Viruses of plants

Microbiology Today: Book Reviews:

Viruses Of Plants

Descriptions and Lists from the VIDE Database

A.A. Brunt, K. Crabtree, M. J. Dallwitz, A.J. Gibbs & L. Watson, Eds CAB International (1996)

This is a simply magnificent book, and one which will be of great value to plant virologists for years. The term 'book' is perhaps a misnomer: no one will try to read it on a cover - to - cover basis, and there is no story line whatsoever (although there are two rather good taxonomic jokes on page 2). But the wealth of information about plant viruses collected in one place is truly impressive. VIDE is the *VI*rus Information *D*ata *E*xchange. Comprehensive information, including virus synonyms, host range and symptoms, transmission, geographical distribution, experimental host range, purification methods, particle morphology, physical and biochemical properties, replication, cytopathology and taxonomy has been collated by numerous plant virologists and assembled using the DELTA (*DE*scriptive *L*anguage for *TA*xonomy database system, which has powerful facilities for formatting, storing and retrieving data.

The project started as an experimental database of legume viruses in Australia, grew through the earlier CAB volume *Viruses of Tropical Plants* to the present volume which in the Introduction modestly states that it 'contains information on *all* viruses' (my italics), although it excludes those where the infectious particles have not yet been characterised. For the virologist seeking a highly-referenced introduction to any known virus, the book will prove a rewarding and obvious first port of call.

Of course, database information of this type calls out for electronic access, and on 12 July 1996 the book went on the Web (http://biology.anu.edu.au/Groups/MES/vide). A quick browse convinced me that the electronic version is superbly set up - it contains in addition electron micrographs of virus particles which are lacking from the printed version, and will be expanded in future to contain colour images of symptoms. This notwithstanding, I'm sure the printed version will be of great value to virologists worldwide. Considering the immense amount of information contained, it represents excellent value for money.

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Plant Viruses and Disease. This photo shows orchid leaves with symptoms of ringspots resulting from a strain of tobacco mosaic virus. Department of Plant Pathology, North Carolina State University/Bugwood.org/CC BY-NC 3.0. Plant viruses cause various types of diseases, but the diseases do not typically result in plant death. They do, however, produce symptoms such as ringspots, mosaic pattern development, leaf yellowing and distortion, as well as deformed growth. viruses and plants. 00:00:24.04 I'm going to tell you a little bit about how they replicate, but more importantly, 00:00:27.12 the cell biology of how they set up the virus replication factories 00:00:32.00 and how the ability of the virus to use host mechanisms to move from cell to cell eventually ends up in pathogenesis. 00:00:39.27 The second part of my lecture, the second lecture, 00:00:42.21 will be related to how to use that information through biotechnology to develop virus-resistant crops.