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Department of Agriculture, Western Australia

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MORE SHEEP PER ACRE . . .

In the late 1950's agricultural scientists in Western Australia became convinced that much of the improved pasture in the agricultural areas of the State was going to waste. Measurements of pasture production and estimates of sheep intake indicated that it should have been possible to carry many more sheep per acre than was usual in most districts.

The first investigation of potential stocking rates on improved pasture was started by CSIRO workers at “Glen Lossie” Field Station, Kojonup, in 1958. (Described by H. Lloyd Davies and A. W. Humphries in the July, 1965, issue of the Journal of Agriculture.) In this experiment a normal subterannean clover-based pasture carried five wethers an acre without supplementary feeding, in a district where the average stocking rate on improved pasture was 1.7 sheep an acre. Wool production reached 50 lb. an acre. The sheep were continuously grazed on the plots—a system now known in W.A. as “set stocking”.

A trial started soon after by the Department of Agriculture district adviser at Northam, Mr. L. D. White, indicated that improved pasture in this district could also carry a high stocking rate under continuous grazing.

The results of the early trials, enthusiastically extended by the late Brian Carlin (then district adviser at Bridgetown) and other district agricultural advisers, resulted in many farm demonstrations of higher carrying capacities on improved pastures in southern agricultural areas. Other districts followed suit.

Safe rates defined

However, there was a need to define accurately the safe stocking rates for sheep on different types of pasture throughout the sheep raising areas. To provide this information the Department of Agriculture started trials and demonstrations on improved pasture in many districts, ranging from Northampton to Esperance.

The trials range from simple demonstrations to complex experiments which incorporate stocking rates, fertiliser rates and shearing times. Wethers are run on most trials, but some use lambing ewes. In each trial, the sheep are set-stocked, and leave their plots only for shearing, crutching and other attention.

Progress reports of some of these trials are published in this issue. All give an indication of practical stocking rates but in most cases the experiments will be continued for some years before the results are considered conclusive.

Without exception, the trials have shown that well-established improved pastures can carry many more than the average farm stocking rates for the districts concerned.
Caution essential

Set stocking of sheep at higher rates is definitely a sound practical proposition on improved pastures throughout the agricultural areas—but in each district the Department's agricultural advisers emphasise that increasing the stocking rate must be approached with caution. Increases must be gradual, and the farmer should be familiar with carrying capacities of similar pastures in the district before he starts.

The district agricultural adviser should be consulted if there is any uncertainty. Armed with the experience of trials such as those reported here, as well as many farmers' results on their own properties, the advisers in all districts are well-informed on the safe carrying capacities of various types of pasture in their districts.

What made it possible?

Several important developments in West Australian agriculture, taking place over some 20 years, have made the adoption of increased stocking rates a practical proposition for most farmers.

• It is now possible to grow improved pastures throughout the agricultural areas. Better or more early maturing legume species have been introduced which make it possible to grow productive, high quality pastures on most soils in most districts.

• The adoption of late winter to early spring lambing has meant that the sheep's nutritional requirements better match the availability and quality of pasture throughout the year. Lambing at this time of the year is virtually a pre-requisite for increasing stocking rates of ewes.

• Better understanding of fertiliser requirements of pastures on various soil types ensures that pastures will establish and produce well, except in a few problem areas.

• Rabbits are no longer a problem on most properties. Before the advent of myxomatosis, high rabbit populations took the cream of pasture growth, especially at critical times of the year. Myxomatosis reduced rabbits to a very low level; "1080" poison, "one shot" baiting and the inspector/operator system of rabbit control introduced by the Agriculture Protection Board have kept them under control. The importance of rabbit control is easily overlooked but there is no doubt that it has markedly increased the carrying capacity of pastures on many farms.