## An Introduction to Tropical Grassland Husbandry.

R. J. McIlroy, Oxford University Press, 1964. 111 pp. 26s. 6d.

This publication is one of the first in which the basic agronomic principles of grassland farming and grass/animal relationships under tropical conditions are reviewed.

Tropical Grassland Husbandry as a science is of recent derivation. However many of the basic principles of plant and animal production vary little with environment and consequently inferences are often drawn from temperate The author does, however, draw excessively from temperate experiments where comparable though perhaps not as statistically obvious evidence could be obtained from tropical research. However it is a truism that much of the .... "present experimental data concerning agronomic research into the grass/animal complex in the Tropics has offered little facility for critical experimentation . . . . " and consequently the author may have deemed it preferable to exclude some available tropical references.

The extensive bibliography containing many further reading suggestions should prove adequate for all student purposes. For the general reader the book provides useful empirical summaries generally not included in a publication of this magnitude, e.g., "Why grasses are suitable as herbage plants".

The book is divided into 15 chapters. Commencing with a general introduction on grasslands the sequence is through ecology, anatomy, seed production to general husbandry. A brief but informative anatomical description of grass parts is provided without the aid of diagrams. "Some Tropical Grassland Associations" (Chap. 5) and "Some Grass and Legume Species of Tropical Regions" (Chap. 4) are extensive without being voluminous and sources of more extensive information are quoted in

both chapters. The technical value of the short chapter "Seeds Mixtures" (Chap. 8) would have been enhanced had a more comprehensive list, compiled from a more extensive range of literature, been substituted as many of the now utilized mixtures are not included. Fertilization, which must necessarily play an ever-increasing role in the maximum utilization of the environment, particularly in the humid tropics, for pasture production, receives little mention under the heading "Management and Manuring" (Chap. 10) where only short references to Calcium, Nitrogen, Phosphorous and Potassium occur.

Chapter 12 "Grassland Improvement" provides a necessarily summarized review of experimental work being undertaken by scientific organizations throughout the Tropics. "The Nutritive Value of Tropical Pasture Grasses and Legumes" (Chap. 13) is probably adequate regionally speaking, i.e., Central Africa but offers little "nutritive value" information on species at present being planted extensively in other tropical countries. The two appendices by G. Jackson apply essentially to Tropical Africa.

Understandably most of the data quoted which is not of temperate origin is African based which necessarily precludes the use of the book in its entirety as a set of lecture notes (from which it was derived) in other tropical teaching institutions where environment and husbandry practices differ. As an introduction to the topic the book fulfils, with the abovementioned reserves, its purpose in that it provides information concerning economic, ecological, agronomic, nutritional and productional data on tropical grasslands.

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