Farming Systems – Livestock report

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The aim of this trial was to investigate pasture production and utilisation by sheep.

Summary of trial
The very dry conditions of 2002 produced little green pasture for sheep, with a maximum for the year of 160 kg/ha green feed-on-offer available in July. Stocking rates ranged from 2 to 5.4 dry stock equivalents per effective grazing ha. The stocking rates in the Reduced Till and Fuel Burner systems were higher than for 2001. Supplementary feeding from April, with ewes placed in a stock containment area in October supported sheep in the Hungry Sheep system.

Why it was conducted:
The Birchip Systems Trial was established to examine the profitability of four farming systems commonly used in the area. The farming systems are Hungry Sheep, Reduced Till, Fuel Burners and Zero Till. The Zero Till system does not use sheep. The component reported here is used to calculate the contribution of the pasture/livestock phase to the farming system.

How it was conducted:
The number of sheep and days grazing in each paddock of the trial were recorded throughout the year. The quantity of pasture available was recorded monthly, and intake of pasture by sheep estimated.

Results of the trial:
Pasture production
During 2002 the pasture/fallow paddocks monitored were 5 (Hungry Sheep), 10, 18, 29 (Fuel Burners), 22 (Zero Till) and 24 (Reduced Till). Three paddocks were sown to either vetch (10 and 18) or medic/oats (5) in 2002. The other three pasture paddocks were regenerating medic/grass.

Very poor growing conditions produced little green pasture, resulting in dead stubble comprising the bulk of plant material throughout the year. Very little growth occurred after July, even in ungrazed paddocks. The total quantity of green biomass produced was estimated to range between 76 kg DM/ha for the vetch pasture in paddock 18 (Fuel Burners) to 170 kg DM/ha for the ungrazed regenerating medic in paddock 22 (Zero Till). Estimated green feed-on-offer throughout the year is shown in Figure 1. Differences between paddocks in the quantity of green pasture available were very small.

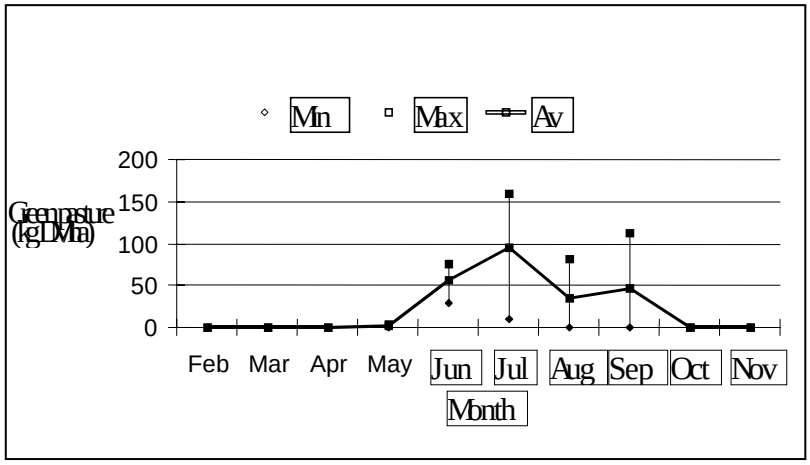

Figure 1. Estimated maximum, minimum and average green feed-on-offer during 2002 for paddocks 5, 10, 18, 22, 24 and 29.

Stocking rates

Stocking rates were highest in the Hungry Sheep system (Table 1). The Hungry Sheep system carried less dry sheep equivalents than last year (10.3 dse/effective ha) because the four ewes raised only one lamb (fox attack resulted in the loss of 4 lambs). The Reduced Till and Fuel Burner systems carried more sheep than in 2001 (1.3 dse/effective ha) despite the dry conditions.

Table 1. Average annual stocking rates for each farming system in 2002

	Average DSE per effective grazing ha*	**Average DSE per non-crop ha**
Hungry Sheep	5.4**	10.1**
Reduced Till	2.7	4.4
Fuel Burners	2	2.3

*Effective grazing ha is the non-cropped area plus 1/5 of the crop area, to account for grazing of stubbles.

**Includes sheep maintained in a containment area from October to December, but no additional area allowance is included.

Supplementary feeding

The stocking rate in the Hungry Sheep system was supported by supplementary feeding of 214 g/ewe/day barley grain from April, increasing to 857 g/day from June to October. The ewes were fed a drought ration of 500 g/day in a containment area from October to December.

The Reduced Till system used no supplementary feeding. Weaner sheep in the Fuel Burner system were fed 214 g/day from April to the end of June. No sheep were present in either the Reduced Till or Fuel Burner systems from September.

Ewe live weight change

The live weight of ewes in the Hungry Sheep system declined by nearly 10 kg while grazing cereal stubbles during autumn (Figure 2), while receiving supplementary grain of 214 g/ewe/day. Following lambing in mid July, live weight was maintained by grain feeding - paddock feed would have made very little contribution to the nutrition of the ewes. Lamb weights are not included because only one lamb survived.

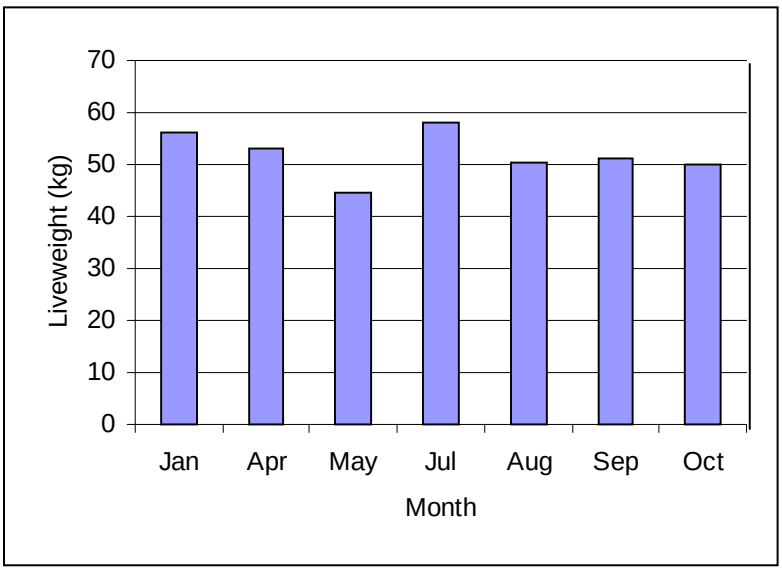

Figure 2. Live weight of ewes in the Hungry Sheep system during 2002

Conclusions

Sown pastures did not produce more feed than regenerating pastures during 2002.

The Hungry Sheep system supported more sheep than the other systems, but would attract high feeding costs due to the prolonged period of feeding.