Managing Pastures - Readers’ Note

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What production per cow can we get from well managed pasture alone?

There is a remarkable divergence of opinion on how good pasture is for milk production—some people believe it is the perfect food, others believe only concentrates will give high production per cow. Both are probably right!

**Ryegrass and white clover**

Good ryegrass pasture should produce 20–22L of milk per cow per day. This assumes normal genetic merit and no live-weight change of stock and an acceptable level of pasture utilisation. Another 4–5L a day from body reserve loss brings total peak production to 26–28L a day (5500–6000L per cow per lactation).

Although most herds have a few cows producing 30–35L of milk a day on pasture, these cows ‘strip’ 11–12L of milk a day off their back. Such cows can lose 2 condition scores in 6 weeks. These cows end up in poor condition at mating and can therefore be difficult to get back into calf.

Production of up to 28L a day can also be achieved with energy-based concentrates, which are also fed to improve the protein to carbohydrate ratio of the total ration (see ‘Which nutrients in pasture limit milk production?’, below, and the DairyLink manual *Realistic Rations*). For example, on well managed dairy farms in Tasmania, an average of 20L of milk a day over the whole lactation is produced from pasture and pasture silage. In Western Australia, top herds produce 28–30L per cow per day, of which 18–20L is estimated to come from pasture and the rest from approximately 5kg of concentrates a day. Above this level of production the situation becomes more complex and the nutrient composition becomes critical. Higher production can be obtained from pure swards of clover, but work at Ellinbank in Victoria has shown that this system is not stable.

**Kikuyu**

Even when best management practice has achieved the best quality pasture possible, kikuyu is still of lower quality than ryegrass. Daily yields of 15L of milk per cow (without body weight change) have been achieved with supplements of sodium (as salt), phosphorus and calcium. Although calcium levels seem reasonable, a high proportion may be bound to a chemical called oxalate and is not available. In addition, the level of sugars, a readily available energy source, is very low in kikuyu.

With well managed kikuyu as the feed base, delivering about 15L of milk per cow per day, there is a useful role for energy supplements—barley fed at 3kg per cow per day lifts production to about 19L/day.

Higher milk production requires a protein supplement in addition to the energy concentrate. A trial at Wollongbar used canola meal that had been treated with formaldehyde to protect it from degradation in the rumen. Production of 21.5L/day was achieved by feeding 4.8kg barley and 1.2kg of treated canola meal. This supplement produced the largest response in milk produced per kg fed.