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Figures at the end of the issue.

BOOK REVIEW

VANDERPLANK, J. E.: GENETIC AND MOLECULAR BASIS OF PLANT PATHOGENESIS. — Springer Verlag, Berlin—Heidelberg—New York, 1978, 167 pp. Cloth DM 48.—, US \$ 24.00.

Each book of Vanderplank shows the versatility of the author, knowledge of various fields of science and the outstanding ability to develop original concepts and hypotheses. This book applies recent findings of molecular genetics to plant pathogenesis. Proteins are the key to the author's concept of disease resistance in plants. Importance of thermodynamics of host protein-parasite protein polymerization in host-parasite interactions is stressed. In addition to the biochemical approach to plant disease resistance Vanderplank deals with population genetics of the pathogen and summarizes and further develops his concepts of vertical and horizontal resistance published earlier. He presents a molecular hypothesis of these two forms of resistance.

The topic is discussed under the following headings: 1. Variation in the resistance of the host and in the pathogenicity of the parasite. 2. The gene-for-gene and the protein-for-protein hypotheses. 3. The protein-for-protein hypotheses: temperature effects and other matters. 4. Common antigenic surfaces in host and pathogen. 5. Other large molecules in relation to gene-for-gene disease. 6. Population genetics of the pathogen. 7. Horizontal resistance to disease. 8. Selective pathotoxins in host-pathogen specificity. 9. A molecular hypothesis of vertical and horizontal resistance. 10. Biotrophy, necrotrophy and the lineage of symbiosis.

The contents of Vanderplank's book indicate author's unconventional approach to plant pathogenesis. For this reason not all readers will probably agree with all Vanderplank's conclusions. However, all plant pathologists, plant breeders and biologists interested in biochemistry and genetics of host-parasite interactions in plants will find the book very interesting and stimulating.

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