

Sustainable Grazing Systems naturalised pasture site at Carcoar

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Competitive markets, land degradation and unproductive pastures are hindering landholders ability to remain viable. The Carcoar research site is one of five national sites across the higher rainfall zone of southern Australia being funded by Meat and Livestock Australia within the Sustainable Grazing Systems Key Program (SGS). The overall objectives of the SGS program are to develop profitable and ecologically sensitive pastoral management systems in a variety of different environments from Western Australia to New South Wales (Mason *et al.* 1997). At Carcoar, the aim is to improve the proportion of desirable perennial grasses, suppress weeds and improve water and nutrient use in a native and naturalised grass-based pasture.

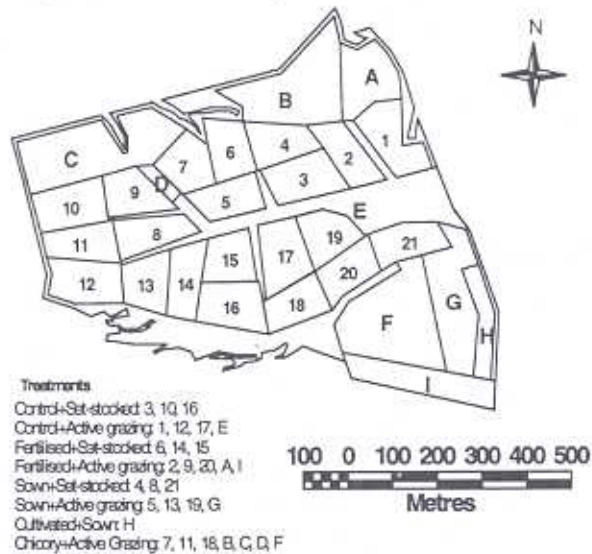
Considerable care was exercised in choosing a suitable location. The 60-hectare SGS research site at Carcoar was selected by a committee of local agronomists and producers as being representative of much of the Central Tablelands. A great deal of effort was similarly spent characterising the existing vegetation, soil, and physical environment to provide a baseline against which changes may be compared. Producer input was also involved in the choice of experimental treatments used. The main treatments at Carcoar are:

- Control (no inputs)
- Fertilised naturalised pasture
- Fertilised sown pasture
- Chicory

These treatments form a series of increasing levels of management input, and each treatment (except chicory) is coupled with an 'actively-grazed' or set-stocked grazing management using a first-cross lamb enterprise. There are 3 replicates of each treatment, giving 21 plots altogether.

The extensive infrastructure that has been installed at Carcoar includes an automated weather station, almost 2000 permanently marked sampling

Figure 1. Plan of Experimental Treatments



locations, numerous two-metre deep soil tubes to measure soil moisture and more than 12 km of fencing. This level of investment has attracted a number of additional research programs. A Ph.D. study examining the effect of the treatments on invertebrate diversity and an honours project investigating the relationship between soil bacteria and pasture composition have begun. This supplementary information will significantly enhance the ability of the experiment at Carcoar to develop farming systems that are sustainable in the broadest sense of the word.

Reference

Mason, W.K., Kay, G. and Lodge, G.M. (1997). Sustainable Grazing Systems - A program to develop and deliver improved temperate pastures in Australia. *Proceedings 18th International Grasslands Congress*, Vol. 2, Session 24. pp. 13-14.