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STATION MANAGEMENT—

THE VALUE OF "DEFERRED GRAZING"

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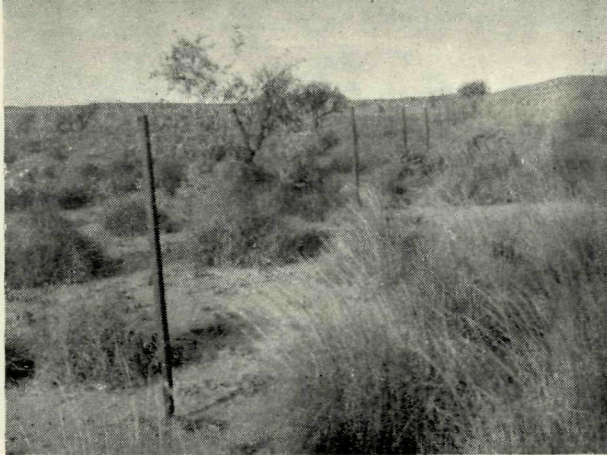


Fig. 1.—The left-hand plot in this photograph was grazed heavily immediately after rain. It will be seen that the spinifex has had no opportunity of seeding and butts of eaten-down native grasses may be seen among the spinifex tussocks. On the other side of the fence the spinifex has seeded profusely and other grasses are also present.

MOST station people resent any inference that the deterioration in carrying capacity of their country is in any way due to overstocking in past years. A popular, but not very constructive, view is that seasons have become progressively less favourable and that one of these days those soaking summer rains will return and all will be well again.

Work in progress at Abydos and Woodstock Stations in the Port Hedland hinterland is already throwing some light on the rate-of-stocking factor which it seems will have application in most pastoral regions.

Station managers, for the most part, are guided by the appearance and condition of their sheep in deciding paddocking arrangements. The animals are permitted to graze a paddock as long as they continue to do well. The sheep naturally eat out the most palatable species first and then move to those less attractive to them. By the time the animals show signs of fodder shortage and are moved, permanent damage has been done to the more valuable components of the native vegetation.

If stocking is continuous, the most palatable species are kept eaten down all the time. The earliest shoots are nibbled off immediately on their appearance after rain. The plant is not permitted to develop the leafage essential to photosynthesis which would enable it to store reserves in crown and root—neither can it set seed. Under such conditions, species attractive to the grazing animal must be eliminated and their place taken by the unpalatable species which are not worried

by the stock and receive additional encouragement as a result of the removal of so much of the former competition.

From work in hand at Abydos it is obvious that this is the way of things, even at low levels of stocking, if the animals are left in the paddocks continuously, and evidence of this type of degeneration can be seen throughout all types of pastoral country.

1. On coastal grassland areas where the majority of species are palatable, soils have been denuded and subjected to wind erosion.

2. In mixed spinifex and grass country, native grasses have disappeared from amongst the spinifex tussocks leaving a stand of pure spinifex.

3. On harder country in the spinifex zone the softer types of spinifex have been replaced by unpalatable types.

4. We have not yet studied the matter at close quarters in mulga areas, but local pastoralists will confirm that the perennial grasses, and a lot of the smaller palatable plants which contributed to stockfeed in the earlier years of settlement, have dis-



Fig. 2.—Visitors inspecting one of the grazing trials at the field day held at Abydos Station, March, 1954. The heavily eaten-down plants in the foreground are of Curly spinifex (*Plectrachne Schinzii*), one of the most palatable species of the spinifex group. Woolly spinifex (*Triodia lanigera*) has been untouched, and over most of this area has completely replaced the softer and more palatable types.

appeared and there has been a corresponding increase of inedible shrubs of the turpentine bush type.

In management trials on average spinifex country at Woodstock, stocking rates were unusually high for this class of country. At times they were as high as four sheep per acre, and on a year-round basis they averaged a sheep per two acres. Yet this country has improved over the three years the trial has run, and grasses which have not been observed in the vicinity for over ten years have reappeared and re-established themselves as members of the plant community—permanent members if the right treatment is continued.

The important point is that grazing was deferred following rains for the period necessary (only about eight weeks in this climate) to enable grasses to set seed. During this period the plants were able to develop fully; perennials were able to make leafage and manufacture those reserves in crown and root which make them capable of such ready response after each small precipitation. Consequently the bulk of feed provided by the area was considerably greater than if a smaller number of sheep had been permitted, by feeding continuously, to eat the new shoots as they appeared.

In addition, the larger number of sheep moving over the area immediately after seed formation provided the necessary planting-down operation by trampling seed into the ground instead of leaving it

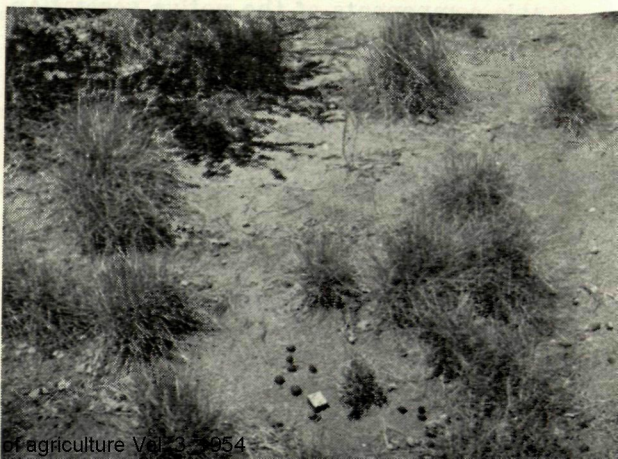
to be eaten by birds, carried away by ants, or to be blown or washed from sunbaked surfaces. These are factors which may account for the relatively small benefits which are apparent in many cases where a paddock is spelled for an entire season.

"Deferred grazing" is a term not so far used to any extent in this country. It is not to be confused with rotational grazing where plants may be grazed and spelled several times in a season. It has special application in our pastoral areas and I think may become accepted parlance in future years.

It is obvious that we can't defer grazing in all paddocks at the same time as we would have nowhere to put the sheep. An area can be selected however, for regenerative treatment, and grazing could be deferred after significant rains for two seasons in succession.

If one-third of the property were so treated each year, the whole of the property would benefit over a six-year period. However, there would probably always be local factors which would point to special treatment in certain paddocks. For instance, at Munda, Mr. Lukis is careful to defer his coastal paddocks during the susceptible period each year, because he is well aware of the delicate balance between valuable grasses and spinifex, and of the danger in this country of wind erosion and claypan formation if the grass cover is allowed to weaken.

Fig. 3.—The single plant surrounded by droppings near the matchbox is Curly spinifex (*Plectrachne Schinzii*) and is eaten hard back while Gummy spinifex (*Triodia pungens*) is untouched. The Gummy spinifex, although a good soft edible type is a less palatable species than the Curly spinifex.



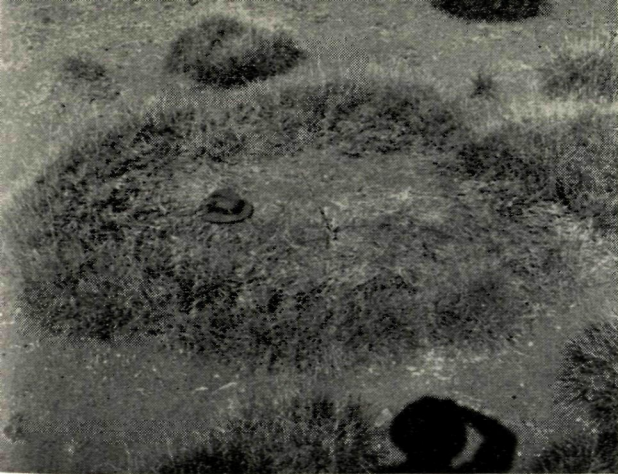


Fig. 4.—The large circle of growth around the hat is one plant of Woolly spinifex now dying from the centre. It has monopolised this patch of ground to the exclusion of useful species for many years

Illustration No. 1 shows portion of a trial recently started at Abydos in which a small area is stocked continuously at a rate of one sheep per three acres. The area is subdivided into 12 equal paddocks, and the sheep are moved from paddock to paddock according to judgment based on observation as to plant requirements. The paddock on the right shows the wealth of seed formation resulting from a recent rain, while that on the left shows how thoroughly grazing prevented seed formation when stocked during the susceptible period. Note also the small dark butts of perennial grasses amongst the spinifex tussocks. Repeated treatment of this nature would kill these right out, but this paddock will not be asked to stand up to such treatment again for probably six or more years. Grasses are really on the in-

crease in this trial area, and we feel confident that by this system we can carry a sheep to each three acres indefinitely and still improve our country.

Admittedly, there are areas where kangaroo numbers are so great that their grazing exceeds that done by the sheep. However, there are many stations which could effectively apply the deferred grazing system. A few we know are already doing so, and these people must have received a lot of encouragement from the convincing demonstrations at Abydos and Woodstock stations.

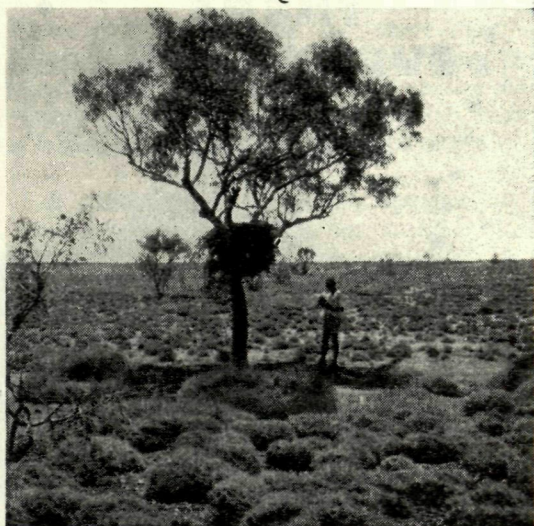


Fig. 5.—An interesting snapshot from the spinifex zone. A pair of eagles have built their nest in the only sizeable tree to be found in an area of many miles

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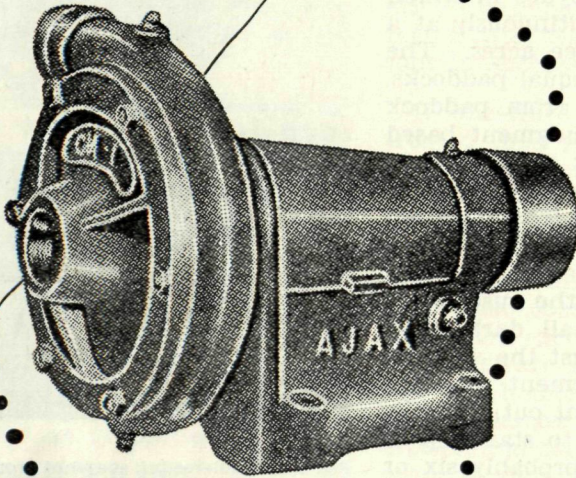
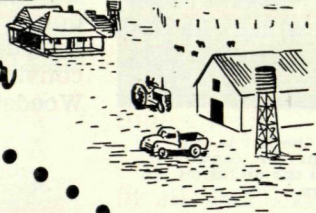
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