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BOOK REVIEW

J. E. VAN DER PLANK: **Principles of Plant Infection**. — Academic Press, New York 1975. 216 pp. 37 Figs, \$ 16.00.

The book contains seven chapters: 1. The relation between the amount of inoculum and the amount of disease it produces; 2. More about disease / inoculum curves; 3. Effect on disease of variable, limiting factors other than inoculum; 4. Epidemics. The time dimension; 5. When time is unimportant. Endemic disease; 6. The spread of disease. Time and distance as dimensions; 7. Genetics of host-pathogen relations. The authors' long experience in solving basic and special problems of epidemiology and resistance in plants enabled him to write this book, which is unique in many respects. It deals mainly with plant diseases caused by fungi (belonging esp. to the genera *Alternaria*, *Botrytis*, *Colletotrichum*, *Cronartium*, *Erysiphe*, *Fusarium*, *Helminthosporium*, *Peronospora*, *Phytophthora*, *Puccinia*, *Pythium*, *Rhizoctonia*, *Sclerotium*, *Septoria*, *Synchytrium*, *Uromyces*, *Ustilago*), bacteria, and some viruses. Factors determining the degree of infection and their interactions are discussed. Studies of quantitative relationships represent modern ways important in quantitative epidemiology and in constructing new mathematical models. Experimental data are analyzed in the book which, of course, does not deal with the technology for data collecting. Those technologies must be improved because many subjects dealt with could be adapted for use in computer programming. Problems of host resistance to disease are thoroughly discussed. Dual nature of resistance is especially stressed and a molecular theory for the two types of resistance is suggested. Vertical and horizontal resistance, immunity, hypersensitivity, phytoalexins, virulence etc. are discussed from modern and critical points of view. Most plant pathologists will surely agree with the authors' comments about terminology. The book represents a valuable contribution to science and for education.

J. BRČÁK (Praha)