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Recommended Citation
Department of Agriculture, Western Australia (1979) "Erosion risks with high stocking rates at Kojonup trial," Journal of the Department of Agriculture, Western Australia, Series 4: Vol. 20 : No. 1 , Article 9.
Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol20/iss1/9

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Erosion risks with high stocking rates on Kojonup trial

A pasture grazing trial at Kojonup dramatically illustrated the effects of Cyclone Alby. Severe erosion was evident on the heavily stocked plots while the more lightly stocked plots showed little damage.

A long term Department of Agriculture trial at Kojonup is comparing three stocking rates (7, 11 and 14 wethers per hectare) at different levels of superphosphate and sulphur. Results for the first ten years were reported in the last issue of the Journal of Agriculture. Before cyclone Alby, the most heavily stocked plots were giving the best returns. However because of their reduced ground cover and heavier trampling, these plots were badly eroded in the cyclone.

The photograph shows the trial viewed from the south. It was taken on June 1, 1978 about four weeks after the sheep had been taken off the high stocking rate plots and about eight weeks after the cyclone.

Several points are shown in the photograph:
- Erosion was worst on the 16 high stocking rate plots and only one of them (middle row, third from right) escaped damage.
- Large amounts of eroded soil were deposited on plots to the south and east of the badly eroded plots in the top row. Some sheep on the leeward plots showed gains in liveweight associated with an accumulation of sand in their wool.
- Erosion was most severe on the heavily trampled camping areas which can be seen along the dividing fence between the top two rows of plots and along the northern end of plots in the bottom row. These camp areas were dominantly capeweed pasture in 1977. The pattern of camping areas reflects the social behaviour of the sheep, which group together as much as possible. The bare eroded areas along the interior fences of the outside plots on the trial are further evidence of this behaviour.

In the three weeks following the cyclone, sheep on the high stocking rate plots lost an average of 200 grams liveweight per day compared with a loss of 100 grams per day in the eight weeks before the cyclone. These animals were removed from the plots before they starved to death. Comparable bodyweight loss figures for the medium and low stocking rate plots were respectively 100 and 56 grams per day after Alby and 57 and 32 grams per day before Alby.

The trial will be cropped this year and resown to clover in an attempt to get a uniform pasture composition in 1980. It will then be re-stocked with young, responsive animals so that the effect of feed quality on animal production can be assessed.