

BOOK REVIEWS

Agronomy of Grassland Systems. C. J. PEARSON and R. L. ISON. Cambridge University Press: Cambridge, 1987, 169 pp. £9.95 softcover, £27.50 cloth.

Agronomy of Grassland Systems is a significant book which will influence the development of pasture science. Pearson and Ison, who work at the University of Sydney, have produced a thoughtful, well written monograph with a distinctive holistic approach to the science of grassland production which has not been duplicated elsewhere.

The authors are agronomists who also work in systems analysis. The book enunciates biological principles and systems concepts. Some facts are presented to illustrate and clothe principle but the authors claim "to have avoided prescriptions, which usually only have local relevance". There is a good geographical balance of illustration from tropical, subtropical, Mediterranean and cold temperature pastures.

Pearson and Ison describe "the principles which underly the biological operation of grassland systems", especially as these relate to the dynamics of the system; they do this with great clarity. The subject is broken down into a simple and logical sequence of topics. They start with generation, from the aspects of both the seed (seed banks, germination and establishment) and the vegetative bud. Chapters follow on growth, flowering and seed production, mineral nutrition, the relations of herbage quality to animal production, and the grassland-animal interface and its management. The concluding chapter gives perspectives and terminology for studying farming systems. It includes a descriptive analysis of the major agricultural systems with grassland components, a section on the integration of grassland and crops, and some approaches to the modelling of grassland systems.

My only major criticism is that the book pays insufficient attention to the characterisation and choice of grassland species for different environments, and to the genotypic variation available. There is also little mention of the role of plant improvement in maintaining or increasing grassland productivity. I hope these deficiencies will be addressed in future editions.

The attack throughout is rigorous and quantitative; we are not left with qualitative generalisations if there is an equation available. The book is well illustrated with tables, diagrams and drawings (but no plates); there is an index and the bibliography of c. 700 references will have utility for most grassland scientists.

No doubt the book will mainly be used as an undergraduate text but it belongs on the shelves of all pasture workers.

L. R. HUMPHREYS

Native Pastures in Queensland. Eds. W. H. BURROWS, J.C. SCANLAN and M. T. RUTHERFORD, Department of Primary Industries, Brisbane, 1988, 284 pp. \$20.

This book is based on material presented at a workshop in July 1984 organised by the Pasture Management Branch of the Queensland Department of Primary Industries. The papers were revised later to incorporate comments made at the workshop and by the reviewers; however, only 11 of the more than 550 references are from 1985 onwards. The authors are all officers of the Queensland Department of Primary Industries.

The twelve chapters cover the resources and management of native pastures in Queensland. The importance of native pastures to Queensland agriculture is stressed in both the foreword and preface, and set out in detail in chapter 1. The following two chapters describe the environment and native pasture communities. Effects of plant morphology and physiology on native pastures (chapter 4), ecological relations