

Jawaid A. Khan and Jeanne Dijkstra (eds): Handbook of Plant Virology

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This new book in the field of plant virology was prepared by its authors with a specific objective in mind, to become a reference book from which “explanations of terms and expressions commonly used in the literature of plant virology” can be obtained. As such, it targets a broad audience that includes research workers, teachers and students in related fields of plant virology, crop protection, plant pathology and plant breeding.

Rather than providing explanations of terms in alphabetical order as in an encyclopedia, the book is presented as a series of chapters, each dealing with a specific subject and from which a broad knowledge of the particular field addressed and of the meaning of the usual vocabulary and terms can be obtained.

The book, quite hefty at 425-plus pages but presented in a compact form, is divided in two major parts of roughly equal importance. The first part, of about 250 pages, consists of 19 chapters written by invited authors who are frequently renowned experts in the topic addressed. The second part, presented as a series of five appendices prepared by the two editors, provides a vision, in about 190 pages, of the current status of plant virus taxonomy.

The 19 chapters are generally an easy and informative read. Most topics that one would like to see covered are treated, going from an historical perspective of plant virology to viral taxonomy, symptomatology, virus purification and architecture, virus replication and gene expression (separate chapters for DNA and RNA viruses), virus transmission (again separate chapters depending on the type of vector), virus serology, virus detection and identification, virus variability and evolution, epidemiology, control strategies, plant resistance to viruses and a few more, such as a chapter specifically devoted to viroids. The range of topics addressed is thus very broad, making the book somewhat more complete and more likely to appeal to a broad audience of non-specialists than many other plant virology textbooks. On the downside, such division of a large field like plant virology in a number of blocks or topics is, by essence, arbitrary. In this respect, I was surprised to see that virus movement in the host plant had not been selected to be specifically covered in a separate chapter, with the result that the relevant information is to be found scattered in several separate chapters so that a global overview of the field and of its vocabulary is not easy to obtain.

In most cases, the invited authors appear to have played the game proposed by the editors and to have written their chapters in a clear and readily comprehensible fashion, with special

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efforts to explain the terms and vocabulary. Most chapters are 10–15 pages long so that the information is provided in a quite compact and synthetic form, which is clearly a plus. Short separate bibliographies for each chapter provide key references in the form of reviews, book chapters or books that should allow the reader to further pursue their readings should he or she decide to do so.

The second part represents a big effort on the part of the editors since they have succeeded in presenting in a relatively concise form the current status of plant virus taxonomy as well as available knowledge on the properties of viruses in each taxonomic entity (virion properties, genome organization, relationships with host cell and tissues, host range and symptomatology...). This second part may be less likely to appeal to people outside of the plant virology field and can also be obtained in more detail from the now well-known reference book 'Virus Taxonomy' edited periodically under the auspices of the International Committee for the Taxonomy of Viruses (ICTV).

Overall, what are the positive aspects of this book? Its completeness and compactness, despite the 450-or-so pages are certainly among the best arguments for this book. An even better one, in particular for students, is its comparatively low price (US\$ 69.95 for the soft bound version), which probably makes it one of the most affordable reference books in the field. This low price is to some extent compensated by the limited and, more importantly, relatively low quality

illustrations. The quality of the only two colour plates included to illustrate the diversity of symptoms induced by plant viruses, is not acceptable in this day and age of information technology, and even some of the black and white figures are of poor reproduction in the copy of the book I received to review.

Another potential problem with this book and with the concept it embodies are the limitations imposed by the 10-page index. For a book that was designed to provide easy access to definitions of terms and expressions, I found that starting the process with a word and trying to locate explanations through the index was sometimes frustrating. Going back to virus movement, the term plasmodesmata cannot be found in the index, the same being true of 'size exclusion limit', 'phloem', 'movement protein', 'tubules' and a few others. Thus, whether the book can reasonably be used as initially intended by the authors remains to be decided.

In summary, a compact and inexpensive textbook providing a broad coverage of plant virology, written as a series of chapters prepared by good to excellent invited authors and completed by a hefty part on the current status of plant virus taxonomy. Given these qualities, the book should clearly appeal to teachers, students and persons outside of the plant virology field seeking an easy, accessible and cheap textbook. It is somewhat less clear that the seasoned virologist will find his content here, since more complete or more detailed textbooks are also available, although at a higher price.