TABLE 3

Pasture parameters and animal production on five grass/Siratro mixtures, set stocked for 115 days from Jan. 1972 at 5 steers/ha.

Grass grown with Siratro	Dry matter			CP % green grass	L.W.G.		
	Total	Siratro					
	kg/ha	%	kg/ha		kg/ha	kg/ha	g/day
Sabi Panic (*Panicum maximum*)	5346	16	868	12.8	55	272	478
Petrie green panic (*P. maximum* var. *trichoglume*)	8868	21	1887	9.6	60	296	522
Nunbank buffel (*Cenchrus ciliaris*)	5494	19	1043	12.3	59	292	513
Gayndah buffel (*C. ciliaris*)	4659	13	594	11.4	33	163	287
Pioneer Rhodes grass (*Chloris gayana*)	3618	17	606	10.5	33	163	287

of the green grass were measured prior to grazing. The heavy stocking rate was aimed at full utilization of the herbage over a short time. Animal performance under these conditions is a function of total available material and quality of the material. The pastures differed greatly in all respects and on the basis of animal performance they can be divided into two groups: a) the two panics and Nunbank buffel with nearly twice the LWG of b) rhodes grass and Gayndah buffel. Animal performance was linearly related to the amount of Siratro up to 1000 kg/ha, but more Siratro did not result in more LWG.

It is of interest to note that the LWG of nearly 300 kg/ha in 115 days is about twice as much as that obtained on the same type of pasture in a whole year at one fifth of the stocking rate. The reason is that at 5 steers per ha most of the herbage was utilized before deterioration set in. On year-round grazing a larger proportion of the herbage goes unused, or is consumed after it has lost much of its feeding value. A management system based on full utilization while the pasture is at its best would be practicable where a grazing crop like oats is available to continue good daily gains after the pastures have been grazed out. For this system to be successful animals must be in good condition for slaughter before the grazing crop has been utilized.

BOOK REVIEW

Grasses and Legumes in British Agriculture. Edited by Prof. C. R. W. Spedding and the late Mr. E. C. Diekmahns, and published by the Commonwealth Agricultural Bureaux 1972.

The book written by 43 contributors contains 511 pages and 16 plates, and is divided into 46 chapters grouped into four parts (Introduction, The Grasses, The Legumes, Comparative Assessment of Species).

The dominant theme throughout the book is that the legumes and grasses in use throughout Britain, are accepted and treated as crops. In this case, the species are sown and used selectively in relation to an overall farm year requirement. The strength of the book lies in the fact that the authors, having accepted the species as crop plants, set out to describe the attributes of each one. This has been done extremely well.

The introduction comprising 5 chapters, is primarily concerned with the environment (soil, climate, light). Material presented is limited to that pertinent to British conditions. In this, the authors have drawn attention to the available soils and their delineation, and the meteorological records for Britain with respect to

temperature, rainfall, cloud cover, and light intensities. The information presented also covers the reaction of the dominant pasture species to these climatic factors. Throughout the book emphasis is placed on the nutritive value of the species: as an introduction, the principles of nutrition are adequately described.

In the second and third parts of the book, the authors have introduced their species descriptions by an excellent treatise on the origin of the species, morphology, principles of establishment, vegetative growth, reproduction and seed formation, perenniality and senescence, pests and diseases, chemical composition, and response to management and environment. The coverage given under the above subjects has been full and detailed, and the methods employed especially with respect to plant anatomy and physiology make the contents easily read by farmers and pasture workers. Technical and research workers would also gain much in the way of a refresher course on these important subjects of pasture management.

Eight principal grasses and four principal legumes have been characterised in full, with miscellaneous species in each group being partially covered. Coverage has been morphology, distribution, compatability with other grasses and legumes, seed characteristics and production, yield of dry matter, energy and protein, response to management and environment (fertiliser, irrigation, temperature, light, defoliation), quality (chemical composition, water content, nutritive value of primary growth and regrowths and animal intake), and longevity and persistence. The characteristics and attributes of the species presented above, while not absolutely complete, are sufficient to cover the majority of circumstances of importance in the British system.

In the fourth part, attention has been given to the comparative assessment of species with respect to botanical composition, establishment, yields, nutritive value, and their usefulness (cutting, conservation, grazing) for milk, beef and sheep production. Emphasis has been placed on the quality of the product in respect to digestibility at the time of harvesting. Small differences in digestibility have a marked significance in terms of animal production. Because of the large usage of applied nitrogen, the authors place importance on the use of monoculture systems, with only minor consideration being given to simple mixtures, and very little to complex mixtures.

The authors do not attempt to make recommendations of individual species or mixtures of species for given areas and/or situations in Britain, nor do they attempt to lay down strict management schedules. However, the treatment of the presented material by the authors with respect to the attributes of the individual species, the underlying principles of plant anatomy and physiology, and also of animal nutrition, combine to make the book an informative, descriptive, and an extremely valuable addition to the literature on British Agriculture. The manner in which the Editors have treated the subject matter has resulted in a presentation from which the farmers and technical personnel can exploit the natural resources and the attributes of the species, to suit their own individual and farming needs.

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ERRATA

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R. C. BRUCE—The effect of topdressing superphosphate on the yield and botanical composition of a *Stylosanthes guyanensis* pasture.

1. Short title for "myerphosphate" read "superphosphate".
2. Page 136. Figure 1 caption for "per mean yields harvest" read "mean yields per harvest".
3. Page 139. Omit Key to Figure 2.