

BOOK REVIEWS

A Guide to Better Pastures for the Tropics and Sub-Tropics by L. R. Humphreys, 2nd (Revised) Edition, 1969. 79 pp. Published by Wright, Stephenson & Co. Ltd. Australia.

We have to thank Dr. Humphreys and Wright, Stephenson and Co. Ltd. for this compendium of information on tropical and sub-tropical pasture grasses and legumes. Apart from the Australian Herbage Plant Register (1967) and supplements and Herbage Plant Species (1969) produced by Dr. C. Barnard, there is no other one source of reference to the many new and old pasture species for the tropics. In this booklet Dr. Humphreys brings to us a wealth of observation and comment on these species, some of which are well documented in various publications but much of which is from the files of the Department of Primary Industries.

The booklet opens with five short chapters dealing with the place of improved pastures, their establishment and maintenance in the pastoral economy of the tropics and sub-tropics. There is a variety of reasons why a pasture improvement program should be entertained. One, such as with the coastal lowlands or brigalow, there is no alternative because the existing vegetation is unproductive as a livestock resource. However, much of the area is already grassed naturally or as the result of earlier forest clearing activity and Dr. Humphreys discusses the many reasons why pasture improvement is being considered here. Because the choice for most people in this situation is either to increase income by pasture improvement, hang on at a declining standard of living or to sell out, the critical question is "will it pay?" This, of course, is a very personal question which relates to the multitude of circumstances which face each producer.

The second chapter discusses the broad topic of pasture establishment and here it is made obvious that different situations demand different approaches. The seedbed may be the ash of a forest burn, the rough chisel ploughing of the steeper hillsides or the careful working of the deeper soils of the lowlands, where weeds can be a problem. A virgin condition is very different from one in which pasture or crops have previously been sown but this is not discussed. Very little comment is given about the possibilities of upgrading existing pastures or the use of chemicals in pasture establishment.

The third chapter discusses fertilizing pastures. This, in essence, is the lubricating oil of the pasture system. This chapter points out the difficulties, not only of knowing what minerals to apply, but how much in terms of threshold values which must be reached before much response is obtained, or how far one is going to go towards optimising yield against the cost structure of the operation. Dr. Humphreys could have emphasized more clearly that pasture improvement is almost always tied to the need to fertilize at a level initially to meet the inherent deficiencies of the soil and subsequently to maintain the requirements of the plant species sown. Without this understanding pasture improvement is a waste of money.

Chapter four is a disappointing discussion of the management of pastures. This is a very complex but important part of maintaining improved pastures. It is now not as generally accepted that leaf area and production are directly correlated; there are so many other factors that come into determining pasture growth. The last few seasons of below-average rainfall and drought have shown that some of our concepts of lenient grazing, at least for those conditions, are not entirely accurate. The different forms of legumes such as twining, stoloniferous, bunch or annual are important with respect to the different management treatments they require. No consideration is given to the ideas of growing legumes and grasses separately.

Selecting pasture mixtures is summed up well in the last paragraph which states "the basic thing is to find the right legume and then fertilize it properly." I think we should add "and graze it properly."

The main part of the booklet follows and herein is a very useful compendium of information on the species and cultivars in common use. It is a pity it could not have been more profusely illustrated, either by line drawings or photographs, as it seems there was no real system in deciding what was illustrated and what wasn't. It is also a pity that the sequence has been set up alphabetically by common names rather than by some arrangement which groups the species and cultivars by relationship e.g. the brachiarias, panicums, paspalums and so on.

The final chapter is a sowing guide providing information on acceptable levels of germination and purity of seeds, the numbers of seeds per pound, recommended seeding rates, tolerance to various environmental factors and finally combinations for different environments.

This booklet can be recommended as a useful guide to those engaged in pasture improvement in the tropics and sub-tropics. Although revised from the original edition, it is surprising that so little has been changed, considering our added experience of droughts and the years of intensive research and applied activity. The booklet is available from Wright, Stephenson and Co. Ltd., free of charge but is not available through bookstores.

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