SALTBUSH BIOMASS IN A SALINE GRAZING SYSTEM– USE IT OR LOSE IT!

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Old man saltbush is grown on saline soils in southern Australia as fodder for livestock production. The shrubs are generally grazed during the autumn feed gap typical of Mediterranean-type climates. Some farmers however do not graze the shrubs each season, saving the biomass for less productive seasons. The aim of this study was to investigate growth and recovery rates of saltbushes subjected to heavy grazing in autumn compared with ungrazed plants.

Sixty, 10-year old saltbushes that were growing on saline land (average soil salinity ECe 23dS/m) in Tammin (180 km E Perth) were monitored during this study. The bushes had been subject to similar grazing management until late March 2004 when half of the bushes were fenced to exclude grazing. At this time all shrubs were cut to a height of 90 cm so all were within the grazing height for sheep. For each shrub, EDM (edible dry matter - leaves and small stems < 2mm) was quantified using a comparative biomass ranking technique (Andrew *et al.* 1979) at regular intervals over the 2-year period. The 'grazed' plot was grazed with 15 sheep/ha each autumn until most of the biomass had been eaten.

Grazing during autumn 2004 removed about 95% of the EDM, however during the same period, ungrazed bushes lost about 45% of EDM. This indicates saltbushes were susceptible to leaf drop at this time. After this grazing period, the grazed shrubs recovered to have similar EDM to the ungrazed shrubs by early January 2005 (Fig. 1). Saltbush showed the greatest rate of growth between July and September 2004 (4.6 g EDM/shrub), contrary to the common perception that saltbush is most active in summer and autumn.

In autumn 2005, prior to any grazing, there were similar quantities of EDM/shrub in both plots. Unlike the previous year, the ungrazed shrubs continued to grow at 2.7 g EDM/shrub in autumn. Saltbush growth during autumn in 2005 meant that, despite grazing 15 sheep/ha for an extra month in 2005 than in 2004, the net loss of EDM during grazing was only 55%. Contrary to 2004, the saltbushes did not grow during winter in 2005, again with all shrubs losing at least 60% of EDM in this time. However, both grazed and ungrazed shrubs recovered to similar EDM in early summer.

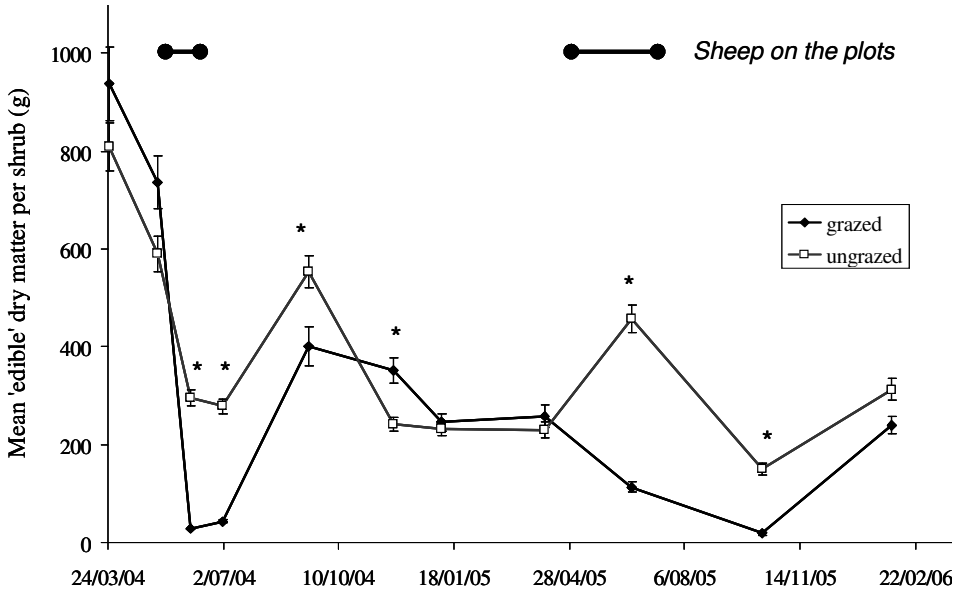

Figure 1: Edible dry matter on offer per saltbush shrub (mean ± SE) over a 2-year period, for ungrazed plants and plants grazed during autumn

* indicates where $p \leq 0.01$.

This study demonstrated that heavy grazing of mature old man saltbush in autumn had little detrimental impact on the amount of EDM available at the start of the following autumn. It also suggests that old man saltbush drops leaves, and that this can occur in autumn or spring depending on factors not yet determined. There appears to be little advantage in deferred grazing between years.

ANDREW, M.H., NOBLE, I.R. and LANGE, R.T. (1979) ***Australian Rangeland Journal*** **1, 225-231**

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