

Book reviews

Tropical Grassy Weeds

F.W.G. Baker and P.J. Terry (eds). (1991). C.A.B. International, Wallingford, U.K. 203 pp. £E30. US\$57.

Grassy weeds reduce tropical crop production and are indicators of degradation of pastures. This timely hardback arises from a symposium in Nairobi in 1990 organized by the Committee on the Application of Science to Agriculture, Forestry and Aquaculture.

The introductory chapters give an overview of weeds in the tropics, identifying grasses and sedges as the dominant problem species and indicating the physiological characteristics which make for their ecological success. There are 20 line drawings of the worst weeds. Approaches to weed management: herbicides and their safe use, herbicide resistance, seed quarantine, biological control and the concepts of integrated pest management are outlined. These are followed by chapters about specific crop and pasture situations and about problems in the regions: Kenya, the Philippines and northern Australia. Professor Len t'Mannetje's chapter on the control of weeds in grasslands and forage crops will have especial significance for readers of "Tropical Grasslands". He details the classes of weeds encountered in grasslands, and the approaches to their control in the establishment, productive and degradation phases. I was especially interested in a segment (p. 121) of the chapter by Dr J. Maillet which indicated the climatic and soil conditions specific to the occurrence of particular weeds.

We have come to expect uneven standards and some overlap of material in multi-authored books. This book is lucid, well-written and authoritative in the main. However, for example, we do read with amazement (p. 47) that "most tropical grasses appear to require short days (12 h or less) to initiate floral primordia at the apex". In fact it is the quantitative flowering response to shortening days longer than 12 h or the day-neutral response which enable most tropical grasses to flower and seed whenever there is enough moisture and warmth for seed production which contributes to their weediness.

The text emphasizes the role of multiple cropping in contributing to weed suppression; I should

have been interested to see more material on the possibilities for weed control through intercropping with forages or through ley pastures. Recently the place of sheep in weed control in rubber plantations has attracted notice. There is, by implication, reference to the positive aspects of weeds in providing forage and in erosion control. Extension workers need to recognize the value of hand pulled weeds for feeding the cattle which are integrated with crop production in some mixed farming systems.

The concluding section makes far-sighted recommendations for future research. These emphasize our continuing dependence on herbicides, the need for detailed study of the biology of individual weeds, and the possible role of mycoherbicides.

L.R. Humphreys

Will it Rain? El Niño and the Southern Oscillation.

Ian Partridge (ed). (1991). Pastures Management Branch, Queensland Department of Primary Industries. 49 pp. A\$15 plus \$2.50 postage in Australia. Available from QDPI Publications, Queensland Department of Primary Industries, GPO Box 46, Brisbane Qld 4001, Australia.

At last a book is available which summarizes some of the research work completed so far on the El Niño/Southern Oscillation phenomena — at least as far as its effects on rainfall variability over Queensland are concerned.

Will it Rain? consists of only 6 short Chapters, each written by different authors. The first three chapters take the reader through a brief but reasonably thorough explanation of meteorological and climatological processes that affect much of eastern Australia. Certain climatological aspects associated with the Southern Oscillation and Southern Oscillation Index (SOI) are explained. The other chapters describe variations in plant growth and crop yields associated with the SOI and the implications for better decision making when using the SOI. The important concept of probabilities in dealing with rainfall amounts associated with the SOI is also explained. Thus, the reader is made aware of the benefits of using information such as the SOI in planning decisions associated with a farming enterprise.

It was pleasing to see the book addressed the spatial variability of rainfall effects associated with the SOI and also emphasized that the SOI and El Niño are not the only mechanisms responsible for rainfall variability in Queensland.

Will it Rain? is illustrated liberally with figures and tables and includes a glossary which provides easy to read explanations of such phenomena as 'the sub-tropical ridge', the 'Inter-tropic Convergence Zone', and 'The Walker Circulation' — all terms once only the preserve of meteorologists.

To detract from the excellence of this little book, I noticed the figures in Chapter 1 were not referred to in the text. I was also a little dismayed by a statement made on page 22 that 'we cannot predict the weather' (why do we have a Weather Bureau?). The subtlety of the argument further in the text as to what makes a 'prediction' as opposed to a statement of the probability a certain event has taken place in the past together with the *implication* it may take place again would, I suspect, not be understood by many readers.

Will it Rain? has application to other than to farming. I can see it being useful as a late high-school/early university text to provide a first synopsis of recent El Niño/Southern Oscillation research. (Readers of *Will it Rain?* are also guided to further reading on the subject.) That so much detailed and often complicated research could be summarized so concisely is a credit to the producers of *Will it Rain?*

Roger Stone

Terminology for grazing lands and grazing animals

The Forage and Grazing Terminology Committee, Vivien G. Allen, Chairman.

Pocahontas Press Inc., Blacksburg, Virginia, U.S.A. 38 pp.

Recommended retail price \$US5.00 plus \$US2.50 shipping & handling with a 10% discount on bulk orders of more than 5 copies from the publishers at 2805 Wellesley Court, Blacksburg, VA 24060-4162, U.S.A.

This small booklet could have filled a very much needed want in the field of pasture literature. Unfortunately it has been prepared by a committee of 30+ Americans and only 2 international members (one Australian and one New

Zealander). As a result its application to the "true" English speaking countries is minimal.

For example **Pasture** is defined as — "A type of **grazing management unit** enclosed and separated from other areas by fencing or other barriers and devoted to the production of **forage** for harvest primarily by grazing". In other words, in our language, a paddock of pasture rather than the pasture itself.

In contrast a **Paddock** is defined as — "A grazing area that is a sub-division of a **grazing management unit**, and is enclosed and separated from other areas by a fence or barrier". Or is there really a contrast between Pasture and Paddock as defined in the booklet? **Pasturage**, as a result, is "not a recommended term."

Specific pasture types, sown pasture, native pasture, ley pasture or permanent pastures do not even rate a mention. The term pastoral, as in pastoral industries or pastoral lands is only mentioned in two land use types: agro-silvo-pastoral and silvo-pastoral.

Herbage is defined as — "The biomass of **herbaceous** plants, other than separated grain, generally above ground but including edible roots and tubers", rather than the broad-leaved, herb component of the pasture as we would define it, especially in native pasture areas.

Continuous grazing is "Not a recommended term because animals do not **graze** continuously. If used it is synonymous with **Continuous stocking**." There is some logic in this one.

The booklet is divided into a number of sections. The active ones being:

Terms for forage and grazing lands

Vegetation terms

Grazing land terms

Kinds of grazing lands

Ecological land types

Miscellaneous terms

Management concept terms

Terms of measurement, space, time or degree

Terminology of area

Terminology to compare animals

Land- and/or forage-to-animal relationships

Terminology referring to measurements of forage

Terminology referring to time

Methods of grazing

Appendix