



## **Managing Pastures - Readers' Note**

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## Grazing management—kikuyu

Management of kikuyu pastures should aim at getting the best forage quality and utilisation. To achieve this, as much leaf as possible should be presented to stock. This is because the leaf has much more protein and metabolisable energy (ME) than the stem. Unlike ryegrass, which develops a true stem only when it is reproductive, kikuyu has a stem in its vegetative state. Kikuyu is also less digestible than temperate grasses at the same stage of development.

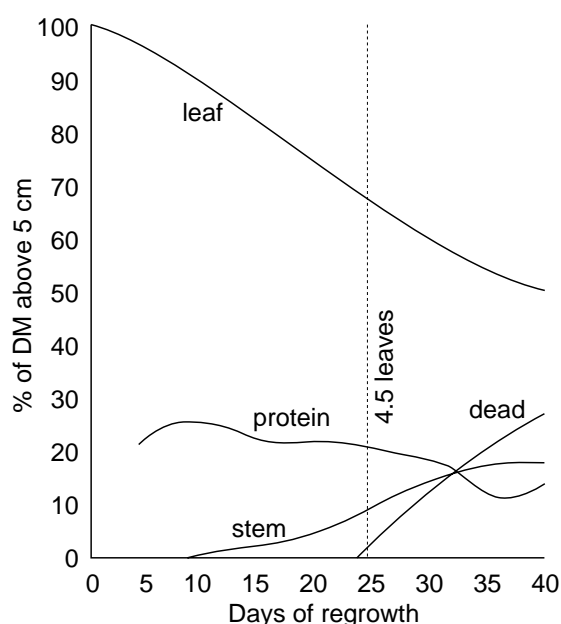
Recent studies have led to the development of a system of management that achieves this aim:

1. After grazing, preferably mulch or slash back to 5cm of stubble **if moisture status is adequate** (less than 6 days since rain of at least 18mm) and if residues exceed about 15cm. Followers (dry or young stock) can also be used to reduce stubble if this is feasible. This operation removes the low quality kikuyu and allows light in to stimulate new growth. It is normally restricted to once in early summer to top weeds, perhaps 2 or 3 times at the peak of the season, and then once in later summer if the kikuyu is to be oversown with ryegrass or clover.
2. Apply N fertiliser after each grazing. A rate of 100kg of urea or 120kg of ammonium nitrate (nitram) per hectare (if rainfall or irrigation is not assured) seems ideal for productive and quality growth. Higher rates tend to cause a build-up of nitrates in kikuyu. This build-up could reduce digestibility in the rumen or, in extreme cases, cause nitrate poisoning. Higher rates of N also lead to lower efficiency of utilisation, resulting in higher costs per unit of growth and potential loss of N

to the environment.

3. Graze at the appropriate interval. Studies at Wollongbar have shown that best quality coincides with the  $4\frac{1}{2}$  new leaves per tiller stage of regrowth. After this the proportion of stem begins to increase and the number of dead leaves also increases markedly, resulting in a marked decline in quality (Figure 10). The mineral levels also change to be more in line with dairy cows' requirements. The time taken to reach  $4\frac{1}{2}$  leaves depends on temperature, from as short as 12 days in mid summer to 35 days in autumn. The use of leaf number as an indicator of when to graze is relevant only in well-grazed or mulched pasture.
4. Provide a new strip of kikuyu pasture after each milking—this reduces selection and contamination of pasture by stock.

**Figure 10.** At the  $4\frac{1}{2}$ -leaf stage of regrowth, kikuyu protein content is still high. After this stage, the proportion of stem and dead leaves increases markedly.



## Kikuyu yellows (*Verrucalvus flavofaciens*)

Kikuyu yellows is a fungal disease specific to kikuyu. It causes great concern to farmers north of Taree who rely on kikuyu for a major part of their pasture feed. The fungus spreads by waterborne spores, which is why infestations move from laneways and gateways and down gullies through movement of surface water or on cows' hooves.

Typical symptoms are circular patches of yellowing kikuyu swards. In advanced cases, weeds invade the centre of the circle as the kikuyu is progressively destroyed.

The yellowing, as such, is as much the result of stress caused by weakened roots lacking moisture and fertility. In fact, infected plants are reasonably productive under irrigation and high fertility.

At present there are no fungicides available to control kikuyu yellows, but work at Wollongbar is looking at using the

antifungal agents in brassica species for control.

The fungus becomes inactive when minimum temperatures fall below 15°C. Benefit can be gained from applying N and other fertilisers once minimum daily autumn temperatures fall below 15°C so that the kikuyu plant can be repaired before next spring.

Spray small patches of kikuyu yellows with glyphosate to 50cm into the healthy kikuyu to starve the fungus and stop further spread—cows' hooves can spread it far and wide. These patches can be sown to ryegrass or rhodes grass until they are re-covered with healthy kikuyu. If entire paddocks are affected, a spell of 1–2 years without kikuyu may be sufficient to remove infection potential.

The kikuyu variety Noonan is slightly tolerant to yellows, but in view of its lower production (about 25% lower than Whittet), it is not commonly used. Breeders are currently selecting cultivars of kikuyu resistant to yellows.