

- Huang, P., 1974. Ultrastructural modification by and pathogenicity of *Erwinia amylovora* in apple tissues. Ph.D. dissertation, University of Missouri - Columbia, 135 pp.
- Huang, P. & Goodman, R.N., 1976. Ultrastructural modifications in apple stems induced by *Erwinia amylovora* and the fire blight toxin. *Phytopathology* 66: 269-276.
- Keil, H.L. & Van der Zwet, T., 1972. Aerial strands of *Erwinia amylovora*: Structure and enhanced production by pesticide oil. *Phytopathology* 62: 355-361.
- Parker, K.G., Luepschen, N.S., & Fischer, E.G., 1961. Tree nutrition and fire blight development. *Phytopathology* 51: 557-560.
- Powell, D.B.B. & Thorpe, M.R., 1977. Dynamic aspects of plant-water relations. In: Landsberg, J.J. & Cutting, C.V. (Eds), *Environmental effects on crop physiology*. London: Academic Press. p. 259-279.
- Schouten, H.J., 1987a. Confidence intervals for the estimation of the incubation period of fire blight following Billing's prediction system 1. *Netherlands Journal of Plant Pathology* 94: 49-53.
- Schouten, H.J., 1987b. A revision of Billing's potential doublings table for fire blight prediction. *Netherlands Journal of Plant Pathology* 93: 55-60.
- Schouten, H.J., 1988. Notes on the role of water potential in the pathogenesis of fire blight, caused by *Erwinia amylovora*. *Netherlands Journal of Plant Pathology* 94: 213-220.
- Schouten, H.J., 1989. A possible role for the swelling of extracellular slime of *Erwinia amylovora* at increasing water potential. *Netherlands Journal of Plant Pathology* 95, Supplement 1: 169-174.
- Shaw, L., 1935. Intercellular humidity in relation to fire-blight susceptibility in apple and pear. Cornell University Agricultural Experiment Station, Ithaca, New York. nr. 181, 40 pp.
- Van der Zwet, T. & Keil, H.L., 1979. Fire blight. A bacterial disease of rosaceous plants. *Agriculture handbook* nr. 510. Washington: United States Department of Agriculture, 200 pp.
- Wilson, M., Epton, H.A.S., & Sigee, D.C., 1987. Ultrastructural studies on fire blight of hawthorn flowers. *Acta Horticulturae* 217:189-194.
-

Book review

D.W. Parry, 1990. *Plant pathology in agriculture*. Cambridge University Press, Cambridge, GB. 385 pp. Price paperback in GB 17.50 GBP.

In fresh inviting shades of green, a new book on plant pathology has appeared, aiming at a wide readership in agriculture. The book consists of two parts. Part I (158 pages) explains the principles of plant pathology. Pathogens considered are fungi, bacteria, mycoplasma-like organisms and viruses. Part II (189 pages) focuses on practice, presenting a catalogue of the main diseases of major temperate field crops. Clearly a choice had to be made. Of the pathogens, nematodes (and viroids) are excluded and of the crops, horticultural and tropical crops are missing.

Neth. J. Pl. Path. 97 (1991)

The first chapter of part I deals with some general aspects of disease, giving definitions and discussing Koch's postulates and the interacting factors in disease development: host, pathogen and environment. The second chapter describes the four selected classes of pathogens, their taxonomy, basic characteristics, reproduction, survival and modes of dispersal. Chapter 3 deals with the build-up of disease: mechanisms of infection and colonization in an individual plant and disease development in a crop (epidemiology). Chapter 4 is on damage, i.e. symptoms and their physiological basis, disease assessment and crop loss. Chapter 5, by far the largest one in this first part, describes the wide array of control options. Where appropriate, control measures are described against a background of theoretical information. For instance, the use of disease-resistant cultivars as complicated by physiological specialization of the pathogens and gene-for-gene relationships.

Part II introduces and describes the practice of crop protection. Major diseases are described, arranged by crop type. A separate chapter is devoted to each of the following crops: small-grain cereals, oilseed rape, field pea and bean, potato, sugar-beet, soyabean, maize and field vegetables. Of each crop type, 8 to 20 diseases are treated, with descriptions of causal organism, symptoms, disease cycle, significance and control.

Part I represents less than half of the book. Yet the author has succeeded in presenting a comprehensive survey by giving only basic aspects and treating these concisely, though here and there too concisely. For instance, the reader will not be enlightened much by the information that some viruses consist of more than one type of particle, whose presence is required for successful infection, without being told that the different types of particle contain different parts of the virus's genome. Likewise, the requirement of long access periods for acquisition and inoculation of persistently transmitted viruses would be easier to understand when the phloem-limited lifestyle of these viruses were mentioned.

Part II describes some hundred diseases and is encyclopaedic. Consequently, this part does not really contribute to the readers insight and general understanding of plant pathology. This is the more so, since Part II hardly ever refers to the content of Part I. So one cannot easily escape the impression that actually this represents two books in one. One book for students of plant pathology and one for farmers, advisers and consultants. Indeed, the first section introduces and explains connections, relationships and approaches, whereas the second section actually serves as a reference book for factual information.

Plant pathogens do not recognize national boundaries and plant pathology is an international science. However the non-British reader may not feel at home when reading this book: it describes the situation in Britain, especially for infrastructure and rules of crop protection, its legislative basis and the registration and use of control agents.

Although modern rapid printing techniques such as the one used here are not kind to photographs and the drawings (many of which are disease cycles) are not very skillfully made, the eighty illustrations in general manage to bring their message across.

There is a 10-page glossary, giving some 200 definitions, and an extensive subject index, in which, however, subjects are still missing. For instance, the reader, consulting the glossary and not being satisfied with the distinctive descriptions of *forma specialis*, pathotype and race, will not find these items in the index for reference to the pertinent pages of the text.

Despite the small shortcomings and internal incongruity, the book seems worth its price, certainly for English readers.

C.P. de Jager