Plant protection

The Plant Protection Discipline: Problems and Possible Developmental Strategies. By W. H. Sil, Jr. Pp. 190. (Wiley: Chichester, UK, and New York, 1979.) £17.75.

THE title of this book is misleading, although the subtitle does imply that it is concerned not with a factual account of the subject, but with a discussion of certain aspects. It is essentially a series of essays which consider the problems caused by pests, diseases and weeds in the major agricultural crops of the world, the ways in which research, development and advice are used to bring them under control, and the conflicting interests involved.

The problems illustrated are almost exclusively American, although there is some reference to the work in developing countries of international agencies such as FAO and the Ford and Rockefeller Foundations. There is an excess of quotations which are so numerous and conflicting that it is difficult to discern the author's own views. Indeed he apologises for them in his introduction: "This is not a scientific treatise. Rather it is a compendium and summary of the thoughts of the leading proponents or opponents of this new discipline. Consequently, there are many quotations, far more than most scientists, including the author, might prefer."

The book is intended for "government officials, administrators and leaders in the various sub-disciplines." It argues the case for an interdisciplinary approach to the increasingly serious problem of crop losses from pests and diseases. This subject is certainly one of urgency and the reader is given a comprehensive account of a situation which has arisen chiefly from increasing concern about the pollution of the environment by pesticides and an increase in the incidence of resistance and tolerance of pests and diseases to chemical control. (A recent report from the UN Environment Programme shows that the number of insect and mite species which have developed tolerant strains increased from 182 in 1965 to 364 in 1977.) The crop losses caused by pests, diseases and weeds are serious and worldwide, and the sophisticated systems of monoculture in the developed countries are as dependent on effective pests and disease control as are the more primitive systems of the developing countries which are seeking to exploit the improved varieties bred specifically for the Green Revolution.

To meet this challenge Dr Sil maintains that there is a need for a new profession to educate 'general practitioners' of plant protection. He complains with some reason and factual support that agriculture is a low prestige subject, especially in developing countries and that applied research in agriculture is less prestigious than pure research. He distinguishes differences in attitudes between entomologists and plant pathologists, a distinction which is not nearly so significant in Europe as it seems to be in America. There is brief reference to legislation governing the use of pesticides and schemes for certification of pesticides and those who apply them. There is a lengthier consideration of the need for cooperative efforts between the various disciplines and agencies involved and at times, the author becomes obsessed with the technical jargon of 'crop protection', 'plant protection', 'pest management', 'Biological control', 'integrated pest control' and so on, so that he loses sight of his main theme in the minutiae.

The remaining chapters of the book are devoted to a consideration of possible organisational strategies as they relate to collaboration between official research and advisory organisations and the chemical industry. The emphasis throughout is on the integration of education, research and advice.

There is little new in this treatment but the book serves a useful purpose in bringing together many topics that are of current worldwide concern. Interesting though the discussion may be, however, the readership of the book is likely to be very limited. It is hardly a book of reference because both the situation and attitudes are changing all the time; and it is expensive for what it is.

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● Paul Colinvaux's *Why Big Fierce Animals are Rare* (Princeton University Press: New Jersey; for review, see *Nature* **273**, 787; 1978) will be published in the UK in November by George Allen and Unwin (London) at £6.50.

HLA and H-2

HLA and H-2: Basic Immunogenetics, Biology and Clinical Relevance. By H. Festenstein and P. Demant. Pp. 215. (Edward Arnold: London, 1978.) Paperback £9.

TRANSPLANTATION immunology has evolved in an attempt to understand, and prevent, rejection of foreign grafts. Although we may have been getting closer to this goal, the impact of this research has not been restricted to that old dream of restorative medicine but has contributed fundamentally to a better understanding of vertebrate genetics and immunological phenomena in general, ranging from tumour immunology and serology to such complex phenomena as immune response regulation and the fascinating linkage between susceptibility to disease and major transplantation antigens.

This booklet on HLA and H-2 covers this wide area in a short and accessible way. It is intended for the many clinicians and immunologists who do not have the time, or courage, to study the encyclopaedic treatises on H-2 by J. Klein or by Snell, Dausset and Nathenson. Taking transplantation immunology as "art pour art" the book is teaching a great deal: How to perform HLA typing economically and reliably, how to inbreed mice, the grand rules of serology and genetic analysis, how to cope with statistics of gene linkage, that complement factors and other MHC products may have interesting things in common, some ideas about the mysterious MIs locus or the L antigen in mice, a simple method to use sperm as Lad typing cells, and a great number of most helpful tables on various antigen systems, frequencies of antigenic specificities, cross-reactivities, the newest rules in terminology and designation of specificities. Although the booklet has a small format, it is really an extended review, and it has been difficult to treat the immense abundance of facts and speculations on HLA and H-2 even in 200 pages. That the intended brevity has, except for MHC-coded *Ir* genes, left out some of the recent insights into the biological role of major histocompatibility gene products in defining T cell effector function, restriction specificity and responsiveness is (and my view is obviously biased) a pity. Some explanation of the probably real biological functions of major transplantation antigens might make it easier for the reader and student to get a feeling for the linkage between cell-mediated immunity against intracellular parasites (for example, viruses) and graft rejection (with all consequences for immunosuppressive therapy), for polymorphism (really the basis for transplantation reactions), and associations of disease susceptibilities and major histocompatibility antigens. However, people concerned with the practical consequences of major transplantation antigens in graft rejection are interested in the hard facts, methods of analysis and their correct evaluation of everyday experiments in the clinic or the laboratory, rather than in philosophical discussions on evolution and function of major transplantation antigens. For these practical aspects this booklet is of great value to students and practitioners in transplantation immunology and will serve as excellent and handy *vademecum*.

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