

## PASTURE UTILISATION BY GRAZING DAIRY COWS

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Computer models which include feed budgeting components have been developed to aid decision making and their use by advisory groups is steadily increasing. More information is needed on the efficiency of pasture utilisation, a factor which influences the successful application of these models to commercial farms in Australia.

Pasture data were collected for 3 consecutive days each month in 1989 and 1990 from 3 farms (Richmond, Camden and Berry) in south-eastern NSW. Pasture covers before and after grazing were estimated using an electronic pasture probe, calibrated (linear regression analysis) with 0.1 m<sup>2</sup> quadrats of pasture cut to ground level and oven dried. Intake is the difference between pasture cover (yield to ground level) before grazing (P1) and after grazing (P2). Each month, 2 pasture utilisation indices were calculated - (1) intake as a percentage of P1, and (2) intake as a percentage of available pasture. Available pasture is P1 minus unavailable pasture defined as feed below a height of 5 cm (based on New Zealand work which showed that intake and milk production is reduced if cows are forced to graze below this height) (Milligan and McConnell 1976). Measurements at Richmond indicated that unavailable pasture was equivalent to 1.0 t/ha for ryegrass and 2.5 t/ha for kikuyu pasture.

Mean pasture covers both pre- and post-grazing were high at Camden (Table 1), but were within the range considered optimum for ryegrass pastures at Berry and Richmond farms (Milligan *et al.* 1987).

**Table 1. Pasture presentations (t/ha), intake (t/ha) and utilisation (%) at 3 farms in south-eastern New South Wales**

Pasture measurement	Camden	Berry	Richmond
Pasture cover pre grazing (P1)	5.3	3.3	2.6
Pasture cover post grazing (P2)	3.3	2.1	1.6
Intake (I)	2.0	1.2	1.0
Available pasture (A)	4.0	1.9	1.6
Utilisation 1 (I as a percentage of P1)	38	38	41
Utilisation 2 (I as a percentage of A)	50	63	62

Utilisation values, based on total pasture presented, were similar at all 3 farms, and appear low (40%). However when allowance is made for unavailable feed, low utilisation is apparent only at the Camden farm, ranging from 34% (October) to 80% (July) — there appeared to be scope to conserve surplus good quality spring feed. Utilisation of available feed ranged from 44% to 100% at Berry and 22% to 100% at Richmond. Major surpluses appeared to exist in January at Berry and in March at Richmond. However in both cases these surpluses were associated with unpalatable low quality material — mature Yorkshire Fog (*Holcus lanatus*) at Berry and summer annual grasses (e.g. *Eleusine*, *Digitaria*) at Richmond. The results show that pasture utilisation in the region varies considerably between farms and between seasons within a farm but interpretation of seasonal surpluses needs to be evaluated with caution.

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