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DEFERRED GRAZING

What it May Mean in the Mulga Region

By W. M. NUNN, B.Sc. (Agric.), Officer-in-Charge, North-West Branch

The practice of deferred grazing has been written up in American textbooks and has been applied effectively to sections of the cattle range lands of the United States. Early attempts to apply the principle in eastern Australia were not very successful, and it remained for our Departmental workers in the North-West and Kimberley Divisions to demonstrate the phenomenal results that could be obtained on grasslands in summer rainfall areas.

Briefly, the term "deferred grazing" means that the stock are held off the area in question for a period after rain, to enable grasses to make root and leaf growth and to set seed. In northern areas of summer rainfall all this can be achieved in about six weeks, so deferment is as simple as it sounds and means exactly what it says. The grazing of the paddock being favoured is deferred, or delayed for six weeks, and apart from this, grazing goes on as usual except that there are more and more grass species developing as a result of the protection during the critical growth period.

This has been written up quite extensively as a Departmental recommendation for certain of our pastoral areas, but there is a tremendous area of pastoral country throughout the Gascoyne, Murchison and Eastern Goldfields, where the picture is not so simple. Here the rains can fall in summer or in winter. A good year might produce falls in both seasons but there can also be a run of bad years, when both summer and winter rains fail.

Grasses grow in sections of this country, but though they are closely related to those further north, they do not behave so obligingly. In other words they do not mature and set seed in that short six-week period. Summer rains will often keep the grasses growing vegetatively and delay the tendency to produce seed until much later, when they suddenly produce seed as a response to a winter rain. Thus,

Fig. 1.—Saltbush trials on Barnong Station. On the left is a photograph taken in March, 1952. On the right is the same area (Site A42) photographed in May, 1959. Rains in 1953 germinated seed and initiated seedling growth. Protection from grazing in subsequent seasons enabled the seedlings to develop
to get the same effective cycle of seed multiplication as is achieved in six weeks further north, it might be necessary to spell throughout the summer while the plant develops, and then continue until a later rain induces the plant to produce the seed so badly needed.

The same country which produces these grasses also produces a host of edible shrubs—*Acacia* and *Eremophila* species. Opinion varies as to which are the most important of these and how they rank in relation to grasses, and there is a whole field of study required here to determine just what type of protection these valuable species need to enable them to compete again with the inedible plants which have invaded while the sheep and kangaroos have kept down competition for them.

Obviously a recovery programme must be planned in relation to rains received, and as different species respond in different seasons it calls for a thorough understanding of a more complex picture than that we have been able to present for the Northern summer rainfall regions.

That pastoralists appreciate this was most apparent at the inaugural field day held by the North-West Branch in cooperation with the Yalgoo Branch of the Pastoralists' Association recently.

Plots at Gabyon Station showed Wandarrie grasses recovering on both light and heavy country, but there was little to be seen in the way of recovery of shrubs. These may need long-term spelling for regrowth, or they may perhaps come away quickly later on as a second stage recovery after ground cover has been regenerated.

Saltbush trials at Barnong Station excited a lot of interest and discussion. About 20 acres of very badly rundown saltbush country was fenced off in 1952. Heavy rains in March and April, 1953, germinated a new stand of perennial saltbushes, and these have now developed to the bush stage capable of providing the heavy grazing capacity for which these areas were famous in the early years of settlement.

Where saltbush was not protected during the years following those 1953 rains, there is little of this generation of saltbushes to be seen.

Grazing management trials have been designed to determine just how long the spell must be after that regenerating rain in order to develop saltbushes to the stage where they can stand up to grazing, and what degree of grazing can then be applied.

In the meantime, from observations made at Barnong and at Yarrabubba Stations, it seems that saltbushes must firstly have that bountiful summer rain to produce the seedlings, and then must be continuously protected from grazing.
until they have enjoyed two effective summer growing seasons.
This is a long spell and very different from the six weeks' "deferment" we speak of for northern grasslands.
A good stand of perennial saltbush is, however, a very rewarding asset, and those with areas of saltbush country which can carry only a fraction of the stock it did years ago, should seriously consider pad-docking off a section and initiating a recovery programme. Good summer rains have recently fallen throughout the pastoral areas, so right now is the time to look for those seedlings and to adjust stocking routines to protect at least a section of them throughout the establishment period.

### UREA AS A SUPPLEMENT FOR SHEEP ON DRY FEED

During recent months much publicity has been given to the potential value of urea as a supplement to increase the feed value of dry mature roughage. This publicity has prompted many enquiries from farmers who wish to make immediate use of mixtures of urea and molasses.

Officers of the West Australian Department of Agriculture have made a careful study of the experiments which have been carried out in South Africa and in Victoria. These experiments, mostly with penned sheep, have shown that losses in body weight can be reduced or prevented when urea and molasses are added to low-grade roughage.

Unfortunately, very little large-scale evidence is available to indicate the economic return which is likely to result from the application of sprays containing urea and molasses to dry roughage. At present there is no assurance that farmers in Western Australia will gain worthwhile increases in production from using this new technique. In any case, urea is an expensive imported product which can cause serious losses of stock if used incorrectly.

The West Australian Department of Agriculture is conducting experiments to obtain clear-cut information concerning the financial returns which can be expected when urea mixtures are sprayed on cereal stubbles and dry mature grass. These trials should also reveal the practical difficulties which are likely to be encountered when using boom sprays and other machines to distribute solutions on various types of pasture and stubble.

Because of the doubts concerning the economic returns likely to be obtained, it is recommended that stock owners defer the use of urea until further information is available. However, should anyone wish to make immediate use of this material the following application rates should be used.

Thirty lb. of urea and 100 lb. of molasses are required for each ton of dry feed. The urea is dissolved in water, mixed with the molasses, and enough extra water is added to make the mixture sprayable. It is applied with a boom spray to the proper area of pasture. In practice, four or five days' supply could be applied at one time.

Stock may ignore the sticky pasture at first, and may need to be trained by confinement in a small paddock of treated feed.

The feature of pasture spraying is that there is no danger of poisoning as the daily dose of urea is eaten in many small portions through the day.

**Costs**

- Urea costs about £83 per ton or 9d. per lb.
- The cost of 30 lb. of urea and 100 lb. of molasses required for one ton of dry feed is about £3. This would suffice for 1,000 sheep for one day if all the dry feed is eaten.

**Use with Cereal Grain**

- Solutions of urea have been added to cereal grains but extreme care is essential in mixing and feeding if serious losses of stock are to be avoided. It should be safe to add 1/16 lb. of urea (dissolved in water) to each 100 lb. of cereal grain. However, wherever sheep may be given the opportunity to consume considerable quantities of grain (as when fed once or twice each week) risk of losses from treated grain are always present.

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