The paired-paddock model as an agent for change on grazing properties across southeast Australia

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Introduction From the mid 1970s to the mid 1990s the low productivity of wool and beef producing farms in the high rainfall zone (>550 mm annual rainfall) in south east Australia has been a major contributing factor to the difficulties faced by farmers in this region. This was despite research from the Long-term Phosphate Experiment at Hamilton in south west Victoria indicating that there is considerable potential to increase the productivity and profitability of wool production (Saul, 1994). By implementing the productive pasture technology (PPT) that involves increased rates of fertiliser on pastures containing productive species and increased stocking rates to utilise the extra pasture grown (Trompf & Sale, 2000), gains in excess of $A200/ha on a gross margin basis can be regularly achieved. However wool and beef producers were reluctant to adopt the technology. In 1993 the Grassland's Productivity Program (GPP) was initiated to assist producers to develop skills and gain confidence in their ability to manage more productive pastures on their farms. In brief, groups of 4-6 farmers were assisted by an experienced facilitator to compare current management practice in one paddock with PPT in an adjacent paddock. Over 500 wool and beef producers in south east Australia have been exposed to the paired-paddock model, firstly in the GPP from 1993 to 1997 and more recently in the Triple P Program. This paper reports on the effectiveness of the paired-paddock model in assisting pastoral producers to adopt PPT.

Methods A longitudinal study of the impacts of the paired-paddock model was undertaken using a series of surveys of participants at the beginning and end of the programs. In addition, there were in-depth interviews undertaken and a comparative financial analysis of farm profitability before and after involvement.

Results and discussion Marked changes in pasture productivity settings across the whole farm were measured among participants during the 1990s (Table 1). Fertiliser use (kg P/ha) more than doubled, stocking rate (dse/ha) increased by 54% and participants had more than half of their farms under the PPT by 1999. As a result the participating farms reduced their cost of production of wool by 15% and increased net farm income by 64%.

Table 1 Changes in pasture productivity settings from 1993 to 1999[#]

	1993	1995	1997	1999
Fertiliser use (kg P/ha)	5.6	9.2	11.9	12.8
Stocking rate (dse/ha)	9.1	10.3	11.7	14
Farm area under PPT (%)	0	10	29.8	51.5

[#]Productivity settings differed significantly between years ($p<0.05$)

Other fundamental changes among participants included a 4-fold increase in the assessment of pasture and livestock, a doubling in the number of flocks spring lambing and a doubling in the number of producers focusing on production per hectare as a key driver of farm profitability.

The in-depth interviews indicated that GPP participants gained knowledge and new skills in managing the PPT. In addition there were changes in attitude such as an increased awareness of the productive capacity of their land, which lead to an increased in their confidence regarding the future viability of their farm.

Conclusion These results demonstrate that the paired-paddock model is an effective agent for increasing the productivity and profitability of grazing farms in the high rainfall zone of south east Australia. This is attributed to the additive and interactive effect of the paired-paddock comparison, the guidance provided by the facilitator, the group interaction and the skills training. These components enabled producers to compare and manage the new and old technology side-by-side on his/her own farm, in a supportive group environment. The repeated witnessing of the fence-line comparison highlighted the performance of the PPT which lead to profound change in attitude and practice among participating producers.

References

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