

Book reviews

Dryland Farming — A Systems Approach An Analysis of Dryland Agriculture in Australia

Eds VICTOR SQUIRES and PHILIP TOW, National Key Centre for Dryland Agriculture and Land Use Systems, University of Adelaide, 1991. Published by Sydney University Press \$44 p. & p. 306 pp 120 figures 70 tables.

At the third National Conference of the Australian Institute of Agricultural Science on Agricultural Education in Hobart in 1965, Joan Tully stated that "farming can be considered as a very complex system of interdependent and interacting sub-systems, each of which is complex and dynamic in itself". The major sub-systems included climate, soils, plants, animals, markets, cost-price structures and the farmer, both as a risk taking individual and in his social setting.

Tully reminded us that any change in any sub-system, whether deliberate or due to factors outside the control of farmers, brings about changes throughout the whole system. This new book uses a systems approach to examine the "interdependent and interacting components" that operate within the farm, in the dryland farming areas of the arid zones of temperate and subtropical Australia.

There are contributions from 37 authors to 21 chapters grouped into four sections, plus case studies from each of the five states in which dryland agriculture is the main land use. The editors have designed the book for "students at tertiary level, educated farmers and their advisers and for specialist researchers who wish to think about whole systems".

It is claimed that this book is unlike educational textbooks which look at various topics in isolation. Instead it is assumed to look at whole farms rather than just at separate enterprises. This is only partially true — there are useful sections

on tillage practices, fertiliser usage, pest control, economics and planning. The major emphasis is on integrated approaches — to consider agro-ecosystems and how they function.

As with most multi-authored books, there is considerable variability in style, content, philosophy, fact and accuracy. If there is a second edition, effort needs to be expended in ensuring figures or tables in one chapter agree with those in others, that data in tables agree with those in figures, and that the many errors are corrected. There is a good book somewhere in "Dryland Farming" — the idea is excellent, but the execution is lacking. Some chapters are concise and precise, others appear to be searching for space to include interesting information. The index and reference system (suggested reading at the end of each chapter) is inadequate for a book of this scope and importance.

Readers of "Tropical Grasslands" might welcome the few papers that mention cattle, especially those on modelling; however, this information is available elsewhere. The Darling Downs case study is of a grain grower near Dalby.

The systems approach should be taken seriously. Whether it is useful depends on many factors. As Jock Anderson and David White conclude in chapter 2 — "It is often found that merely sketching symbolic charts of systems and depicting key interrelationships can be a useful activity . . . As with all artistic endeavours, its beauty lies in the eye of the beholder, its satisfaction lies in the mind of the creator, and the quality and insight of the representation directly reflect the experience and wisdom of the system perceiver/analyst".

J.S. Pulsford