

Book review

G. C. Ainsworth, 1981. Introduction to the history of plant pathology. Cambridge University Press, Cambridge. ISBN 0 521 23032 2. xii + 315 pp., 1 plate, 82 figs., 10 tables. Price £ 27.50.

This book, written by a well-known mycologist and former director of the Commonwealth Mycological Institute at Kew (England), is a welcome addition to the literature pertaining to the history of plant pathology. No other recent book is available that describes this subject so extensively. This study deals mainly with the histories of diagnosis, treatment and prevention of plant diseases and disorders. Emphasis throughout is, therefore, on the more practical aspects of plant pathology. The book is divided in four sections each comprising two or more chapters.

The first, introductory, section mentions some historical patterns that are discernible in the development of phytopathological research. It also describes the ideas and observations on plant diseases from the earliest historical times till 1858, when Julius Kühn published his book 'Die Krankheiten der Kulturgewächse, ihre Ursachen und ihre Verhütung', which may be regarded as the starting point of the era of true plant pathology.

The second section covers the history of the diagnosis in plant pathology, with chapters on fungi, bacteria (including actinomycetes) and viruses (including mycoplasma-like organisms) as pathogenic agents and on non-parasitic disorders. Among many other aspects the problems with the classification and nomenclature of fungal species and races, bacterial genera and viruses are treated, as well as the elucidation of infection processes and life histories and the developments in the research on host-parasite relationships (physiology of parasitism). The different kinds of non-parasitic disorders are treated only briefly.

The third section deals with the control (treatment and prevention) of plant disease. It starts with a chapter on chemical control describing the development of fungicides and of methods for their application. This is followed by a small chapter on control by physical agents and two chapters on the epidemiological approach to disease (weather, soil, disease resistance, disease assessment, epidemics) and on measures to prevent the spread of pathogens (national legislation, international co-operation, quarantine, certification and approval schemes).

In the fourth section a comprehensive review is given of the ways how plant pathology became organized. It describes the foundation of phytopathological laboratories and experimental stations in various countries, the development of international co-operation, the involvement of industry and private foundations, the establishment of phytopathological societies, the creation of university chairs for teaching plant pathology and the appearance of books and periodicals on plant pathology. The last chapter discusses some recent trends in plant pathology based on statistics of the literature.

At the end of the book are notes made on the text; biographical references to over 200 deceased plant pathologists; a large bibliography; a short list of some landmarks in the history of plant pathology; a names index and a subject index.

The book is well-illustrated, several of the figures being portraits of plant pathologists. The mounting upside down of the frontispiece (a coloured plate of onion smudge) in my copy may be an unfortunate and exceptional error.

It seems unavoidable that a book with so much information also contains some errors in the text and in the bibliography. For instance, the journal *Physiological Plant Pathology* was started in 1971 and not in 1967; and the Phytopathological Laboratory 'Willie (mis-spelled throughout as Wille) Commelin Scholten' was not founded in 1864 but in 1894. A major criticism, however, is that Koch's postulates which have been and still are essential in the aetiology of plant diseases, are not even mentioned in the book. A minor objection is the referring to older reviews for more detailed information on e.g. phytotoxins, phytoalexins and

mycoplasmas, more recent reviews being available.

The book can be recommended to plant pathologists and all others who are interested in plant pathology. Both people working on fundamental areas and those on more practical aspects, teachers as well as students, will find an interesting overall historical picture with a wealth of information.

Jan van den Heuvel

Book review

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R. Bovey, W. Gärtel, W. B. Hewitt, G. P. Martelli and A. Vuittenez, 1980. *Maladies à virus et affections similaires de la vigne; atlas en couleurs des symptômes. Virosen und virusähnliche Krankheiten der Rebe; Farbatlas der Symptome. Virus and virus-like diseases of grapevines; colour atlas of symptoms.* Editions Payot, Lausanne/La Maison Rustique, Paris/Verlag Eugen Ulmer, Stuttgart. 181 pp., 186 photographs in colour, 1 table and index. DM 58

The grapevine, having been vegetatively propagated for hundreds of years, is bound to be plagued by viruses. Indeed some 30 important virus or virus-like diseases have already been described in this crop. They often considerably reduce yield and quality and their accumulation leads to cultivar degeneration.

Sofar only twenty diseases have been proved to be actually associated with viruses. A few, previously thought to be caused by virus, are now attributed to procaryotic *Mycoplasma* and *Rickettsia*-like micro-organisms. Study of these diseases in the field and proof of virus freedom of propagation stock, used for disease prevention, still is largely by examination for symptoms on field-grown cultivars or on special *Vitis* species used as indicators. Illustrations of symptoms in colour (186 in total) therefore constitute the major part of the present book (ca. 100 pages). They help to distinguish virus diseases from disorders due to certain pests (toxemias), mineral deficiencies, pesticides, genetic aberrations or climatic influences.

There are three short introductory chapters on the diseases caused by viruses transmitted by nematodes, soil fungi, aphids, and by unknown vectors, on diseases caused by *Mycoplasma* and *Rickettsia*-like organisms and on virus-like disorders. The book terminates with a helpful tabular survey of the viruses and virus diseases of the crop and of their main characteristics, and with an alphabetical index.

The authors' reputation for their research on grapevine viruses and virus diseases in Switzerland, Germany, USA, Italy and France warrants the quality of the information from a wide range of sources. Layout and printing are of high quality. The book will be indispensable for all concerned with crop protection of grapevine. Publication of the entire text and all legends in French, German and English aims at a wide reading public.

L. Bos