

Book review

J. Kranz & J. Rotem (Eds), 1988. *Experimental techniques in plant disease epidemiology*. Springer Verlag, Berlin. 299 pages. ISBN 3-540-18128-8. Price DM 168.

Various textbooks have been written on the epidemiology of plant diseases. Most of them present theory of epidemiology, thus giving a description of epidemiological principles. Some of these are of a general nature, whereas others concentrate on specialized subjects, but there are no books on experimental techniques in epidemiology. This omission has been recognized and rectified by Kranz and Rotem.

As mentioned in their preface they intended, by editing and publishing the book, 'to help in the development of a methodology able to provide a choice of adequate methods widely acceptable amongst epidemiologists for varying applications and objectives'. For this purpose, they invited 27 distinguished plant pathologists, a number of them from Kranz's 'stable', to participate, and to provide information from their own rich experience.

There are 20 chapters spread over four sections. Section I (General techniques), deals with techniques and approaches used in experiments in the field and under controlled conditions. Advantages and disadvantages of such experiments and the relations between them are explained.

In Section II (Measurements and their analysis) disease assessment, crop development and estimation of spore production, dispersal, survival and infectiousness are treated. The analysis of spatial patterns of soil-borne pathogens is discussed in a separate chapter, for soil-borne diseases have to be approached differently. This section is concluded with two chapters on the monitoring and analysis of environmental factors.

Section III (Special topics) is a collection of items, such as the analysis of the effects of control measures, fungicide resistance, virulence in pathogen populations, components in yield loss, development of forecasters, aphid-borne epidemiology, quantitative nematology, geophytopathology and long-distance dispersal. As the editors explain, these are 'not necessarily connected with each other, but all dealing with definite objectives in epidemiological experimentation'. The reasoning for the addition of these topics to the contents is clear. Most are worth treatment, and each has specialized techniques and approaches. The reasoning for collecting them all together under 'Special topics' is a little unsatisfactory. A rather simple rearrangement and naming of the subjects could separate them into a couple of better defined chapters, which would have made the contents more accessible to the eager user.

Section IV (The synopsis of experimental results) gives the reader a look into the methods in comparative epidemiology, and into the development and use of simulation models for root and foliar diseases.

The limitations, necessarily imposed upon the authors, to prevent the publication of an unwieldy and ever more expensive handbook lead to the question whether the editors 'bit more than they could chew'. Especially the chapters on modeling and simulation suffer under these limitations.

Most authors have achieved a fine work, though readers, familiar with the authors' publications, can 'taste' a bit of subjectivity in the choice and approach of techniques and methods by some of them. The book might be a useful addition to the library of all those involved in experimental work in epidemiology, but particularly those called 'novices in epidemiology' in the preface. The editors may have had undergraduates and young postgraduates in mind, but this work might be useful for other epidemiologists too. It is a pity that the high price will hinder young scientists from purchasing the book, particularly those in developing countries.

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