

## Effect of rest period on growth rates of carpet grass dominated pastures

C Rose and H Rose

NSW DPI, Kempsey, 2441, carol.rose@dpi.nsw.gov.au

**Abstract:** Carpet grass dominated pastures form a major portion of hillslope pastures on the north coast of NSW. The role of different rest periods in increasing the growth of carpet grass-based pastures was studied in the Macleay Valley. It was found that eight-week rest periods over summer increased grass growth without excessive stem production, while four-week rests over winter encouraged clover growth. Longer rests than eight weeks increased summer production, but at the expense of quality and winter growth of legumes.

**Key Words:** pasture, carpet grass, growth rates, rest period

### Introduction

Carpet grass was the most widespread species in these hillslope pastures and formed a significant percentage of total pasture yields (Rose *et al* 2005). Carpet grass is a low productivity grass, which is favoured by low fertility and frequent close defoliation as occurs in set stocking; one of the most common grazing systems on the north coast. Hence the effect of rest period on carpet

grass dominated pastures was investigated at trials at Collombatti (mid Macleay Valley) and Bellbrook (upper Macleay) from 2005.

### Methods

The trial was designed as described in Rose & Rose 2009a. Rest period treatments of 4, 8, 16 and 52 weeks between cuts were applied to all fertiliser treatments. The 52 week treatment was included to simulate landholders who lock up

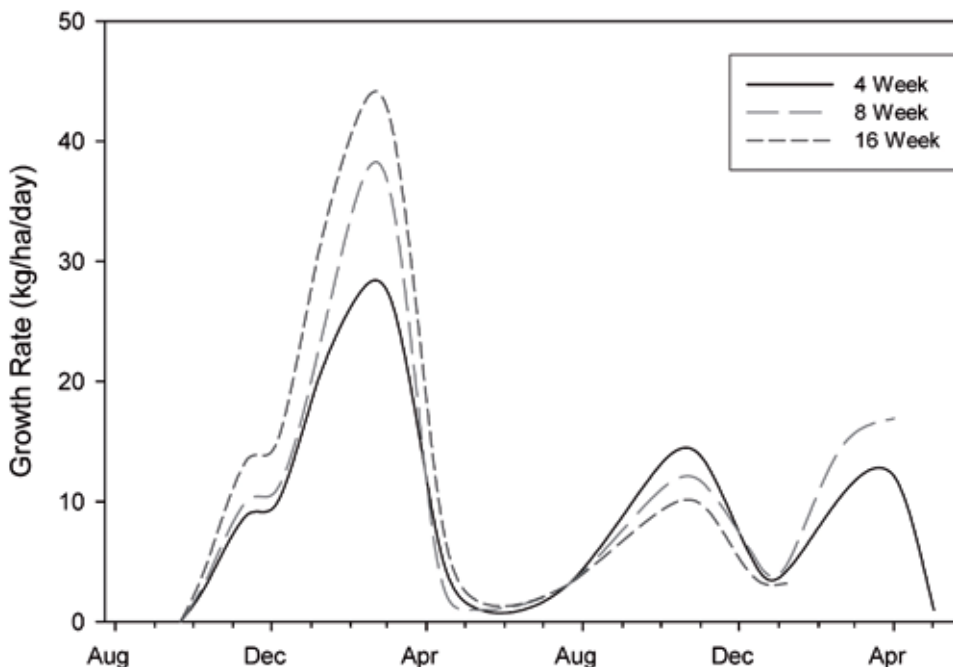


Figure 1: Effect of rest periods on growth rates over 22 months averaged over all treatments

paddocks for restoration. This paper reports on the effect of rest period on pasture growth rate averaged over all fertiliser treatments.

### Results and Discussion

Eight and 16 week rest periods boosted yields over the first summer compared to 4 week rests (see figure 1). In March, growth rates were 36% and 57% higher under 8 and 16 week rests, respectively. While the increased growth was in part due to extra leaf growth, stem production was significant. In March, the 4, 8 and 16 week rests had 32%, 43% and 67% stem at harvest, respectively. Too much stem decreases pasture quality; thereby reducing the benefit of this extra growth. In the second summer, grass growth didn't start until mid-January due to drought. Again, grass growth was poorer in late summer and autumn under 4 week rests (16 week data omitted due to sampling problems). The depression in growth under 4 week rests may be due to weakening of grasses when cut too frequently in a dry year.

Longer rest periods over late winter and spring inhibited clover growth. Field observation suggested this was probably due to self-shading in the dense stands of clover; in what was a very good clover year for this area.

### Acknowledgements

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### References

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