

BOOK REVIEW

The Biology and Agronomy of Stylosanthes. Helen M. Stace and L. A. Edey (Editors), Academic Press Australia, North Ryde, 1984, 636 pp, A\$50 plus \$6 surface postage.

In November 1982, an International Symposium on the legume genus *Stylosanthes* was held at Townsville, Queensland. The 31 chapters in this book stem from that meeting. There are 43 contributors, of whom 18 are employed by the Symposium sponsor, the CSIRO Division of Tropical Crops and Pastures. The remainder are from CIAT (Centro Internacional de Agricultura Tropical) (six contributors), the Queensland Department of Primary Industries (four), research organisations in Brazil (four), research centres in Africa (two), Universities or Agricultural Colleges in several countries (six), and the CSIRO Division of Soils (three). The result is a voluminous and authoritative collation of knowledge about *Stylosanthes*—a reference book that will be used and quoted for many years.

The book is arranged in three sections. The first contains seven chapters on taxonomy, biogeography, genetic diversity and genetic resources. (Another two chapters on agronomic diversity are found towards the end of the book). These chapters are characterised by considerable differences of opinion on the classification of the genus, and even on the need for further refinements of taxonomy. The second section contains eight chapters that deal with environmental constraints to productivity and persistence. The emphasis here is on mineral nutrition including *Rhizobium* and mycorrhizal relations (three chapters), diseases and pests (two chapters), and drought stress (covered in two chapters). Reproductive physiology is included in this section.

The third section, comprising about half of the book, deals with many aspects of the use of *Stylosanthes* in pastures. The topics include seed production and biology, pasture ecology, nitrogen fixation, nutritive value of herbage, animal production, regional experience (six chapters) and plant improvement.

A great deal of information on *Stylosanthes* has been obtained in a very short time. The value of *S. humilis* as a cattle feed was recognised in Australia by 1914, only 10-15 years after the species was first seen in this country. During the 1930s and 1940s, first *S. humilis* in this country and then *S. guianensis* in Australia and Brazil were commercialised as a result of the pioneering efforts of a handful of scientists and farmers. It was not until the 1960s, when Australian scientists intensified their efforts to collect *Stylosanthes* accessions from tropical America, that the modern momentum of research was initiated. The establishment of CIAT in 1969 led to a further intensification of research on *Stylosanthes* within tropical America. Thus, about three-quarters of the many hundreds of references cited in the book, particularly those that underpin our scientific understanding of the genus, have been published since 1970. Consequently, the research has a scientific strength and breadth which will impress even the most casual reader, and which forms a solid base for future commercial development of *Stylosanthes*.

The book is of interest not only as a record of *Stylosanthes* research, but as an introduction to the special problems of improvement of tropical pastures by the introduction of legumes. *Stylosanthes* is seen world-wide as a key genus for this purpose. Experience with *Stylosanthes* therefore is of interest to all those concerned with the development of low-cost, reliable improved pasture technology in the tropics. Those who work with other legumes should read this book.

There is a certain amount of redundancy in the book, but perhaps this is not a bad thing. Many readers will not wish to read every chapter, and repetition of key research findings in more than one chapter will help to ensure that they are disseminated.

The book will be of benefit mainly to agricultural scientists, but students and farmers will find it useful. The price is very reasonable for a book of this size and quality.

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