

Book reviews

Forage tree legumes in tropical agriculture

Edited by R.C. GUTTERIDGE and H.M. SHELTON. Published by CAB International, Wallingford, United Kingdom, 1994. 389 pp. ISBN 0 85198 868 7. £24.50.

The editors from the Department of Agriculture of The University of Queensland, Brisbane, Australia have assembled a comprehensive coverage of current knowledge on forage tree legumes and their uses in production systems in the tropics, especially in Australia and south-east Asia.

Tree legumes serve a multitude of purposes in agriculture and forestry, including fodder for animal production, fuelwood and timber production, soil conservation and fertility improvement. Their role and potential is being increasingly recognised for both intensive and extensive agroforestry systems, particularly in humid and semi-arid regions of the tropics.

This book contains 7 chapters comprising 31 sections contributed by 31 authors, sometimes collaborating in providing the coverage of each topic. Ten topics have one or both editors as authors. Most sections contain a useful summarising conclusion which is followed by references.

The book describes in detail the origins and characteristics of the principal tropical forage tree legume species: *Leucaena leucocephala*, *Gliricidia sepium*, the perennial *Sesbania* spp., *Calliandra calothyrsus*, *Albizia lebbek* and *Erythrina* spp. Other species, *Acacia angustissima*, *A. boliviana*, *A. villosa*, *A. saligna*, *Chamaecytisus palmensis*, *Codariocalyx gyroides*, *Desmanthus virgatus*, *Faidherbia albida*, *Flemingia macrophylla* and *Prosopis* spp., some weeds and potential weeds in Australia, are briefly described. Since the chapter was written, *A. angustissima*, *A. boliviana* and *A. villosa* have been found to be relatively unpalatable to cattle and are potential weeds in northern Australia. Eradication of plants in the small trial plantings is in progress.

Chapters follow on agronomy and management, animal production, including topics such as nutritive value and anti-nutritive factors and means of overcoming some of these, multi-purpose use and insects and diseases of tree legumes. Widespread damage to *Leucaena leucocephala* by the psyllid insect (*Heteropsylla cubana*) has prompted some authors to emphasise the importance of diversifying the genetic basis of tree legumes and to recommend a greater awareness and knowledge of their pests and diseases. A warning is given that damaging and potentially damaging diseases on some important tree legumes will increase with expansion in occurrence and severity.

The final chapter contains 6 regional studies using tree legumes. Some document great benefit to agricultural productivity, others discuss difficulties with management and system sustainability, and some describe catastrophic results. *Acacia nilotica* was introduced to Queensland about the turn of the century and has invaded vast areas in the State's north-west. The author concluded that all plant introductions should be presumed weeds until proven otherwise. The over-reliance on leucaena in Timor and the devastation in 1985 by the psyllid resulted in a return to the more traditional *Sesbania grandiflora* as the most important multi-purpose tree.

The text is interspersed with graphs and tables of data and is illustrated with black and white drawings and photographs of plants. The book is adequately indexed but common plant names are rarely included. A list of abbreviations contains acronyms sometimes undefined in the text. Some information is repeated in different sections as may be expected in a multi-authored text.

The book provides a useful reference for advanced students in agriculture and forestry and practitioners, especially scientists, with an interest in this subject.

Walter Scattini