

GRAZING COMPARISON OF IMPROVED PASTURES

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AIM

To demonstrate the growth rates and carrying capacities of new pasture species and to show options available for improving pasture productivity.

BACKGROUND

In most years there is a shortage of quality feed at the start of the season during the autumn feed gap. With an increasing focus on improving pasture productivity this trial was set up to provide a demonstration of the options available to increase productivity both in autumn and also in spring. Improving pastures can provide rotational benefits such as increasing soil nitrogen, improving soil organic matter, generating greater productivity and ultimately improving profitability.

TRIAL DETAILS

Property	Hyde Park Farms, Main Trial Site
Plot size & replication	10m x 50m, no replication
Soil type	Red loam
Sowing date	3 rd May 2005
Seeding rate	1. Grazing oats (Graza 50) @ 60 kg/ha 2. Tetraploid ryegrass (Drummer) @ 25 kg/ha 3. Legumes (5 varieties) @ 2.5kg each/ha 4. Mix (all varieties) @ 30,10,1 respectively
Background pasture	Medic, ryegrass, mustard
Fertiliser (kg/ha)	110 kg Agstar banded, 50 kg Muriate of Potash and 100 kg Urea topdressed
Herbicides	No pre-emergents, Jaguar 750mL + Lontrel 300mL and Fusion 280g on 25 th July 2005
Growing Season	285mm
Rainfall	

The legume mix contained balansa, dalkieth, cadiz, casbah and prima gland at 2.5 kg each and at 1kg in the overall mix.

Results Table 1: This table shows the Total biomass (kg/ha) and pasture growth rates (kg/ha/day) for two periods during the season. The first period is from the 27th June to the 20th July and the second period is from the 1st August to the 5th of September.

	Food on offer kg/ha 23 days	Pasture Growth kg/ha/day (27 June - 20 July)	Food on offer kg/ha 35 days	Pasture Growth kg/ha/day (1 Aug - 5 Sept)
Oats	650	28	1150	33
Ryegrass	900	39	1300	37
Legumes	800	10*	1400	40
Mix	950	41	1900	55
Background	-	-	1750	14*

*Biomass was taken over a longer period of time. The background treatment was measured from break of season to the 5th Sept. The legumes were not grazed at the start of the season as there was not enough biomass at the first grazing on 27th June.

Table 2: This table shows the Metabolisable Energy, Protein and Digestibility of the 4 feed sources. The samples were taken on the 20th July, the same time as the first biomass cuts were taken.

	Metabolisable Energy (MJ/kg DM)	Protein (%Crude Protein)	Digestibility (% Digestible)
Oats	12.5	28	85
Ryegrass	12.2	22	83
Legumes	10.7	29	74
Mix	12.2	27	83

Table 3: This table shows the carrying capacity of the different pastures over the two periods during July and August between grazings using dry sheep equivalents (DSE), the numbers are based on biomass growth and the amount of energy needed by 1 DSE to maintain its weight. This is assuming 100% utilisation of the feed available.

*Note the improvement of production off the Mix during August.

	July pasture growth rates Kg/ha/day	DSE/ha/day	August pasture growth rates Kg/ha/day	DSE/ha/day
Oats	28	39	33	46
Ryegrass	39	54	37	50
Legumes	10	12	40	48
Mix	41	56	55	74

ECONOMIC ANALYSIS

Table 4: This table shows the costs of the seed for each of the treatments in this trial. The other costs associated with this trial were fertilizer and one weed spray. Setting up fencing for rotational grazing and water is another cost.

	\$/ha for seed
Oats (Graza 50)	90
Ryegrass (Drummer)	70
Legumes	80
Mix	105

COMMENTS

Both the oats and the ryegrass recovered very quickly from each grazing, however the legumes were very slow to start growing as expected. Later in the season the mix of all the treatments was the standout treatment for pasture growth and carrying capacity (Table 3).

The difference in season length between the native Wimmera ryegrass and the Italian tetraploid was very noticeable towards the end of the season. It was more pronounced in the grazed areas where the Wimmera was very quick to shoot up a seed head whereas the Drummer stayed in its vegetative state.

The treatments in this trial were set up for intensive strip grazing. The pasture growth and DSE carrying capacities are representative of this type of system.

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