BOOK REVIEW

Plant Pathogenesis and Resistance
Biochemistry and Physiology of Plant-Microbe Interactions

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Kluwer Academic Publishers, Dordrecht, the Netherlands, 2001, 691 pp.
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Theoretical approaches, methodology and experimental results of plant physiology, biochemistry and molecular biology have substantially influenced the development of plant pathology during the last 20 years. The nature of plant-microbe interactions, the initial signalling, signal transduction and defense response could be explained primarily at these levels. The rapid expansion of knowledge in this area is demonstrated by the increasing number of journals and papers dealing with this topic. The book "The Biochemistry and Physiology of Plant Disease" written by R. N.GOODMAN, Z. KIRÁLY and K.R. WOOD (1986) could without any doubt be considered as a bible in this field of plant pathology. However, we have been missing an updated, more general and comprehensive treatment of this topic. The book reviewed here can thus be taken as a welcome sequel of that by GOODMAN *et al*.

The book is divided into four sections and ten chapters. Section I (Infection process) summarizes in one chapter the present knowledge on penetration of cuticles by plant pathogens. Section II (Plant pathogenesis) is divided into five chapters and deals with degradation of cell walls by plant pathogens, bioenergetics of plant-pathogen interactions, *Rhizobium*-legume symbiosis and the effect of diseases on nodulation, growth regulators and plant tumorogenesis, phytotoxins and plant pathogenesis. Section III (Signal transduction) focuses on host-pathogen specificity with emphasis on the role of signal molecules, their perception and transduction, host responses to signals, gene expression and regulation. Section IV (Dynamics of plant defense) presents an up-to-date overview of fortification of plant cell walls and accumulation of phytoalexins as a resistance mechanism, pathogenesis-related proteins and disease resistance. Throughout the book, individual chapters are divided into numerous subchapters and parts with easily understood numerical codes. The text is augmented by many tables and highly instructive figures. Each chapter is followed by a large number of references, mostly recent. Easy orientation is possible by a combined (subject, host, pathogen) index.

Because of its high scientific level, the book should be useful for researchers, teachers and advanced undergraduate and graduate students of biology, plant sciences, plant pathology, physiology, biochemistry, molecular biology and related branches of life sciences. It could be considered as an exciting textbook of plant pathological physiology and biochemistry, but also as an excellent reference manual of recent literature in this area.

Both author and publisher are to be commended for an extraordinary good work!

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