

HIGH PERFORMANCE PASTURE SYSTEMS TO INCREASE LAMB PRODUCTION IN SOUTHWEST VICTORIA

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High yielding and high quality pasture mixes, commonly referred to as high performance pastures (HPP), have been used in the New England and southwest slopes areas of NSW to significantly increase both beef and lamb production (Eccles 2001). These pastures provide large quantities of high quality feed during peak periods, but also contain species that may extend pasture growth and quality beyond normal seasonal production. The pastures consist of Italian and hybrid ryegrasses, or combinations of winter and summer active tall fescues, with the addition of legumes and herbs. This paper reports preliminary data on the productivity of HPP in southwest Victoria.

At each of 5 sites (35 to 75 ha) located on commercial properties across southwest Victoria, 3 pasture mixes formulated by a commercial seed supplier were established in June/July 2002. The pasture mixes were: 1) Control - perennial ryegrass, subterranean clover and white clover; 2) Stamina - tall fescue, subterranean clover, white clover and red clover; and 3) Kilomax - perennial ryegrass, tetraploid Italian ryegrass, subterranean clover, balansa clover, red clover, white clover and chicory. All pastures at each site were stocked with a core group of crossbred ewes, at a stocking rate 10-20% higher than the average of the farm. The pastures were grazed to achieve feed on offer (FOO; kg DM/ha) targets at the break of season (1000), lambing (1500) and end of spring (2500) by adjusting the numbers of dry sheep as required. A falling plate meter was used to assess FOO every 2-4 weeks, and pasture samples collected every 2-4 weeks during late spring/early summer were analysed for nutritive value by FEEDTEST. Ewes were weighed 5 times per year, coinciding with specific management points, and lambs were weighed at weaning and turnoff from pastures.

There were no significant differences between the Control and Stamina, or the Control and Kilomax, pastures for any of the livestock variables measured. Total stock carrying capacity was greater for the Kilomax than for the Stamina pasture in 2002 and 2003 (Table 1). Lamb liveweight/ha in 2003 was also significantly greater for the Kilomax than for the Stamina pasture (Table 1), which was attributed to the number of lambs/ha rather than the average liveweight of lambs exiting the pasture systems.

Table 1. Total stock carrying capacity for 2002 and 2003, and number of lambs/ha, mean lamb liveweight (LW) and lamb LW/ha at point of lamb turnoff for different pasture systems in southwest Victoria in 2003.

Pasture system	2002		2003		
	d.s.e./ha	d.s.e./ha	Number of lambs/ha	Lamb LW (kg)	Lamb LW (kg/ha)
Control	16.4	20.7	13.8	34.7	472
Stamina	11.4	18.2	13.0	34.0	433
Kilomax	17.6	23.5	14.6	35.4	511
l.s.d (P=0.05)	5.99	3.44	1.00	1.71	44.4

All pasture systems supported a carrying capacity for the entire year that was 10-20% greater than the farm average, but the gains in productivity/ha from the Kilomax and Stamina systems were much less than the 3-fold increase in production/ha over typical improved pastures reported by Watson (2002). Eccles (2001) reported that during certain periods of the year, HPP may require de-stocking or reduced stocking. We, therefore, conclude that the management regimes used in this study have probably reduced the potential of the HPP pastures to increase lamb LW/ha above the Control pasture. The maximum benefit from implementing HPP in southwest Victoria is likely to be realised under a tactical grazing system that is used to alleviate the difficulties of matching feed supply with feed demand in winter and late spring/summer. The costs and benefits of all pasture systems will be evaluated at the end of the 2004/05 season.

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