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Book review

D. Noordam: Identification of plant viruses; methods and experiments. Pudoc, Wageningen 1973; 207 pages of text, 101 black and white figures, 33 colour figures (4 plates), author and subject indexes. Plastic covered paper back. Price Dfl. 35.

The text, written by a staff member of the Department of Virology of the Agricultural University, regularly involved in teaching a course in virus identification, is meant mainly for students. It is based on a full-time course of 14 days or preferably a half-day course of 4 weeks and describes the various greenhouse and laboratory techniques involved in studying aspects of viruses.

Nearly all fields of virus research but field work are dealt with, such as the problem of contamination; mechanical inoculation; study of symptoms; virus multiplication in the host; local lesion virus assay; determination of dilution end-point; thermal inactivation and ageing in vitro; interaction with other viruses; purification; spectro-photometric virus assay; serology; electron microscopy; dry weight determination; transmission by aphids, leafhoppers, nematodes, fungi, through seed and by grafting and dodder; separation from mixed infections; separation of strains and mutants; and finally storage of viruses. Relatively much weight is laid on physical studies of viruses such as purification and electron microscopy and to serology (nearly half of the book) but analytical ultracentrifugation has not been included. Although the references at the end of each chapter are a selection from the literature only, they are carefully chosen and up to date. Hence the book contains a wealth of information also for researchers and research assistants more or less regularly using the various techniques.

The text has been carefully written, is easily legible and contains many valuable illustrations, some in colour. It has been well printed.

There are few apparent mistakes and errors. On p. 43, when discussing determination of virus concentration on local lesion hosts, it could have been more clearly stated that when relative concentrations are determined, the results much depend on all factors influencing test plant susceptibility and sensitivity. The same holds for determination of dilution end-point, thermal inactivation and ageing in vitro, dealt with in short separate chapters. On p. 88 it would have been more appropriate to speak of virus suspensions than of virus solutions. In the chapter on electron microscopy only the dip method is used as a technique to investigate crude sap for the presence of virus particles although several others are more frequently used nowadays. For making particle measurements, a periodical check of the microscope magnification with TMV as suggested on p. 147 is insufficient.

Unfortunately, the title of the book is slightly misleading. For most virologists, virus identification mainly means virus recognition or diagnosis of virus diseases. The term diagnosis, however, is not listed in the subject index, and techniques for routine indexing of crops or plant material for virus infection are not even mentioned. On the other hand, virus identification also means demonstration that an apparently new virus has an identity of its own, and thus the term also means virus characterization or description. The author should have explained this in the introduction of his book and outlined the scientific and practical implications of, and mutual relationships between the various chapters of the book.

Despite such shortcomings, the book will prove valuable to many students as well as to many researchers, who can profitably use it as not exhaustive laboratory guide, to 'methods in plant virology'.

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