

Puccinellia and balansa clover can be profitable saltland pastures.

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Sustainable Grazing on Saline Lands (SGSL) research has confirmed the suitability and productivity of puccinellia (*Puccinellia ciliata*)-based pastures for the moderately-saline, waterlogging-prone areas of the Upper South East (USE) of South Australia (Abraham *et al.*, 2006). These benefits appear to be due to a combination of the increased pasture growth, and improved nutritive value, of the puccinellia and puccinellia plus balansa clover pastures relative to the previous sea barley grass-dominant pasture base.

When these research results are used with local knowledge in a whole-farm computer simulation model (MIDAS) for the region, it is possible to investigate the profitability of various production scenarios. Accordingly, a model 2,000 ha farm was established for the USE, of which 40% (800 ha) was considered saline. In the model, lucerne was grown on the sandy dune country, tall wheat grass-dominant pastures on the transition soils and either barley grass-dominant, puccinellia-dominant (P) or puccinellia with balansa clover (P&B) pastures on the saline soils. A self-replacing Merino flock was chosen as typical of the area and run as the sole farm enterprise.

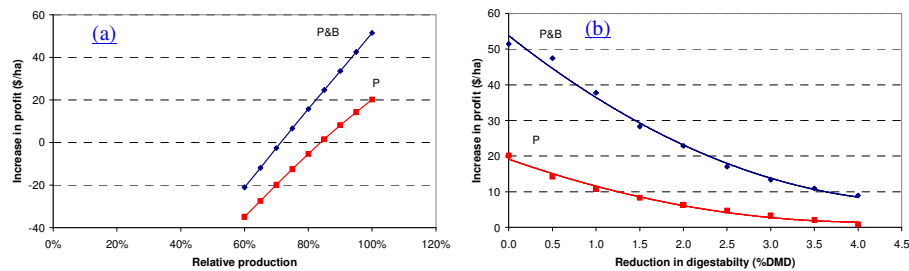


Figure 1. Effect of (a) achieving less than optimum (100%) pasture production, and (b) a reduction in the digestibility (%DMD) of saltland pastures, on increase in profit per hectare of saltland.

Maximum profitability for this model farm was dependant on achieving near maximal pasture and animal production, since the increase in profit/ha of saltland declined rapidly as production fell from 100% (Fig.1a). A similar, but less dramatic decline occurred as the digestibility of saltland pastures declines by up to 4% from the optimal used in the model (Fig. 1b). These results indicate the importance of pasture improvement and good pasture management on saline soils.

Abraham, E.A., Hebart, M.L., Edwards, N.J. and Craig, A.D. (2006) Incorporating balansa clover in a puccinellia sward increases pasture and animal production. *Proc. 47th Annual Conference of the GSSA* p 119.

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