LETTER TO THE EDITOR:— NATIVE PASTURE MANAGEMENT

I read with interest L. Winks' review (*Tropical Grasslands* 9: 159) and I endorse his statement:

"Research on the integrated usage of native and sown pastures for increased animal production has been quite limited. Native pasture research has been neglected, and more emphasis must be given to evolving efficient pasture grazing systems incorporating predominantly native pasture. . . ."

The publication, "Tropical Grasslands" has, in the past, appeared to concentrate its research and its practical work, on pastures other than indigenous species, and this concentration of research has been largely confined to coastal tropical environments, where a measure of predictable rainfall, spread over most of the year, is the norm. And the success of these improved or imported species is quite evident, with consequent uplift in production.

However, native pasture, indigenous to the tropics, and within the rainfall norm of 700 mm per year is no less "Tropical Grassland", despite its reputation for low nutriment yield, and consequent low yearly carrying capacity. That this reputation for low nutriment yields is not born out by the facts, always provided certain management practices are adhered to, will be the topic of this letter.

It is not possible to set out measures of native pasture management to suit *all* types of pastures found in different environments. However, there are some broad principles that would apply almost everywhere. These are:

1. Control of pastures—and grazing animals—cannot be contemplated without intensive capital outlay in provision of fences, and paddocks, and water facilities.
2. Overstocking, which *prevents* periodic seeding of a native pasture, and rejuvenation of the root system, will ultimately allow the more hardy, but less nutritious plant species to take over.
3. Short grass is good feed; long grass is neither palatable nor nutritious. Both these pasture states are necessary, but for different reasons.

Meadowbank is a cattle property of some 48,000 ha situated on the Eastern slopes of the Great Divide, and 200 km south west of the Atherton Tablelands, drained by the Burdekin River and is open forest country, with some areas of black soil. The pasture is predominately kangaroo grass with the soil entirely of basaltic origin. The rainfall average is 700 mm.

PASTURE CONTROLS

The provision of subdivision into paddocks allows for control of pastures and stock, without which neither is possible. Pasture control allows for worthwhile improvement in food values over a longer period than is possible with open range grazing. Subdivision has other advantages, which in time pay dividends on the capital expenditure involved, for, by segregating different classes of stock, mustering time is greatly reduced and tick populations easily controlled, again reducing costs.

In this environment, kangaroo grass is our most valuable pasture. Firstly, its protein value is quite high, when young, and stock put on weight quickly once the seasonal rains start around the end of the year. Weight gains are constantly measured at over 1 kg per day, and with good management controls this growth can be carried from January to May, and weights held for another three months, in most years. For the remaining months, urea supplements are a great standby, provided always the roughage is not too "rough", or overstocking has not eaten you out.

Black spear grass is not satisfactory. Firstly, it is much more susceptible to frosting, and, secondly, although its feed value is good for a short period, it seems to grow rank much faster than kangaroo grass, probably because the latter is more palatable, and so the spear grass usually runs to seed about March and is then ignored. By June the first frosts have browned off the foliage, and the seeds remain to mat together in clumps, and stock avoid this entirely, while the kangaroo foliage is grazed right up to the end of the year.

SHORT PASTURE

To make clear a management practice such as this, it may be useful to demonstrate a particular paddock operation. We have paddock A. of some 1200 ha in which roughly half the area has been burnt around the end of 1974, the other half having been burnt at the end of 1973. The growth after burning is more attractive to stock than other pasture, weight gains are rapid, and stocking at the rate of 1 beast to 2.5 ha would be about right. The rest of the paddock's pasture, being ungrazed, will grow and seed, and be ready for burning off again at the end of the year. So the pattern, is one year grazing, the second year rejuvenation, third year grazing again. This heavy stocking rate is necessary to keep the young grass in check, as wet seasonal growth is very rapid, and unchecked foliage progressively loses nutritional value. By April the grass is grazed down to around 12 to 14 cm high, and the stock are mustered and put into paddock B, where the pastures have undergone a similar growth pattern—i.e. an area of fresh feed, and the rest, older grass going through the period of rejuvenation. At this point of time, our mob will be in first class condition, having gained up to 200 lb (84 kg) and would hold this condition, and even gain a little, depending on the season. After a period of approximately three months, with winter frosts and little regrowth, the stress period is approaching, and now the pasture in paddock A which had been heavily stocked earlier, would show regrowth of good quality feed, and our mob is mustered back into it, with every chance of holding condition for further three to four months which brings us to the last quarter of our year—October to December, with storms not far off.

INTEGRATED PASTURES

While soil types in other areas of the dry Tropics do suit a few introduced species of pasture and legumes—and Townsville stylo would be the most successful —the prevalence of frosting rules out all susceptible plant species, as we have found to our disappointment over the past eighteen years, during which period, extensive trials of both grasses and legumes, in conjunction with officers of the Q.D.P.I., have been carried out. And while the initial growth patterns have, in most cases, been very promising, the winter period, followed by months of drought, have ruined all prospects of a workable breakthrough, leaving no forseeable alternative to concentrating on better ways of using what we have—our native pasture.

In Queensland's Dry Tropics, native pastures are well suited to the growing and fattening of cattle, during the first six months of the year, provided the pastures and stocking rates are controlled, and this period can be further extended with better controls and urea supplements. The harsh environment makes it essential to rest a pasture periodically, to allow seeding and root rejuvenation, and there is an inescapable necessity of comparatively large grazing areas, in relation to stock numbers.

Future pasture trials with new species may well prove a breakthrough, and in that event, our Dry Tropics would greatly increase production, but the keynote is—the economics must be sound.

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