

DELFOSE, E.S. (ed.). 1993. *Pests of Pastures: Weed, Invertebrate and Disease Pests of Australian Sheep Pastures*. Melbourne; CSIRO, Information Services, x + 434 p. ISBN 0-643-05140-6. Paperback. \$60.00

Have you ever wondered about pest problems and pest management "Down Under"? Here is your chance to get a broad overview of one production system. Delfosse has compiled an excellent set of papers reviewing the state-of-the-art as it relates to pasture production. Australian sheep producers are faced with some of the same problems confronting American livestock and crop producers, but with a distinctly Aussie flavor. Because many Australian pastures are improved, which means that grasses, legumes, or a combination of grasses and legumes have been sown, the pastures are not unlike crop systems. Many of the problems discussed in this book have been brought about by conversion from natural to crop-like systems, or by overgrazing, so a common theme among many of the papers is enhanced understanding of pest ecology. As in North America, invasion of pastures by exotic organisms is a common problem. However, the pests are usually different from those we face in North America. While there is discussion of some cosmopolitan species such as spotted alfalfa aphid and cowpea aphid, there also is information on unique problems. The reader will learn about such exotica as redlegged earth mite (a seedling pest), corbie (*Lepidoptera: Hepialidae*), doublegee (a weed in legume pastures), and Paterson's curse (a serious pasture pest in Mediterranean-like climatic areas).

The editor was faced with a formidable task in assembling 75 contributions from 115 authors into a coherent volume. The book is organized into 7 sections, each of which receives about equal treatment: an overview of sheep and pasture production, including the economic impact of pests; pest ecology; cultural control; chemical control; biological control; integrated control; and technological and social limitations on pest management in the future. The organization works fairly well, although some placement of papers seems arbitrary. Also, the reader should be aware that treatment of the pest disciplines is not equal, undoubtedly reflecting differential impact of the pests. There are about 30 papers on weeds, as opposed to 13 on invertebrates, 3 on diseases, and 13 on a combination of pest problems. The remainder of the chapters are concerned with economics and research priorities. A novel and very useful element of the book is inclusion of papers by sheep farmers. This may reflect appreciation of the so-called "Rapid Rural Appraisal" system of problem identification (contribution by Ampt and Ison) in which producers participate more fully in problem identification and research planning. Apparently not everything in Australia is done "rapidly," however. It seems that the authors and editor anticipated a 1992 publication date, as they refer to the various papers within the book using 1992 instead of the actual 1993 date.

With so many contributors and so broad a subject, there is risk of superficial treatment. Indeed, with the exception of some comprehensive review chapters, the average length of papers is only about 5 pages. However, the editor and authors have done an outstanding job of providing quality coverage of most topics; despite their short length, the contributions are very informative. Most important to this reader, though, were the accompanying bibliographies. Australians seem to be less prone to publish in widely accessible journals. About one-half of the citations are from workshops, conference proceedings, or State Department of Agriculture or CSIRO publications. While these probably gain good distribution in Australia, it is sometimes difficult for those of us "Up Above" (is this the opposite of Down Under?) to be aware of important developments and to access the documents. Thus, this book goes a long way toward increasing our knowledge of Australian agricultural science. At least from my perspective, there is a lot of quality research in Australia, and a great deal of it is encapsulated in this document.

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