

## BOOK REVIEW

*White Clover* M. J. BAKER and W. M WILLIAMS (Eds) C.A.B. International Wallingford, U.K. 1987. 534pp. £49.50

The stated objective of this book is to produce an exhaustive, systematic treatise on white clover, the first book specifically on white clover since that of A.C. Erith in 1924. This has been achieved, the massive increase in size from Erith's slim book to this volume of over 500 pages certainly reflects the importance of white clover and the research carried out in many countries over recent decades. All the authors, at the time of writing, were based at Palmerston North, New Zealand. Despite the localised authorship, there has been good coverage of the world literature. While the editors acknowledge that there have been delays in publication, they claim that the literature is reviewed "comprehensively until about 1982-83". While generally true, this does not apply to all chapters.

The book consists of 14 chapters, which I shall consider in 5 main sections. The first three chapters of 124 pages describe the anatomical structure of white clover and its vegetative and reproductive development. This section is basically for the specialist, although there is an interesting account on pages 91 and 92 about the inverse relationship between intensity of flowering and vegetative persistence.

The second section of 74 pages includes 3 chapters on physiology, nutrition and nitrogen fixation. The chapter on nutrition will probably be the most interesting to *Tropical Grasslands* readers. It discusses uptake and utilization of nutrients and approaches to increasing nutrient efficiency. Visual symptoms of deficiencies are listed and a small section on critical values highlights the variation in reported values. Interestingly, there is nothing about relating nutrition to standard soil analyses.

The third section comprises only one chapter of 96 pages entitled "population dynamics and competition". This is virtually the only argonomic chapter in the book and covers all aspects of establishment, seed production, ecology, persistence and management. Although the chapter contains some 500 references I noted very few from 1980 or later. This highlights a problem with this chapter in that the important advances made during the early 1980s by workers in New Zealand and the UK in understanding of the growth, turnover and burial of white clover stolons under grazing are not considered. Hence the treatment of the population dynamics of white clover in temperate areas is some-what outdated. The same comment applies to the less important subject of population dynamics in subtropical areas. It is a pity that an otherwise full coverage of white clover ecology could not have been up-dated when publication of the book was delayed.

The fourth section of 122 pages consists of 3 chapters on genetic variation, breeding and taxonomy. Much of this section is for the specialist although there is a good summary of white clover persistence on pages 367 and 368. There is a useful list of white clover cultivators on pages 388-401. The information given for each cultivar varies but usually includes date of release, who maintains the cultivar, key agronomic features and key references.

The final section of 92 pages gives a detailed account of diseases of white clover, primarily caused by fungi or viruses, and pests of white clover. The final 8 pages deal with the effect of herbicides on white clover.

This book would be an obligatory item on the buying list for libraries in temperate or subtropical areas where white clover was grown and would be recommended to individuals with an active research interest in white clover. However, most *Tropical Grasslands* readers are not in this category. Nevertheless, the book is well worthwhile purchasing by major libraries in the tropics and subtropics because of the importance of research on white clover in increasing overall understanding of pastures. However, it is unlikely that it will find its way into personal libraries of many pasture scientists in the tropics and subtropics.

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