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PASTURES IN THE CROPPING ZONE:

Pastures that work in lower rainfall areas

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"Milbong" Gubbata

Summary: "Milbong" is a 2240 ha property 40 km south of Lake Cargelligo in western NSW. The property is basically a wheat-sheep farm running first cross ewes joined to Poll Dorsets for prime lambs and Merino wethers. The cropping rotation is two years of crop, with the last undersown to pasture, followed by 4-5 years of pasture. The pasture mix sown includes lucerne, rose clover and sub clover. Successful establishment generally takes place 3 years out of 4. Grazing management is flexible with rotational grazing from November to April and set stocking over the rest of the year. Rose clover has been an important past of the pastures and is persistent while producing a high level of bulk feed. The performance of the pastures is measured by productivity of the livestock and the crops. Long term stocking rate averages and crop yields are about 50 % above district average. These figures are put down to good pastures but good marketing and management are also essential to determine the profitability of the enterprise.

Our property is situated 100 km west of West Wyalong, 40 km south of Lake Cargelligo in the Naradhan, Gubbata district. Annual average rainfall is 450 mm for the last 35 years. Property size 2240 hectares. Soil type is mainly sandy red loam with low phosphorus levels and with a pH of 5.5 to 6.0. The timber is box, pine, some bulloak and mallee.

We are basically wheat and sheep farmers but at times when opportunities have arisen, we have branched into summer crops, steer fattening, clover and lucerne seed harvesting and agisting of sheep *etc*.

The five main enterprises that we are currently involved in are listed below in order of financial returns (Table 1). I think it is important to be flexible and so for obvious reasons we have increased our wheat acreage this year and reduced our numbers of wethers and steers. Wethers have a hidden value in reducing tractor hours by cleaning up fallow and stubble country.

Table 1. Five main enterprises at "Milbong" in order of financial return

(1) Wheat
(2) Oats-Mortlock for milling
(3) First cross ewes joined to Poll Dorset rams for prime lambs
(4) Merino wethers for wool
(5) Steer Fattening

Rotation

Our rotation consists of chemical fallow-two crops with last crop (usually oats) always undersown with clover and lucerne, then out for four to five years to pasture. The sowing rate of oats when undersown with pasture is 23 kg/ha with 75 kg/ha Starterphos fertilizer. The pasture is sown through a small seeds box and distributed out behind the harrows.

My aim has always been to grow a good legume pasture following a cropping phase to build up soil fertility and organic matter.

The pasture mix that works

After trying many varieties and mixtures over the years I have now settled on sowing 1 kg lucerne + 1 kg rose clover + 0.5 kg Dalkeith sub clover per hectare. I try to control weeds during the year of fallow and the first year in crop with chemicals so the paddock is clean the year of sowing pasture. On average I may miss out one year in four in getting a reasonable grazing stand of lucerne established because of dry spring and first summer or red-legged earth mite damage *etc*. I now find that I have an adequate seed bank of rose clover and Jemalong barrel medic to fill in the gaps in a light lucerne stand or which can be the main pasture in the case of a lucerne failure.

In theory I shouldn't be sowing clover mixes with lucerne because they require totally different

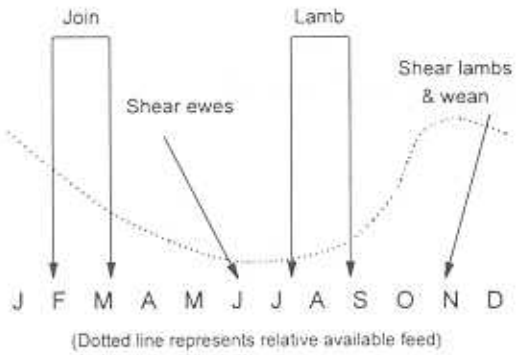

Figure 1. Timing of stock operations and relative available feed curve for "Milbong"

grazing techniques for maximum production but this can be overcome by adjusting grazing management ie. six months of the year - November to April - a flexible grazing rotation for lucerne paddocks, the other six months set stock as for clover paddocks.

Stock operations are timed to coincide with times where there is an appropriate amount of feed available (Figure 1). Hence we lamb over August-September and join during February-March. Ewes are shorn in June and lambs sold during February, April and June.

Rose Clover

I first grew rose clover (variety, Kondinin) in 1971 and quickly recognised that it was a far more robust plant and provided more bulk than anything I had tried previously or had seen grown in my area. It was difficult to get seed for a number of years. I continued to grow some recommended varieties such as Jemalong and Cypress barrel medics and Nungarin sub clover with only spasmodic success. A neighbour and myself then imported Hykon rose clover from Western Australia for our requirements and for others who wanted to try it. Eventually, adequate seed was harvested locally. Unfortunately, rose clover never got the support from local district agronomists that it deserved but farmers that grew it knew they were on a winner.

Some of the features of rose clover are:

- Easier to get established than other clovers and medics on low fertility soils and low rainfall;
- Provides more bulk feed;
- Good seed setting ability;
- Competes strongly with Capeweed and Paterson's Curse;
- Makes very palatable hay;

Table 2. Protein, digestibility and metabolisable energy (M.E.) of rose clover and sub clover.

	Dalkeith sub clover before flowering	Rose clover at early flowering
Protein (%)	20.1	15.9
Digestibility (%)	74.0	71.0
M.E. (MJ/kg DM)	11.1	10.0

- Farmers have succeeded with rose clover after failing with other varieties;
- Complements lucerne in a pasture mix;
- Stands up as dry feed, which protects the soil; and,
- Disadvantage is seed contamination in wool.

Quality of rose clover during early spring is comparable to that of sub clover (Table 2). Samples taken from the same paddock on 18 September 1990 differed in protein content but not greatly in digestibility or metabolisable energy. However, rose clover had begun flowering at this time while Dalkeith sub clover had not.

Performance of pastures

It doesn't really concern me what other farmers grow, I don't have to worry about their incomes, but I do know what has put me where I am today - its my pastures. I measure my pastures by the performance of my stock and my crop yields.

As an example, the weight gain of 50 store steers on a predominantly rose clover paddock for one period in 1995 from July to October, averaged 158 kg

Table 3. Milbong lambing percentages and lamb prices, 1979-1995.

Year	All crossbred ewes (except maidens) (%)	Crossbred ewes maidens (%)	Lamb price (Nett av. $/head)
1979		66	27
1980	111	90	17
1981	128	93	17
1982	140		11
1983	132		24
1984	156	105	21
1985	147	85	26
1986	126		40
1987	139	84	31
1988	113	80	35
1989	136		35
1990	138	72	30
1991	143	120	27
1992	152		41
1993	154		50
1994	156	85	53
1995	134	93	60

kg per head over 100 days without any supplementary feeding. Over the whole property the carrying capacity is 3.75 DSE/ha compared to the district average of 2.5 DSE. On average, we cut 8 kg/wether of greasy wool compared to the district average of 5.5 kg/wether. I consider that I stock my property conservatively and rarely have to hand feed stock. This also affects lambing percentages which have averaged 148% over the last 5 years (Table 3). Over this period the average price for lambs receives has been $46.20 per head.

Crop performance has also been above district average. Average yield of wheat grown on fallow and stubble over 27 years is 2.38 t/ha compared to a district average of 1.6 t/ha. Oats on average yield 2.2 t/ha

Conclusion

Good pastures are just the first step, good management and good marketing are essential to determine the profitability of the enterprise.