988 and later. But even for chapters with little fundamental change the literature has been updated. Also the number of illustrations in the first part of the book has greatly increased, with chapter 7 as the champion (from 0 to 13).

There was less reason for change in the second part of the book, except that more diseases have been included. However taxonomists keep modernizing, and pathologists have to follow. The Oomycetes have e.g. been moved to the Pseudofungi, and virus diseases, which were described crop-wise in the third edition, are now treated according to the respective virus groups. Most plant pathologists will appreciate that bacteria are identified with some conservatism, e.g. by using the name *Pseudomonas solanacearum* instead of *Ralstonia solanacearum*.

I hardly feel the necessity to criticize any aspect of the book, but three observations may be made. The first regards the weight of the book and its format. It might be worthwhile to consider publishing it in two volumes. Part 1 and part 2 could form the bases of these volumes. This would also allow to return to the more handy format of earlier editions. A pocket edition is an alternative suggestion, and it would certainly be welcomed and bought by numerous users. The second observation aims the colour figures, which are also

printed in black/white on the pages of the pertinent text. In some cases the colour adds to the value of the figure, as with figures 4-3A and B, or 14-58A, but in many cases colour provides no real gain compared to black/white, as e.g. figures 5-16A and B, 9-18A and B, 9-20C or 14-2. As a last observation I like to express my doubts about figure 9-23, which will give environmentalists the argument that crop protectionists are still unaware of the disadvantages of the lavish application of chemicals.

The wealth of up-to-date plant pathology information in this single book is unique.

University students and professionals in an academic environment and far beyond will find data they need, and will admire that such a comprehensive text is written by a single author. Smaller and larger adaptations throughout the text since the third edition show that the contents have not been allowed to congeal. This edition appears just in time, since the earlier one in our library starts to fall into separate, loose sheets due to its frequent use. The fourth edition will surely share this destiny.

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