

LUCERNE PASTURES BOOST SHEEP PROFITABILITY

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The Victorian Department of Primary Industries is undertaking a GRDC-funded project aimed at increasing farmer adoption of lucerne in dryland farming systems. The rationale for increasing lucerne adoption is to reduce ground water recharge. Farmers identified the lack of economic analyses of dryland lucerne farming systems as a major barrier to its broader adoption. To address this, economic analyses of case study farms that have changed from annual to lucerne pastures have been conducted. As part of a larger analysis of grains and grazing farming systems, a subset of selected farms was used to investigate critical sheep management factors affecting the profitability of the change. Stocking rate estimates included adjustments for sheep body weight, lambing percentage, lamb growth rate and age of marketing lambs using the GrazFeed simulation model (Freer *et al.* 1997). One dse (dry sheep equivalent) was defined as the amount of metabolisable energy needed to maintain a 50 kg dry sheep for 1 year. Commodity prices were standardised to a 6-year average.

Table 1 indicates the gross margins/ha increased on all farms as a result of changing to lucerne. This was due to both an increase in stocking rate, and whole farm sheep management changes, including the sale of higher priced lambs and sheep at younger ages, higher priced Merino rather than crossbred wool from both ewes and prime lambs, reduced depreciation costs of Merino compared with crossbred ewes, and a reduction in supplementary feeding.

Table 1. Key data from 6 case study farms across northern Victoria before and after the change from annual to lucerne pastures. Sheep enterprises are indicated by superscripts.

Farm and location	Average rain mm	Stocking rate dse/ha		Gross margin/dse before pasture costs deducted, \$/dse			Gross margin/ha after pasture costs deducted, \$/ha		
		annuals	lucerne	annuals	lucerne	MPD	PLF	annuals	Lucerne
1. Rainbow	365	1.2	5.4	\$20.11 ^{MPD}	\$25.35 ^{MPD}	\$39.65 ^{PLF}	zero	\$88	\$88
2. Charlton	377	2.7	4.5	\$24.95 ^{MBL}	\$23.84 ^{MBL}	\$18.60 ^{XB}	\$69	\$84	\$15
3. Serpentine	430	3.7	7.1	\$14.77 ^{MBL}	\$28.63 ^{MBL}		\$51	\$197	\$146
4. Bridgewater	435	5.4	9.5	\$21.85 ^{MW}	\$22.42 ^{XB}		\$92	\$182	\$90
5. Wedderburn	470	6.3	9.6	\$18.54 ^{SRM}	\$27.80 ^{SRM}	\$25.84 ^{MPD}	\$96	\$224	\$130
6. Yarrowonga	515	7.9	11.6	\$19.94 ^{SRM}	\$21.01 ^{SRM}		\$112	\$167	\$55

^{MBL} merino ewes joined to Border Leicester rams

^{MW} merino wethers

^{SRM} self replacing merino flock

^{MPD} merino ewes joined to Poll Dorset /White Suffolk rams

^{PLF} prime lamb finishing

^{XB} crossbred ewe flock joined to terminal sires

There were a number of successful practices undertaken. (1) Changing the self replacing Merino flock structure from selling merino wethers at 18 months after 2 shearings, to selling Merino wethers lambs at 12 months after shearing once just prior to sale, resulted in a gross margin increase of \$9/dse (farm 5). This was a result of a shearing cost saving, a wool price increase and a meat price increase from selling finished lambs rather than wethers. (2) On farm 3, the gross margin/dse of a Border Leicester rams - Merino ewes system was doubled. The wether lamb price increased from \$35 to \$65 by sale of prime lambs into the meat market rather than as stores. Heavy weight ewe lambs finished on lucerne have attracted a market premium from prime lamb producers, whereas ewes on annual pastures were sold at 18 months. (3) The \$1 increase in gross margin/dse in a Merino self replacing flock (farm 6) was due to a reduction in supplementary feeding. The increase in stocking rate increased wool production/ha, but the system was unresponsive to the sale of prime stock as wethers were sold at 3½ years old, and wool sales comprised 87% of sheep income. (4) Prime lambs bred from terminal sires over Merino ewes (farms 1 and 5) had higher gross margins/dse than lambs bred from crossbred ewes (farms 2 and 4), even when the lambing percentages from Merino ewes were 20% lower. This was a result of the higher wool returns and lower sheep depreciation costs in merino ewes.

FREER, M., MOORE, A.D. and DONNELLY, J.R. (1997). *Agric. Syst.* 54, 77-126.

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